



KEEPS YOU GOING.

BATTERIES, CHARGERS & ACCESSORIES

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Easy to use



Inquiries & orders



Pictures & technical info



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Please note that we are currently working hard to transfer all our customers to the new and improved system, so be sure to keep an eye out for further info.

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01.

BATTERIES

BATTERIES

CYCLIC BATTERIES

NICETO KNOW



CYCLIC BATTERIES

Cyclic batteries can withstand many deep discharges. This makes these batteries perfect for mobile elevating work platforms, industrial cleaning machines, forklifts, golf carts and other electric powered vehicles...

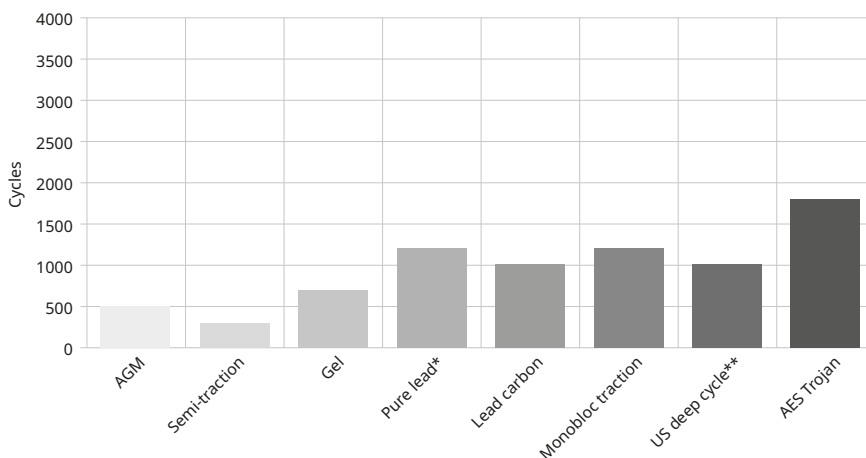
Within this battery category, we distinguish open lead-acid and maintenance-free batteries.

Cyclic batteries differ in their number of cycles (according to DIN), below you find an overview of the number of cycles per technology.

With this information we want to help you to make the right choice to power your vehicle.

The electrolyte of flooded batteries is in liquid form and required a regular water level up. Whereas the electrolyte of sealed batteries is gel form or acid soaked glass mat form. Hence sealed batteries don't require any water and these batteries can be placed upside down or on their side. When selecting the battery do make sure that your charger is suitable for your battery and it has the right charge profile for your battery type (open lead-acid / maintenance-free).

CYCLIC BATTERIES (80% D.O.D)



* @ 60% (D.o.D)

** Depending on model

CROWN BATTERY

The Power Behind Performance



Over 90 years ago, Crown Battery opened its doors as a sole-proprietary battery repair shop. Today, thanks to their loyal global customer network, dedicated workforce, commitment to manufacturing excellence and use of advanced technology, Crown Battery has become one of the major manufacturers of deep-cycle batteries. Customers have trusted Crown Battery innovation since 1926 to meet their power needs.

The line-up of deep-cycle batteries includes models designed for mobile elevating work platforms, industrial cleaning machines, golf & utility carts and other EV leisure applications, solar energy storage, traffic control and marine applications. Our batteries are proudly manufactured in the USA and distributed globally.

Key product features:

- Exclusive C-Force Active Mass for increased charge acceptance, even in less than optimal charging conditions and discharge times.
- Rugged, solidcast plates that result in longer battery lifetime.
- Posi-Wrap plate separators and other proprietary Crown components reduced maintenance and prevent failure due to short circuit.
- PROeye level indicator to easily inspect electrolyte levels that signals when watering is required.

WE PUT MORE IN OUR DEEP-CYCLE BATTERIES

So you can get better performances, higher productivity and less maintenance.

1. Z3 PLATE CONSTRUCTION

The Z3 plate design combines four integrated features for superior performance and durability.

- The signature "Diamond Z" grid architecture
- An inset lug position
- Upgraded "Active Life Plus" paste material!
- Heavy-duty - construction: more lead = more power!

2. POSI-WRAP ENVELOPE SEPARATORS

Posi-Wrap separators reduce maintenance and prevent failure due to short circuiting and plate shredding, ensuring reliability and durability.

3. IGID CONNECTORS

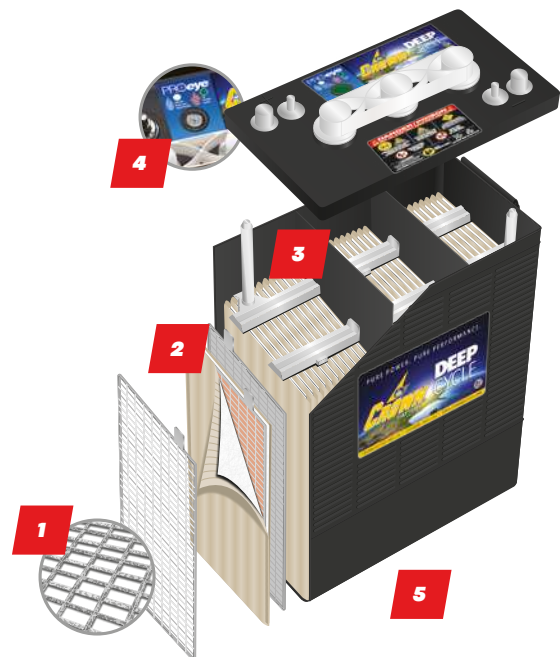
Heavy-duty TTP, COS and Post connectors deliver maximum electrical efficiency and durability.

4. PROEYE LEVEL INDICATOR

A simple, safe and reliable system for inspecting electrolyte levels that signals when watering is required.

5. X-TEND CONTAINER DESIGN

X-Tend provides more electrolyte above the battery plates so batteries can perform longer between watering intervals.



BATTERIES

CYCLIC BATTERIES

US DEEP-CYCLE



CR165



CR185HD



CR195HD



CR220HD



CR240HD



Kit filler caps



CR250



CR305HD



CR330HD



CR350HD



CR390HD

*This kit is suitable for providing exactly one battery with the necessary filler caps and floats

CROWN/CROSS REFERENCES

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	PRO Eye	REF Batteries	Kit filler caps*	Old REF Kit filler caps*
Batteries 6 V deep-cycle												
CR220HD	220	180	260	179	278	27.2	0	DT 1 + 8	No	168TA1047	168TA1071	BAT/47541
CR235HD	235	190	260	179	278	28.6	0	DT 1 + 8	No	168TA1048	168TA1071	BAT/47541
CR240HD	240	195	260	179	278	30.8	0	DT 1 + 8	No	168TA1049	168TA1071	BAT/47541
CR240E	240	195	245	191	273	29.0	0	1	No	168TA1050	168TA1072	BAT/47548
CR260HD	260	215	260	179	295	34.0	0	DT 1 + 8	No	168TA1051	168TA1073	BAT/47549
CR250	250	200	298	183	283	33.1	0	DT 1 + 8	No	168TA1052	168TA1073	BAT/47549
CR305HD	305	255	310	183	359	40.8	0	DT 1 + 8	Yes	168TA1053	168TA1070	BAT/47550
CR330HD	330	270	310	183	359	42.2	0	DT 1 + 8	Yes	168TA1054	168TA1070	BAT/47550
CR350HD	350	290	310	183	359	45.8	0	DT 1 + 8	Yes	168TA1055	168TA1073	BAT/47549
CR370HD	370	295	314	183	410	46.0	0	DT 1 + 8	Yes	168TA1056	168TA1070	BAT/47550
CR390HD	390	310	314	183	410	52.2	0	DT 1 + 8	Yes	168TA1057	168TA1070	BAT/47550
CR390HD-ZHV	390	310	292	183	410	52.2	0	DT 1 + 8	Yes	168TA1058	168TA1070	BAT/47550
CR430HD	430	340	314	183	410	55.3	0	DT 1 + 8	Yes	168TA1059	168TA1073	BAT/47549
Batteries 8 V deep-cycle												
CR165	165	140	262	179	275	29.0	1	S	No	168TA1060	168TA1074	BAT/47551
CR190	190	155	262	179	275	31.3	1	S	No	168TA1061	168TA1074	BAT/47551
Batteries 12 V deep-cycle												
24DC95	95	75	278	171	238	22.7	1	DT 1 + 8	No	168TA1062	-	-
27DC115	115	95	321	171	238	23.6	1	DT 1 + 8	No	152TA4591	-	-
31DC130	130	105	330	171	238	30.4	1	DT 1 + 8	No	152TA7108	-	-
GCCR150	150	123	328	179	267	36.7	1	DT 1 + 8	No	168TA1063	168TA1075	BAT/47552
GCCR155	155	125	328	179	267	39.9	1	DT 1 + 8	No	168TA1064	168TA1075	BAT/47552
CR185HD	185	150	394	178	372	48.5	0	DT 1 + 8	Yes	168TA1065	168TA1076	BAT/47570
CR195HD	195	160	394	178	372	49.9	0	DT 1 + 8	Yes	168TA1066	168TA1076	BAT/47570
CR215HD	215	180	394	178	372	54.4	0	DT 1 + 8	Yes	168TA1067	168TA1076	BAT/47570
Accessories												
Quick release for 6 V batteries with 3 plugs										115TA6845	-	BAT/21157
Quick release for 8V batteries with 4 plugs										168TA1077	-	BAT/21158

* ZHV = without handles

SNAPCAP™ VENTS



REF [168TA1648](#)
Old: BAT/48840



REF [168TA1649](#)
Old: BAT/48839

One-piece design

Now available on Crown 6 and 12 V deep-cycle batteries

The new convenience

Crown battery will begin producing our range of high capacity 6 and 12 V deep-cycle batteries with the company's proprietary one-piece SnapCap vent component.

The SnapCap vent component delivers a number of major benefits to battery owners and users:

A highly convenient one-piece locking vent component that makes battery inspection easier and more efficient.

The SnapCap utilizes a lock-in base that secures the vent to the cell opening by manual compression. Installation is fast and easy and does not require tightening of the vent after installation.

The SnapCap design includes a low-profile and multiple safety features that makes it one of the safest vents on the market.

Flooded lead deep-cycle batteries with "SnapCap" vents

Vent component design change

Effective in June 2016 for the following deep-cycle group sizes and battery models:

BCI Group 901: CR-250 and CR-275

BCI Group 903: CR-370, CR-390 and CR-430

BCI Group 902: CR-305, CR-330 and CR-350

BCI Group 921: CR-185, CR-195 and CR-215

HANDLE



REF [115TA6846](#)
Old: BAT/20016

CONNECTIONS & CABLES



Battery connection Ø 25 mm

Length mm	REF	Old REF
75	168TA1650	BAT/23477
95	168TA1651	BAT/23479
190	168TA1652	BAT/23481
280	168TA1653	BAT/23483
300	168TA1654	BAT/23485
350	168TA1655	BAT/23487
400	168TA1656	BAT/23489

* Other dimensions are available on demand.



Terminal cable Ø 25 mm

Length mm	REF	Old REF
75	168TA1657	BAT/23651
95	168TA1658	BAT/23653
190	168TA1659	BAT/23655
280	168TA1660	BAT/23657
300	168TA1661	BAT/23659

QUICK RELEASE



REF [115TA6845](#) – Quick release for 6 V batteries with 3 plugs
Old: BAT/21157
REF [168TA1077](#) – Quick release for 8 V batteries with 4 plugs
Old: BAT/21158



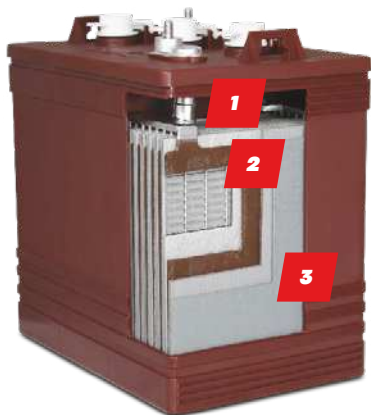
Diameter mm	Colour	REF	Old REF
32	Red	131TA7018	BAT/38794
32	Black	131TA7019	BAT/38796
30	Red	131TA7020	BAT/38792
30	Black	131TA7021	BAT/38285
26	Red	131TA7022	BAT/38788
26	Black	131TA7023	BAT/38790
24	Red	131TA7024	BAT/38784
24	Black	131TA7025	BAT/38786
20	Red	131TA7026	BAT/38780
20	Black	131TA7027	BAT/38782

BATTERIES

CYCLIC BATTERIES



NICETO KNOW



TROJAN BATTERIES

With nearly 100 years of experience powering business and industry, Trojan is the world's leading supplier of deep-cycle batteries. Trojan batteries are synonymous with high performance, reliability, durability and a long lifespan. A truly outstanding battery is ready for action, day in and day out. At TVH, we know you need to be able to count on your batteries at all times. That's why we recommend Trojan. We offer a broad range of high-quality Trojan batteries to suit any need: deep-cycle flooded batteries, AGM batteries and gel batteries. Trojan has become the leading supplier of deep-cycle batteries for industries ranging from transportation to renewable energy. Their superior batteries power a wide range of vehicles, such as mobile elevating work platforms (MEWPs), industrial cleaning machines, golf carts, marine and recreational vehicles.

INNOVATIVE DEEP-CYCLE FLOODED BATTERIES

Trojan's deep-cycle flooded batteries are their flagship product. They're engineered to provide durability, outstanding performance and a long lifespan, even in rugged conditions. This makes them perfect for a variety of electric vehicles. Featuring Trojan's historically proven engineering and T2 Technology™, an advanced battery technology for maximum sustained performance, these powerful deep-cycle flooded batteries are the best in the business.



For more information



LITHIUM

Next in a long line of trusted Trojan power, our new GC2 deep cycle lithium-ion batteries deliver the ultimate in performance and requires virtually no maintenance. And with a smart battery maintenance system (BMS) that self-protects against short circuits and overheating, Trojan lithium-ion deep cycle batteries take safety to the next level.

- 24 V, 36 V and 48 V
- Long life cycle
- Safe chemistry

TROJAN AES

The new Trojan AES Batteries deliver up to 3 x the cycle life with high, sustained performance versus standard AGM. And, the battery maintains high capacity in extreme deep-cycling (up to 100% DoD), partial charging, and challenging environments.

It outperforms the competition in these areas:

- Up to 3 x life of AGM
- Robust performance
- Maintenance free

FLOODED LEAD-ACID

Trojan flooded lead-acid batteries, also called wet or wet cell lead-acid batteries, are our all-around powerhouse and workhorse batteries. Utilizing Trojan advanced T2™ technology, these rugged, durable, long life batteries deliver maximum sustained performance for your golf and utility vehicles, AWP, floor machine, marine, RVs, renewable energy and more.

Trojan flooded deep cycle batteries are the longest lasting of the lead-acid batteries. They require regular watering with distilled water after charging, and to prevent spillage, they must remain upright.

- Low cost
- Robust and reliable
- 99% recyclable

DEEP-CYCLE FLOODED BATTERIES WITH T2 TECHNOLOGY



Motive 6 V



Rugged Motive 6 V



Motive 8 V



Motive 12 V

Model	BCI Group size	Capacity 5-Hr	Capacity 20-Hr	Length	Width	Total height	Compatible with Hydrolink	Terminal type	Vents	Handle	Hardware	Max qty/pallet	REF
				mm	mm	mm							
6 V deep-cycle flooded batteries													
J250G	901	195	235	309	174	290	✓	EUTR	Bayo		Nuts/bolts	28	166TA4197
J250P	901	215	250	296	176	293		DT	Bayo	✓	Hex nut	28	166TA4198
J305E-AC	902	250	305	312	174	366	✓	EUTR	Bayo	✓	Nuts/bolts	30	166TA4199
J305G-AC	902	258	315	312	174	366	✓	EUTR	Bayo	✓	Nuts/bolts	30	145TA1961
J305H-AC	902	295	360	296	176	366		DT	Bayo	✓	Hex nut	30	166TA4201
J305P-AC	902	271	330	296	176	366		DT	Bayo	✓	Hex nut	30	106TA8679
L16E-AC	903	303	370	311	174	417	✓	EUTR	Bayo	✓	Nuts/bolts	28	166TA4203
L16G-AC	903	320	390	311	174	417	✓	EUTR	Bayo		Nuts/bolts	28	166TA4204
L16H-AC	903	357	435	296	176	425		DT	Bayo	✓	Hex nut	26	166TA4206
L16HG-AC	903	357	435	311	174	417	✓	EUTR	Bayo	✓	Nuts/bolts	26	166TA4207
L16P-AC	903	344	420	296	176	425		DT	Bayo	✓	Hex nut	28	106TA8680
T-105	GC2	185	225	262	181	281	✓	ELPT	Bayo		Hex nut	48	106TA8677
T-105-EUT	GC2	185	225	262	181	281	✓	EUT	Bayo		Hex nut	48	166TA4211
T-125	GC2	195	240	262	181	281	✓	ELPT	Bayo		Hex nut	48	166TA4216
T-145	GC2H	215	260	262	181	302	✓	EHPT	Bayo		Hex nut	45	106TA8678
T-605	GC2	175	210	262	181	281	✓	ELPT	Bayo		Hex nut	48	166TA4228
TE35	DIN	200	245	244	191	269		AP	Screw in	✓	N/A	48	166TA4230
8 V deep-cycle flooded batteries													
DC-8V	GC8	135	160	259	179	283	✓	EHPT	Master		Hex nut	48	166TA4231
T-875	GC8	145	170	259	179	283	✓	ELPT	Bayo		Hex nut	48	166TA4234
T-890	GC8	155	190	259	179	283	✓	ELPT	Bayo		Hex nut	48	166TA4237
12 V deep-cycle flooded batteries													
24TMX	24	70	85	277	168	235		AP	Pod	✓	Nuts/bolts	54	166TA4238
27TMH	27	95	115	323	168	235		AP	Pod	✓	N/A	28	166TA4241
27TMX	27	85	105	323	168	235		AP	Pod	✓	N/A	42	165TA4535
27TMXWNT	27	85	105	323	168	235		WNT	Pod	✓	WNT	28	166TA4247
30XHS	30H	105	130	355	171	256		AP	Pod	✓	N/A	36	166TA4248
31XHS	31	105	130	329	171	243		Stud	Screw in	✓	Hex nut	24	166TA4251
J185P-AC	921	168	205	380	176	374		DT	Bayo	✓	Hex nut	24	166TA4260
SCS225	30H	105	130	354	171	253		DWNT	Pod	✓	WNT	36	166TA4264
T-1275	GC12	120	150	329	181	272	✓	ELPT	Master		Hex nut	36	166TA4266

BATTERIES

CYCLIC BATTERIES



AES BATTERIES

THE NEW TROJAN AES BATTERY DELIVERS UP TO 3 X THE CYCLE LIFE OF STANDARD AGM

The Trojan AES battery delivers up to 3 x the cycle life with high sustained performance versus standard AGM. The battery maintains high capacity in extreme deep-cycling (up to 100% DoD), partial charging, and challenging environments. It out performs the competition in these areas:



LAST LONGER

Up to 3 x more cycle life than standard AGM. Validated at 1200 cycles at 100% DoD vs. 400 cycles for AGM



PERFORMS IN HARSH CONDITIONS

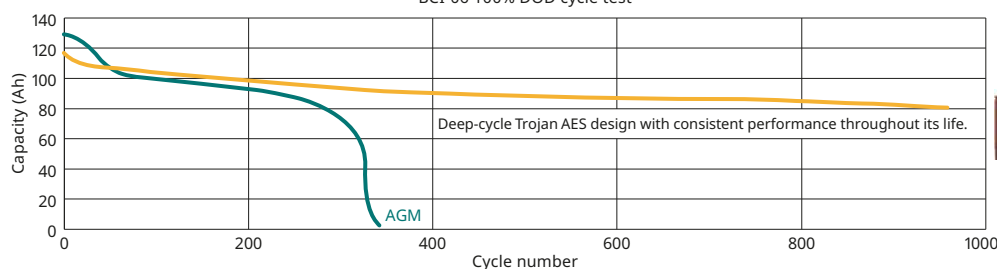
Robust performance in extreme temperatures and conditions. Temperature range from -40 to 71 °C (-40 to 160 °F)



DELIVERS HARMLESS PSOC

Tested to withstand Partial State of Charge, again and again

Trojan AES vs standard AGM
BCI-06 100% DOD cycle test



Trojan AES maintains high capacity in extreme deep-cycling (up to 100% DoD) with consistent performance throughout its life compared to standard AGM.

WITH AES, ENJOY THESE ADDED BENEFITS.

- **Maintenance free:** Virtually no maintenance as watering is not required.
- **Safe and sustainable:** Trojan AES is classified as non-spillable and can be safely mounted horizontally to fit difficult locations. It's made using 80% recycled materials and is 99% recyclable.
- **Rugged design:** Designed and manufactured to absorb vibration and shock.
- **AGM charger:** This VRLA battery is charged with existing AGM profiles.

AES CAN HELP OEMS AND MASTER DISTRIBUTORS PREEMPT COSTLY PROBLEMS.

The Trojan AES Battery is locally available, reliable and proven to meet high performance standards, so you can assure customers are getting the best experience.

AES boosts productivity and cuts downtime for:

- Equipment rental companies
- Hospitals, airports, and educational facilities
- Warehousing/material handling equipment

Trojan AES is ideal for floor-cleaning machines, aerial work platforms, and material-handling equipment.

Model	BCI group size	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Terminal type	Weight kg	Max qty pallet	REF
6 V										
J305-AES-DT	902	279	228	296	176	358	DT	45	28	168TA2867
L16-AES-DT	903	355	294	296	176	417	DT	55	28	168TA2868
T105-AES-AP	GC2	207	170	262	179	273	AP	32	31	168TA2869
8 V										
T875-AES-AP	GC8	158	131	262	179	273	AP	33	31	168TA2870
12 V										
24-AES-DT	24	76	67	274	174	219	DT	25	54	168TA2871
27-AES-DT	27	89	77	306	174	237	DT	30	42	168TA2872
31-AES-DT	29	102	82	235	173	238	DT	31	36	168TA2873
J185-AES-DT	921	175	140	380	176	367	DT	57	24	168TA2874
OVERDRIVE-31-AES-STUD	31	104	83	325	173	240	STUD	31	36	168TA2875
T1275-AES-AP	GC12	130	99	329	179	278	AP	39	23	168TA2876

LITHIUM INSERT BATTERY KIT 24 V AND AGM INSERT BATTERY KIT 24 V



- Kit with support and cover to be easily inserted in material handling class 3 applications:
- Maintenance free
- Deepfreezer proof, performs great in temp range of -40 to 71 °C
- 1200 cycles ta 100% DOD (3 times longer then standard AGM)
- Safe and durable (99% recycable)
- Battery can be installed in horizontal position
- Robuust design vibration proof
- Can be charged with standard AGM charge profice

Only for class 3 type pallettrucks, must fit these case dimensions L677 x W200 x H566 mm

REF [168TA7805](#)

OTHER SPECIFICATIONS

- Charging voltage settings (@ 25 °C (77 °F))
- Sytem voltage: 24 V
- Maximum charge current: 50% c20
- Absorption voltage (2.40 V/cell): 28.80
- Float voltage (2.25 V/cell): 27.00
- Do not install or charge batteries in a sealed or non-ventilated compartment. Constant under or overcharging will damage the battery and shorten its life as with any battery.

Voltage	Capacity A minutes		Capacity B AMP-hours (Ah)				Energy (kWh)
	@ 25 Amps	@ 75 Amps	5 hr	10 hr	20 hr	100 hr	100 hr
24	420	113	170	185	207	225	1.35

BATTERIES

CYCLIC BATTERIES



LITHIUM-ION BATTERIES

8-YEAR WARRANTY - YOUR INVESTMENT IS PROTECTED AND YOU CAN STILL BE AROUND IN 8 YEARS TO HONOR IT

4000 CYCLES @70% DOD (TO 70% OF INITIAL CAPACITY) AT 25 A)



WHY TROJAN BATTERY IS A TRUSTED NAME FOR LITHIUM-ION TECHNOLOGY

Internal temperature sensors are a key component in lithium-ion battery charging and safety. They provide critical temperature data required to keep the lithium-ion battery in the optimum condition during the charging cycle.

Unlike other lithium-ion batteries that have only two or three, Trojan GC 24 V, 36 V and 48 V lithium-ion batteries have five internal temperature sensors. Three are positioned to monitor cell temperature gradients. One ensures balance between the two sides of the battery. The fifth is on the BMS board to monitor discharge current path and electronics temperature.

Temperature sensors sever two main purposes:

- Preventing damage to the cells when changed in low temperatures
- Preventing dangerous overheating conditions within a cell or cells during charge

More sensors provide more feedback to the BMS, giving it better control of the charging. The result is longer battery life and safer operation.

Trojan lithium-ion batteries have four levels of safety redundancy at the cell level:

1. Stable cell chemistry/(Lithium Iron Phosphate)
2. Independent charge/discharge control unit
3. Secondary charge and discharge control circuit
4. Emergency mechanical fusing

With your safety in mind first, Trojan lithium-ion batteries feature a battery management system (BMS) that protects against short circuits, overheating and other unsafe conditions. They are equipped with a truly "smart" design that utilizes dual processors for full back-up ensuring the system is always running.

Model	Capacity minutes @25 A	Capacity amp - hours			Energy kWh	Length mm	Width mm	Height mm	Operating temp	Terminal type	REF
		5 hr	10 hr	20 hr							
TRL-GC2-24-M	156	65	65	65	1.75	264	180	278	-20 to 60 °C	M8	168TA2877
TRL-GC2-36-M	108	45	45	45	1.75	264	180	278	-20 to 60 °C	M8	168TA2878
TR-GC2-48-G	72	30	30	30	1.53	264	180	278	-40 to 60 °C	M8	168TA2879

TROJAN CLASS 3 INSERT LI-ION BATTERY



REF [168TA8010](#) – 25.6 V 130 Ah 3328 Wh 2 in parallel
 REF [168TA8011](#) – 25.6 V 195 Ah 4992 Wh 3 in parallel
 REF [168TA7804](#) – 25.6 V 260 Ah 6656 Wh 4 in parallel

OTHER SPECIFICATIONS

Performance and system specifications @ 25 °C (77 °F)	
Maximum continuous discharge current	90 A
Maximum pulse discharge current (30 sec)	100 A
Maximum instantaneous discharge current (0.4 sec)	160 A
Reserve capacity @ 25 A	156 min
Battery internal protection	Short circuit current Temperature Over voltage Under voltage Over-current
Battery functions	Cell balancing State of charge CAN-bus communication
Safety system	Fuse, hardware, BMS
Discharge voltage cutoff	20.24 V
Environmental protection	IP67
Shipping classification	UN3480, class 9
Case flame rating	IUL94 V-0

BATTERIES

CYCLIC BATTERIES

TERMINAL CONFIGURATIONS



1 - ELPT
Embedded
Low profile



2 - EHPT
Embedded
High profile



3 - EAPT
Embedded
Automotive post



4 - EUT/R
Embedded
Universal/reverse



5 - LT
L-terminal



6 - DT
Automotive
Post and stud



7 - UT
Universal



8 - AP
Automotive post



9 - WNT
Wingnut



10 - DWNT
Dual wingnut



11 - ST
Stud



12
Cable and plug



14 - IND
Industrial



15 - M6/M8
6 mm/8 mm
Insert



16 - SLT
Small
L-terminal

VENTS



1 - bayo



2 - flip



3 - master

ABOUT DYNO EUROPE



Dyno Europe offers a complete range of batteries and accessories for the Access Industry

SEMI-TRACTION (EU) DYNO



Kit filler caps

300 CYCLES

FLAT PLATE

A semi-traction battery is almost identical to a traction battery, the big difference between the two is that a traction battery has more cycles, so lasts longer than a semi-traction battery. These batteries must be able to supply a constant current for a long period of time. They have thicker lead plates and glass fiber separation what makes these batteries easier to discharge. The Micro-porous rubber separators are a technical solution and thanks to a precise choice of materials used our batteries give the best performance and ensure proven reliability and long life.

Properties:

- Thicker plates
- Grid plates with radial geometry
- Active material with specific composition to resist the cyclical discharges
- Grids of Pb/Sb/Sn/As/Se alloy which improves corrosion resistance and improves the contact between the active material
- Microporous rubber separators with glass fiber mats to prevent the loss of active materials
- Up to 300 cycles

EUROPEAN TYPES SEMI-TRACTION

Model	Type	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF	Kit filler caps*	Old REF Kit filler caps*
6 V												
9.080.1	Semi	100	80	231	176	222	14.0	0	1	167TA9932	-	-
9.095.2	Semi	120	96	260	175	221	17.0	0	1	134TA8592	-	-
9.180.1	Semi	240	197	244	190	274	29.4	0	1	167TA9946	167TA9947	BAT/47553
12 V												
9.540.1	Semi	50	40	207	175	190	12.4	0	1	167TA9954	-	-
9.550.2	Semi	60	50	242	175	190	16.0	0	1	167TA9955	-	-
9.560.2	Semi	75	60	278	175	190	18.6	0	1	167TA9933	-	-
9.555.1	Semi	70	50	270	175	220	17.2	1	1	167TA9934	-	-
9.575.1	Semi	90	75	353	175	190	24.0	0	1	167TA9935	-	-
9.575.1 MF	Semi MF	90	75	353	175	190	24.0	0	1	167TA9957	-	-
9.580.3	Semi	100	80	304	175	220	23.7	0	1	167TA9956	-	-
MF31DC	Semi MF	100	80	330	172	242	23.2	1	DT 1 + 8	167TA9958	-	-
9.580.4	Semi	105	90	345	175	230	26.0	0	1	167TA9937	-	-
9.590.3	Semi	120	90	304	175	220	24.0	0	1	167TA9938	-	-
9.820.0	Semi	135	100	360	253	240	37.5	0	1	167TA9960	167TA9948	BAT/47555
9.600.2	Semi	125	100	345	175	285	33.3	0	1	129TA8810	-	-
9.605.1	Semi	140	120	513	189	223	39.0	3	1	167TA9961	167TA9949	BAT/47556
9.605.1 MF	Semi MF	140	120	513	189	220	34.5	3	1	167TA9962	-	-
9.635.1	Semi	180	155	513	223	223	47.5	3	1	167TA9967	167TA9949	BAT/47556
9.680.1	Semi	230	190	518	274	242	59.0	3	1	167TA9939	167TA9950	BAT/47557

MF: maintenance-free

BATTERIES

CYCLIC BATTERIES



PZS MONOBLOC DYNO



1200 CYCLES

TUBULAR PLATE

Monobloc traction batteries must be able to provide a constant current over a long period of time. The open lead-acid batteries do require some attention to maintenance, such as topping up the cells. This can be time-consuming and should not be forgotten, to help you with this, we also offer an automatic filling system (see below for more information). The positive plates of the monobloc traction batteries are specially made out of tube plates instead of flat plates. Monobloc batteries combine a very high capacity with a maximum lifespan of 1200 cycles. This long life is due to the tubes or plates.

Properties:

- Premium tubular plate construction with free electrolyte ensure a long service life
- Accepts high discharge currents
- Perfect solution for applications that are used in difficult working conditions
- Reliable and sustainable
- Up to 1200 cycles

MONOBLOC TRACTION

Model	Type	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF	Kit filler caps*	Old REF Kit filler caps*
6 V												
6PZS195	Traction	240	195	244	190	270	30.5	0	1	167TA9963	167TA9951	BAT/47558
6PZS205	Traction	250	210	244	190	270	32.4	0	1	167TA9964	167TA9951	BAT/47558
6PZS180	Traction	225	175	260	180	275	31.0	0	1	167TA9965	167TA9952	BAT/47572
PZS265	Traction	348	290	311	183	365	45.0	0	1	167TA9940	-	-
PZS320	Traction	390	320	311	183	365	50.0	0	1	167TA9966	167TA9947	BAT/47553
8 V												
PZS160	Traction	195	160	264	183	275	32.0	0	1	167TA9968	-	-
12 V												
2PZS38	Traction	50	36	205	175	190	13.5	0	1	167TA9969	-	-
2PZS36L2	Traction	50	36	240	175	190	14.0	0	1	167TA9970	-	-
3PZS57	Traction	60	55	278	175	190	18.9	0	1	167TA9971	-	-
2PZS56	Traction	68	56	265	175	210	20.0	0	1	167TA9972	-	-
PZS72	Traction	96	72	352	175	190	23.0	0	1	167TA9941	-	-
PZS80	Traction	105	80	352	174	215	28.0	0	1	167TA9974	-	-
3PZS75	Traction	110	90	303	175	228	28.7	0	1	167TA9975	-	-
4PZS90	Traction	115	95	344	172	234	30.0	0	1	134TA8609	167TA9953	BAT/47571
4PZS118	Traction	140	118	344	172	284	37.3	0	1	167TA9943	167TA9953	BAT/47571
4PZS126	Traction	146	126	510	175	225	39.0	4	1	167TA9944	167TA9949	BAT/47556
PZS150	Traction	183	150	510	222	225	47.0	4	1	167TA9976	167TA9953	BAT/47571

*This kit is suitable for providing exactly one battery with the necessary filler caps and floats

LEAD CARBON



1000 CYCLES 80% DOD

MAINTENANCE-FREE

Standard lead-acid batteries have a big advantage over lithium batteries, namely a large discharge capacity (up to C3). But to counter sulphation that would greatly reduce the life of the battery, there is a much longer charge time with lead-acid batteries (up to 10 hours = 0.1). The new lead carbon technology offers the solution here.

The negative plates of these batteries are made from lead and carbon and thus combine the advantages of normal lead-acid batteries with those of a supercapacitor. The addition of carbon ensures that these batteries have a higher charge acceptance and therefore have to charge for less time than regular lead-acid batteries. Moreover, they provide more power and are more resistant to (extremely) low temperatures. By adding lead (pb) to the negative plate there is also less resistance, resulting in a longer lifespan. In addition, this latest technology suppresses sulphation better than any other technology.

Properties:

- Maintenance-free alternative for AGM and gel
- Better cycle life: > 1300 cycles (70% DoD) and up to 1000 cycles with 80% DoD
- Excellent performance in (extreme) low temperatures
- Price-friendly
- Charging time is shorter than normal AGM
- Lead carbon batteries can be used with good performance without being charged 100%

Model	Alt	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF
6 V										
DLC6-200EV	GC2	205.0	173.5	260	181	266	30.3	0	M8	167TA9977
DLC6-225EV		226.0	190.5	243	188	275	32.0	0	M8	167TA9978
DLC6-330EV	S4	330.0	257.5	295	178	360	46.9	0	M8	167TA9979
DLC6-420EV	L16	428.0	334.0	295	179	424	59.0	0	M8	167TA9980
8 V										
DLC8-160EV		163.0	138.0	260	180	280	36.0	0	M8	167TA9981
12 V										
DLC12-55EV		59.5	50.5	229	138	208	17.5	1	M6	167TA9982
DLC12-80EV		86.4	71.5	258	168	214	26.4	1	M8	167TA9983
DLC12-100EV		108.6	92.0	330	171	219	32.0	1	M8	167TA9984
DLC12-135EV		145.0	120.5	340	173	286	45.0	1	M8	167TA9985
DLC12-200EV		216.0	182.5	522	240	222	59.0	4	M8	167TA9986
DLC12-250EV		270.0	228.0	520	268	223	70.5	4	M8	167TA9987

BATTERIES

CYCLIC BATTERIES



ABOUT SONNENSCHN

Sonnenschein is part of the Exide group and is a leading manufacturer in the world of batteries. Sonnenschein is a pioneer in gel batteries and are extremely suitable for cyclic applications in numerous industrial applications as well as in wheelchairs, golf carts,...

GF-V series: very suitable for industrial use such as aerial work platforms, stackers and cleaning machines.

GF-Y series: ideal for lighter applications such as scooters, wheelchairs and lower traction applications.

SONNENSCHN GF-Y RANGE (DRYFIT® A500 CYCLIC)



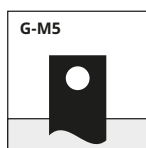
The GF-Y block battery range is particularly suitable for the leisure and mobility market (wheelchairs, scooters, golf carts and electric boats)

Main technical features and benefits:

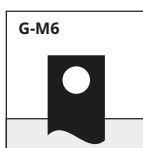
- Battery technology: VRLA (valve regulated lead-acid)
- Maintenance-free (no topping up during the whole service life)
- Very high intrinsic safety
- Robust, safe and reliable
- Low self-discharge rate
- 450 cycles in accordance with IEC 60254-1
- Product range:
 - 12 V block batteries
 - 14 Ah up to 93.5 Ah (C5)
 - 15 Ah up to 110 Ah (C20)

TECHNICAL CHARACTERISTICS AND DATA

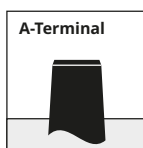
Model	Nominal capacity C5 (30 °C) Ah	Nominal capacity C20 (30 °C) Ah	Length max mm	width max mm	Height max mm	Weight kg	Terminal	Terminal position	REF
12 V									
GF12014YF	14	15	181	76	167	6	G-M5	3	167TA9998
GF12022YF	22.2	24	167	176	126	9.6	G-M5	3	167TA9999
GF12025YG	25	28	197	132	180	11.1	G-M5	2	168TA1000
GF12033Y1	32.5	38	210	175	175	14.6	A-terminal	3	168TA1001
GF12033YG1	32.5	38	210	175	175	14.6	G-M6	3	168TA1002
GF12033YG2	32.5	38	210	175	175	14.6	G-M6	3	168TA1003
GF12040Y	40	48	242	175	190	17.5	A-terminal	3	168TA1004
GF12044Y	44	50	261	135	230	19	A-terminal	3	168TA1005
GF12051Y1	51	56	278	175	190	20.8	A-terminal	3	168TA1006
GF12051Y2	51	56	278	175	190	20.8	A-terminal	3	168TA1078
GF12051YG1	51	56	278	175	190	20.8	G-M6	3	168TA1007
GF12052YO	52.7	60	261	170	178	19.8	F-M6	2	168TA1008
GF12063YO	63	70	261	171	210	23	F-M6	2	168TA1009
GF12065Y	65	78	363	175	190	26.8	A-terminal	3	168TA1010
GF12072Y	72	80	330	171	236	30	A-terminal	2	168TA1011
GF12094Y	93.5	110	286	269	230	38.5	A-terminal	1	168TA1012



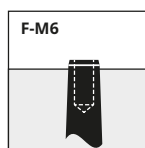
5 Nm



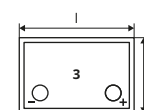
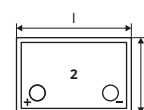
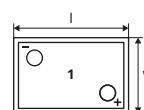
6 Nm



8 Nm



11 Nm



SONNENSCHIN GF-V RANGE (DRYFIT® TRACTION BLOCK)



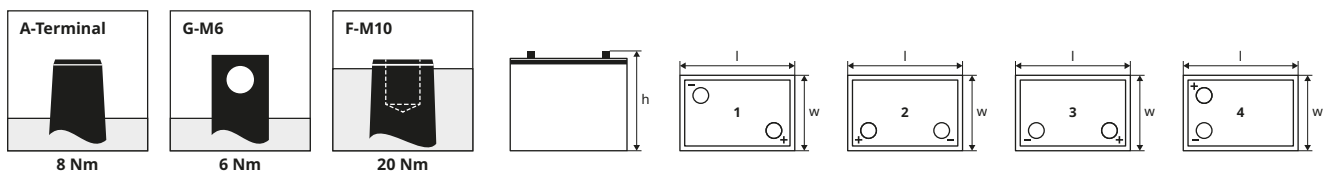
The GF-V block battery range is designed for hard industrial use. This includes applications such as cleaning machines, pallet trucks, automatic guided vehicles, mobile elevating work platforms, electric cars and buses.

Main technical features and benefits:

- Battery technology: VRLA (valve regulated lead-acid)
- Maintenance-free (no topping up during the whole service life)
- Very high intrinsic safety
- Robust, safe and reliable
- Low self-discharge rate
- 700 cycles in accordance with IEC 60254-1
- Product range:
 - 6 V and 12 V block batteries
 - 50 Ah up to 240 Ah (C5)
 - 55 Ah up to 270 Ah (C20)

TECHNICAL CHARACTERISTICS AND DATA

Model	Nominal capacity C5 (30 °C) Ah	Nominal capacity C20 (30 °C) Ah	Length max mm	width max mm	Height max mm	Weight kg	Terminal	Terminal position	REF
6 V									
GF06160V1	160	196	246	192	275	29	A-terminal	1	152TA5769
GF160180V	180	200	246	192	275	31	A-terminal	1	152TA4411
GF06180VQ	180	200	246	192	284	31.5	F-M10	1	168TA1013
GF06240V	240	270	311	183	258	47	A-terminal	1	168TA1014
12 V									
GF12050V	50	55	278	175	190	19	A-terminal	3	168TA1015
GF12050VG	50	55	278	175	190	19	G-M6	3	168TA1016
GF12076V	76	86	330	171	236	28.8	A-terminal	2	168TA1017
GF12090V	90	98	513	189	219	36.5	A-terminal	4	168TA1018
GF12105V	105	120	345	174	283	37.5	A-terminal	3	152TA5273
GF12110V	110	120	513	223	219	45.5	A-terminal	4	168TA1019
GF12160V	160	196	518	274	238	62.5	A-terminal	4	168TA1020



BATTERIES

CYCLIC BATTERIES



GEL BATTERIES



MAINTENANCE-FREE

Gel batteries are cyclic and just like AGM batteries completely closed and maintenance-free. As the name says, gel is added to the acid. Thus the electrolyte forms a gel-like substance that can not leak.

Due to this method of construction, the battery is leak-proof and no gas can form during normal use. The small amount of gas that can be generated is flown back to the electrolyte, just like with the AGM batteries. This way, the battery never needs to be refilled and should not be ventilated.

Gel batteries are more expensive than AGM batteries but they also have a longer lifespan and they can tolerate more loads.

Properties:

- Longer lifespan: up to 700 cycles
- Recovers completely from deep discharges, even when the battery isn't recharged immediately
- Perfect for cyclic use with daily charges/ discharges
- Perfect performances with long-lasting discharges
- Resists better with higher temperatures
- Sulfation (stratification) is impossible thanks to the gel
- Limited self-discharge
- Accepts the charge better thanks to the lower intern resistance
- Can be discharged, even when it isn't fully charged, without capacity loss
- Maintenance-free



M6 to M8 adaptor (reversible)
REF [168TA1094](#)



Automot. adaptor M6
REF [144TA1868](#)



Automot. adaptor M8
REF [144TA1869](#)

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF
6 V									
DGY6-110EV	100.0	86.0	194	170	212	16.5	1	M8	134TA8621
DGY6-160EV	189.0	157.0	298	171	229	26.9	1	M8	168TA1021
DGY6-180EV*	210.0	187.0	260	180	276	29.5	0	M8 + 1	168TA1022
DGY6-200EV	248.0	220.0	322	178	231	34.0	1	M8	168TA1023
DGY6-225EV	242.0	205.5	243	188	275	32.0	0	1	152TA4642
8 V									
DGY8-180EV	157.0	128.0	260	182	298	36.4	1	DT 1 + 8	134TA8625
12 V									
DGY12-7.5EV	8.5	7.9	151	65	103	2.3	3	T1	168TA1024
DGY12-13EV	12.0	10.4	151	98	100	3.8	3	T2	168TA1025
DGY12-18EV	18.0	15.6	181	77	167	5.5	0	M5	168TA1026
DGY12-26EV	26.0	22.1	166	176	125	8.0	0	M5	168TA1027
DGY12-33EV	36.4	28.3	195	130	160	10.2	1	M6	168TA1028
DGY12-44EV	45.4	36.8	198	167	158	13.5	0	M6	168TA1029
DGY12-55EV	59.0	49.1	229	138	208	16.5	1	M6	134TA8630
DGY12-60EV	71.6	57.7	260	168	180	22.1	1	M6	168TA1030
DGY12-65EV	75.0	61.1	279	175	190	22.7	0	M6	168TA1031
DGY12-65EV-A pol	75.0	61.1	279	175	195	22.7	0	1	168TA1032
DGY12-69EV	86.6	69.3	250	150	401	30.4	1	M8	168TA1033
DGY12-70JEV	69.6	58.5	350	166	175	21.0	0	M6	134TA8632
DGY12-80EV-M6	86.8	77.0	260	168	210	24.0	1	M6	168TA1034
DGY12-100EV	105.0	99.0	307	168	214	30.7	1	M8	168TA1035
DGY12-110EV	123.0	110.0	330	172	214	32.0	1	M8	134TA8635
DGY12-135EV-M6	166.8	148.5	340	173	286	45.0	1	M6	168TA1036
DGY12-150EV	161.4	136.5	483	170	241	45.0	1	M8	134TA8639
DGY12-160EV	180.0	155.0	532	207	219	53.0	4	M8	134TA8640
DGY12-200EV	214.0	178.5	522	240	222	62.5	4	M8	134TA8641
DGY12-225EV	263.0	216.0	521	269	208	74.5	4	M8	134TA8642
Model C20 C5 Length Width Height Weight Layout Terminals REF									
6 V									
DGY6-225DEV	205.0	175.0	242	190	275	34.0	0	1	168TA1037
12 V									
DGY12-30DEV	30.0	24.0	197	132	186	11.7	1	F	134TA8627
DGY12-40DEV	40.0	29.0	210	175	175	15.0	0	F	168TA1038
DGY12-60DEV	60.0	50.0	278	175	190	21.3	0	1	168TA1039
DGY12-80DEV	80.0	70.0	353	175	190	25.8	0	1	168TA1040
DGY12-85DEV	85.0	75.0	352	175	232	28.4	0	1	168TA1041
DGY12-110DEV	110.0	90.0	286	269	230	38.7	2	1	168TA1042
DGY12-120DEV	120.0	95.0	513	189	223	40.0	3	1	168TA1043
DGY12-125DEV	120.0	105.0	345	171	285	41.0	0	1	168TA1044
DGY12-140DEV	150.0	130.0	514	223	222	53.8	3	1	134TA8638
DGY12-210DEV	200.0	165.0	517	270	240	71.0	3	1	168TA1045

DISCOVER AGM/GEL



HIGH BATTERY CAPACITY

LONG RUN-TIMES

ABOUT DISCOVER

Discover battery makes batteries that thrive in real-world applications.

What began as a regional battery distribution business in 1949 has grown into an international manufacturing and engineering company that provides leading-edge battery technology for transportation, motive power, and energy storage industries.

Discover battery's high value lead-acid and lithium power solutions are engineered and purpose-built with award-winning patented technology and industry-leading power electronics.

Discover battery makes our products available through the best knowledge-based distribution and service organizations for the people and businesses who rely on batteries to work, live, or get away.

Dry cell AGM traction/industrial

Trusted by OEMs around the world, dry cell

AGM traction/industrial deep-cycle batteries outperform traditional flooded, AGM, and gel batteries in demanding traction and industrial applications. Dry cell batteries are designed to deliver long high operating current runtime and to be regularly cycled to >50% DOD when proper charging sources are available.

Dry cell AGM key benefits:

- Ideal for deep-cycle applications with an emphasis on long high discharge run-times
- Sealed valve regulated. Non spill-able
- Compressed AGM cells for extreme vibration resistance
- Repeated high rate deep-cycles up to 80% DOD
- Maintenance-free. Unrestricted transport
- Enhanced safety with built-in flame arrestor
- Built-in handles

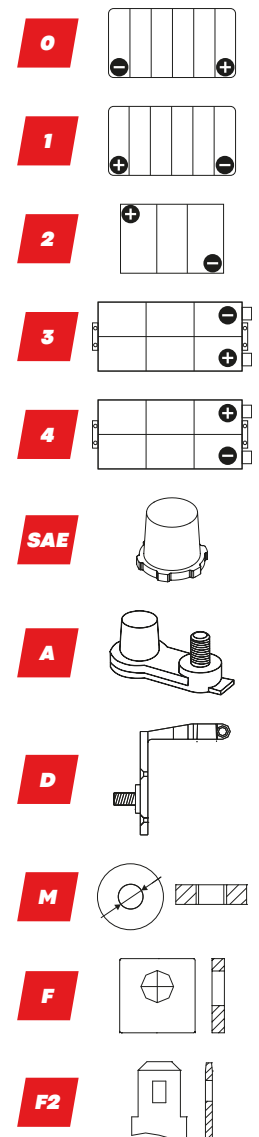
DRY CELL TRACTION/INDUSTRIAL

Model	C20 1.80 VPC 25 °C	C5 1.75 VPC 25 °C	C3 1.70 VPC 25 °C	Length (L)	Width (W)	Height (H)*	Weight	Layout/ polarity	Terminals	REF
	Ah	Ah	Ah	mm	mm	mm	kg			
6 V										
EVGC6A-A	220	190	170	260	180	254	30	2	AM	167TA8663
EVGT6A-A	260	222	200	260	180	276	35	2	M8	167TA8665
EV506A-230	230	200	170	244	189	254	32	2	M8	167TA8666
EV305A-A	330	290	260	295	180	345	46	2	AM	167TA8667
EVL16A-A	390	340	295	295	180	383	53	2	AM	167TA8668

12 V										
EVU1A-A	33	30	27	195	130	169	11	1	M6	167TA8676
EV22A-A	58	50	44	229	138	210	18	1	M6	167TA8678
EV34A-A	65	55	48	258	167	178	20	1	SAE	167TA8679
EV512A-70	68	60	51	278	175	190	22	0	SAE	167TA8681
EV512A-90	87	80	68	350	175	190	27	0	SAE	167TA8682
EV24A-A	85	72	66	258	172	214	24	1	AM	167TA8683
EV24LA-A	85	72	66	261	172	206	24	1	M6	167TA8684
EV27A-A	100	90	80	308	172	212	29	1	AM	167TA8685
EV31A-A	120	98	92	330	172	216	33	1	AM	167TA8686
EV12A-A	145	125	110	327	180	254	40	1	AM	167TA8688
EV512A-150	150	130	117	341	173	284	42	1	M8	167TA8690
EV185A-A	230	200	175	386	178	352	62	1	AM	167TA8692
EV4DA-A	235	200	175	524	225	222	63	4	AT	167TA8693
EV8DA-A	280	240	215	522	275	222	78	4	AT	167TA8695

Model	C20 1.80 VPC 25 °C	C5 1.75 VPC 25 °C	C3 1.70 VPC 25 °C	Length (L)	Width (W)	Height (H)*	Weight	Layout/ polarity	Terminals	REF
	Ah	Ah	Ah	mm	mm	mm	kg			
6 V										
EV506G-180	210	180	162	244	189	271	32	2	SAE	168TA7918
EV506G-250	290	250	235	293	180	343	46	2	AM	168TA7919
12 V										
EV512G-028	33	28	24	195	130	169	11	1	M6	168TA8012
EV512RG-044	55	45	42	229	138	208	18	0	M6	168TA7921
EV512RG-050	61	50	46	258	167	178	19	0	SAE	168TA7922
EV512LG-063	73	63	53	261	172	206	23	1	M6	168TA7923
EV512G-076	88	76	63	330	172	216	28	1	AM	168TA7924
EV512RG-103	120	103	90	327	180	254	36	0	AM	168TA7925

* Height refers to the distance from the bottom to the top of the case, and does not include the terminals.



BATTERIES

CYCLIC BATTERIES



AGM BATTERIES



MAINTENANCE-FREE

AGM batteries are built differently than open lead-acid batteries. In AGM batteries there is a fiberglass mat between the plates that is saturated with acid/electrolyte. This mat is packed between the plates and compressed. This ensures a super-fast reaction between the acid and the plates. Because the sheets and mats are tightly packed, they are almost immune to vibrations.

This type of battery is maintenance-free and in normal use there is no gas formation. The little gas that would still occur is returned to the electrolyte, so the batteries should never be refilled. Also no ventilation is needed and for safety there is an overpressure valve on the battery. The batteries can be installed in any position, except upside down.

Due to the high production cost these batteries are a lot more expensive than open lead-acid batteries, but still cheaper than gel batteries.

Properties:

- Sealed lead-acid batteries
- Can be used in any position
- Cheaper than a gel battery
- Better performance with a shorter duration/ higher current discharge
- A smaller battery size can be used for higher discharge
- Absorbed Glass Mat Technology (= AGM)
- Up to 500 cycles

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF
6 V									
DAB6-110EV	100.0	86.0	194	170	212	16.5	1	M8	134TA8663
DAB6-160EV	178.0	145.0	298	171	229	26.4	1	M8	134TA8664
DAB6-180EV*	210.0	187.0	260	180	250	29.5	0	M8	134TA8665
DAB6-200EV	248.0	220.0	322	178	231	34.0	1	M8	134TA8666
DAB6-225EV	242.0	205.0	243	188	275	32.0	0	M8	134TA8667
DAB6-270EV	272.0	242.0	260	180	273	35.0	0	M8	168TA1079
8 V									
DAB8-160EV	161.0	131.0	260	182	298	36.8	1	M8	134TA8668
12 V									
DAB12-7.5EV	9.6	8.5	151	65	103	2.6	3	T1	168TA1080
DAB12-14EV	16.4	14.5	151	99	100	4.4	3	T2	134TA8669
DAB12-18EV-HD	27.2	24.2	181	77	170	6.9	0	M5	168TA1081
DAB12-26EV	26.0	22.6	166	175	125	7.7	0	M5	134TA8672
DAB12-26EV-HD**	33.6	28.0	168	178	124	8.9	0	M5	168TA1082
DAB12-28EV	28.0	24.3	165	125	175	8.0	0	M5	134TA8673
DAB12-32EV	39.6	35.2	267	77	170	9.2	0	M5	168TA1083
DAB12-33EV	34.0	28.0	196	131	160	10.0	1	M6	134TA8674
DAB12-33EV-HD	41.1	35.7	195	130	163	11.6	1	M6	168TA1084
DAB12-44EV	46.2	37.7	198	167	158	13.0	0	M6	134TA8675
DAB12-44EV-HD	52.0	46.0	197	165	175	14.5	0	M6	168TA1085
DAB12-60DEV	60.0	45.0	242	175	190	17.9	0	1	168TA1086
DAB12-55EV	56.2	44.5	229	138	212	16.0	1	M6	142TA3204
DAB12-70DEV	70.0	55.0	278	175	190	20.5	0	1	168TA1087
DAB12-70JEV	70.0	59.0	350	166	175	21.0	0	M6	168TA1088
DAB12-80DEV	80.0	60.0	315	175	190	23.2	0	1	168TA1089
DAB12-80EV-M6	99.0	88.0	260	168	210	26.0	1	M6	168TA1090
DAB12-95DEV	95.0	70.0	353	175	190	26.0	0	1	168TA1091
DAB12-100EV	103.2	82.0	307	168	211	30.7	1	M8	168TA1092
DAB12-110EV	129.8	115.5	330	172	214	33.5	1	M8	134TA8681
DAB12-120EV	128.0	109.0	409	177	227	37.0	1	M8	134TA8682
DAB12-135EV	166.8	148.5	336	172	279	45.0	1	M8	134TA8683
DAB12-150EV	185.6	165.0	481	170	239	50.0	1	M8	134TA8684
DAB12-160EV	180.0	155.0	532	207	219	51.0	4	M8	134TA8685
DAB12-200EV	225.0	190.5	522	240	222	61.5	4	M8	134TA8686
DAB12-230EV	254.0	208.0	521	270	208	74.0	4	M8	134TA8687



J-type adaptor M6
REF [168TA1093](#)



Automot. adaptor M6
REF [144TA1868](#)

Automot. adaptor M8
REF [144TA1869](#)



M6 to M8 adaptor
(reversible)
REF [168TA1094](#)

BATTERIES

LITHIUM BATTERIES

LITHIUM-ION - LIFEPO4 - PALLETTRUCK BATTERIES



CUSTOM MADE

FITS IN 50+ MODELS

THE BATTERY IS SUPPLIED WITH

- Battery connector (to be specified)
- (external) LED screen: voltage, temp., RSOC, current
- Drive protection between machine and charger
- Charger (standard not included): efficiency > 90%
- Compatible with Zivan chargers both for fast charging and night charging

ADVANTAGES

- 100% maintenance-free
- Opportunity charging = no need to have exchange battery
- Can be charged in 2 hours (with adapted charger)
- No acid or hydrogen gasses
- Expected lifetime: up to 4000 cycles

AQ-LITH® LIT/DYN BATTERIES

FOR HIGH DEMANDING APPLICATIONS. MADE UPON YOUR DEMAND!

Developed and assembled by Battery Supplies

- The tray fits perfectly in the machine without need of filler material
- Extra weight is included in the bottom of the battery tray if this is required for ballast. No need to add extra weight in the machine.

Premium quality with high expected cycle life

Canbus communication to charger to allow a perfect charging profile and balancing action.

SUITABLE FOR FOLLOWING TYPES

BT	645 x 196 x 570 h	24 V - 160 - 165 Ah/c5
BT	645 x 245 x 570 h	24 V - 210 - 225 Ah/c5
Jungheinrich	624 x 212 x 573 h	24 V - 180 Ah/c5
Jungheinrich	624 x 212 x 627 h	24 V - 250 Ah/c5
Linde	624 x 284 x 537 h	24 V - 270 Ah/c5
Linde	786 x 210 x 630 h	24 V - 375 Ah/c5
Linde	624 x 212 x 627 h	24 V - 250 Ah/c5
Linde	624 x 212 x 537 h	24 V - 180 Ah/c5
Linde	624 x 284 x 627 h	24 V - 375 Ah/c5
Still	624 x 284 x 627 h	24 V - 375 Ah/c5
Still	624 x 284 x 627 h	24 V - 250 Ah/c5
Still	624 x 284 x 627 h	24 V - 200 Ah/c5
...		

Model	Capacity			Charger: standard charging (4 to 8 hrs)	Charger: fast charging (2 to 3 hrs)	REF
	Ah	kWh	kWh net			
24 V						
DYN24-210	210	5.04	4.032	NG1/24-45 RE-L	NG3/24-95RE-L	168TA8286
DYN24-315	315	7.56	6.048	NG1/24-45RE-L	NG9/24-145 RE-L	168TA8287

BATTERIES

LITHIUM BATTERIES

LITHIUM-ION - LIFEP04 - PALLETTRUCK BATTERIES



Model with built-in charger on top

Model without built-in charger

ECONOMICAL SOLUTION

AQ-LITH® INSERT

ADVANTAGES

- Delivery time: in stock
- Economical solution
- Can resist high currents: use of contactors instead MOSFET
- INSERT battery: we reduced the dimensions of the battery to a minimum. Doing so, this battery fits in mostly all pallet jacks, even if the width is limited

SPECIFICATIONS

- Battery excl spacers and ballast plates
- 4 options: in 100 Ah or 200 Ah, with built-in charger or without charger
- With internal fuse and precharge contactor
- With remote control box with start/stop button, buzzer and display
- With autosleep function to increase autonomy of the battery
- Perfect replacement of standard lead-acid batteries. if you want to replace a Li-ion battery, then please take care as some machines need a special canbus-communication with the battery. Please contact us

Model	LIT/INS24-100 24 V 100 Ah	LIT/INS24-100C 24 V 100 Ah with charger	LIT/INS24-200 24 V 200 Ah	LIT/INS24-200C 24 V 200 Ah with charger
Battery specifications				
Technology	LFP	LFP	LFP	LFP
Type of cell	Prismatic	Prismatic	Prismatic	Prismatic
Nominal voltage (V)	25.6	25.6	25.6	25.6
Max continuous charging current	0.5C	0.5C	0.5C	0.5C
Max continuous discharging current	0.5C	0.5C	0.5C	0.5C
Max discharging current during 10s	2.5C	2.5C	2.5C	2.5C
Operating temp during charge	0 to 45 °C	0 to 45 °C	0 to 45 °C	0 to 45 °C
Operating temp during discharge	-20 to 50 °C	-20 to 50 °C	-20 to 50 °C	-20 to 50 °C
IP	IP20	IP20	IP20	IP20
Dimensions (W x L x H mm)	130 x 450 x 500	130 x 450 x 570	190 x 550 x 500	190 x 550 x 569
Weight (kg)	42	45	62	67
Charging cable	1.1 m - REMA 160 A	1.5 m - 1ph 220 V	1 m - REMA 160 A	1.5 m - 1ph 220 V
Discharging cable	1.1 m - REMA 160 A	1.1 m - REMA 160 A	1.1 m - REMA 160 A	1.1 m - REMA 160 A
Charger profile	CCCV	CCCV	CCCV	CCCV
Expected life time (cycles or years)	2000 cycles	2000 cycles	2000 cycles	2000 cycles
Warranty	3 years with 80% EOL	3 years with 80% EOL	3 years with 80% EOL	3 years with 80% EOL
REF	168TA3021	168TA3022	168TA3023	168TA3024
Charger specifications				
Voltage in (VAC)		220		220
Monophase		Yes		Yes
Current in (A)		7		10
Voltage out (V DC nominal)		25.6		25.6
Profile		CCCV		CCCV
Current out (A)		30		45
REF separte charger		168TA3025		168TA3026

LITHIUM DROP-IN BATTERIES



LIFEPO4 TECHNOLOGY

PLUG-AND-PLAY SOLUTIONS

Our lithium-ion drop-in replacement batteries can directly replace your current SLA batteries in many applications. They have an excellent lifespan of up to 2000 cycles. These maintenance-free batteries have the same dimensions as SLA batteries but are up to 70% lighter and have much better performance and economic life. The lithium-ion drop-in replacement batteries are extremely safe: they can charge quickly without overheating and gasification, they are also protected against overload and full discharge thanks to the built-in BMS. These batteries are much more ecological because they contain no acid, no lead and no other toxic substances.

USE IN SERIES OR PARALLEL

General:

First, the batteries must be charged separately until they have the same state. Only connect them in parallel or in series after charging and only if the batteries are from the same production batch.

Parallel configuration:

Do not connect more than 4 batteries in parallel. If batteries connected in parallel are discharged (fully or partially), it is harmful to replace one of the batteries with a full battery. First, disconnect the batteries, charge them separately and then switch them back into parallel.

Serial configuration:

Do not connect more than 4 batteries (12 V) in series. We even recommend buying a 24 V, 36 V or 48 V battery instead of connecting 12 V batteries in series. PLEASE NOTE: the batteries should first be charged separately and only then connected in series. The batteries connected in series should be simultaneously charged by several 12 V chargers. Requirement: the chargers can not share the negative pole.

Model	Terminals	Voltage	Capacity	Energy	Length	Width	Height	Weight	Recom charge current	Max charging current	Charge cut-off voltage	Max discharge current	REF	REF suitable charger
		V	Ah	Wh	mm	mm	mm	kg	A	A	V	A		
12.8 V														
D12-9K	T2	12.8	9	115.2	151	65	94	1.1	1.8	4.5	10.0	9.0	168TA7497	168TA1119
D12-12K	T2	12.8	12	153.6	151	98	95	1.6	6	12.0	10.0	12.0	168TA1099	168TA1120
D12-20k	M5	12.8	20	256.0	181	76	166	3.0	10	25.0	10.0	12.0	168TA1100	168TA1120
D12-42K	M8	12.8	42	537.6	198	166	170	5.4	8.4	21.0	10.0	42.0	168TA1102	166TA6246
D12-54K	M6	12.8	54	691.2	197	166	171	6.5	11	54.0	10.0	54.0	168TA7498	166TA6246
D12-75K	M6	12.8	75	960.0	260	168	213	9.8	30	50.0	10.0	50.0	168TA1104	168TA1121
D12-100K	M8	12.8	100	1280.0	330	172	223	10.1	20	100.0	10.0	100.0	168TA7499	168TA1121
D12-150K	M8	12.8	150	1920.0	483	170	240	17.8	30	100.0	10.0	100.0	168TA7500	168TA1121
D12-200K	M8	12.8	200	2560.0	552	240	218	23.5	40	50.0	10.0	100.0	168TA7501	168TA1121
D12-300K	M8	12.8	300	3840.0	552	240	218	37.0	20	100.0	10.0	100.0	168TA7502	168TA1121
25.6 V														
D24-20K	M6	25.6	20	512.0	197	165	170	4.5	4	10.0	20.0	20.0	168TA7503	168TA1123
D24-30K	M6	25.6	30	768.0	223	150	178	7.5	8	15.0	20.0	30.0	168TA7504	168TA1123
D24-54K	M8	25.6	54	1382.4	330	172	223	14.0	11	54.0	20.0	54.0	168TA7505	168TA1124
D24-80K	M8	25.6	80	2048.0	408	177	224	24.8	16	80.0	20.0	80.0	168TA7496	168TA1124
D24-100K	M8	25.6	100	2560.0	530	235	220	27.0	20	100.0	20.0	100.0	168TA7506	168TA1124
D24-200K	M8	25.6	200	5120.0	522	240	218	79.0	40	100.0	20.0	100.0	168TA7507	168TA1124
51.2 V														
D48-20K	M8	51.2	20	1024.0	330	172	223	10.5	4	10.0	40.0	20.0	168TA7508	168TA1126
12.8 V for caravan/motorhome Ducato under-seat battery range with bluetooth														
D12-100KC	M8	12.8	100.0	1280.0	355	175	188	10.5	20	50.0	10.0	100.0	168TA7509	168TA1121
D12-150KC	M8	12.8	150.0	1920.0	483	170	240	17.8	20	50.0	10.0	100.0	168TA7510	168TA1121

BATTERIES

LITHIUM BATTERIES

LITHIUM P-SERIES: IP66



**WATERPROOF
IDEAL FOR MARINE**

Features:

- LiFePO4 batteries
- Aluminum housing
- IP66 – dustproof and water resistant
- High peak discharge capability
- Bolt holes on the side to secure the battery
- Indicator on the battery (voltage, current and SOC)
- Possibility to add a second external indicator

Use in series or parallel:

It's not allowed to connect in series. Parallel connection is allowed, but contact us for more information and usage instructions.

PRO version: NO

Only the standard equipment is available: connection for a second indicator.

PRO version: YES

These batteries are equipped with a special multi-pin connector. Optionally, you can choose to connect an extra connector to send signals regarding voltage, current and temperature. The connector is equipped with enough pins to connect a second external indicator. The PRO version is very important when connecting these batteries in parallel.

Model	Terminals	Capacity	Length	Width	Height	Weight	Discharge current		Cut-off voltage	Charge current	PRO version	REF	REF suitable charger*
							Max (30 min)	Peak (3S)					
		Ah	mm	mm	mm	kg	A	A	V	A			
12.8 V													
LIT/D12-200P	M8	200	310	266	229	22.3	200	400	≤10.4	≤100	No	168TA1130	168TA1592
LIT/D12-400P	M8	400	432	266	254	40.5	200	400	≤10.4	≤200	Yes	168TA1131	168TA1593
25.6 V													
LIT/D24-100P	M8	100	310	266	229	22.3	120	260	≤20.8	≤50	No	168TA1132	168TA1594
LIT/D24-200P	M8	200	432	266	254	40.5	200	400	≤20.8	≤100	Yes	168TA1133	168TA1595
38.4 V													
LIT/D36-100P	M8	100	432	266	254	33.7	120	260	≤31.2	≤50	Yes	168TA2674	168TA2675
51.2 V													
LIT/D48-100P	M8	100	432	266	254	40.5	120	260	≤41.6	≤50	Yes	168TA1134	168TA1596

*Specific connector on request. Optional: external indicator REF [168TA2676](#) CB (with CAN bus)

SOC INDICATORS (BASED ON COULOMB COUNTING)



Max current	With contact MIN SOC%	With serial TTL communication
A		
50	168TA1135	168TA1139
100	168TA1136	168TA1140
350	168TA1137	168TA1141
500	168TA1138	168TA1144

LITHIUM-ION BATTERIES

8-YEAR WARRANTY - YOUR INVESTMENT IS PROTECTED AND YOU CAN STILL BE AROUND IN 8 YEARS TO HONOR IT

4000 CYCLES @70% DOD (TO 70% OF INITIAL CAPACITY) AT 25 A)



WHY TROJAN BATTERY IS A TRUSTED NAME FOR LITHIUM-ION TECHNOLOGY

Internal temperature sensors are a key component in lithium-ion battery charging and safety. They provide critical temperature data required to keep the lithium-ion battery in the optimum condition during the charging cycle.

Unlike other lithium-ion batteries that have only two or three, Trojan GC 24 V, 36 V and 48 V lithium-ion batteries have five internal temperature sensors. Three are positioned to monitor cell temperature gradients. One ensures balance between the two sides of the battery. The fifth is on the BMS board to monitor discharge current path and electronics temperature.

Temperature sensors serve two main purposes:

- Preventing damage to the cells when charged in low temperatures
- Preventing dangerous overheating conditions within a cell or cells during charge

More sensors provide more feedback to the BMS, giving it better control of the charging. The result is longer battery life and safer operation.

Trojan lithium-ion batteries have four levels of safety redundancy at the cell level:

1. Stable cell chemistry/(Lithium Iron Phosphate)
2. Independent charge/discharge control unit
3. Secondary charge and discharge control circuit
4. Emergency mechanical fusing

With your safety in mind first, Trojan lithium-ion batteries feature a battery management system (BMS) that protects against short circuits, overheating and other unsafe conditions. They are equipped with a truly "smart" design that utilizes dual processors for full back-up ensuring the system is always running.

Model	Capacity	Capacity amp - hours			Energy	Length	Width	Height	Operating temp	Terminal type	REF
	minutes	5 hr	10 hr	20 hr							
TRL-GC2-24-M	@25 A 156	65	65	65	1.75	264	180	278	-20 to 60 °C	M8	168TA2877
TRL-GC2-36-M	108	45	45	45	1.75	264	180	278	-20 to 60 °C	M8	168TA2878
TR-GC2-48-G	72	30	30	30	1.53	264	180	278	-40 to 60 °C	M8	168TA2879

BATTERIES

LITHIUM BATTERIES

MOTORCYCLE BATTERIES















Shido Lithium batteries have 4 cells LiFePO₄ (Lithium Iron Phosphate) of 3.2 V connected in series in order to reach an OCV of 12.8 V. A perfect voltage to use as a starter battery for motorcycles. The electronic Battery Management System or BMS spread the charge and discharge regularly over the four cells. Thanks to its small internal resistance a Shido Lithium battery can generate a very high starting current with little Ah. This starting power delivers a powerful and quick start of the vehicle.

Advantages:

- Superb cranking capacity
- Up to 75% lighter than lead-acid batteries
- Long capacity retention
- Lower self discharge: longer shelf life
- Excellent cycle life: more than 1200 cycles
- More economical
- Drop-in replacement
- Less fuel consumption
- Super-fast recharge
- Safe in use
- No maintenance
- Stable discharge voltage
- No pollution, no lead and no acid
- Capacity indicator
- IP68 waterproof

Model	Capacity		Energy	Dimensions				Weight	Charging current		Layout	REF
	Ah	A		L	B	H	HL		STD	MAX		
Shido Lion - 12 V												
LB5L-B	1.6	95	19	120	60	92	120	0.4	1	8	0	168TA1335
LTX4L-BS	1.6	95	20	113	70	85	85	0.4	1	8	0	168TA1336
LTX5L-BS	1.6	95	20	113	70	85	105	0.4	1	5	0	168TA1337
LTX25S	2	120	24	113	69	85	85	0.5	1	10	0	168TA1338
LTM2L	2	120	24	89	49	90	90	0.5	1	10	0	168TA1339
LTX7S	2.4	150	30	113	69	85	105	0.6	1.5	12	0	168TA1340
LTX7A-BS	2.4	150	30	150	87	93	93	0.6	1.5	12	1	168TA1341
LTX7L-BS	2.4	150	30	113	69	85	125	0.6	1.5	12	0	168TA1342
LT7B-BS	3	180	36	150	65	92	92	0.7	1.5	15	1	168TA1343
LB9-B Q	3	180	36	134	75	134	134	0.6	1.5	12	0/1	168TA1344
LT9B-BS	3	180	36	150	65	92	106	0.7	1.5	15	1	168TA1345
LTX9-BS	3	180	36	150	87	105	105	0.7	1.5	15	1	168TA1346
LT12A-BS	3.5	210	42	150	87	93	107	0.9	2	18	1	168TA1615
LTX10S	4	240	48	150	87	93	93	0.9	2	20	1	168TA1347
LB12AL-A2 Q	4	240	48	130	75	134	160	0.9	2	20	0/1	168TA1348
LTX12-BS	4	240	42	150	87	105	130	0.9	2	18	1	168TA1349
LTX14-BS	4	240	48	150	87	105	145	1.1	2	20	1	168TA1350
LTX14AHL-BS Q	4	240	48	134	75	133	168	1.1	2	20	0/1	168TA1351
LTX14L-BS	4	240	48	150	87	105	145	1.1	2	20	0	168TA1352
LTX28V	4.5	270	54	113	69	105	105	0.9	2.5	22.5	0	168TA1353
LB16AL-A2	5	300	60	150	65	130	144	1.1	2.5	25	0	168TA1354
LT12B-BS	5	300	60	150	65	130	130	1.1	2.5	25	1	168TA1355
LTX12S	5	300	60	150	87	93	110	1.1	2.5	25	1	168TA1356
LTX14S	5	300	60	150	87	93	110	1.1	2.5	25	1	168TA1357
LT14B-BS	5	300	60	150	65	130	144	1.1	2.5	25	1	168TA1358
LTX16-BS	6	360	72	150	87	105	164	1.4	3	24	1	168TA1359
LTX20CH-BS	6	360	72	150	87	105	164	1.4	3	24	1	168TA1360
LTX20L-BS Q	7	420	84	175	87	130	155	1.4	3.5	28	0/1	168TA1361
LTX24HL-BS Q	7	420	84	175	87	130	163	1.7	3.5	28	0/1	168TA1616
51913	7.5	420	90	181	77	170	170	1.7	4	28	0	168TA1362
LIX30L-BS Q	8	480	96	167	124	163	163	2	4	32	0/1	168TA1363








LITHIUM PACKS

	Voltage V	Capacity Ah	Energy Wh	Used in machine	Remark	REF
	24	20	512	Can be found in Movexx		167TA9990
	24	36	922	Can be found in Movexx		167TA9991
	24	20	480	Can be found in Noblift electric pallet trucks		167TA9992
	48	20	960	Can be found in Noblift electric pallet trucks		167TA9993
	24	36	864	Can be found in BT		168TA7484
	24	36	864	Can be found in Jungheinrich Li-ion machines		168TA7516
	24	22	528	Can be found in Kärcher		168TA7485
	24	20	480	Can be found in EP forklift and Climax	Without CAN bus	166TA6083
	24	20	480	Can be found in EP forklift and Climax	Without CAN bus + CE version (higher then older models) *BMS not interchangeable with older models	167TA1561
	24	30	720	Can be found in EP forklift, Linde and Clark		166TA9473
	48	20	960	Can be found in EP forklift, Linde and Still		167TA1428
	48	30	1140	Can be found in EP forklift, Linde and Still		167TA1427

BATTERIES

LITHIUM BATTERIES

LITHIUM PACKS

	Voltage V	Capacity Ah	Energy Wh	Used in machine	Remark	REF
	24	20	480	Can be found in EP forklift		168TA7486
	24	20	480	Can be found in EP forklift		167TA9900
	24	40	960	Can be found in EP forklift		168TA7487
	48	10	480	Can be found in EP forklift, Hyster and Yale		168TA7488
	48	20	960	Can be found in Xilin, Ameise, Jungheinrich and Mitsubishi		168TA7489
	48	20	960	Can be found in Hangcha and AP		168TA7380
	24	30	720	Can be found in Heli		168TA7490

NICKEL CADMIUM CITI ONE BATTERIES



- Voltage: 36 V
- Capacity: 5 Ah
- Can be found in: Still and Linde
- Refit possible if BMS works: yes

REF [167TA9994](#)



- Voltage: 36 V
- Capacity: 9 Ah
- Can be found in: Still and Linde
- Refit possible if BMS works: yes

REF [167TA9995](#)



- Voltage: 36 V
- Capacity: 15 Ah
- Can be found in: Still and Linde
- Refit possible if BMS works: yes

REF [167TA9996](#)

BATTERIES

STARTER BATTERIES



TRUST IN VARTA®

Wherever your journey may take you, VARTA® batteries provide all the power to take you there. Whether you own a vehicle with start/stop functionality, or you drive a highly equipped vehicle with high energy demands, VARTA® batteries offer the power you need. Today, you'll find our products in millions of cars, forklifts, tractors, MEWP's, construction equipments. Varta engineers put expertise and precision into each and every VARTA® battery. VARTA® batteries provide longer life, less corrosion and lower cost of ownership, qualities you'll find in all our products from our advanced start/stop automotive range to our professional powerboat products. When you choose VARTA®, you go for reliable precision technology that delivers best-in-class manufacturing quality.

Innovation with a purpose:

VARTA® batteries are the driving force behind fuel-saving innovations like start/stop engines. Manufactured with up to 20% fewer emissions, they'll reliably restart your vehicle's engine again and again, and effectively reduce your fuel consumption.

A powerful history:

The VARTA® brand has a history going back more than 130 years. VARTA® batteries are factory-fitted by major carmakers and trusted by drivers globally.

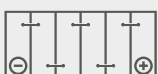
BACKED BY THE GLOBAL MARKET LEADER: CLARIOS

VARTA® automotive batteries are powered by Clarios, formerly Johnson Controls Power Solutions, a world leader in advanced energy storage solutions. We partner to meet increasing market demand for smarter applications, on a global scale. Varta's 16 000 employees develop, manufacture, and distribute a portfolio of evolving battery technologies for virtually every type of vehicle. Technologies that deliver uniquely sustainable, next-generation performance, and bring reliability, safety, and comfort to everyday lives. We add value at every link in the supply chain, contributing to the progress of the communities we serve and the planet we all share.

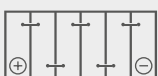
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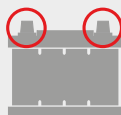
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1



TERMINAL TYPES



1



+

pos



-

neg

3



+

pos



-

neg

Y4



BASE HOLD DOWN



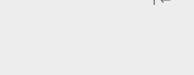
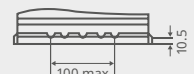
B00



B01



B13



BATTERIES

STARTER BATTERIES

VARTA® SILVER DYNAMIC AGM



THE BENCHMARK FOR START/STOP AND ELECTRIC VEHICLES

The VARTA® Silver Dynamic AGM stands for unparalleled performance: with 3 times the cycle life of conventional batteries, the VARTA Silver Dynamic AGM is the perfect choice for vehicles with the highest energy demands, as start/stop or electric vehicles. This can be due to heavier usage, cold winters, hot summers or multiple accessories and equipment

- Unparalleled performance for start/stop and electric vehicles
- Best start/stop performance for maximum fuel economy – as the start/stop-system can be operated as often as possible.
- 90% recycled – 90% of a newly produced VARTA AGM battery consists of recycled lead.
- Original spare parts ensure the replacement battery has the same quality as the original one.
- 3 times cycle life compared to conventional batteries and therefore, a reliable power source for the large demands of highly equipped vehicles.

Keep in mind: an AGM battery must always be replaced with an AGM. VARTA batteries should be installed only by a professional workshop.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm		kg				
EN type												
550901054	A9	50	540	207	175	190	H4/L1	15	0	1	B13	168TA7615
560901068	A8	60	680	242	175	190	H5/L2	17.7	0	1	B13	167TA9371
570901076	A7	70	760	278	175	190	H6/L3	20.4	0	1	B13	167TA9372
580901080	A6	80	800	315	175	190	H7/L4	22.5	0	1	B13	167TA9373
595901085	A5	95	850	353	175	190	H8/L5	26.4	0	1	B13	167TA9374
605901095	A4	105	950	394	175	190	H9/L6	29.2	0	1	B13	167TA9375

VARTA® BLUE DYNAMIC EFB



FOR SUPERIOR POWER NEEDS

Entry-level start/stop systems are usually equipped with an EFB (enhanced flooded battery). The VARTA Blue Dynamic EFB fits vehicles with higher than normal energy demands. So, if you're looking for a battery with extended cycle life compared to a conventional VARTA battery, the VARTA Blue Dynamic EFB is the right choice.

Made for entry-level start/stop systems:

- 2 times the cycle life compared to conventional VARTA batteries
- Made for vehicles with higher than normal energy demands
- Available in 5 models of varying capacity, CCA and size
- Recyclable and produced in an energy-saving way

Keep in mind: Some entry-level start/stop vehicles come with an EFB. EFB batteries should always be replaced with like-for-like OE spare parts such as the Blue Dynamic EFB. To improve performance, EFB batteries can also be replaced with a VARTA Silver Dynamic AGM battery.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm		kg				
EN type												
550500055	N50	50	540	207	175	190	H4/L1	14.2	0	1	B13	168TA7699
560500064	N60	60	640	242	175	190	H5/L2	16.5	0	1	B13	167TA9376
565500065	D54	65	650	278	175	175	T6/LB3	19.9	0	1	B13	167TA9377
570500076	N70	70	760	278	175	190	H6/L3	21.3	0	1	B13	167TA9378
575500073	E46	75	730	315	175	175	T7/LB4	18.4	0	1	B13	167TA9379
580500080	N80	80	800	315	175	190	H7/L4	20.7	0	1	B13	167TA9380
595500085	N95	95	850	353	175	190	H8/L5	24.5	0	1	B13	167TA9381
JIS type												
565501065	N65	65	650	232	173	225	D23	16.9	0	1	B00	167TA9382
572501076	N72	72	760	261	175	220	D26	19.5	0	1	B01	167TA9383
585501080	N85	85	800	306	173	225	D31	21.8	0	1	B01	167TA9384

VARTA® SILVER DYNAMIC AUXILIARY



VARTA Auxiliary batteries provide electrical components with seamless functionality. Modern vehicle's consume a significant amount of electricity. Therefore, these vehicles with a combustion engine often come with two batteries: a regular 12 volt starter battery and an auxiliary battery. Thus, when it comes to replacing a weak or defective auxiliary battery, it is vital to rely on a high performing substitution. Furthermore, it is important to always replace an AGM auxiliary battery with another AGM auxiliary battery to avoid the risk of malfunctions and car breakdown.

Made for a dual battery system:

- Increase the length of the start/stop moment
- Support comfort functions during engine start
- Support the electrical system (brake-by-wire)
- Protect the electrical system
- Serve as emergency support

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm	kg					
AGM												
509106013	AUX9	9	130	151	87	106	YTX9	2.9	1	Y4	B00	168TA1153
513106020	AUX14	13	200	150	87	146	YTX14	4.6	1	Y4	B00	168TA1154
SLI												
535106052	AUX1	35	520	212	175	140	POB4	10.8	0	1	B13	168TA1155

VARTA® SILVER DYNAMIC



BEST IN CLASS PERFORMANCE FOR HIGHEST POWER NEEDS

You've got a highly equipped vehicle? The VARTA Silver Dynamic is the perfect choice for non-start/stop technology with the highest power needs. It offers supreme starting power that will meet the toughest energy demands without compromise.

- For extra power and premium performance
- The premium battery for vehicles with non-start/stop technology
- Up to 15% higher starting power than Blue
- Available in 11 models of varying capacity, CCA and size
- Recyclable and produced in an energy-saving way

Keep in mind: compared to our VARTA Blue Dynamic the VARTA Silver Dynamic offers 15% higher starting power.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm	kg					
EN types												
552401052	C6	52	520	207	175	175	T4/LB1	12.5	0	1	B13	167TA8698
554400053	C30	54	530	207	175	190	H4/L1	13.1	0	1	B13	168TA1170
561400060	D21	61	600	242	175	175	T5/LB2	14.6	0	1	B13	168TA1171
563400061	D15	63	610	242	175	190	H5/L2	15.3	0	1	B13	168TA1156
563401061	D39	63	610	242	175	190	H5R/L2R	15.3	1	1	B13	168TA1157
574402075	E38	74	750	278	175	175	T6/LB3	17.4	0	1	B13	167TA8699
577400078	E64	77	780	278	175	190	H6/L3	18.3	0	1	B13	167TA8700
585200080	F18	85	800	315	175	175	T7/LB4	19.6	0	1	B13	167TA8701
585400080	F19	85	800	315	175	190	H7/L4	19.8	0	1	B13	168TA1158
600402083	H3	100	830	353	175	190	H8/L5	22.6	0	1	B13	167TA8702
610402092	I1	110	920	393	175	190	H9/L6	25.2	0	1	B13	167TA8703

BATTERIES

STARTER BATTERIES

VARTA® BLUE DYNAMIC



Entry-level start/stop systems are usually equipped with an EFB (enhanced flooded battery). The VARTA® Blue Dynamic EFB fits vehicles with higher than normal energy demands. So, if you're looking for a battery with extended cycle life compared to a conventional VARTA battery, the VARTA Blue Dynamic EFB is the right choice.

Made for Entry-Level Start/stop Systems:

- 2 times the cycle life compared to conventional VARTA batteries
- Made for vehicles with higher than normal energy demands
- Available in 9 models of varying capacity, CCA and size
- Recyclable and produced in an energy-saving way

Keep in mind: Some entry-level start/stop vehicles come with an EFB. EFB batteries should always be replaced with like-for-like OE spare parts such as the Blue Dynamic EFB. To improve performance, EFB batteries can also be replaced with a VARTA Silver Dynamic AGM battery.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm				kg		
EN types												
544401042	B36	44	420	175	175	190	H3/L0	10.5	0	1	B13	168TA1159
544402044	B18	44	440	207	175	175	T4/LB1	11.5	0	1	B13	167TA8704
552400047	C22	52	470	207	175	190	H4/L1	12.7	0	1	B13	167TA8705
560409054	D59	60	540	242	175	175	T5/LB2	14.6	0	1	B13	167TA8706
560408054	D24	60	540	242	175	190	H5/L2	14.6	0	1	B13	167TA8707
560127054	D43	60	540	242	175	190	H5R/L2R	14.6	1	1	B13	168TA1160
572409068	E43	72	680	278	175	175	T6/LB3	16.6	0	1	B13	167TA8708
574012068	E11	74	680	278	175	190	H6/L3	17.3	0	1	B13	167TA8709
574013068	E12	74	680	278	175	190	H6/L3R	17.3	1	1	B13	167TA8710
580406074	F17	80	740	315	175	175	T7/LB4	18.8	0	1	B13	167TA8711
580400074	F16	80	740	315	175	190	H7/L4	19.1	0	1	B13	168TA1161
595402080	G3	95	800	353	175	190	H8/L5	21.9	0	1	B13	167TA8712
JIS types												
540125033	A13	40	330	187	127	227	B19H	10.2	0	3	B01	168TA1162
540126033	A14	40	330	187	127	227	B19L	10.2	0	3	B00	167TA8713
540127033	A15	40	330	187	127	227	B19R	10.2	1	3	B00	167TA8714
545155033	B31	45	330	238	129	227	B24L	11.7	0	3	B00	168TA1164
545156033	B32	45	330	238	129	227	B24R	11.7	0	1	B00	167TA8716
545157033	B33	45	330	238	129	227	B24S	11.7	1	3	B00	167TA8717
545158033	B34	45	330	238	129	227	B24RS	11.7	1	1	B00	167TA8718
560410054	D47	60	540	232	173	225	D23L	15.8	0	1	B00	167TA8715
560411054	D48	60	540	232	173	225	D23R	15.8	1	1	B00	168TA1163
570412063	E23	70	630	261	175	220	D26L	16.9	0	1	B01	167TA8719
570413063	E24	70	630	261	175	220	D26R	16.9	1	1	B01	167TA8720
595404083	G7	95	830	306	173	225	D31L	21.7	0	1	B01	167TA8721
595405083	G8	95	830	306	173	225	D31R	21.7	1	1	B01	167TA8722

VARTA® BLACK DYNAMIC



For cars with lower power needs that are built before 2000, we recommend the VARTA® Black Dynamic – a trustworthy and maintenance-free choice that offers good value for money. Of course, you can rely on our latest technology and long-term performance as usual. So, choose the VARTA Black Dynamic and see for yourself.

Powered by Clarios, VARTA® Blue Dynamic batteries are factory-fitted by major carmakers and trusted by drivers globally. VARTA® Blue Dynamic batteries provide longer life, less corrosion and lower cost of ownership. Take your vehicle to a workshop which works with VARTA® in order to experience excellent replacement service.

Keep in mind: to ensure the function of safety systems and comfort features, an AGM battery must always be replaced with an AGM. VARTA batteries should be installed only by a professional workshop.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm	kg					
EN types												
066017036	D42	66	360	178	175	188	-	9.5	0	1	B00	168TA7616
077015036	E30	77	360	216	170	191	-	11.5	0	1	B06	168TA7617
540406034	A16	40	340	175	175	190	H3/L0	9.9	0	1	B13	168TA1165
541400036	A17	41	360	207	175	175	T4/LB1	10.9	0	1	B13	167TA8723
545412040	B19	45	400	207	175	190	H4/L1	11.7	0	1	B13	168TA1166
545413040	B20	45	400	207	175	190	H4R/L1R	11.7	1	1	B13	167TA8724
553401050	C11	53	500	242	175	175	T5/LB2	13.3	0	1	B13	168TA1167
556400048	C14	56	480	242	175	190	H5/L2	13.9	0	1	B13	168TA1168
556401048	C15	56	480	242	175	190	H5R/L2R	13.9	1	1	B13	167TA8725
570144064	E9	70	640	278	175	175	T6/LB3	16.4	0	1	B13	167TA8726
570409064	E13	70	640	278	175	190	H6/L3	16.9	0	1	B13	168TA1169
588403074	F5	88	740	353	175	175	T8/LB5	20.6	0	1	B13	167TA8727
590122072	F6	90	720	353	175	190	H8/L5	21.1	0	1	B13	167TA8728
JIS types												
545077030	B23	45	300	219	135	225	E2	10.8	0	1	B01	168TA1172
545079030	B24	45	300	219	135	225	E2R	10.8	1	1	B01	168TA1173

BATTERIES

STARTER BATTERIES



QUICK FINDER LIST

Short code	Ah (20h)	CCA (EN)	Case size	REF
A				
VARTA® Silver Dynamic AGM				
D52	60	680	H5/L2	167TA9371
E39	70	760	H6/L3	167TA9372
F21	80	800	H7/L4	167TA9373
G14	95	850	H8/L5	167TA9374
H15	105	950	H9/L6	167TA9375
VARTA® Blue Dynamic EFB				
N60	60	640	H5/L2	167TA9376
D54	65	650	T6/LB3	167TA9377
N70	70	760	H6/L3	167TA9378
E46	75	730	T7/LB4	167TA9379
N80	80	800	H7/L4	167TA9380
N95	95	850	H8/L5	167TA9381
N65	65	650	D23	167TA9382
N72	72	760	D26	167TA9383
N85	85	800	D3	167TA9384
VARTA® Silver Dynamic EFB				
AUX9	9	130	YTX9	168TA1153
AUX14	13	200	YTX14	168TA1154
AUX1	35	520	POB4	168TA1155
VARTA® Silver Dynamic				
C6	52	520	T4/LB1	167TA8698
C30	54	530	H4/L1	168TA1170
D21	61	600	T5/LB2	168TA1171
D15	63	610	H5/L2	168TA1156
D39	63	610	H5R/L2R	168TA1157
E38	74	750	T6/LB3	167TA8699
E44	77	780	H6/L3	167TA8700
F18	85	800	T7/LB4	167TA8701
F19	85	800	H7/L4	168TA1158
H3	100	830	H8/L5	167TA8702
I1	110	920	H9/L6	167TA8703
VARTA® Blue Dynamic				
B36	44	420	H3/L0	168TA1159
B18	44	440	T4/LB1	167TA8704
C22	52	470	H4/L1	167TA8705

Short code	Ah (20h)	CCA (EN)	Case size	REF
A				
D59	60	540	T5/LB2	167TA8706
D24	60	540	H5/L2	167TA8707
D43	60	540	H5R/L2R	168TA1160
E43	72	680	T6/LB3	167TA8708
E11	74	680	H6/L3	167TA8709
E12	74	680	H6/L3	167TA8710
F17	80	740	T7/LB4	167TA8711
F16	80	740	H7/L4	168TA1161
G3	95	800	H8/L5	167TA8712
A13	40	330	B19H	168TA1159
A14	40	330	B19	167TA8704
A15	40	330	B19R	167TA8705
D47	60	540	D23R	167TA8706
D48	60	540	D23R	167TA8707
B31	45	330	B24	168TA1160
B32	45	330	B24R	167TA8708
B33	45	330	B24S	167TA8709
B34	45	330	B24RS	167TA8710
E23	70	630	D26	167TA8711
E24	70	630	D26R	168TA1161
G7	95	830	D31	167TA8712
G8	95	830	D31R	167TA8722
VARTA® Black Dynamic				
A16	40	340	H3/L0	168TA1165
A17	41	360	T4/LB1	167TA8723
B19	45	400	H4/L1	168TA1166
B20	45	400	H4R/1LR	167TA8724
C11	53	500	T5/LB2	168TA1167
C14	56	480	H5/L2	168TA1168
C15	56	480	H5R/L2R	167TA8725
E9	70	640	T6/LB3	167TA8726
E13	70	640	H6/L3	168TA1169
F5	88	740	T8/L5	167TA8727
F6	90	70	H8/L5	167TA8728
B23	45	300	E2	168TA1172
B24	45	300	E2R	168TA1173

VARTA® DUAL PURPOSE



Lower-spec boats and motorhomes still need the right product to perform at their best. That's why we've developed VARTA® Professional Dual Purpose batteries. Long-lasting and maintenance-free, they're ideal for seasonal use.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	Pallet quantity	REF
			A	mm	mm	mm		kg					
EN types													
930 060 064	LED60	60	640	242	175	190	LN2	16.84	0	1	B13	63	168TA7683
930 070 076	LED70	70	760	277	175	190	LN3	19.45	0	1	B13	48	168TA7684
812 071 000	LFS75	75	600	272	175	225	EG4	18.10	1	1	B01	48	168TA7685
930 080 080	LED80	80	800	314	175	190	LN4	21.59	0	1	B13	42	168TA7686
930 095 085	LED95	95	850	352	175	190	LN5	24.39	0	1	B13	36	168TA7687
820 055 080	LFS105M	105	800	330	172	238	Grp 31	23.14	9	8	B01	36	168TA7688
820 054 080	LFS105N	105	800	330	172	238	Grp 31	23.14	9	1	B01	36	168TA7689
930 140 080	LFD140	140	800	513	189	223	A	35.76	3	1	B00	24	168TA7690
930 190 105	LED190	190	1050	513	223	223	B	46.99	3	1	B00	21	168TA7691
930 240 120	LED240	240	1200	518	276	242	C	56.75	3	1	B00	12	168TA7692

VARTA® DUAL PURPOSE AGM



For leisure applications with moderate energy demands, VARTA® Professional Dual Purpose AGM batteries can be used to start the engine of your motorhome and deliver service power for accessories and electronics. These batteries are ideal for seasonal use, so when you take your boat or caravan out of winter storage, it's ready to go.

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	Pallet quantity	REF
			A	mm	mm	mm		kg					
EN types													
840 060 068	LA60	60	680	242	175	190	H5/L2	17.50	0	1	B13	57	168TA7693
840 070 076	LA70	70	760	278	175	190	H6/L3	20.40	0	1	B13	48	168TA7694
840 080 080	LA80	80	800	315	175	190	H7/L4	22.76	0	1	B13	36	168TA7695
840 105 095	LA105	105	950	394	175	190	H9	29.40	0	1	B13	36	168TA7696
840 210 120	LA210	210	1200	518	276	242	C	61.30	3	1	B00	12	168TA7697
840 095 085	LA95	95	850	353	175	190	H8/L5	26.40	0	1	B13	36	168TA7698

BATTERIES

STARTER BATTERIES



VARTA PROMOTIVE

The VARTA® ProMotive range delivers reliable power that can handle a high amount of electrical consumers and vibration while minimizing downtime. The perfect choice for TCO savings.

- Optimum starting power
- Reliable power for ever increasing number of electrical consumers
- Excellent vibration resistance for construction and plant use

VARTA® PROMOTIVE AGM



UNLOCK YOUR TRUCK'S FULL POTENTIAL

Thanks to the efficient AGM technology, the truck battery ProMotive AGM provides heavy commercial vehicles with a high degree of reliability to numerous electronic consumers. It is the only battery for unlocking the highest demanding applications and power-consuming functions including the parking cooler/heater without the battery wearing out and causing downtime. It has been developed in collaboration with the leading commercial vehicle manufacturers to support innovations that will be standard equipment for commercial vehicles in the future.

Hoteling on wheels:

- 6 times the cycle life compared to conventional batteries
- Highest vibration resistance
- Fulfils all of the requirements of governmental regulations on higher emission standards
- Suitable for end of frame installation (EURO 5/6)

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm		kg				
710901120	A1	210	1200	518	276	242	C	61	3	1	B00	167TA9385

VARTA® PROMOTIVE EFB



TRUSTED BY DRIVERS ALL OVER THE WORLD

The unique VARTA® ProMotive EFB is a powerful battery for commercial vehicles with high energy requirements. Its performance, combined with a high vibration resistance, ensures absolute reliability and a longer service life. This truck battery was developed to meet the increasing demands of extensive hotel functions.

The right choice for TCO savings:

- 3 times the cycle life compared to conventional batteries
- For hotel functions
- Highest vibration resistance
- Fulfills all of the requirements of governmental regulations on higher emission standards
- Suitable for end of frame installation (EURO 5/6)

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm						
			kg									
690500105	B90	190	1050	513	223	223	B	47.2	3	1	B00	167TA9386
740500120	C40	240	1200	518	276	242	C	59.7	3	1	B00	167TA9387

VARTA® PROMOTIVE SUPER HEAVY-DUTY



RELIABLE PERFORMANCE FOR MEDIUM POWER NEEDS

The VARTA® ProMotive Super Heavy-duty is designed for commercial vehicles, like delivery vehicles, with reliable starting power requirements. It is OE quality and helps your fleet do its job reliably.

For continuous starting power:

- Ideal vibration resistance for urban distribution applications
- Fulfills all requirements of the state emission regulations
- Cranking and standard electric demands
- Perfect solution for delivery vehicles in city traffic

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm						
			kg									
640400080	K8	140	800	513	189	223	A	35.7	3	1	B03	167TA9388
645400080	K7	145	800	513	189	223	A	37.1	3	1	B00	167TA9389
670104100	M9	170	1000	513	223	223	B	44.2	3	1	B03	167TA8729
680108100	M18	180	1000	513	223	223	B	44.1	3	1	B00	167TA8730
725103115	N9	225	1150	518	276	242	C	57.5	3	1	B00	167TA8731

BATTERIES

STARTER BATTERIES

VARTA® PROMOTIVE HEAVY-DUTY



MINIMIZE YOUR DOWNTIME

The VARTA® ProMotive Heavy-duty is designed for commercial and agricultural vehicles with reliable starting power requirements. It is OE quality and helps your fleet do its job reliably while minimizing downtime.

For reliable starting power:

- Ideal vibration resistance for agricultural and construction vehicles
- Continuous multi start
- Cranking and standard electric demands
- The perfect choice for TCO savings

Model	Short code	Ah (20h)	CCA (EN)	Length	Width	Height	Case size	Weight	Lay-out	Terminal types	Base hold down	REF
			A	mm	mm	mm		kg				
070011030	E29	70	300	175	167	220	M1	9.35	0	1	B00	168TA1174*
112025051	I11	112	510	260	175	236	M4	16.5	0	1	B01	168TA1175*
140023072	K13	140	720	260	175	236	M4	19.5	0	1	B01	168TA1176*
545200030	B39	45	300	207	175	175	T4	10.7	0	1	B13	167TA8732
555064042	C20	55	420	242	175	190	H5	13.4	0	1	B13	168TA1179
566047051	D33	66	510	278	175	190	H6	15.8	0	1	B13	168TA1180
588038068	F10	88	680	353	175	190	H8	20.3	0	1	B13	168TA1181
590040054	G1	90	540	345	175	234	LOT7	25.2	0	1	B00	168TA1182
590041054	G2	90	540	345	175	234	LOT7	25.2	1	1	B00	168TA1183
600035060	H4	100	600	413	175	220	D	27.4	1	1	B00	168TA1184
600047060	H5	100	600	413	175	220	D	26.7	0	1	B00	167TA8733
600123072	H9	100	720	313	175	205	GB28	22.3	0	1	B13	168TA1185
605102080	H17	105	800	330	172	238	GR31	23.7	9	1	B01	168TA1186
605103080	H16	105	800	330	172	238	GR31	23.7	9	8	B01	168TA1187
610013076	I2	110	760	514	175	210	MAC110	32.3	3	1	B03	167TA8734
610048068	I5	110	680	345	175	236	LOT7	28.5	1	1	B00	167TA8735
610050085	I6	110	850	413	175	220	D	29.6	0	1	B03	168TA1188
610404068	I18	110	680	349	175	236	LOT7	28.5	0	1	B01	168TA1189
620045068	I8	120	680	513	189	215	A	33.6	3	1	B00	167TA8736
620109076	I16	120	760	510	175	235	MAC120	35.12	4	1	B03	167TA8737
625012072	J1	125	720	349	175	290	WOR7	31.2	0	1	B00	167TA8738
625014072	J2	125	720	349	175	290	WOR7	31.2	1	1	B00	167TA8739
625023000	J3	125	950	286	269	230	NAT0	36.8	2	1	B00	168TA1191
630014068	J5	130	680	514	218	208	MAC130	37.8	3	1	B00	167TA8740
635052100	J10	135	1000	514	175	210	MAC110	35.4	3	1	B03	167TA8742
643033095	K4	143	950	514	218	210	MAC140	39.8	3	1	B03	168TA1192
643107090	K11	143	900	508	174	205	MAC132	36.5	0	1	B01	168TA1193
645011115	M11	154	1150	513	189	223	A	39.8	3	1	B00	168TA1200
655013090	L2	155	900	513	223	223	B	40.9	3	1	B00	167TA8743
670043100	M6	170	1000	513	223	223	B	43.9	3	1	B00	168TA1195
680011140	M12	180	1400	513	223	223	B	46.4	3	1	B00	167TA8744
680033110	M7	180	1100	513	223	223	B	44.9	4	1	B03	168TA1196
690033120	M10	190	1200	513	223	223	B	44.9	4	1	B03	168TA1197
690034120	L3	190	1200	513	223	215	B	45.7	3	1	B03	168TA1198
700038105	N2	200	1050	518	276	242	C	53.6	3	1	B00	167TA8745
720018115	N5	220	1150	518	276	242	C	56.7	3	1	B00	168TA1199

* 6 Volt

QUICK FINDER LIST



Short code	Ah (20h)	CCA (EN)	Case size	REF
A				
VARTA® ProMotive AGM				
A1	210	1200	C	167TA9385
VARTA® ProMotive EFB				
B90	190	1050	B	167TA9386
C40	240	1200	C	167TA9387
VARTA® ProMotive Super Heavy-Duty				
K8	140	800	A	167TA9388
K7	145	800	A	167TA9389
M9	170	1000	B	167TA8729
M18	180	1000	B	167TA8730
N9	225	1150	C	167TA8731
VARTA® ProMotive Heavy-Duty				
E29	70	300	M1	168TA1174*
I11	112	510	M4	168TA1175*
K13	140	720	M4	168TA1176*
L14	150	760	M5	168TA1177*
N12	200	950	M6	168TA1178*
B39	45	300	T4	167TA8732
C20	55	420	H5	168TA1179
D33	66	510	H6	168TA1180
F10	88	680	H8	168TA1181
G1	90	540	LOT7	168TA1182
G2	90	540	LOT7	168TA1183
H4	100	600	D	168TA1184
H5	100	600	D	167TA8733
H9	100	720	GB28	168TA1185
H17	105	800	GR31	168TA1186

Short code	Ah (20h)	CCA (EN)	Case size	REF
A				
H16	105	800	GR31	168TA1187
I2	110	760	MAC110	167TA8734
I5	110	680	LOT7	167TA8735
I6	110	850	D	168TA1188
I18	110	680	LOT7	168TA1189
I9	120	780	LOT7	168TA1190
I8	120	680	A	167TA8736
I16	120	760	MAC120	167TA8737
J1	125	720	WOR7	167TA8738
J2	125	720	WOR7	167TA8739
J3	125	950	NAT0	168TA1191
J5	130	680	MAC130	167TA8740
J8	135	680	12C135	167TA8741
J10	135	1000	MAC110	167TA8742
K4	143	950	MAC140	168TA1192
K11	143	900	MAC132	168TA1193
M11	154	1150	A	168TA1200
L2	155	900	B	167TA8743
L5	155	900	MAC154	168TA1194
M6	170	1000	B	168TA1195
M12	180	1400	B	167TA8744
M7	180	1100	B	168TA1196
M10	190	1200	B	168TA1197
L3	190	1200	B	168TA1198
N2	200	1050	C	167TA8745
N5	220	1150	C	168TA1199

* 6 Volt

BATTERIES

STARTER BATTERIES



XTREME EXCELLENT

Properties:

- Premium range
- VRLA battery
- CaCa technology
- +15% of starting capacity
- Maintenance free
- Leak-proof

Applications:

- Trucks
- Cars and vans
- Marine

STARTER BATTERIES FOR CARS AND VANS

The Xtreme Excellent is a private label range of high quality starter batteries at attractive prices for cars, vans and trucks

- VRLA battery
- CaCa technology
- +15% of starting capacity
- Maintenance-free
- Leak-proof

E-SERIES

6 types covering 85% of all European Battery Types. Perfect as a reliable and powerful source of energy

- Magic Eye
- CaCa technology
- +30% of starting capacity!
- Minimal water consumption
- Environmentally friendly materials
- 100% maintenance-free
- Leak-proof

EXCELLENT STARTER BATTERIES FOR TRUCKS

- Sealed maintenance-free
- Sealed maintenance-free SMF
- Designed for extreme power demands
- Higher operational availability and safety
- Extended service life
- Suitable for commercial vehicles, buses and trucks with latest electrical equipment

EXCELLENT AGM START/STOP STARTER BATTERIES

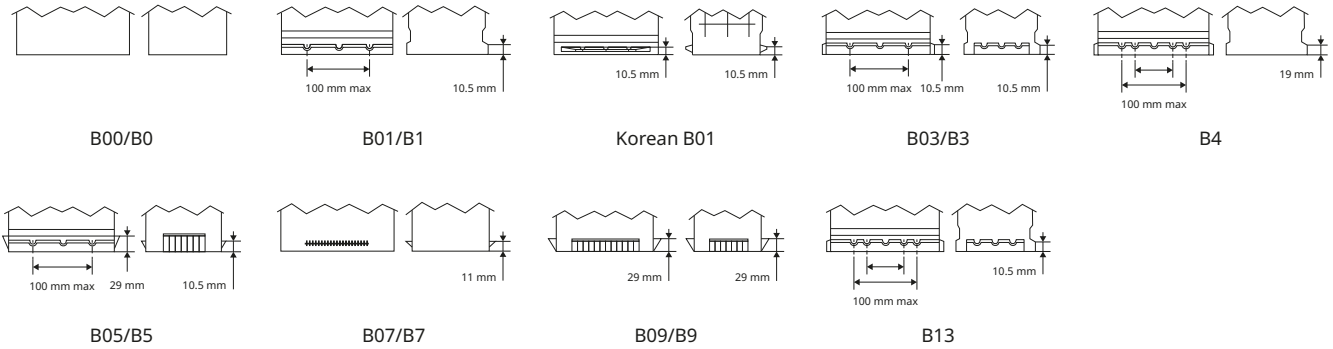
- Designed for high power needs
- Optimal starting power and maximum capacity
- Perfect for advanced start/stop systems with regenerative braking
- Absolutely maintenance-free, leak-proof and vibration-resistant
- Flexible installation and safe operation
- Reduction in fuel consumption and CO² emissions

EXCELLENT EFB START/STOP STARTER BATTERIES

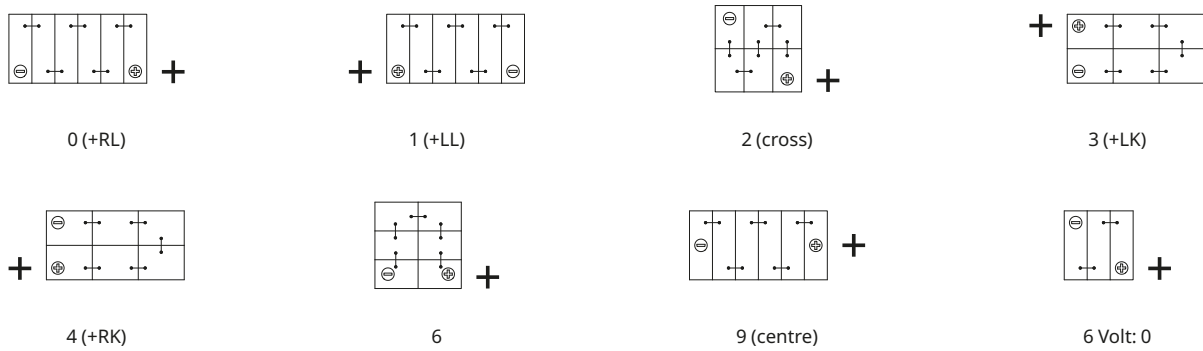
- Supports longer periods with the engine switched off
- High starting power and cyclical performance
- Perfect for standard start/stop systems
- Improved loading acceptance and vibrations resistance
- Closed maintenance-free (SMF)
- Long service life and reliability

HEAVY-DUTY STARTER BATTERIES

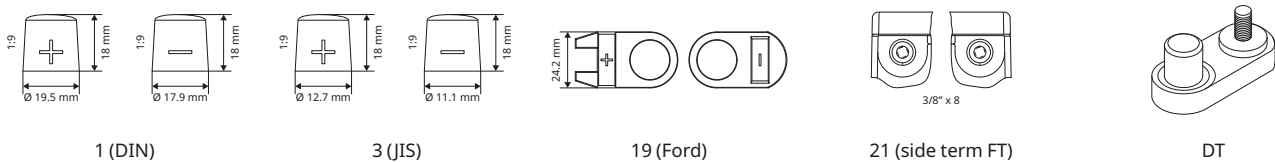
FIXATION



LAYOUT



TERMINAL TYPE



BATTERIES

STARTER BATTERIES

EXELLENT BATTERIES



EXELLENT STARTER BATTERIES FOR CAR AND VAN

The Xtreme Excellent is a private label range of high-quality starter batteries for attractive prices for cars, vans, trucks ...

- VRLA battery
- CaCa technology
- More than 15% starting power
- Maintenance free
- Leak-proof

Model	Group n°	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Fixation	Terminals	REF
12 V											
535.020.030SMF	B19	35	300	187	127	227	9.6	0	B00	3	165TA4536
535.022.030SMF	B19	35	300	187	127	227	9.6	1	B00	3	165TA4537
540.008.034SMF	L0	40	340	175	175	190	9.9	0	B13	1	168TA1201
544.059.044SMF	LB1	44	440	207	175	175	11.3	0	B13	1	168TA1202
545.023.033SMF	B24	45	330	238	129	227	11.7	0	B00	1	168TA1203
545.024.033SMF	B24	45	330	238	129	227	11.7	1	B00	1	168TA1204
545.084.033SMF	B24	45	330	238	129	227	11.7	0	B00	3	168TA1205
545.051.033SMF	B24	45	330	238	129	227	11.7	1	B00	3	168TA1206
545.077.030SMF	E2	45	300	219	135	225	11.3	0	B01	1	168TA1207
545.079.030SMF	E2	45	300	219	135	225	11.3	1	B01	1	168TA1208
552.054.047SMF	L1	52	470	207	175	190	12.4	0	B13	1	168TA1209
553.059.047SMF	LB2	53	470	242	175	175	13.1	0	B13	1	168TA1210
556.065.048SMF	L2	56	480	242	175	190	13.7	1	B13	1	168TA1211
560.059.054SMF	L2	60	540	242	175	190	14.3	0	B13	1	168TA1212
560.068.051SMF	D23	60	510	232	173	225	14.5	0	B00	1	168TA1213
560.069.051SMF	D23	60	510	232	173	225	14.5	1	B00	1	168TA1214
560.077.054SMF	LB2	60	540	242	175	175	14.3	0	B13	1	165TA4555
566.019.064SMF	L2	66	640	242	175	190	15.2	0	B13	1	165TA4556
568.024.055SMF	D26	68	550	261	175	220	17.0	1	B01	1	168TA1215
568.029.055SMF	D26	68	550	261	175	220	17.0	0	B01	1	168TA1216
570.026.064SMF	L3	70	640	278	175	190	16.9	1	B13	1	168TA1217
572.013.068SMF	LB3	72	680	278	175	175	16.3	0	B13	1	168TA1218
574.020.068SMF	L3	74	680	278	175	190	16.7	0	B13	1	168TA1219
580.035.074SMF	LB4	80	740	315	175	175	18.3	0	B13	1	168TA1220
580.043.074SMF	L4	80	740	315	175	190	18.7	0	B13	1	168TA1221
583.015.072SMF	LB5	83	720	353	175	175	20.0	0	B13	1	168TA1222
588.021.075SMF	L5	88	750	353	175	190	21.2	1	B13	1	165TA4567
590.015.072SMF	L5	90	720	353	175	190	20.8	0	B13	1	168TA1223
595.032.083SMF	D31	95	830	306	173	225	21.7	0	B01	1	168TA1224
595.033.083SMF	D31	95	830	306	173	225	21.7	1	B01	1	168TA1225
600.038.083SMF	L5	100	830	353	175	190	22.6	0	B13	1	168TA1226

AGM START/STOP TECHNOLOGY



Advantages:

- Designed for high power needs
- Optimum starting power and maximum capacity
- Perfect for advanced start/stop systems with regenerative braking
- Absolutely maintenance-free, leakproof and vibration resistant
- High cyclic durability and long service life
- Flexible installation and safe operation
- Reduction of fuel consumption and CO₂ emissions

AGM

Model	Group n°	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Fixation	Terminals	REF
12 V											
XTR/560.901.056	L2	60	640	242	175	190	18.5	0	B13	1	167TA9363
XTR/570.901.076	L3	70	760	278	175	190	21.2	0	B13	1	167TA9364
XTR/580.901.079	L4	80	840	310	175	190	23.6	0	B13	1	140TA7517
XTR/590.901.085	L5	95	860	353	175	190	27.0	0	B13	1	167TA9365
XTR/605.901.095	L6	105	950	393	174	190	29.2	0	B13	1	167TA9366

EFB START/STOP TECHNOLOGY



MAGIC EYE

Advantages:

- Supports longer periods with the motor switched off
- High starting power and cyclic performance
- Perfect for standard start/stop systems
- Improved charge acceptance and vibration resistance
- Sealed maintenance-free (SMF)
- Long service life and reliability
- Magic Eye

EFB

Model	Group n°	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Fixation	Terminals	REF
12 V											
XTR/560.002.056	L2	60	560	242	175	190	16.8	0	B13	1	167TA9367
XTR/565.002.056L	D23	65	560	230	170	220	16.5	0	B1	1	168TA1231
XTR/565.002.056R	D23	65	560	230	170	220	16.5	1	B1	1	168TA1232
XTR/565.002.068	LB3	65	680	278	175	175	17.4	0	B13	1	168TA1233
XTR/570.002.068	L3	70	680	278	175	190	19.3	0	B13	1	168TA1234
XTR/572.002.068	D26	72	680	260	170	220	19.3	0	B1	1	168TA1228
XTR/575.002.074	LB4	75	740	310	175	175	19.7	0	B13	1	168TA1235
XTR/580.002.074	L4	80	740	310	175	190	22.0	0	B13	1	167TA9369
XTR/585.002.074	D31	85	740	304	173	220	22.3	0	B1	1	168TA1229
XTR/590.002.084	L5	90	840	353	175	190	24.7	0	B13	1	167TA9368

BATTERIES

STARTER BATTERIES

EXELLENT E-SERIES

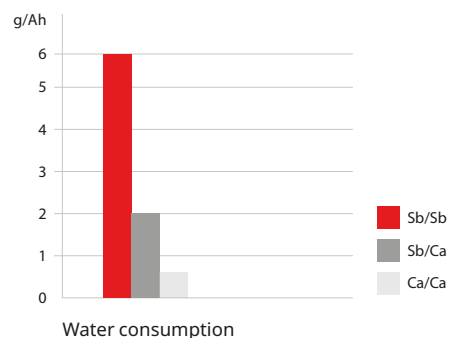


MAGIC EYE

PERFECT AS A RELIABLE AND POWERFUL SOURCE OF ENERGY!

6 types covering 85% of all European battery types.

- Magic Eye
- CaCa technology
- +30% of starting capacity!
- Minimal water consumption
- Environmentally friendly materials
- 100% maintenance-free



Model	Group n°	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Fixation	Terminals	REF
12 V											
XTR/E1	LB1	50	420	207	175	175	12.0	0	B13(B04)	1	134TA8569
XTR/E2	LB2	60	540	242	175	175	14.1	0	B13(B04)	1	134TA8570
XTR/E3	LB3	80	720	278	175	175	17.7	0	B13(B04)	1	134TA8571
XTR/E4	LB4	80	720	310	175	175	18.6	0	B13(B04)	1	134TA8572
XTR/E5	LB5	100	840	353	175	175	21.7	0	B13(B04)	1	134TA8573
XTR/E5H	L5	100	840	353	175	190	22.3	0	B13(B04)	1	167TA9370

XTREME TRUCK BATTERIES

XTREME
EXCELLENT

TRUCK BATTERIES SUPER HEAVY-DUTY



These starting batteries are top quality for lorries, tractors and machines which have a high fuel consumption, have to work in extreme conditions or drive on bad roads.

- High resistance to vibrations
- Additional cell confirmation
- Glass fiber separators
- High starting power at low temperatures
- Low self-discharge



SEALED MAINTENANCE FREE

- Sealed maintenance-free – SMF
- Designed for extreme power requirements
- Higher operational availability and safety
- Longer lifespan
- Suitable for commercial vehicles, buses and trucks with the latest electrical equipment

EFB TECHNOLOGY

- New EFB technology with punching grids
- Excellent for trucks with additional electrical equipment
- High cycling performance thanks to special polyester separator
- Improved charge acceptance compared to conventional batteries
- Longer service life
- Improved resistance to vibration

AGM TECHNOLOGY

- Extremely long service life
- Designed for extreme power requirements
- Absolutely maintenance-free, resistant to leaks and spills
- Exceptionally stable to high discharges and temperature variations
- Optimal starting power and maximum capacity
- Improved stability under mechanical vibration and/or shaking

Model	Group n°	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Fixation	Terminals	REF
Open lead-acid – 12 V											
605.027.076	LOT7	110	750	345	175	230	23.3	1	B00	1	168TA1236
610.028.077	LOT7	110	750	345	175	230	23.3	0	B00	1	168TA1237
610.013.080	MAC110	110	700	514	175	210	30.6	3	B03	1	168TA1238
610.042.100	L6	110	1000	394	175	190	24.7	0	B13	1	168TA1239
625.023.080	NATO	125	850	286	260	226	30.1	2	B00	1	168TA1240
628.011.070	WOR7	130	840	345	175	285	28.9	0	B00	1	168TA1241
635.039.095	MAC110	135	900	514	175	210	33.4	3	B03	1	168TA1242
635.040.095	MAC110	135	900	514	175	210	33.4	4	B03	1	168TA1243
635.042.076	12C135	135	950	360	253	240	37.8	6	B00	1	138TA7525
640.020.090	A	140	800	513	189	220	32.7	3	B00	1	168TA1244
640.021.076	A	140	800	513	189	223	32.7	4	B00	1	168TA1245
650.020.100	A	150	900	513	189	220	34.4	3	B00	1	168TA1246
650.089.100	B	155	950	513	223	223	39.8	3	B00	1	168TA1247
680.045.115	B	180	1150	513	223	223	43.5	3	B00	1	168TA1248
700.027.125	C	200	1200	514	276	242	53.4	3	B00	1	168TA1249
730.027.130	C	230	1300	514	276	242	55.8	3	B00	1	168TA1250
Maintenance-free – 12 V											
640.020.095SMF	A	140	900	513	189	220	34.5	3	B00	1	165TA4571
680.045.115SMF	B	180	1150	513	223	223	43.6	3	B00	1	165TA4572
730.012.140SMF	C	230	1300	514	276	242	55.8	3	B00	1	165TA4573
EFB – 12 V											
680.002.110	B	185	1100	513	223	223	46.75	3	B00	1	168TA1251
725.002.120	C	235	1250	514	276	242	60.2	3	B00	1	168TA1252
AGM – 12 V											
640.901.095	A	140	950	513	189	220	40.7	3	B00	1	140TA7518
670.901.105	B	170	1050	513	223	223	46.6	3	B00	1	140TA7519
685.901.120	C	195	1200	518	274	242	56.2	3	B00	1	140TA7520
720.901.140	C	220	1400	518	274	242	60.7	3	B00	1	140TA7521

BATTERIES

STARTER BATTERIES

XTREME CLASSIC



DRY CHARGED*

OLDTIMER BATTERIES

* Not filled with acid, battery needs to be filled with acid before usage



Acid 1 litre, only available for professional customers

REF [124TA2887](#)

Model	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	Acid l	REF
6 V										
DIN00811	8	40	90	81	165	1.65	0	1	0.25	168TA1253
DIN05611	70	300	170	175	217	8.2	0	1	3	168TA1254
DIN06612	66	270	177	175	185	8.0	0	1	3	168TA1255
DIN07715	77	310	215	170	190	9.2	0	1	3	168TA1256
DIN08411	89	330	225	174	217	12.3	0	1	3	168TA1257
DIN09811	112	400	265	174	217	12.6	0	1	4	168TA1258
DIN11211	117	465	291	170	227	13.0	0	1	6	168TA1259
DIN11213	112	450	490	102	227	14.0	3	1	4	168TA1260
DIN12018	131	450	263	176	235	14.0	0	1	4	168TA1261
DIN12027	145	435	255	174	217	15.0	0	1	4	168TA1262
DIN13518	131	485	329	175	235	14.5	0	1	6	168TA1502
DIN15012	131	485	320	170	226	14.0	0	1	6	168TA1263
DIN16025	160	600	348	175	220	18.0	0	1	6	168TA1264
12 V										
DIN55623	60	350	250	175	225	15.4	1	1	4	168TA1265
DIN55624	60	350	250	175	225	15.4	0	1	4	168TA1266
DIN55789	65	315	332	133	203	15.0	1	1	4	168TA1267
DIN57211	70	400	490	108	224	17.4	1	1	6	168TA1503
DIN57022	70	400	308	175	225	18.8	1	1	6	168TA1269
DIN57023	70	400	308	175	225	18.8	0	1	6	168TA1270

BATTERY RACK BLACK



Dimensions: 865 x 356 x 1370 mm

REF [168TA1271](#)

MOTORCYCLE BATTERIES

DYNAVOLT
power your life

Beka
BATTERIES

Xtreme
POWERSPORT



1



2



3



4



5



6



7



8

POWER SPORTS BATTERIES FOR MOTORCYCLE, SCOOTER, JETSKI, ATV, LAWNMOWER ...

Model	Alt	Capacity 10 hr Ah	Dimensions (±1 mm)				Weight kg	Charging current A	Layout	Terminals	CCA/ -18 °C	Picture	REF
			L mm	B mm	H mm	HL mm							
Dynavolt classic battery 6 V - with acid pack													
6N6-3B-1	00612	6	99	57	113	113	1.1	0.6		5	48	1	168TA1272
6N11A-1B	01199	11	122	62	132	132	1.7	1.1		5	88	1	168TA1273
6N11A-3A	01214	11	121	59	129	129	1.9	1.1		5	88	1	168TA1274
6N12A-2D	01225	12	155	56	114	114	1.9	1.2		5	120	1	168TA1275
Dynavolt high performance battery 12 V - with acid pack													
D60-N24L-A	52515	28	185	126	170	170	8.2	2.8		3	280	2	168TA1276
D60-N24-A	52830	28	185	126	170	170	8.2	2.8		3	280	2	168TA1277
C60-N35L-A	53211	32	230	126	167	167	8.0	-		5	390	2	168TA1278
Dynavolt high performance battery 12 V - with acid pack													
DB3L-B	50313	3	98	56	111	111	1.2	0.3		5	32	3	168TA1279
DB4L-B	50411	4	120	70	92	92	1.6	0.4		4	40	3	168TA1280
DB5L-B	50512	5	120	60	130	130	1.9	0.5		5	75	3	168TA1281
DB7-A	50813	7	135	76	134	134	2.6	0.7		5	100	3	168TA1282
DB9-B	50914	9	135	75	138	138	2.9	0.9		5	90	3	168TA1283
DB9L-B	50915	9	135	75	138	138	2.9	0.9		5	90	3	168TA1284
DB10L-A2	51112	11	134	90	145	145	3.6	1.1		4	140	3	168TA1285
DB12A-A	51211	12	134	80	160	160	3.9	1.2		5	135	3	168TA1286
DB12A-B	51215	12	134	80	160	160	3.9	1.2		5	135	3	168TA1287
DB12AL-A2	51213	12	134	80	160	160	3.9	1.2		4	135	3	168TA1288
DB14-A2	51412	14	134	89	164	164	4.4	1.4		4	160	3	168TA1289
DB14-B2	51414	14	134	89	164	164	4.4	1.4		4	160	3	168TA1290
DB14L-A2	51411	14	134	89	164	164	4.4	1.4		4	160	3	168TA1291

BATTERIES

STARTER BATTERIES

MOTORCYCLE BATTERIES

Model	Alt	Capacity 10 hr Ah	Dimensions (±1 mm)				Weight kg	Charging current A	Layout	Terminals	CCA/ -18 °C	Picture	REF
			L mm	B mm	H mm	HL mm							
DB14L-B2	51413	14	134	89	164	164	4.4	1.4		4	160	3	168TA1292
DB16AL-A2	51616	16	205	70	162	162	5.2	1.6		2	190	3	168TA1293
DB16CL-B	51914	19	175	100	175	175	6.3	1.9		4	230	3	168TA1294
DB30CL-B	-	30	168	132	192	192	8.9	3.0		4	300	3	168TA1295
DB30L-B	-	30	168	132	176	176	8.9	3.0		4	300	3	168TA1296
Dynavolt high performance maintenance-free battery 12 V – with acid pack													
DTX4L-BS	50314	3	114	70	85	85	1.4	0.3	0	4	50	4	168TA1297
DTX5L-BS	50412	4	114	70	106	106	1.7	0.4	0	4	75	4	168TA1298
DTZ7S-BS	50702	5.5	114	70	106	106	1.9	0.6	0	4	60	4	168TA1299
DTX7A-BS	50615	6	150	87	93	93	2.5	0.6	1	4	85	4	168TA1300
DTX7L-BS	50614	6	114	70	130	130	2.4	0.6	0	4	75	4	168TA1301
DTX9-BS	50812	8	150	87	105	105	2.9	0.8	1	4	90	4	168TA1302
DTX12-BS	51012	10	150	87	130	130	3.7	1.0	1	4	160	4	168TA1303
DTX12A-BS-C	51101	10	150	87	106	106	3.2	1.0	1	9	120	4	168TA1304
DT12B-BS-C	51201	10	150	69	130	130	3.3	1.0	1	9	110	4	168TA1305
DTZ12-BS-C	50901	11	150	87	110	110	3.7	1.1	1	9	170	4	168TA1306
DTZ14-BS-C	51102	11.2	150	87	110	110	3.7	1.1	1	9	170	4	168TA1307
DTX14-BS	51214	12	150	87	146	146	4.3	1.2	1	4	200	4	168TA1308
DTX16-BS	51402	14	150	87	159	159	5.0	1.4	1	4	230	4	168TA1309
DTX20-BS	51802	18	175	87	155	155	6.0	1.8	1	4	250	4	168TA1310
DTX20CH-BS-C	-	18	150	87	161	161	5.5	1.8	1	9	240	4	168TA1311
DTX20L-BS	51801	18	175	87	155	155	6.0	1.8	0	4	250	4	168TA1312
DTX24HL-BS	-	24	205	87	162	162	7.4	2.4	0	4	310	4	168TA1313
DTX30L-BS	-	30	168	127	176	176	9.3	3.0	0	4	350	4	168TA1314
Dynavolt AGM maintenance-free valve regulated sealed battery 12 V													
MGS1218(TL)	DB16CL-B	18	181	77	165	165	6.0	1.8	0	17	160	5	168TA1315
Dynavolt nano gel maintenance-free valve regulated sealed battery 12 V													
MG4L-BS-C	YTX4L-BS	4	113	69	85	85	1.4	0.4	0	9	60	6	168TA1316
MG7ZS-C	YTZ7S	6	113	69	105	105	1.9	0.6	0	9	95	6	168TA1317
MG10ZS-C	YTZ10S	8.6	150	86	94	94	2.8	0.9	1	9	145	6	168TA1318
MG12B-4-C	YT12B-BS	10	150	69	130	130	3.7	1.0	1	9	155	6	168TA1319
MG12ZS-C	YTZ12S	11.2	150	86	110	110	3.4	1.1	1	9	170	6	168TA1320
MG14B-4-C	YT14B-BS	12	150	69	145	145	4.3	1.2	1	9	180	6	168TA1321
MG14ZS-C	YTZ14S	11.2	150	86	111	111	3.7	1.1	1	9	245	6	168TA1322
MG1218	BMW	18	181	77	165	165	6.1	1.8	0	15	190	6	168TA1323
Dynavolt nano gel Harley-Davidson battery 12 V													
GHD14H-BS	65948-00	14	149	87	144	144	4.6	1.4	1	21	220	7	168TA1324
GHD14HL-BS	65958-04/A	14	149	87	144	144	4.6	1.4	0	21	220	7	168TA1446
GHD20H-BS	-	20	176	87	154	154	6.5	2.0	1	20	290	7	168TA1325
GHD20HL-BS	65989-97A/B/C	20	176	87	154	154	6.5	2.0	0	20	290	7	168TA1326
GHD30HL-BS	66010-97A/B/C	30	166	130	175	175	9.8	3.0	0	20	430	7	168TA1327
Deka Original Harley-Davidson battery 12 V													
DEKA/ETX14	65948-00	12	150	88	145	145	5.2	-	1	20	220	8	168TA1324
DEKA/ETX14L	65958-04/A	12	150	88	145	145	5.2	-	0	20	220	8	168TA1446
DEKA/ETX16	65991-82B	19	175	100	155	155	7.7	-	1	20	325	8	168TA1325
DEKA/ETX20L	65989-97A/B/C	17.5	178	90	155	155	6.8	-	0	20	310	8	168TA1326
DEKA/ETX30L	66010-97A/B/C	26	168	131	175	175	9.8	-	0	20	400	8	168TA1327
Xtreme maintenance-free lawnmower battery (Ca/Ca sealed) 12 V													
U1-32	-	32	196	127	159	185	8.0	-	1	5	350	-	168TA1332
U1R-32	-	32	196	127	159	185	8.0	-	0	5	350	-	168TA1333

*Only VRLA batteries (AGM/gel) can be mounted in all positions. MF batteries are restricted to an angle of 45°

*Starting February 2021 it is prohibited to sell separate acid packs to end consumers. No restrictions for B2B sales.

MOTORCYCLE BATTERIES



Shido Lithium batteries have 4 cells LiFePO4 (Lithium Iron Phosphate) of 3.2 V connected in series in order to reach an OCV of 12.8 V. A perfect voltage to use as a starter battery for motorcycles. The electronic Battery Management System or BMS spread the charge and discharge regularly over the four cells. Thanks to its small internal resistance a Shido Lithium battery can generate a very high starting current with little Ah. This starting power delivers a powerful and quick start of the vehicle

Advantages:

- Superb cranking capacity
- Up to 75% lighter than lead-acid batteries
- Long capacity retention
- Lower self discharge: longer shelf life
- Excellent cycle life: more than 1200 cycles
- More economical
- Drop-in replacement
- Less fuel consumption
- Super-fast recharge
- Safe in use
- No maintenance
- Stable discharge voltage
- No pollution, no lead and no acid
- Capacity indicator
- IP68 waterproof

Model	Capacity	CA	Energy	Dimensions				Weight	Charging current		Layout	REF
	Ah	A	Wh	L	B	H	HL		STD	MAX		
Shido Lion - 12 V												
	Ah	A	Wh	mm	mm	mm	mm	kg	A	A		
LB5L-B	1.6	95	19	120	60	92	120	0.4	1	8	0	168TA1335
LTX4L-BS	1.6	95	20	113	70	85	85	0.4	1	8	0	168TA1336
LTX5L-BS	1.6	95	20	113	70	85	105	0.4	1	5	0	168TA1337
LTX25S	2	120	24	113	69	85	85	0.5	1	10	0	168TA1338
LTM2L	2	120	24	89	49	90	90	0.5	1	10	0	168TA1339
LTX7S	2.4	150	30	113	69	85	105	0.6	1.5	12	0	168TA1340
LTX7A-BS	2.4	150	30	150	87	93	93	0.6	1.5	12	1	168TA1341
LTX7L-BS	2.4	150	30	113	69	85	125	0.6	1.5	12	0	168TA1342
LT7B-BS	3	180	36	150	65	92	92	0.7	1.5	15	1	168TA1343
LB9-B Q	3	180	36	134	75	134	134	0.6	1.5	12	0/1	168TA1344
LT9B-BS	3	180	36	150	65	92	106	0.7	1.5	15	1	168TA1345
LTX9-BS	3	180	36	150	87	105	105	0.7	1.5	15	1	168TA1346
LT12A-BS	3.5	210	42	150	87	93	107	0.9	2	18	1	168TA1615
LTX10S	4	240	48	150	87	93	93	0.9	2	20	1	168TA1347
LB12AL-A2 Q	4	240	48	130	75	134	160	0.9	2	20	0/1	168TA1348
LTX12-BS	4	240	42	150	87	105	130	0.9	2	18	1	168TA1349
LTX14-BS	4	240	48	150	87	105	145	1.1	2	20	1	168TA1350
LTX14AHL-BS Q	4	240	48	134	75	133	168	1.1	2	20	0/1	168TA1351
LTX14L-BS	4	240	48	150	87	105	145	1.1	2	20	0	168TA1352
LTX28V	4.5	270	54	113	69	105	105	0.9	2.5	22.5	0	168TA1353
LB16AL-A2	5	300	60	150	65	130	144	1.1	2.5	25	0	168TA1354
LT12B-BS	5	300	60	150	65	130	130	1.1	2.5	25	1	168TA1355
LTX12S	5	300	60	150	87	93	110	1.1	2.5	25	1	168TA1356
LTX14S	5	300	60	150	87	93	110	1.1	2.5	25	1	168TA1357
LT14B-BS	5	300	60	150	65	130	144	1.1	2.5	25	1	168TA1358
LTX16-BS	6	360	72	150	87	105	164	1.4	3	24	1	168TA1359
LTX20CH-BS	6	360	72	150	87	105	164	1.4	3	24	1	168TA1360
LTX20L-BS Q	7	420	84	175	87	130	155	1.4	3.5	28	0/1	168TA1361
LTX24HL-BS Q	7	420	84	175	87	130	163	1.7	3.5	28	0/1	168TA1616
51913	7.5	420	90	181	77	170	170	1.7	4	28	0	168TA1362
LIX30L-BS Q	8	480	96	167	124	163	163	2	4	32	0/1	168TA1363

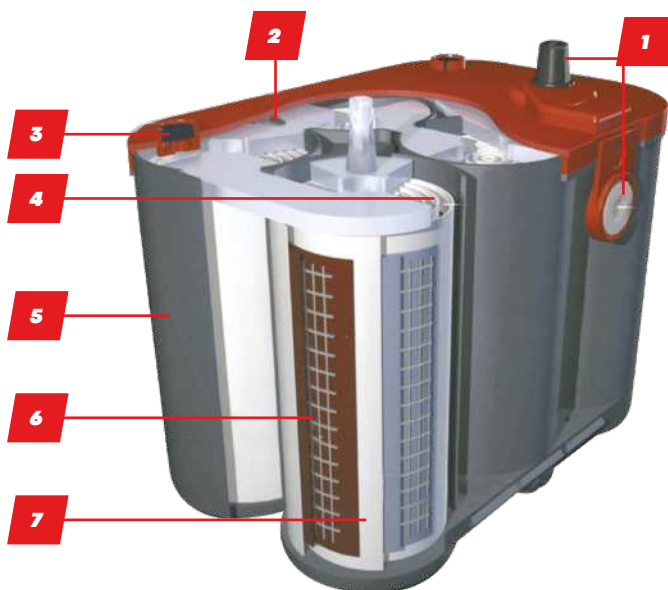
BATTERIES

STARTER BATTERIES



OPTIMA SPIRALCELL TECHNOLOGY®

OPTIMA's unique anatomy is built on SpiralCell® Technology. Instead of flat plates used in ordinary batteries, OPTIMA uses two thin lead plates wound into a spiral cell with a glass-mat inbetween to contain the acid. The technique of winding the cells, which are linked with solid connections, gives maximum performance with a minimum of size and weight. This makes the battery compact, robust and easy to mount.



ADVANTAGES

- Absolutely maintenance-free
- Maximum vibration resistance
- Large cycle capacity
- Long storage period, high resistance to corrosion
- Leakproof, can be built-in in every position
- Quick charge, more capacity
- Better resistant to extreme temperatures

- 1.** Corrosion resistant terminals
- 2.** Heavy-duty straps for an optimal reliability
- 3.** Resalable pressure relief valve with flame trap
- 4.** SpiralCell construction with a maximum vibration resistance

- 5.** Impact resistant polypropylene case
- 6.** High purity lead grids for long life
- 7.** Absorbent Glass Mat separator holds electrolyte like a sponge

STARTING BATTERY FOR PROFESSIONAL USE



- Maximum starting power for big diesel engines and heavy machines
- This technology guarantees a maximum of starting power, also at extreme temperature differences of -40 to 40 °C.

OPTIMA REDTOP™

Alt	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF	Old REF
6 V										
RT S-2.1	50	815	255	90	206	8.4	1	1	168TA1366	BAT/28426
12 V										
RT S-3.7	44	730	237	171	197	14.4	1	1	168TA1367	BAT/28421
RT U-3.7	44	730	237	171	197	15.0	1	1 + 21	168TA1368	BAT/28419
RT R-3.7	44	730	237	171	197	14.4	0	1	168TA1369	BAT/28423
RT S-4.2	50	815	254	175	200	17.2	1	1	168TA1370	BAT/16941
RT U-4.2	50	815	254	175	200	17.6	1	1 + 21	168TA1371	BAT/28417
RT R-4.2	50	815	254	175	200	17.2	0	1	168TA1372	BAT/28325
RT C-4.2	50	815	254	175	200	17.2	1	1	168TA1373	BAT/28324
RT F-4.2	50	815	254	185	184	17.9	1	21	168TA1374	BAT/47598

DUAL POWER BATTERIES FOR PROFESSIONAL USE



- OPTIMA YellowTop is a battery which combines the advantages of a starting battery with those of a traction battery.

OPTIMA YELLOWTOP™

Alt	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF	Old REF
12 V										
YT S-2.7J	38	460	237	129	227	12.4	1	3	142TA3199	BAT/28429
YT S-2.7	38	460	237	129	227	11.8	1	1	142TA3200	BAT/28430
YT R-2.7J	38	460	237	129	227	11.8	0	3	142TA3201	BAT/31774
YT R-2.7	38	460	237	129	227	11.8	0	1	142TA3202	BAT/28432
YT R-3.7	48	660	237	172	197	16.6	0	1	142TA3203	BAT/31772
YT S-4.2	55	765	254	175	200	19.5	1	1	123TA9059	BAT/28090
YT U-4.2	55	765	254	175	200	19.9	1	1 + 21	142TA3189	BAT/28428
YT R-5.0	66	845	309	172	219	24.1	0	1	168TA1382	BAT/47601
YT S-5.5	75	975	325	165	238	26.5	1	1	142TA3197	BAT/28326

STARTING & DEEP-CYCLE BATTERY FOR MARINE



- BT SLI 4.2: designed for engine starting applications. Not recommended or warranted for use in deep-cycle applications.
- BT DC 4.2/BT DC 5.5: dual purpose batteries. Designed for engine starting and deep-cycle applications and for use in boats with large accessory loads.

OPTIMA BLUETOP™

Alt	Capacity Ah	CCA (EN) A	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	REF	Old REF
12 V										
BT DC 5.5	75	975	325	165	238	26.5	1	DT 1 + 8	168TA1384	BAT/28438
BT DC 5.0	66	845	309	172	221	24.4	1	DT 1 + 8	168TA1385	BAT/28435
BT DC 4.2	55	765	254	175	200	19.7	1	DT 1 + 8	168TA1386	BAT/28436
BT SLI 4.2	50	815	254	175	200	17.4	1	DT 1 + 8	168TA1387	BAT/28434

BATTERIES

STARTER BATTERIES

ODYSSEY
BATTERY

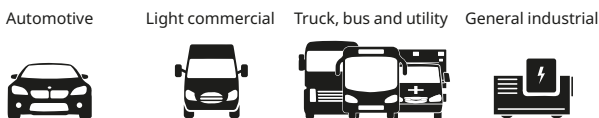
ULTRA HIGH PERFORMANCE BATTERIES



THE WORLD'S MOST INNOVATIVE ENGINE STARTING & CYCLING TECHNOLOGY

- Thin Plate Pure Lead (TPPL): uniquely manufactured thin Pure Lead plates make them comparable to thick plates, allowing more plates in the same space.
- Twice the power and three-times the life of any other conventional battery.

ODYSSEY PERFORMANCE (ODP) AUTOMOTIVE



Specially designed and developed for extremely heavy-duty applications, ODYSSEY Performance (ODP) batteries will easily handle the increasing demands of start/stop and onboard accessories, supplying twice the power and three-times the life of conventional batteries.

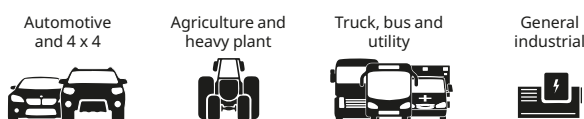
Model	C20 capacity	CCA	Reserve capacity (min)	Length	Width	Height	Weight	Layout	Terminals	REF
	Ah	A								
12 V										
ODP-AGM75 86	49	708	89	240	171	202	20	1	DT 1 + 21	168TA1478
ODP-AGM96R	52	600	90	242	175	174	18	0	1	168TA1479
ODP-AGM25	59	675	110	240	172	217	21	1	1	168TA1480*
ODP-AGM35	59	675	110	240	172	217	21	0	1	168TA1388*
ODP-AGM34	61	792	120	275	172	199	21	1	1	168TA1481
ODP-AGM34R	61	792	120	275	172	199	21	0	1	168TA1482
ODP-AGM78	61	792	120	275	172	187	21	1	21	168TA1483
ODP-AGM24	63	725	155	276	172	225	23	1	1	168TA1484*
ODP-AGM24F	63	725	155	276	172	225	23	0	1	168TA1485*
ODP-AGM47 H5 L2	62	650	105	242	175	189	19	0	1	168TA1486
ODP-AGM65	64	750	129	301	183	192	23	1	1	168TA1487
ODP-AGM48 H6 L3	69	720	130	277	174	189	22	0	1	168TA1488
ODP-AGM94R H7 L4	80	840	150	315	174	189	25	0	1	168TA1489
ODP-AGM27	85	850	182	316	172	225	27	1	1	168TA1490*
ODP-AGM27F	85	850	182	316	172	225	27	0	1	168TA1491*
ODP-AGM49 H8 L5	94	950	160	353	174	189	29	0	1	168TA1389
ODP-AGM31	100	925	200	330	172	243	32	1	8	168TA1492
ODP-AGM31A	100	925	200	330	172	240	32	1	1	168TA1493
ODP-AGMDINB	170	1300	370	518	226	218	53	3	1	168TA1390
ODP-AGMDINC	220	1500	475	518	276	225	65	3	1	168TA1391

*Ask for availability

ODYSSEY PERFORMANCE SERIES DIN B (REF 168TA1390) AND DIN C (REF 168TA1391)



- The only battery that can truly meet the severe demands of modern trucks.
- With a deep-cycle capability of 660 cycles to 50% DOD, these batteries allow truck operators to keep onboard accessories and tail lifts running day and night, and still be assured of an engine start – even in the coldest temperatures.

ODYSSEY EXTREME (ODX)


Where size and power matters, the ODYSSEY Extreme (ODX) battery gives you it all. With its heritage in military and specialist vehicle applications, this range is the toughest you can get - whether it's extreme terrain, temperatures or power demand, or all of them combined, the ODX range will deliver.

Model	C20 capacity	CCA	Reserve capacity (min)	Length	Width	Height	Weight	Layout	Terminals	REF
	Ah	A		mm	mm	mm	kg			
12 V										
ODX-AGM34	68	850	134	276	172	202	23	1	1	168TA1392
ODX-AGM34R	68	850	134	276	172	200	23	0	1	168TA1494
ODX-AGM34 78	68	850	134	276	172	200	23	1	DT 1 + 21	168TA1393
ODX-AGM65	74	950	135	301	183	190	25	1	1	168TA1394
ODX-AGM31*	100	1150	205	330	173	241	35	1	8	168TA1395
ODX-AGM31A	100	1150	205	330	173	246	35	1	1	168TA1495

*Available with Metal Jacket (MJ)

ODYSSEY POWER & MOTORSPORTS (ODS)


With a pedigree and reputation known across the Power & Motorsports world, ODYSSEY Power & Motorsports (ODS) batteries provide concentrated extreme dual-purpose power while supplying exceptional reliability, service life and deep-cycle capabilities to keep you ahead.

Model	C20 capacity	CCA	Reserve capacity (min)	Length	Width	Height	Weight	Layout	Terminals	REF
	Ah	A		mm	mm	mm	kg			
12 V										
ODS-AGM8E	8	100	9	138	86	99	3	0	M4	168TA1664
ODS-AGM15L*	13	150	18	176	84	124	5	0	M6	168TA1396
ODS-AGM16B	14	200	21	170	99	158	5	1	M6	168TA1397
ODS-AGM16L*	16	170	24	182	76	162	7	0	M6	168TA1398
ODS-AGM16CL	18	220	26	170	99	177	6	0	M6	168TA1399
ODS-AGM28	28	330	48	167	176	119	11	1	M6	168TA1400
ODS-AGM28L*	28	330	48	169	179	148	11	0	M6	168TA1406
ODS-AGM30E	34	400	60	250	97	156	9	0	M6 stud	168TA1407
ODS-AGM42L*	42	540	78	198	166	163	17	0	M6	168TA1401
ODS-AGM40E	45	500	87	250	97	206	13	0	M6 stud	168TA1408
ODS-AGM70	68	810	142	331	168	168	28	0	M6	168TA1402
ODS-AGM70A	68	810	142	331	168	197	28	0	1	168TA1496

*Available with Metal Jacket (MJ)

ODYSSEY MARINE


Especially designed for marine applications, although can be used in other applications where size and fitments allow.

Model	C20 capacity	CCA	Reserve capacity (min)	Length	Width	Height	Weight	Layout	Terminals	REF
	Ah	A		mm	mm	mm	kg			
12 V										
ODP-AGM34M	60	710	120	275	172	201	21.6	1	DT 1 + 8	168TA1497
ODP-AGM24M	63	725	155	276	172	225	23.3	1	DT 1 + 8	168TA1498*
ODX-AGM34M	68	850	134	276	172	202	22.5	1	DT 1 + 8	168TA1403
ODP-AGM27M	85	850	182	316	147	225	27.1	1	DT 1 + 8	168TA1499*
ODP-AGM31M	87	925	190	330	172	240	32.7	0	DT 1 + 8	168TA1500
ODX-AGM31M	100	1150	205	330	173	239	35.3	1	DT 1 + 8	168TA1404
ODS-AGM6M	126	1225	240	286	269	233	39.0	2	DT 1 + 8	168TA1501
ODP-AGMDINB	170	1300	370	518	226	218	53.3	3	1	168TA1390
ODS-AGM470FTT	214	1300	475	581	125	316	60.0	4	M10 stud	168TA1409
ODP-AGMDINC	220	1500	475	518	276	225	65.0	3	1	168TA1391

* Ask for availability

BATTERIES

STARTER BATTERIES

SPECIAL TYPES



Model	Capacity Ah	CCA A	Length mm	Width mm	Height mm	Weight kg	Layout	Fixation	Terminals	Picture	REF
6 V											
1-640	90	670 (SAE)	231	176	222	14.0	2	B00	1	1	168TA1410
2-700	135	650 (SAE)	260	174	221	17.0	2	B00	1	2	168TA1411
4H-950	150	950 (SAE)	321	178	241	29.0	2	B00	1	3	168TA1412
112.013.052	112	920 (SAE)	487	109	248	23.0	9	B00	1	4	168TA1413
12 V											
570.016.054	70	480 (SAE)	487	109	217	19.3	9	B00	1	5	138TA7524
75-650	70	625 (SAE)	230	179	187	16.3	1	B00	21	6	168TA1414
78-800	70	770 (SAE)	260	179	187	19.0	1	B00	21	7	168TA1415
31A-1100	105	1100 (SAE)	330	171	240	28.0	9	B00	1	8	168TA1416
635.042.076	135	950 (EN)	360	253	240	32.8	0	B00	1	9	138TA7525

DUAL PURPOSE CYCLIC BATTERIES



Characteristics:

- CaCa
- Maintenance free
- Type: MF 12 V – 100 Ah – 1000 MCA

REF [168TA1419](#)



Characteristics:

- CaCa
- Maintenance free
- Type: MF 12 V – 90 Ah – 800 A

REF [167TA9957](#)



Characteristics:

- CaCa
- Maintenance free
- Type: MF 12 V – 80 Ah – 680 A

REF [168TA1417](#)



Characteristics:

- CaCa
- Maintenance free
- Type: MF 12 V – 90 Ah – 750 A

REF [168TA1418](#)

SPECIAL TYPES

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Layout	Terminals	Magic Eye	REF
Maintenance free deep-cycles CaCa dual purpose – 12 V										
MF24DC	80	64	257	172	220	18.2	1	DT 1 + 8	Yes	168TA1417
MF27DC	90	72	302	172	220	20.8	1	DT 1 + 8	Yes	168TA1418
9.575.1 MF	90	75	353	175	190	22.5	0	1	No	167TA9957
MF31DC	100	80	330	172	242	23.2	1	DT 1 + 8	Yes	168TA1419

BATTERIES

STATIONARY BATTERIES



VRLA-AGM

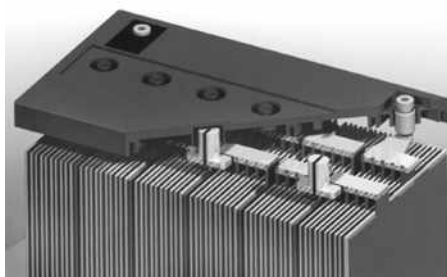


100% MAINTENANCE-FREE

Valve regulated lead-acid (VRLA) batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation ...

VRLA-AGM DAS-SERIES

5 YEAR LIFE DESIGN
"FLOATING USE"



VRLA: Valve Regulated Lead-Acid
SLA: Sealed Lead-Acid
AGM: Absorbed Glass Matt

TERMINALS AND ADAPTORS

J-type adaptor M6 (one set is 2 adaptors)
REF [168TA1663](#)

Automot. adaptor M6 (one set is 2 adaptors)
REF [168TA1663](#)

Automot. adaptor M8 (one set is 2 adaptors)
REF [144TA1869](#)

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Lay-out	Terminals	REF
4 V									
DAS4-4.5	4.0	3.5	47	47	107	0.50	1	T1	168TA1420
6 V									
DAS6-1	1.2	1.1	98	25	53	0.25	1	T1	168TA1421
DAS6-1.3	1.3	1.1	98	25	53	0.30	1	T1	168TA1422
DAS6-3.2	3.2	2.8	125	35	63	0.63	1	T1	168TA1423
DAS6-4.5	4.5	3.9	71	47	101	0.75	1	T1	134TA8650
DAS6-7.2	7.0	6.1	151	34	97	1.10	1	T2	134TA8651
DAS6-10	10.0	8.7	151	50	94	1.55	1	T1	168TA1424
DAS6-12	12.0	10.5	151	50	94	1.75	1	T2	168TA1425
DAS6-14	14.0	11.9	108	71	140	2.26	4	T1	134TA8653
12 V									
DAS12-0.8	0.8	0.7	96	25	62	0.36	Cable and bullet conn		134TA8654
DAS12-1.3	1.3	1.1	98	43	53	0.56	3	T1	168TA1432
DAS12-2.2	2.2	1.9	177	35	60	0.88	1	T1	168TA1426
DAS12-2.6	2.6	2.3	70	47	107	0.80	1	T1	168TA1433
DAS12-2.9	2.9	2.5	79	55	105	1.10	0	T1	134TA8655
DAS12-3.3	3.3	2.9	135	67	65	1.25	4	T1	168TA1434
DAS12-5	5.0	4.4	90	70	101	1.58	3	T1	168TA1435
DAS12-7.5	7.5	6.6	152	65	100	2.02	3	T1	134TA8658
DAS12-9	9.0	7.9	152	65	100	2.54	3	T2	168TA1427
DAS12-12	12.0	10.5	151	99	101	3.45	3	T2	134TA8660
DAS12-14	14.0	11.9	150	98	99	4.18	3	T2	134TA8661
DAS12-18	18.0	15.7	181	77	167	5.10	0	M5	168TA1428
DAS12-18 AL	18.0	15.3	181	77	167	4.90	0	FLAG	168TA1436
DAS12-26	26.0	22.6	166	175	125	7.70	0	M5	168TA1429
DAS12-33	35.6	30.1	195	130	167	10.00	1	M6	168TA1437
DAS12-44	48.4	41.0	197	165	172	14.50	0	M6	168TA1438
DAS12-70	65.0	55.0	349	167	179	23.60	0	M6	168TA1439

VRLA-AGM



**FLAME RETARDANT
UL94-V0 CASING**

Valve regulated lead-acid (VRLA) batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation ...

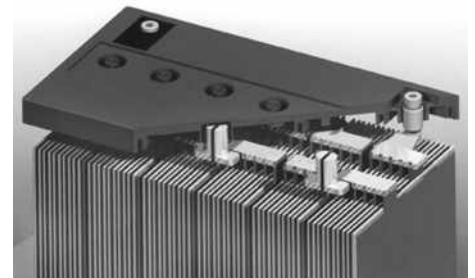
VRLA-AGM DAS FR-SERIES

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Lay-out	Terminals	REF
12 V									
DYN/DAS12-2.2FR	2.3	1.7	178	34.5	67	0.9	1	T1	168TA1440
DYN/DAS12-7.5FR	7	6	151	65	101	2	3	T1	168TA1441
DYN/DAS12-12FR	12	10.2	151	98	101	3.2	3	T2	168TA1442
DYN/DAS12-18FR	18	15.3	181	77	166	5.15	0	M5	168TA1443
DYN/DAS12-26FR	26	22.1	166	175	125	8	0	M5	168TA1444

VRLA-AGM DAB-SERIES

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Lay-out	Terminals	REF
6 V									
DYN/DAB6-110	100.0	86.0	194	170	212	16.5	1	M8	134TA8663
DYN/DAB6-160	178.0	145.0	298	171	229	26.4	1	M8	134TA8664
DYN/DAB6-180	210.0	187.0	260	180	250	29.5	0	M8	134TA8665
DYN/DAB6-200	248.0	220.0	322	178	231	34.0	1	M8	134TA8666
DYN/DAB6-225	242.0	205.0	243	188	275	32.0	0	M8	134TA8667
DYN/DAB6-270	272.0	242.0	260	180	273	35.0	0	M8	168TA1079
8 V									
DYN/DAB8-160	161.0	131.0	260	182	298	36.8	1	M8	134TA8668
12 V									
DYN/DAB12-7.5	9.6	8.5	151	65	103	2.6	3	T1	168TA1431
DYN/DAB12-14	16.4	14.5	151	99	100	4.4	3	T2	134TA8669
DYN/DAB12-26	26.0	22.6	166	175	125	7.7	0	M5	134TA8672
DYN/DAB12-28	28.0	24.3	165	125	175	8.0	0	M5	168TA1445
DYN/DAB12-32	39.6	35.2	267	77	170	9.2	0	M5	168TA1083
DYN/DAB12-33	34.0	28.0	196	131	160	10.0	1	M6	134TA8674
DYN/DAB12-44	46.2	37.7	198	167	158	13.0	0	M6	134TA8675
DYN/DAB12-55	59.2	50.0	229	138	207	17.5	1	M6	168TA1430
DYN/DAB12-70J	70.0	59.0	350	166	175	21.0	0	M6	134TA8677
DYN/DAB12-100	103.2	82.0	307	168	211	30.7	1	M8	168TA1092
DYN/DAB12-110	129.8	115.5	330	172	214	33.5	1	M8	134TA8681
DYN/DAB12-120	128.0	109.0	409	177	227	37.0	1	M8	134TA8682
DYN/DAB12-135	166.8	148.5	336	172	279	45.0	1	M8	134TA8683
DYN/DAB12-150	185.6	165.0	481	170	239	50.0	1	M8	134TA8684
DYN/DAB12-160	180.0	155.0	532	207	219	51.0	4	M8	134TA8685
DYN/DAB12-200	225.0	190.5	522	240	222	61.5	4	M8	134TA8686
DYN/DAB12-230	254.0	208.0	521	270	208	74.0	4	M8	134TA8687

**12 YEAR LIFE DESIGN
"FLOATING USE"**



VRLA: Valve Regulated Lead-Acid
SLA: Sealed Lead-Acid
AGM: Absorbed Glass Matt



BATTERIES

STATIONARY BATTERIES



GEL BATTERIES



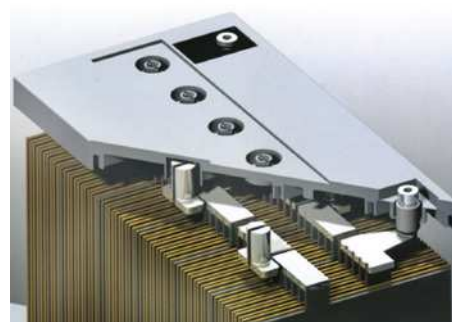
Closed gel batteries for standby applications (floating use) such as UPS systems, emergency centres, telephone exchanges, medical applications, solar panels, navy navigation ...

100% MAINTENANCE-FREE

GEL DGY-SERIES

Model	C20 Ah	C5 Ah	Length mm	Width mm	Height mm	Weight kg	Lay-out	Terminals	REF
6 V									
DYN/DGY6-110	100.0	86.0	194	170	212	16.5	1	M8	134TA8621
DYN/DGY6-160	189.0	157.0	298	171	229	26.9	1	M8	168TA1021
DYN/DGY6-180	210.0	187.0	260	180	276	29.5	0	M8 + 1	134TA8623
DYN/DGY6-200	248.0	220.0	322	178	231	34.0	1	M8	134TA8624
DYN/DGY6-225	242.0	205.5	243	188	275	32.0	0	1	168TA1465
8 V									
DYN/DGY8-180	157.0	128.0	260	182	298	36.4	1	DT 1 + 8	134TA8625
12 V									
DYN/DGY12-7.5	8.5	7.9	151	65	103	2.3	3	T1	168TA1024
DYN/DGY12-13	12.0	10.4	151	98	100	3.8	3	T2	152TA7338
DYN/DGY12-18	18.0	15.6	181	77	167	5.5	0	M5	168TA1026
DYN/DGY12-26	26.0	22.1	166	176	125	8.0	0	M5	168TA1027
DYN/DGY12-33	36.4	28.3	195	130	160	10.2	1	M6	134TA8628
DYN/DGY12-44	45.4	36.8	198	167	158	13.5	0	M6	168TA1029
DYN/DGY12-55	59.0	49.1	229	138	208	16.5	1	M6	168TA1467
DYN/DGY12-60	71.6	57.7	260	168	180	22.1	1	M6	168TA1039
DYN/DGY12-65	75.0	61.1	279	175	190	22.7	0	M6	168TA1031
DYN/DGY12-70J	69.6	58.5	350	166	175	21.0	0	M6	134TA8632
DYN/DGY12-80	87.0	78.0	260	168	211	24.0	1	M6	168TA1468
DYN/DGY12-100	105.0	99.0	307	168	214	30.7	1	M8	168TA1469
DYN/DGY12-110	123.0	110.0	330	172	214	32.0	1	M8	168TA1042
DYN/DGY12-150	161.4	136.5	483	170	241	45.0	1	M8	134TA8639
DYN/DGY12-160	180.0	155.0	532	207	219	53.0	4	M8	134TA8640
DYN/DGY12-200	214.0	178.5	522	240	222	62.5	4	M8	134TA8641
DYN/DGY12-225	263.0	216.0	521	269	208	74.5	4	M8	134TA8642

12 YEAR LIFE DESIGN
"FLOATING USE"



BATTERIES

HOUSEHOLD BATTERIES



PRIMARY AND SECONDARY BATTERIES

NON-RECHARGEABLE AND RECHARGEABLE



Voltage	Size	# in packaging	REF
V			
Rechargeable NiMh			
1.2	AAA (650)	2	168TA1514
1.2	AAA (850)	2	168TA1515
1.2	AA	2	168TA1516
1.2	AA	4	168TA1517
1.2	C	2	168TA1518
1.2	D	2	168TA1519
9	E	1	168TA1520

CHARGER NIMH (AAA/AA/9V/C/D)



REF [139TA3248](#)

DURACELL

Voltage	Size	# in packaging	REF
V			
Alkaline			
1.5	AAA	10	168TA1521
1.5	AA	10	168TA1522
1.5	C	10	168TA1523
1.5	D	10	168TA1524
9	E	10	168TA1525
1.5	AA	638	168TA1526
1.5	AAA	1200	168TA1527
1.5	C	204	168TA1528
1.5	D	100	168TA1529
9	E	210	168TA1530
1.5	AAAA	2	168TA1531
6V	J	1	168TA1532

RAYOVAC

Voltage	Size	# in packaging	REF
V			
Hearing device			
1.4	YELLOW/NR10	6	168TA1548
1.4	ORANGE/NR13	6	168TA1545
1.4	BROWN/NR312	6	168TA1546
1.4	BLUE/NR675	6	168TA1547

BATTERIES

HOUSEHOLD BATTERIES



Voltage	Size	# in packaging	REF
V			
Alkaline			
1.5	AAA	4	168TA1504
1.5	AA	4	168TA1508
1.5	C	2	168TA1505
1.5	D	2	168TA1509
9	E	1	168TA1510
1.5	AA	40	168TA1506
1.5	AAA	10	163TA8917
9	E	20	163TA8921
4.5	4.5	1	168TA1507
Lithium			
1.5	AA	4	168TA1511
1.5	AAA	4	168TA1512
9	E	1	168TA1513



Voltage	Size	# in packaging	REF
V			
Button cell			
3	1220	1	168TA1533
3	1620	1	168TA1534
3	1616	1	168TA1535
3	1632	1	168TA1536
3	2016	1	168TA1537
3	2025	1	168TA1538
3	2032	1	168TA1539
3	2325	1	168TA1540
3	2330	1	168TA1541
3	2354	1	168TA1542
3	2450	1	168TA1543
3	2477	1	168TA1544



Voltage	Size	# in packaging	REF
V			
Cylindrical cells			
1.5	LR43	1	168TA1549
1.5	LR44	1	168TA1550
1.5	LR54	1	168TA1551
1.5	V625U	1	168TA1552
12	27A	1	168TA1553
12	23A	1	168TA1554
6	11A	2	168TA1555
1.5	LR1	1	168TA1556
6	4LR44	1	168TA1557
3	CR2	1	168TA1561
3	CR123A	1	168TA1558
6	2CR5	1	168TA1559
6	CR-P2	1	168TA1560



Voltage	Size	# in packaging	REF
V			
Watch			
1.55	SR43SW LOW DRAIN	1	168TA1562
1.55	SR44SW LOW DRAIN	1	168TA1563
1.55	SR716SW LOW DRAIN	1	168TA1564
1.55	SR516SW LOW DRAIN	1	168TA1565
1.55	SR527SW LOW DRAIN	1	168TA1566
1.55	SR616SW LOW DRAIN	1	168TA1567
1.55	SR731SW LOW DRAIN	1	168TA1568
1.55	SR44W HIGH DRAIN	1	168TA1569
1.55	SR721SW LOW DRAIN	1	168TA1570
1.55	SR621SW LOW DRAIN	1	168TA1571
1.55	SR920W HIGH DRAIN	1	168TA1572
1.55	SR920SW LOW DRAIN	1	168TA1573
1.55	SR916SW LOW DRAIN	1	168TA1574
1.55	SR626SW LOW DRAIN	1	168TA1575
1.55	SR521SW LOW DRAIN	1	168TA1576
1.55	SR1120SW LOW DRAIN	1	168TA1577
1.55	SR41SW LOW DRAIN	1	168TA1578
1.55	SR43W HIGH DRAIN	1	168TA1579
1.55	SR1130W HIGH DRAIN	1	168TA1580
1.55	SR1130SW LOW DRAIN	1	168TA1581
1.55	SR1120W HIGH DRAIN	1	168TA1582
1.55	SR41W HIGH DRAIN	1	168TA1589
1.55	SR754W HIGH DRAIN	1	168TA1583
1.55	SR936SW LOW DRAIN	1	168TA1584
1.55	SR927SW LOW DRAIN	1	168TA1585
1.55	SR726W HIGH DRAIN	1	168TA1586
1.55	SR726SW LOW DRAIN	1	168TA1587
1.55	SR927W HIGH DRAIN	1	168TA1588



4R25

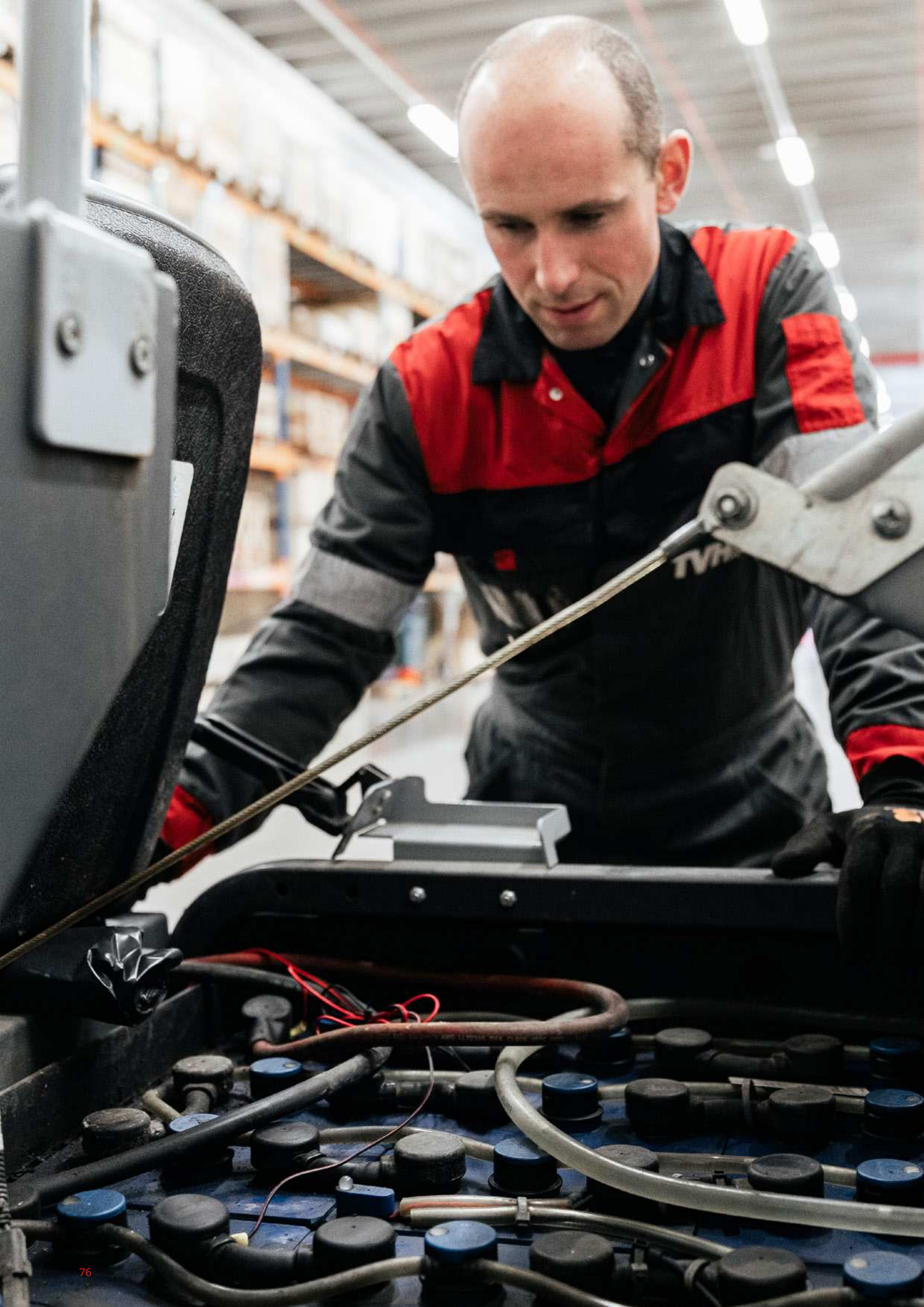
Voltage	Nominal capacity	Weight	REF
V		kg	
6	7 Ah, > 600 mins	0.4	151TA3827

4R25-2

Voltage	Nominal capacity	Weight	REF
V		kg	
6	19 Ah	1.04	168TA1591

Voltage	Capacity	Length	Width	Height	Cell type	Layout	REF
V	mAh	mm	mm	mm			
Emergency lighting							
3.6	1700	69	23	43	Sub-C		168TA1597
3.6	1700	126	23	0	Sub-C		168TA1598
4.8	1700	92	23	43	Sub-C		168TA1599
4.8	1700	172	23	0	Sub-C		168TA1600
6.0	1700	115	23	43	Sub-C		168TA1601
6.0	1700	215	23	0	Sub-C		168TA1602
7.2	1700	138	23	43	Sub-C		168TA1603
7.2	1700	258	23	0	Sub-C		168TA1604
4.8	2500	104	26	50	C		168TA1605
4.8	2500	200	26	0	C		168TA1606
6.0	2500	130	26	50	C		168TA1607
6.0	2500	250	26	0	C		168TA1608
2.4	4500	68	34	60	D		168TA1609
2.4	4500	120	34	0	D		168TA1610
3.6	4500	102	34	60	D		168TA1611
3.6	4500	180	34	0	D		168TA1590
4.8	4500	136	34	60	D		168TA1612
4.8	4500	240	34	0	D		168TA1613
4.8	4000	207	27	0	C		168TA1614

* With connector, connectors can be added on request





02.

ACCESSORIES

ACCESSORIES

FILLING SYSTEMS

UNIVERSAL FILLING SYSTEMS



ABOUT PHILADELPHIA

THE UNIVERSAL BATTERY FILLING SYSTEM!

The AFS - Aqua Filling System is the best battery watering system on the market for small to medium-sized applications. It makes battery watering safe, easy and affordable.

It incorporates many unique features that make it the best in its class, as well as being the easiest battery filling system to install, using a minimal number of inventory items.

It fills an industrial forklift truck battery in one-tenth the time of hand watering, which means that these systems typically pay for themselves in under a year.

The system also improves safety as it prevents exposure to electrolytes while filling.

HOW THE AFS WORKS

The AFS battery filling system is a float-based system. This means that the flow of water into the battery is controlled by a buoyant float mechanism, which rides on top of the electrolyte.

As the battery is being filled, water flows into each cell through individual AFS valves. As the electrolyte level rises, the float rises with it

and shuts off the valve when the correct electrolyte level is reached. While the force generated by this process is small, it is enough to shut off the valve in most conventional applications.

The shut-off mechanism has been designed to shut off precisely under a wide range of operating pressures, which means that it will work with almost all facility water sources.

Our adjustable float height setting design is the key to our exclusive universal product design. With the AFS battery filling system, you don't need to worry about having many float sizes in stock for your battery.

FEATURES & BENEFITS

- **One float fits all:** multiple float valves are not required! Just a single, adjustable, valve for all industry standard fill heights.
- **Fast installation:** collars are not required, just push the tubing onto the barbs, it's fast, easy and secure.
- **Watch the action:** totally transparent, so the operator has the confidence of watching the cell being filled.
- **Lowest profile:** at only 15 mm (0.6 inches) tall,



UNIVERSAL BATTERY FILLING SYSTEM WITH MINIMAL PARTS

In addition to being easy to install, this universal battery filling system with minimal parts offers a host of additional benefits:

- Easily accessible hydrometer access ports
- Maximum visibility of the level float
- A water trap
- A low profile
- Compatible with common industry standards for fill heights and tube widths

The float kits include floats, tubing, input couplings and filter assemblies, cable ties and instructions for installation and operating.

Description	Technical information	REF
Float kit 12 V	Float valve kit for 6-cell DIN battery	164TA7942
Float kit 18 V	Float valve kit for 9-cell DIN battery	164TA7943
Float kit 24 V	Float valve kit for 12-cell DIN battery	164TA7944
Float kit 36 V	Float valve kit for 18-cell DIN battery	164TA7945
Float kit 40 V	Float valve kit for 20-cell DIN battery	164TA7946
Float kit 48 V	Float valve kit for 24-cell DIN battery	164TA7947
Float kit 72 V	Float valve kit for 36-cell DIN battery	164TA7948
Float kit 80 V	Float valve kit for 40-cell DIN battery	164TA7949
Float kit 96 V	Float valve kit for 48-cell DIN battery	164TA7950



BFS FILLING SYSTEM

ABOUT BFS

BFS cutting Edge Technology for battery watering systems

BFS is a robust, family-owned enterprise that has been developing, producing and distributing battery watering systems for lead-acid batteries for more than 30 years. Today BFS's products are the acme of quality and reliability. Around 75 staff are employed at the company's












production facility's in Germany and Malta. Every year more than 11 million plugs are produced, sold and used around the globe.. The company has been a world market leader in battery watering systems for many years, with the family's second generation now at the helm.



PLUGS

The plug is at the heart of the bfs system. Many different versions are available, and by offering our customers the greatest selection on the market, we make sure that a perfect system is available for any battery

type, in any application. For most applications you can choose between bfs Plug III and Plug IV.

Description	REF	Description	REF
 Manual push-in plug 35 mm	144TA1733	 Automatic bayonet plug Bayonet 2 cam	137TA1843
 Manual threaded plug 27 mm	137TA1839	 Automatic bayonet plug Seal (3.0 mm)	137TA1844
 Manual threaded plug 30 mm	137TA1840	 Automatic bayonet plug Bayonet 4 cam	137TA1845
 Automatic push-in plug 35 mm	144TA5917	 End stop	106TA8940
 Automatic threaded plug M27	137TA1841	 Tool for easy mounting of plugs Assembling tool to ease and quicken the assembly of a BFS plug in adapter versions such as bayonet adapters or threaded adapters	145TA2017
 Automatic threaded plug M30	137TA1842		

ACCESSORIES

FILLING SYSTEMS












FILLING SYSTEMS



We offer a large variety of floats to help control electrolyte levels in the cell with the greatest accuracy. Choosing the correct float is crucial in achieving the best level in battery cells. The large choice of floats allows

you to adjust electrolyte levels in all battery types and in all areas of application.

Description	REF
 <p>Float Size 14</p>	137TA1846
 <p>Float Size 20</p>	137TA1847
 <p>Float Size 24</p>	137TA1848
 <p>Float Size 29</p>	137TA1849
 <p>Float Size 34</p>	111TA3478

Description	REF
 <p>Float Size 39</p>	137TA1850
 <p>Float Size 49</p>	137TA1851
 <p>Float Size 59</p>	137TA1852
 <p>Tool</p>	145TA2019



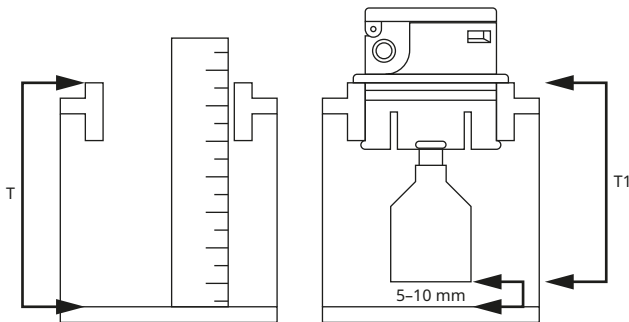
FLOAT MEASUREMENTS FOR TRACTION BATTERIES

Float size	Push-in plug		Bayonet/clip plug		Threaded plug		REF
	bfs III	bfs IV	bfs III*	bfs IV	bfs III	bfs IV	
	A51000	A4N000	B51000 I51000	B4N000 I4N000	C/D/E/ F51000	C4N000	
	T1	T1	T1	T1	T1	T1	
	mm	mm	mm	mm	mm	mm	
14	41	-	28	40	31	41	168TA7864
20	48	45	35	44	37	45	168TA7865
24	52	49	39	48	41	49	168TA7866
29	57	54	44	53	46	54	168TA7867
34	62	59	49	58	51	59	144TA5918
39	67	64	54	63	56	64	168TA7868
44	72	69	59	68	61	69	164TA2536
49	77	74	64	73	66	74	168TA7869
59	87	84	74	83	76	84	168TA7870
23	50	48	37	47	39	48	168TA7871
26	53	51	40	50	42	51	168TA7872
30	56	55	43	54	46	55	168TA7880
34	60	58	46	57	49	58	168TA7873
38	64	63	51	62	54	63	168TA7881
42	68	67	55	66	58	67	168TA7874
50	76	75	63	74	66	75	168TA7882
58	84	83	71	82	74	83	168TA7883
26	52	51	40	50	42	51	168TA7875
33	59	58	46	57	49	58	168TA7876
42	68	67	55	66	58	67	168TA7877
32	58	-	46	56	49	57	168TA7878
41	67	-	54	65	56	66	168TA7879

Using the float spindle extension (REF 168TA7884), add 13 mm/0.5"!

CALCULATION OF FLOAT SIZE

T = top of cell to top of separator
 T1 = top of cell to base of float



ACCESSORIES

FILLING SYSTEMS



AQUA LOW PROFILE BATTERY WATERING SYSTEM

FRÖTEK Aqua Low Profile Battery Watering System is a newly developed single-point watering system designed to save time, increase safety and fit most forklift battery brands on the market. The ultra-low profile design is engineered for easy installation. Battery watering time is significantly reduced with the single-point delivery system, and the fluid level indicator allows for quick and easy monitoring of the fluid level. Please note a pressure regulator is required to operate the watering system.

Features:

- Quick and easy one-point connection
- Prevents over-filling of battery cells
- Prevents missed watered battery cells
- Only two movable parts minimizes blocking
- Ensures correct water level
- Polycarbonate construction

SINGLE-POINT WATERING PLUG S35 LOW PROFILE (MOSTLY USED FOR TRACTION APPLICATIONS)



Description	Colour: black	Floater height	Length	REF
		mm	mm	
Floater + T-piece	Standard plug S35	16	40	168TA6930
Floater + T-piece	Standard plug S35	20	44	168TA6931
Floater + T-piece	Standard plug S35	29	53	168TA6932
Floater + T-piece	Standard plug S35	32	56	168TA6933
Floater + T-piece	Standard plug S35	38	62	168TA6934
Floater + T-piece	Standard plug S35	43	67	168TA6935
Floater + T-piece	Standard plug S35	48	72	168TA6936

SINGLE-POINT WATERING PLUG R24 LOW PROFILE (MOSTLY USED FOR BLOCK BATTERIES)














Description	Colour: black	Floater height	Length	REF
		mm	mm	
Floater + T-piece	Standard plug R24	16	40	168TA6937
Floater + T-piece	Standard plug R24	20	44	168TA7885
Floater + T-piece	Standard plug R24	29	53	168TA6938
Floater + T-piece	Standard plug R24	32	56	168TA6939
Floater + T-piece	Standard plug R24	38	62	168TA6940
Floater + T-piece	Standard plug R24	43	67	168TA6941
Floater + T-piece	Standard plug R24	48	72	168TA7886











ACCESSORIES

Other than the watering plugs, which are at the heart of the system, bfs also offers perfectly matched accessories. The product line includes

all peripheral components as well as useful installation tools. (Please note: pictures of products are not to scale.)

Description	REF	Description	REF
 Hydrometer	138TA3957	 Tube 10 mm 8 mm	168TA6926 168TA6927
 Sliding tool	164TA2538	 O-ring	137TA1844
 Protection cap Protection cap for male link RC	168TA6923	 Washer locker Diameter: 9 mm	137TA1860
 Plug removal tool	164TA2537	 Diameter: 14 mm	137TA1859
 Sliding tool 10/6 Tool to fix wash locker	168TA6924	 End cap	168TA6928
		 Tool for easy mounting of plugs Assembling tool to ease and quicken the assembly of a BFS plug in adapter versions such as bayonet adapters or threaded adapters	145TA2017

FILLING SYSTEMS





Brand	Description	Type	REF
 	Female joint	7 mm 9 mm 11 mm 13 mm	137TA1853 137TA1854 106TA8953 137TA1855
 	Male joint	7 mm 9 mm 11 mm 13 mm	137TA1856 137TA1857 106TA8952 137TA1858
 	Female joint	6 mm 10 mm	145TA2091 145TA2092
 	Male joint	6 mm 10 mm	145TA2093 145TA2094

ACCESSORIES

FILLING SYSTEMS

ACCESSORIES

	Brand	Description	Type	REF
		Flow indicator male with filter	1 x NW6 1 x NW10	142TA3205 166TA5547
		Flow indicator male with filter	2 x NW6 2 x NW10	142TA3207 142TA3206
		Female connector filter	1 x NW6 1 x NW10	142TA3208 142TA3209
		Water filter with flow indicator	NW6 NW10	142TA3218 142TA3217
		Female coupling with valve	8 mm 10 mm 12 mm	164TA2160 164TA2161 164TA2162
		Male coupling with valve	8 mm 10 mm 12 mm	164TA2163 164TA2164 164TA2165

	Brand	Connection	Colour	Application	REF
Female coupling for water					
		KV10 KV6	Grey	Water standard	168TA7887 168TA7888
Male coupling for water					
		SV10 SV6	Grey	Water standard	168TA7889 168TA7890





ACCESSORIES

	Brand	Description	Type	REF
	 TotalSource	Joint with filter	1 x M16 x 1.5	142TA3211
	 TotalSource	Flow indicator	Connection: 10 mm	106TA8956
	 bfs	Flow indicator	Connection: 10 mm	145TA2096
	 bfs	Filter	Connection: 10 mm	145TA2095
	 FRÖTEK	Water filter	Connection: 10 mm	106TA8951
	 bfs	Hose clamp	9 mm 14 mm	137TA1860 137TA1859
	 TotalSource	Plastic hose	6 x 9 mm (per metre) 10 x 14 mm (per metre) 12 x 16 mm (per metre)	168TA7126 168TA6955 106TA8943



PARTS FOR WATER CIRCULATION

Our products include everything needed to set up an automatic watering system with hoses etc. With regard to their quality and dimension tolerance, our connectors are a perfect match for bfs hoses and the bfs watering system as a whole.

	Description	Connection	REF
	L-connection	6-6 10-6 6-10 10-10	137TA1835 106TA8944 137TA1834 106TA8945
	T-connection	6-6-6 6-10-6 10-06-10 10-10-10	137TA1836 144TA5913 144TA5914 106TA8948
	X-connection	6-6-6-6 6-10-6-10 10-10-10-10	137TA1837 106TA8949 106TA8950
	Reduction	10-6	142TA7718

FILTEREX FOR CENTRAL DEGASSING



Characteristics:

The use of the filterEX on batteries prevents:

- A flash-back of hydrogen fire
- Followed by a chain reaction between the battery cells

Requirements:

Normally, the filterEX is used in combination with the centra! degassing BFS plug (A51210), where all cells are inter-connected through the degassing hoses in addition to the normal water hoses.

FilterEX will protect the battery under any of the following circumstances:

- An ignition from an external source – flame propagation can be avoided by filterEX – mounted at the end of the degassing hose

- An ignition source inside one of the battery cells – a propagation of the flame can be prevented by filterEX mounted after each plug

Handling:

- The piping should be installed in such way that there are not more than 10 BFS plugs connected to one filterEX
- The filterEX should be replaced after approximately 300 cycles, respectively when the white insert becomes discoloured. Replacement frequency depends on the gas discharge volume per battery cells.

REF [168TA6956](#)

SNAPCAP™ VENTS



REF [168TA1648](#)



REF [168TA1649](#)

One-piece design

Now available on Crown 6 and 12 V deep-cycle batteries

The new convenience

Crown battery will begin producing our range of high capacity 6 and 12 V deep-cycle batteries with the company's proprietary one-piece SnapCap vent component.

The SnapCap vent component delivers a number of major benefits to battery owners and users:

A highly convenient one-piece locking vent component that makes battery inspection easier and more efficient.

The SnapCap utilizes a lock-in base that secures the vent to the cell opening by manual compression. Installation is fast and easy and does not require tightening of the vent after installation.

The SnapCap design includes a low-profile and multiple safety features that makes it one of the safest vents on the market.

Flooded lead deep-cycle batteries with "SnapCap" vents

Vent component design change

Effective in June 2016 for the following deep-cycle group sizes and battery models:

BCI Group 901: CR-250 and CR-275

BCI Group 903: CR-370, CR-390 and CR-430

BCI Group 902: CR-305, CR-330 and CR-350

BCI Group 921: CR-185, CR-195 and CR-215

HANDLE



REF [115TA6846](#)

CONNECTIONS & CABLES



Battery connection Ø 25 mm

Length mm	REF
75	168TA1650
95	168TA1651
190	168TA1652
280	168TA1653
300	168TA1654
350	168TA1655
400	168TA1656

* Other dimensions are available on demand.



Terminal cable Ø 25 mm

Length mm	REF
75	168TA1657
95	168TA1658
190	168TA1659
280	168TA1660
300	168TA1661

QUICK RELEASE



REF [115TA6845](#) - Quick release for 6 V batteries with 3 plugs

REF [168TA1077](#) - Quick release for 8 V batteries with 4 plugs



Diameter mm	Colour	REF
32	Red	131TA7018
32	Black	131TA7019
30	Red	131TA7020
30	Black	131TA7021
26	Red	131TA7022
26	Black	131TA7023
24	Red	131TA7024
24	Black	131TA7025
20	Red	131TA7026
20	Black	131TA7027

ACCESSORIES

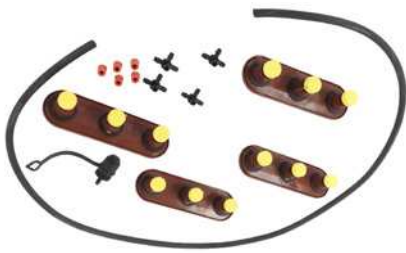
FILLING SYSTEMS



HYDROLINK™ WATERING SYSTEM

Trojan knows the importance of battery maintenance and the impact it has on a battery's life. Battery maintenance, particularly, battery watering, can be time-consuming, and messy.

With Trojan Battery's innovative HydroLink™ Watering System, you can experience faster, easier and safer battery watering. With HydroLink, a complete set of batteries can be watered in less than 30 seconds!



Features	Benefits
Reduces acid spills	Lower cost of ownership by reducing overfilling which increases battery life and maintains a longer battery run time
Independent water level indicator	Non mechanical and easy-to-read. Takes the guess work out of when to add water to the battery. Saves maintenance time
Internal and external flame arrestors	Safest watering system in the industry – helps prevent any spark or flame from entering the battery
Cost-effective	Saves valuable time and money
Guaranteed to work with your Trojan batteries*	Four-year, limited warranty
Compatibility	The HydroLink Watering System is compatible with 6-volt, 8-volt and 12-volt Trojan batteries. Clampless tubing allows for customizable configuration in any application

* HydroLink is not compatible with all batteries. See Below for the details.

- REF [168TA7170](#) – HydroLink kit 6 VX6
- REF [168TA7171](#) – HydroLink 6 V plug
- REF [168TA7172](#) – HydroLink kit 6 VX4
- REF [168TA7173](#) – HydroLink kit 8 VX3
- REF [168TA7174](#) – Spare vent cap

DISTILLED WATER STATION

HYDROPURE

The HydroPure is a low-cost deioniser system that allows you to make pure water straight from the tap!

This deioniser reduces the high price of buying bottled water and it's more convenient as well. Each disposable cartridge purifies about 2400 l of water and the purity light will tell you exactly when the cartridge is used up.

Features:

Professional quality deioniser: not just a filter, which only removes particles, but a real ion-exchange medium that electrostatically removes dissolved impurities. Purity is comparable to distilled water and ideal for batteries.

Large capacity: the cartridge is rated for 2400 l of pure water.

Purity light: this "magic eye" monitors the conductivity of the output water continuously and signals when it is time to change the cartridge.

Pressurized system, easy installation, easy cartridge replacement.

Flow rates:

- Maximum intermittent flow: 8 l/min
- Maximum continuous flow: 2 l/min

Indication:

- Purity light indication water OK: steady green flash
- Purity light indication water BAD: double red flash
- Purity light OK max threshold: 50 ppm

HydroPure 300: complete deioniser system supplied with DC battery-powered purity light and 1 replaceable cartridge

1. Output:

- Maximum output (input purity 50 ppm): 5760 l
- Typical output (input purity 120 ppm): 2400 l
- Poor water output (input purity 250 ppm): 1150 l
- Maximum input pressure: 80 psi
- Cartridge resin volume: 4.5 l

REF [127TA3874](#)

2. Output:

- Maximum output (input purity 50 ppm): 11 520 l
- Typical output (input purity 4800 ppm): 2400 l
- Poor water output (input purity 2300 ppm): 1150 l
- Maximum input pressure: 80 psi
- Cartridge resin volume: 4.5 l

REF [140TA8949](#)



Replacement deioniser cartridge for 300/400

REF [127TA3875](#)



Connector

REF [164TA2592](#)



Water filling pistol

REF [139TA3244](#)

*Only under typical circumstances with an input purity of 120 ppm.

ACCESSORIES

FILLING SYSTEMS

DEMINERALISED WATER UNIT



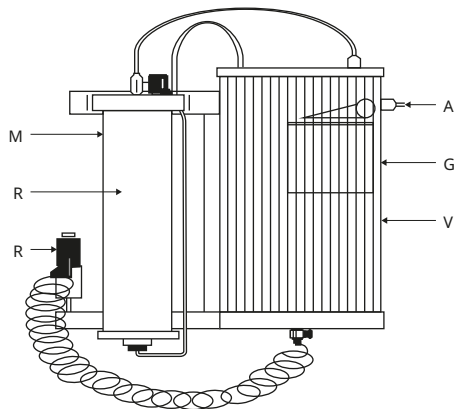
1. REF [105TA4903](#) – Can produce 150 l of demineralized water
REF [105TA4902](#) – Replacement cartridge
2. REF [111TA3846](#) – Coupling

WATER DEMINERALISER COMPLETE WITH RESERVOIR



- The long experience acquired in the area of the forklift trucks led to the production of Vinky
- Vinky is an efficient and easy-to-use device that will prove to be of use to personnel responsible for refilling water within traction batteries
- The Vinky can produce 500 l of demineralized water, and is delivered with gun (with auto-level detector) and 15 l reservoir

REF [103TA1549](#) – Complete system



Code	Description	REF
P	Gun	103TA1551
M	Demineraliser (= resin + tube)	103TA1552
R	Synthetic demineralising resin (no tube)	103TA1553
G	Sender unit to stop water from overflowing	103TA1554
V	Tank for demineralized water Capacity: 15 l Dimensions: 206 x 166 x 461 mm	103TA1555

WATER-FILLING PISTOLS



- Integrated flow indicator
- Pressure regulator incorporated in nozzle
- 45° bend nozzle
- Secure level control
- 6.4 l per minute
- With flow diffuser

REF [139TA3244](#)



- For watering transparent jar-type stationary batteries
- Gun operates outside the cell
- Does not have automatic shut-off

REF [124TA1729](#)



- Length: 440 mm
- Water nozzle
- 25 cm filling pipe

REF [138TA3952](#)



- Robust water nozzle with ergonomic rubber handle – 25 cm
- Not acid-resistant (for batteries with automatic filling system)

REF [138TA3953](#)



- 9 V-battery included
- Visual and acoustic water level signal indicators

REF [138TA3954](#)

ACCESSORIES

FILLING SYSTEMS

FOOT PUMP



Foot pump suitable for barrels up to 120 l

REF [116TA5779](#)

PORTABLE SUCTION PUMP FOR WATER



For removing excess water from the battery container.

- Acid-resistant plastic casing
- Dimensions: 220 x 170 x 140 mm
- 12 V connector
- Capacity: 2.7 l/min
- Suitable for 37% acid
- On/off switch with LED indicator
- NW-06 connection for input and output

REF [116TA5781](#)

FILLING SYSTEM TOOLS



Battery filler

REF [106TA8986](#)



Funnel set

- Complete set
- Diameters: 50, 75, 100, 120, 150, 160 mm
- Resistant to oil, acid and fuel

REF [139TA1913](#)



Automatic battery filler

Stops automatically when the desired level is reached

REF [106TA8983](#) - 1 l
REF [131TA6367](#) - 2 l

FILLING SYSTEM TOOLS



Gravity tank 20 l with tap

REF [166TA5958](#)



Kit water tank 20 l

- 3 m tube
- Filter
- Flow indicator and link

REF [106TA8937](#)



20 l tank

Makes it possible to fill with automatic filling plugs or with water gun.

REF [168TA6942](#)

Content:

- 3 m tube
- REF [168TA6943](#) - Flow-indicator
- REF [168TA6944](#) - Fast connector
- REF [138TA3953](#) - Filling gun
- REF [168TA6945](#) - Fast connector
- REF [138TA3953](#) - Watergun L



Gravity tank 60 l with tap

Dimensions (X x Y x H): 460 x 350 x 500 mm

REF [116TA6228](#)



Kit water tank 60 l

- 3 m tube
- Filter
- Flow indicator and link

REF [168TA7892](#)

Replacement part:

REF [168TA6946](#) - Run out tap



Tap for water tank 60 l

REF [168TA6946](#)

BATTERY ACID



FILL IN THE FORM



Battery acid 37.5% (32% BE)

REF [124TA2887](#) - 1 l

REF [106TA8674](#) - 20 l

ACCESSORIES

FILLING SYSTEMS

ACID FILLING PISTOL



REF [106TA8988](#)

MANUAL SUCTION PUMP OIL, FLUIDS AND ACID



REF [168TA7134](#) - 2.5 l
REF [145TA2100](#) - 6 l

PARTS FOR WATER CIRCULATION



Water tank

- REF [168TA6950](#) - 30 l
- REF [168TA6951](#) - 30 l with optional kit
- REF [168TA6950](#) - Water tank
- REF [106TA8956](#) - Flow indicator
- REF [107TA7887](#) - 2 x clamp with screw 11/17 ABA
- REF [144TA5916](#) - Female joint diameter: 11 mm
- REF [106TA8942](#) - Hose

Replacement part:

- REF [168TA7894](#) - Run out tap



Water tank round

- REF [168TA6952](#) - 30 l



- REF [166TA5550](#) - Water tank 1000 l with tap - filled with demineralized water
- REF [168TA6953](#) - Water tank 1000 l with tap - empty
- REF [168TA6954](#) - Connector diameter 10 mm to fix the accessories

ACCESSORIES:



PVC filling tube dia 10 mm

REF [168TA6955](#)



Flow indicator

REF [168TA6943](#)



Link female (to fill the batteries with automatic filling system)

REF [168TA6944](#)



Filling gun - not acid proof (to fill the batteries without automatic filling system)

REF [138TA3953](#)

DEMINERALIZED WATER



REF [139TA3478](#) - 5 l
REF [166TA5548](#) - 25 l
REF [166TA5550](#) - 1000 l

BATTERY FILLER UNIT



- Mobile water filling system with 60 l barrel + gun
- Battery 12 V, 6.5 Ah







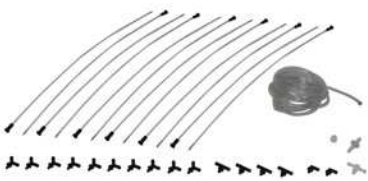
REF [106TA8976](#)

ACCESSORIES

PARTS FOR AIR CIRCULATION



PARTS FOR AIR CIRCULATION

	Description	Dimensions	REF
	Female coupling for air	K6 K10	143TA4893 143TA4892
	Male coupling for air	S6 S10	143TA4895 143TA4894
	Valve for electrolyte circulation		143TA4896
	L-connector for electrolyte circulation		164TA2167
	T-connector for electrolyte circulation		143TA4904
	T-connector for electrolyte circulation 90°		164TA2168
	Tube for acid circulation, air tube		143TA4906
	Description	Voltage	REF
	Complete kit: 1 x hose clamp 9 mm 1 x valve for acid 4 x hose PVC clear 1 x T-fitting 6–6–6 mm 4 x T-connector 90° 2 x L-connector for acid 6 x tube, length: 650 mm 1 x air coupling	12 VDC 24 VDC 36 VDC 48 VDC 72 VDC 80 VDC 96 VDC	164TA2544 164TA2545 164TA2546 164TA2547 164TA2548 164TA2549 164TA2550

ACCESSORIES

INTERCELL CONNECTORS



BATTERY INTERCELL CONNECTORS



ABOUT FRÖTEK

TVH is a distributor for all types of FRÖTEK cell connectors: flex, perfect or rigid connectors, flex end and perfect end take-offs. FRÖTEK offers all products for the assembly of industrial batteries from individual battery cells. Furthermore, it can supply products for starter batteries and for cell formation. In short: FRÖTEK supplies everything above cell level from one source and in OEM quality.

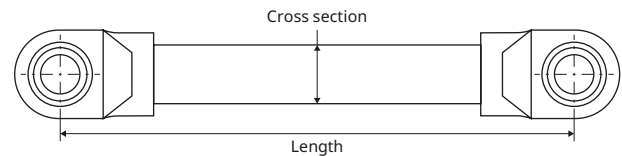
WHY DID WE OPT FOR FRÖTEK AS PARTNER?

Because FRÖTEK is a competent partner with many years of experience in the global battery market. Moreover, the company invests in Research & Development to constantly improve its products. FRÖTEK owes its continuous growth to its development strength, consistent investment strategy, flexibility and a strong international focus.

WHY ARE FRÖTEK CONNECTORS YOUR BEST CHOICE?

All FRÖTEK cell connectors are of German quality and are screw-mounted, which means that they are super easy to attach and require no welding or soldering.

FLEX CONNECTORS



Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
25	75	166TA1660	166TA1840	300
25	95	166TA1661	166TA1841	300
25	110	166TA1662	166TA1842	300
25	130	166TA1663	166TA1843	250
25	150	166TA1664	166TA1844	250
25	170	166TA1665	166TA1845	200
25	190	166TA1666	166TA1846	200
25	210	166TA1667	166TA1847	150
25	300	165TA3757	166TA1848	100
35	75	165TA3758	166TA1849	300
35	95	165TA3759	166TA1850	300
35	110	165TA3760	166TA1851	300
35	130	144TA6324	166TA1852	250
35	150	166TA1668	166TA1853	250
35	170	166TA1669	166TA1854	200
35	190	166TA1670	166TA1855	100
35	210	166TA1671	166TA1856	100
35	230	166TA1672	166TA1857	100
35	250	165TA3761	166TA1858	100
35	300	165TA3762	166TA1859	100
50	75	165TA3763	166TA1860	250
50	85	165TA3764	166TA1861	250
50	95	166TA1673	166TA1862	250
50	110	166TA1674	166TA1863	250

Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
50	130	166TA1675	166TA1864	200
50	150	166TA1676	166TA1865	200
50	170	166TA1677	166TA1866	150
50	190	134TA8524	166TA1867	120
50	210	166TA1678	166TA1868	120
50	230	166TA1679	166TA1869	100
50	250	166TA1680	166TA1870	100
50	300	166TA1681	166TA1871	100
70	95	166TA1682	166TA1872	200
70	110	166TA1683	166TA1873	200
70	130	166TA1684	166TA1874	150
70	150	166TA1685	166TA1875	150
70	170	166TA1686	166TA1876	120
70	190	166TA1687	166TA1877	120
70	210	166TA1688	166TA1878	120
70	250	166TA1689	166TA1879	100
70	300	166TA1690	166TA1880	80
95	110	166TA1691	166TA1881	100
95	130	166TA1692	166TA1882	76
95	150	166TA1693	166TA1883	76
95	170	166TA1694	166TA1884	60
95	190	166TA1695	166TA1885	50
95	210	166TA1696	166TA1886	50
95	300	166TA1697	166TA1887	50

ACCESSORIES

INTERCELL CONNECTORS




BATTERY INTERCELL CONNECTORS

FLEX CONNECTORS

Description	Length mm	REF	Description	Length mm	REF
Connector-FLEX 120 mm ² – 95 mm M10	95	168TA6957	Connector-FLEX 120 mm ² – 350 mm M10	350	168TA6963
Connector-FLEX 120 mm ² – 110 mm M10	110	168TA6958	Connector-FLEX 120 mm ² – 380 mm M10	380	168TA6964
Connector-FLEX 120 mm ² – 130 mm M10	130	168TA6959	Connector-FLEX 120 mm ² – 450 mm M10	450	168TA6965
Connector-FLEX 120 mm ² – 170 mm M10	170	168TA6960	Connector-FLEX 120 mm ² – 500 mm M10	500	168TA6966
Connector-FLEX 120 mm ² – 210 mm M10	210	168TA6961	Connector-FLEX 120 mm ² – 1250 mm M10	1250	168TA6967
Connector-FLEX 120 mm ² – 300 mm M10	300	168TA6962			

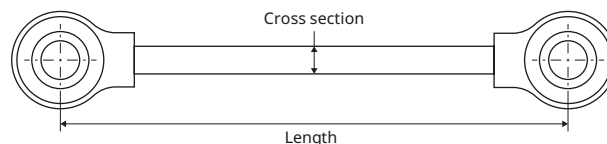
TERMINAL BOLTS

	Type	Dimensions	Testing point	REF		Pieces/box
				1 piece	box	
	Terminal bolt	M10 x 18 mm	No	166TA1785	166TA1975	500
	Terminal bolt	M10 x 18 mm	Yes	166TA1786	166TA1976	500
	Terminal bolt	M10 x 22 mm	No	166TA1787	166TA1977	500
	Terminal bolt	M10 x 22 mm	Yes	166TA1788	166TA1978	500
	Terminal bolt	M10 x 25 mm	Yes	166TA1789	166TA1979	500
	Terminal bolt	M8 x 18 mm	No	166TA1790	166TA1980	500
	Terminal bolt	M8 x 18 mm	Yes	166TA1791	166TA1981	500
	Terminal bolt	M8 x 22 mm	Voltage tap	166TA1792	166TA1982	500
	Terminal bolt	M10 x 22 mm	Voltage tap	166TA1793	166TA1983	500
	Auxiliary terminal bolt	M10 x 22 mm	Aux contact	166TA1793	166TA1983	500
	Cap for auxiliary terminal bolt	-	No	166TA2547	-	-
	Screw for auxiliary terminal bolt to set measuring points	-	-	150TA9732	-	-

BATTERY INTERCELL CONNECTORS



PERFECT CONNECTORS



Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
25	80	166TA1745	166TA1935	216
25	95	166TA1746	166TA1936	192
25	110	166TA1747	166TA1937	168
25	130	166TA1748	166TA1938	156
25	150	166TA1749	166TA1939	144
25	200	166TA1750	166TA1940	120
25	250	166TA1751	166TA1941	84
25	300	166TA1752	166TA1942	48
35	80	166TA1753	166TA1943	216
35	95	166TA1754	166TA1944	192
35	110	166TA1755	166TA1945	168
35	130	166TA1756	166TA1946	156
35	150	166TA1757	166TA1947	144
35	170	166TA1758	166TA1948	120
35	200	166TA1759	166TA1949	120
35	250	166TA1760	166TA1950	48
35	300	166TA1761	166TA1951	48
50	95	166TA1762	166TA1952	180
50	110	166TA1763	166TA1953	144
50	130	166TA1764	166TA1954	144

Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
50	150	166TA1765	166TA1955	144
50	170	166TA1766	166TA1956	120
50	200	166TA1767	166TA1957	120
50	300	166TA1768	166TA1958	60
70	95	166TA1769	166TA1959	180
70	110	166TA1770	166TA1960	144
70	130	166TA1771	166TA1961	144
70	150	166TA1772	166TA1962	144
70	170	166TA1773	166TA1963	120
70	200	166TA1774	166TA1964	108
70	250	166TA1775	166TA1965	84
70	300	166TA1776	166TA1966	60
95	95	166TA1777	166TA1967	180
95	110	166TA1778	166TA1968	144
95	130	166TA1779	166TA1969	120
95	150	166TA1780	166TA1970	120
95	170	166TA1781	166TA1971	120
95	190	166TA1782	166TA1972	100
95	210	166TA1783	166TA1973	90
95	300	166TA1784	166TA1974	60

TERMINAL BOLTS AND CAPS



Type	Dimensions	Testing point	REF		Pieces/box
			1 piece	box	
Terminal bolt	M10 x 20 mm	No	166TA1794	166TA1984	500
Terminal bolt	M10 x 20 mm	No	166TA1795	166TA1985	500
Cap	-	Yes	145TA2144	-	-
Cap	-	No	145TA2145	-	-
Auxiliary terminal bolt	M10 x 22 mm	Aux contact	166TA1793	166TA1983	500
Cap for auxiliary terminal bolt	-	No	166TA2547	-	-
Screw for auxiliary terminal bolt to set measuring points	-	-	150TA9732	-	-

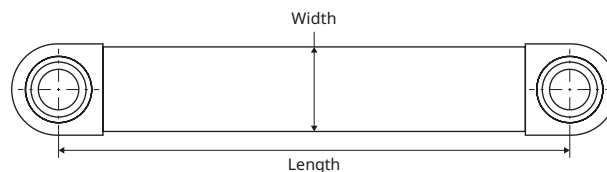
ACCESSORIES

INTERCELL CONNECTORS



BATTERY INTERCELL CONNECTORS

RIGID CONNECTORS



Width mm	Thickness mm	Length mm	REF 1 piece
30	3	60	166TA1626
30	3	80	166TA1627
30	3	82	166TA1628
30	3	85	166TA1629
30	3	92	166TA1630
30	3	115	166TA1631
30	3	123	166TA1632
30	3	125	166TA1633
30	3	135	166TA1634
30	3	143	166TA1635
30	3	155	166TA1636
30	3	163	166TA1637
30	3	175	166TA1638
30	3	178	166TA1639
30	5	115	166TA1640
30	5	125	166TA1641
30	5	132	166TA1642

Width mm	Thickness mm	Length mm	REF 1 piece
30	5	135	166TA1643
30	5	155	166TA1644
30	5	163	166TA1645
30	5	175	166TA1646
30	5	195	166TA1647
30	10	115	166TA1648
30	10	125	166TA1649
30	10	132	166TA1650
30	10	135	166TA1651
30	10	155	166TA1652
20	2	45,5	166TA1653
20	2	61	166TA1654
20	2	64,5	166TA1655
20	2	74,5	166TA1656
20	2	45,5	166TA1657
20	2	61	166TA1658
20	2	64,5	166TA1659

TERMINAL BOLTS

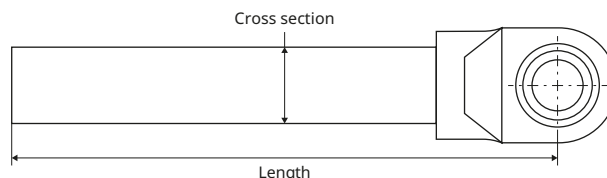


Type	Dimensions	Testing point	REF		Pieces/box
			1 piece	box	
Terminal bolt	M10 x 18 mm	No	166TA1785	166TA1975	500
Terminal bolt	M10 x 18 mm	Yes	166TA1786	166TA1976	500
Terminal bolt	M10 x 22 mm	No	166TA1787	166TA1977	500
Terminal bolt	M10 x 22 mm	Yes	166TA1788	166TA1978	500
Terminal bolt	M10 x 25 mm	Yes	166TA1789	166TA1979	500
Terminal bolt	M8 x 18 mm	No	166TA1790	166TA1980	500
Terminal bolt	M8 x 18 mm	Yes	166TA1791	166TA1981	500
Terminal bolt	M8 x 22 mm	Voltage tap	166TA1792	166TA1982	500
Terminal bolt	M10 x 22 mm	Voltage tap	166TA1793	166TA1983	500
Cap for auxiliary terminal bolt	-	No	166TA2547	-	-
Screw for auxiliary terminal bolt to set measuring points	-	-	150TA9732	-	-

BATTERY INTERCELL CONNECTORS



FLEX END TAKE-OFFS



Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
25	300	166TA1698	166TA1888	100
25	500	166TA1699	166TA1889	70
25	1000	166TA1700	166TA1890	40
25	1200	166TA1701	166TA1891	40
25	1500	166TA1702	166TA1892	30
25	2000	166TA1703	166TA1893	20
35	300	166TA1704	166TA1894	100
35	500	166TA1705	166TA1895	70
35	1000	166TA1706	166TA1896	40
35	1200	166TA1707	166TA1897	40
35	1500	166TA1708	166TA1898	30
35	1600	166TA1709	166TA1899	20
35	2000	166TA1710	166TA1900	20
35	2500	166TA1711	166TA1901	16
35	3000	166TA1712	166TA1902	16
35	3500	166TA1713	166TA1903	10
50	300	166TA1714	166TA1904	100
50	500	166TA1715	166TA1905	50
50	1000	166TA1716	166TA1906	30
50	1100	166TA1717	166TA1907	26
50	1200	166TA1718	166TA1908	26
50	1500	166TA1719	166TA1909	26
50	1600	166TA1720	166TA1910	26
50	2000	166TA1721	166TA1911	16

Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
50	2500	166TA1722	166TA1912	10
50	3000	166TA1723	166TA1913	6
50	3200	166TA1724	166TA1914	6
50	4000	166TA1725	166TA1915	6
50	5000	166TA1726	166TA1916	6
70	300	166TA1727	166TA1917	80
70	500	166TA1728	166TA1918	50
70	1000	166TA1729	166TA1919	20
70	1200	166TA1730	166TA1920	16
70	1500	166TA1731	166TA1921	16
70	2000	166TA1732	166TA1922	10
70	2500	166TA1733	166TA1923	8
70	3000	166TA1734	166TA1924	6
70	4000	166TA1735	166TA1925	6
70	5000	166TA1736	166TA1926	6
70	7000	166TA1737	166TA1927	2
95	1000	166TA1738	166TA1928	15
95	1200	166TA1739	166TA1929	15
95	1500	166TA1740	166TA1930	10
95	1600	166TA1741	166TA1931	10
95	2000	166TA1742	166TA1932	6
95	2500	166TA1743	166TA1933	6
95	3000	166TA1744	166TA1934	6

TERMINAL BOLTS



Type	Dimensions	Testing point	REF		Pieces/box
			1 piece	box	
Terminal bolt	M10 x 18 mm	No	166TA1785	166TA1975	500
Terminal bolt	M10 x 18 mm	Yes	166TA1786	166TA1976	500
Terminal bolt	M10 x 22 mm	No	166TA1787	166TA1977	500
Terminal bolt	M10 x 22 mm	Yes	166TA1788	166TA1978	500
Terminal bolt	M10 x 25 mm	Yes	166TA1789	166TA1979	500
Terminal bolt	M8 x 18 mm	No	166TA1790	166TA1980	500
Terminal bolt	M8 x 18 mm	Yes	166TA1791	166TA1981	500
Terminal bolt	M8 x 22 mm	Voltage tap	166TA1792	166TA1982	500
Terminal bolt	M10 x 22 mm	Voltage tap	166TA1793	166TA1983	500
Cap for auxiliary terminal bolt	-	No	166TA2547	-	-
Screw for auxiliary terminal bolt to set measuring points	-	-	150TA9732	-	-

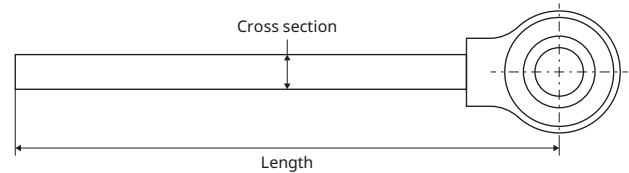
ACCESSORIES

INTERCELL CONNECTORS



BATTERY INTERCELL CONNECTORS

PERFECT END TAKE-OFFS



Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
25	700	166TA1582	166TA1796	45
25	800	166TA1583	166TA1797	50
25	900	166TA1584	166TA1798	45
25	1000	166TA1585	166TA1799	40
25	1200	166TA1586	166TA1800	40
25	1400	166TA1587	166TA1801	30
25	1500	166TA1588	166TA1802	30
25	1800	166TA1589	166TA1803	30
25	2200	166TA1590	166TA1804	15
25	3000	166TA1591	166TA1805	10
35	650	166TA1592	166TA1806	45
35	800	166TA1593	166TA1807	50
35	850	166TA1594	166TA1808	45
35	1000	166TA1595	166TA1809	40
35	1250	166TA1596	166TA1810	40
35	1400	166TA1597	166TA1811	30
35	1500	166TA1598	166TA1812	30
35	1800	166TA1599	166TA1813	30
35	2200	166TA1600	166TA1814	15
35	3000	166TA1601	166TA1815	10
50	600	166TA1602	166TA1816	25
50	800	166TA1603	166TA1817	25

Cross section mm ²	Length mm	REF		Pieces/box
		1 piece	box	
50	1000	166TA1604	166TA1818	25
50	1400	166TA1605	166TA1819	20
50	1500	166TA1606	166TA1820	20
50	1800	166TA1607	166TA1821	15
50	2000	166TA1608	166TA1822	15
50	2200	166TA1609	166TA1823	10
50	2600	166TA1610	166TA1824	10
50	3000	166TA1611	166TA1825	5
70	600	166TA1612	166TA1826	25
70	800	166TA1613	166TA1827	25
70	1000	166TA1614	166TA1828	25
70	1400	166TA1615	166TA1829	20
70	1500	166TA1616	166TA1830	20
70	1800	166TA1617	166TA1831	15
70	2200	166TA1618	166TA1832	10
70	3000	166TA1619	166TA1833	5
95	1000	166TA1620	166TA1834	20
95	1200	166TA1621	166TA1835	20
95	1500	166TA1622	166TA1836	15
95	2000	166TA1623	166TA1837	10
95	2500	166TA1624	166TA1838	5
95	3000	166TA1625	166TA1839	5

TERMINAL BOLTS AND CAPS



Type	Dimensions	Testing point	REF		Pieces/box
			1 piece	box	
Terminal bolt	M10 x 20 mm	No	166TA1794	166TA1984	500
Terminal bolt	M10 x 20 mm	No	166TA1795	166TA1985	500
Cap	-	Yes	145TA2144	-	-
Cap	-	No	145TA2145	-	-
Auxiliary terminal bolt	M10 x 22 mm	Aux contact	166TA1793	166TA1983	500
Cap for auxiliary terminal bolt	-	No	166TA2547	-	-
Screw for auxiliary terminal bolt to set measuring points	-	-	150TA9732	-	-

BATTERY INTERCELL CONNECTORS

END CABLE WITH FUSE



Diameter mm ²	Length mm	Fuse A	REF
35	1000	500	168TA6968
35	1200	300	168TA6969
50	1200	250	168TA6970
50	1500	400	168TA6971
50	1500	500	168TA6972
50	2000	500	168TA6973
70	1200	250	168TA6974

SOLDER/SCREW-ON CONNECTORS



Cross section mm ²	Length mm	REF	Cross section mm ²	Length mm	REF
35	93	134TA8552	50	141	134TA8560
35	113	134TA8554	50	160	134TA8561
35	129	134TA8555	70	93	134TA8562
35	160	134TA8556	70	104	134TA8563
50	93	134TA8557	70	113	134TA8564
50	104	134TA8558	70	160	134TA8565
50	122	134TA8559			

SOLDER CONNECTORS

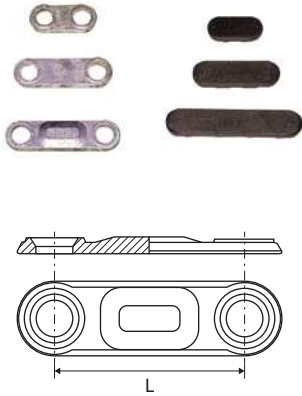


Cross section mm ²	Length mm	REF	Cross section mm ²	Length mm	REF
35	93	134TA8538	50	122	134TA8545
35	104	134TA8539	50	141	134TA8546
35	113	134TA8540	50	160	134TA8547
35	129	134TA8541	70	93	134TA8548
35	160	134TA8542	70	104	134TA8549
50	93	134TA8543	70	113	134TA8550
50	104	134TA8544	70	160	134TA8551

ACCESSORIES

INTERCELL CONNECTORS

LEAD CONNECTORS



Length (L) mm	REF	Protection cap	REF	Length (L) mm	REF	Protection cap	REF
46	134TA8492	1	106TA8884	100	134TA8501	3.5	106TA8889
52	134TA8493	1.5	106TA8885	104	134TA8502	3.5	106TA8889
54	134TA8494	1.5	106TA8885	109	134TA8503	4	134TA8513
65	134TA8495	2	106TA8886	115	134TA8504	4	134TA8513
68	134TA8496	-	-	118	134TA8505	4	134TA8513
72	106TA8857	2	106TA8886	123	134TA8506	5	106TA8891
78	106TA8858	2.5	106TA8887	130	134TA8507	5	106TA8891
82	106TA8859	2.5	106TA8887	137	134TA8508	5	106TA8891
86	134TA8497	2.5	106TA8887	142 mm	134TA8509	-	-
90	134TA8498	3	106TA8888	148 mm	134TA8510	6	106TA8892
95	134TA8499	3	106TA8888	155 mm	134TA8511	6	106TA8892
98	134TA8500	3	106TA8888	160 mm	134TA8512	6	106TA8892

BATTERY INTER CONNECTORS WITH TERMINALS (6/12 VDC)



Length mm	REF					
	Ø 25 mm	Ø 35 mm	Ø 50 mm	Ø 70 mm	Ø 95 mm	Ø 120 mm
75	168TA1650	168TA6975	168TA6982	168TA6989	168TA6996	168TA7003
95	168TA1651	168TA6976	168TA6983	168TA6990	168TA6997	168TA7004
190	168TA1652	168TA6977	168TA6984	168TA6991	168TA6998	168TA7005
280	168TA1653	168TA6978	168TA6985	168TA6992	168TA6999	168TA7006
300	168TA1654	168TA6979	168TA6986	168TA6993	168TA7000	168TA7007
350	168TA1655	168TA6980	168TA6987	168TA6994	168TA7001	168TA7008
400	168TA1656	168TA6981	168TA6988	168TA6995	168TA7002	168TA7009

RING TERMINAL



Length mm	REF					
	Ø 25 mm	Ø 35 mm	Ø 50 mm	Ø 70 mm	Ø 95 mm	Ø 120 mm
75	168TA1657	168TA7012	168TA7019	168TA7026	168TA7033	168TA7040
95	168TA1658	168TA7013	168TA7020	168TA7027	168TA7034	168TA7041
190	168TA1659	168TA7014	168TA7021	168TA7028	168TA7035	168TA7042
280	168TA1660	168TA7015	168TA7022	168TA7029	168TA7036	168TA7043
300	168TA1661	168TA7016	168TA7023	168TA7030	168TA7037	168TA7044
350	168TA7010	168TA7017	168TA7024	168TA7031	168TA7038	168TA7045
400	168TA7011	168TA7018	168TA7025	168TA7032	168TA7039	168TA7046

SET TRACTION RELIEF BLACK



Dimensions mm ²	Packing size	REF
25	50 pieces	168TA7047
35	50 pieces	168TA7048
50	50 pieces	168TA7049
70	50 pieces	168TA7050

BATTERY CONNECTORS



Length mm	REF					
	Ø 25 mm	Ø 35 mm	Ø 50 mm	Ø 70 mm	Ø 95 mm	Ø 120 mm
75	168TA1650	168TA6975	168TA6982	168TA6989	168TA6996	168TA7003
95	168TA1651	168TA6976	168TA6983	168TA6990	168TA6997	168TA7004
190	168TA1652	168TA6977	168TA6984	168TA6991	168TA6998	168TA7005
280	168TA1653	168TA6978	168TA6985	168TA6992	168TA6999	168TA7006
300	168TA1654	168TA6979	168TA6986	168TA6993	168TA7000	168TA7007
350	168TA1655	168TA6980	168TA6987	168TA6994	168TA7001	168TA7008
400	168TA1656	168TA6981	168TA6988	168TA6995	168TA7002	168TA7009

CABLE EYE CONNECTIONS



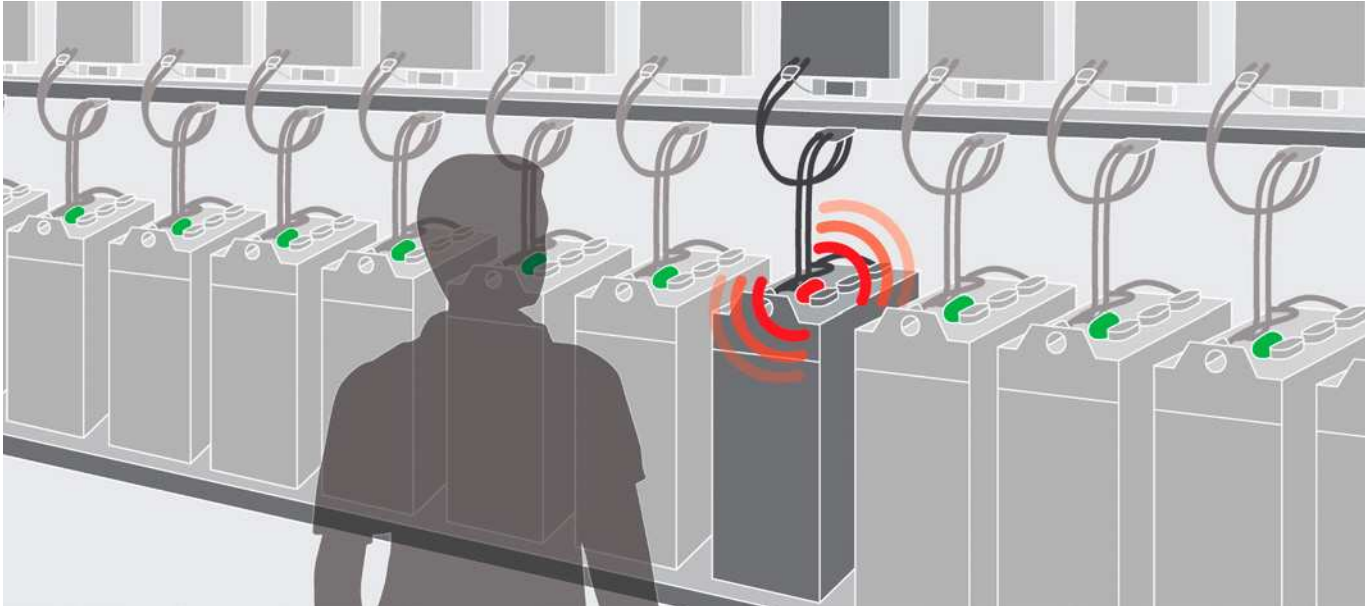
Length mm	REF					
	Ø 25 mm	Ø 35 mm	Ø 50 mm	Ø 70 mm	Ø 95 mm	Ø 120 mm
75	168TA1657	168TA7012	168TA7019	168TA7026	168TA7033	168TA7040
95	168TA1658	168TA7013	168TA7020	168TA7027	168TA7034	168TA7041
190	168TA1659	168TA7014	168TA7021	168TA7028	168TA7035	168TA7042
280	168TA1660	168TA7015	168TA7022	168TA7029	168TA7036	168TA7043
300	168TA1661	168TA7016	168TA7023	168TA7030	168TA7037	168TA7044
350	168TA7010	168TA7017	168TA7024	168TA7031	168TA7038	168TA7045
400	168TA7011	168TA7018	168TA7025	168TA7032	168TA7039	168TA7046

Other dimensions/configurations on demand.

ACCESSORIES

WATERLEVEL SENSORS

SMARTBLINKY



SMARTBLINKY®

LET YOUR BATTERIES TELL YOU WHEN THEY'RE THIRSTY

Problem:

Batteries may sustain damage if the electrolyte level is too low

Solution:

SmartBlinky alerts and reminds you when it is time to top up your batteries



SMARTBLINKY ADVANTAGES

Saves money:

- Low investment cost, helps to prevent costly battery replacement
- Prolongs battery life: never lets a battery dry out

Saves time:

- Reduces labour time wasted by checking battery levels
- Advanced technology eliminates false indications, maximizes watering intervals

Easy maintenance:

- Allows you to quickly detect the machines of which the batteries need water

Helps to protect your battery:

- SmartBlinky informs you when the electrolyte level drops below a set level

Easy to use:

- Produces bright clear signals
- Variety of options to meet your needs

Safest electrolyte level monitor on the market:

- Low voltage (4 V nominal)
- Fuse-protected
- Low current draw
- Internationally certified

Durable design:

- Built to withstand the harsh industrial battery applications

SMARTBLINKY



BLINKY®

- LED blinks green when electrolyte is OK
- LED goes out when water is needed
- Reverse polarity protected
- Translucent overmold super bright LED
- Low-cost solution for electrolyte monitoring

REF [151TA2998](#)



SMARTBLINKY CYCLOPS®

- Ideal for batteries that don't leave the vehicle
- LED is mounted in a rugged connector which is located behind the battery connector
- Whenever battery is disconnected from the charger, LED is in the operators hand so the warning signal can't be missed

REF [128TA3443](#)

DRILL BIT FOR SMARTBLINKY CYCLOPS®

- Installation tool
- Diameter: 11.7 mm

REF [128TA3444](#)



SMARTBLINKY PRO®

- Intelligent battery monitoring system with light and sound
- SmartBlinky Pro produces an audible alarm that alerts you even when you can't see the battery. The signal informs you if a battery needs watering and the variable frequency even tells you how long the electrolyte level has been low
- Brightest light indication on the market
- Revolutionary ease of installation
- SmartBlinky Pro indication to avoid boil over

REF [165TA3800](#)



SMARTBLINKY®

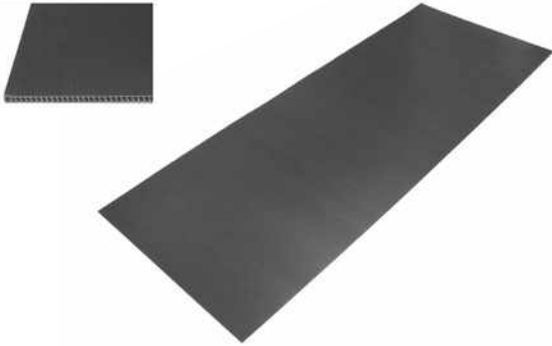
- LED blinks green when electrolyte is OK
- LED blinks red when water is needed
- Super bright LED
- Eliminates false indication and maximises watering intervals to prevent unnecessary watering
- 5-day delay option

REF [151TA2272](#)

ACCESSORIES

SPACER PLATES

SPACER PLATES



Fill up the gap between cells/battery box with these acid proof spacers.
They create cooling and make sure the cells are perfectly secured.

Length mm	Width mm	Thickness mm	REF
685	2000	5	106TA8929
690	2000	10	134TA8568

ACCESSORIES

BATTERY TRANSPORT

ROLLERBEDS FOR BATTERIES



FIXED ADJUSTABLE TABLE WITH SINGLE COMPARTMENT - TYPE TRS

Max dimensions battery box/overall	Width (mm)						
	300/394	400/494	500/594	600/694	700/794	800/894	
Length (mm)	865/914	168TA7063	168TA7066	168TA7069	168TA7072	168TA7075	168TA7078
	1065/1114	168TA7064	168TA7067	168TA7070	168TA7073	168TA7076	168TA7079
	1265/1314	168TA7065	168TA7068	168TA7071	168TA7074	168TA7077	168TA7080

Height of the rollerbeds (floor/bottom rollers): 111/1172 mm



FIXED ADJUSTABLE TABLE WITH SINGLE COMPARTMENT - TYPE TRD

Max dimensions battery box/overall	Width (mm)						
	300/752	400/952	500/1152	600/1352	700/1552	800/1752	
Length (mm)	865/914	168TA7081	168TA7084	168TA7087	168TA7090	168TA7093	168TA7096
	1065/1114	168TA7082	168TA7085	168TA7088	168TA7091	168TA7094	168TA7097
	1265/1314	168TA7083	168TA7086	168TA7089	168TA7092	168TA7095	168TA7098

Height of the rollerbeds (floor/bottom rollers): 180/241 mm



FIXED ADJUSTABLE TABLE WITH SINGLE COMPARTMENT - TYPE TRT

Max dimensions battery box/overall	Width (mm)				
	300/110	400/1410	500/1710	600/2010	
Length (mm)	865/914	168TA7099	168TA7102	168TA7105	168TA7108
	1065/1114	168TA7100	168TA7103	168TA7106	168TA7109
	1265/1314	168TA7101	168TA7104	168TA7107	168TA7110

Height of the rollerbeds (floor/bottom rollers): 246/305 mm



FIXED ADJUSTABLE TABLE WITH SINGLE COMPARTMENT - TYPE TRQ

Max dimensions battery box/overall	Width (mm)		
	300/1468	400/1868	
Length (mm)	865/914	168TA7111	168TA7114
	1065/1114	168TA7112	168TA7115
	1265/1314	168TA7113	168TA7116

Height of the rollerbeds (floor/bottom rollers): 320/370 mm

ACCESSORY FOR ROLLERBEDS



BATTERY HANDLING CART

Info needed when order: battery tray sizes length x width x height

REF [168TA7054](#)

Charger support table, socket support structure, protective bumper ... can be chosen based on the type of table and width of compartment

Type of table	Width compartment (mm)					
TRS	300	400	500	600	700	800
TRD	300	400	500	600	700	800
TRT	300	400	500	600	700	800
TRQ	300	400	500	600	700	800

TRANSPORT TABLE FOR PALLETTRUCK

Type	Overall dimensions	Interior usefull dimensions
	mm	mm
TR1244	1164 x 600 x 640	1069 x 470
TR1242	1395 x 600 x 640	1300 x 470
TR1251	1395 x 780 x 640	1300 x 650

ACCESSORIES

BATTERY TRANSPORT

CLAMP



Clamp to lift individual traction cells

REF [116TA5784](#)

MANUAL HOIST



- Aluminium housing
- Compact design
- Easy to carry
- Hoisting height: 1.5 m
- Manual hoist capacity: 250 kg

REF [168TA7056](#)

BATTERY CHANGING BEAMS

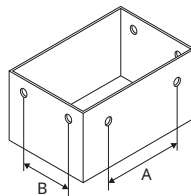


Lifting beams are specifically designed to remove and replace forklift truck batteries safely and economically without the risk of damage. Supplied complete with 4 swivel hooks. Secured safely to the forks by thumb screws.

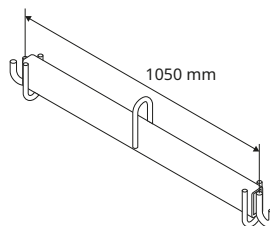
Technical specifications:

- Maximum fork section: 150 x 70 mm
- A: min 590 mm, max 1010 mm
- B: min 180 mm, max 900 mm
- Capacity: 2000 kg
- Fully tested and CE-certified
- Weight: 50 kg
- Delivered with 4 hooks

REF [122TA7459](#)



BATTERY MOVER ASSEMBLY



- To remove traction batteries from forklifts
- Capacity: 2000 kg
- Length: 1050 mm

REF [122TA9158](#) - Complete kit
 REF [122TA9098](#) - Upper chains, with red hook
 REF [122TA9099](#) - Lower chains, with yellow hooks

RATCHET HOIST



- Working load limit: 750 kg
- Total length: 133 mm
- Hoisting height: 3 m

REF [166TA7721](#)

HOISTING BAND



- Capacity: 1500 kg
- 4 branches

REF [163TA8202](#)

HOISTING BEAMS



- Hoisting beams to change traction batteries (2000 kg)
- Hoisting chains are not included

REF [106TA8838](#)

HOISTING BAND FOR BATTERY CHANGING



Description	REF
Hoisting band 2 branch, 1000 kg, 0.5 m work length	168TA7057
Hoisting band 2 branch, 1000 kg, 1 m work length	168TA7058
Hoisting band 2 branch, 1000 kg, 1.5 m work length	168TA7059
Hoisting band 2 branch, 2000 kg, 0.5 m work length	168TA7060
Hoisting band 2 branch, 2000 kg, 1 m work length	168TA7061
Hoisting band 2 branch, 2000 kg, 1.5 m work length	168TA7062

Work length: distance between the lower hook and the measuring ring (to attach to the battery hoisting yoke)

ACCESSORIES

BATTERY TRANSPORT

BATTERY CARRYING HARNESS



Battery carrier 2 arms

REF [106TA8840](#)

BATTERY HOLD DOWN



Used for lengths max 348 mm

REF [168TA7329](#)

BATTERY CARRYING HARNESS



Battery carrier strap

REF [145TA2266](#)

BATTERY CARRIER



Carrier scissor-type

REF [145TA2267](#)

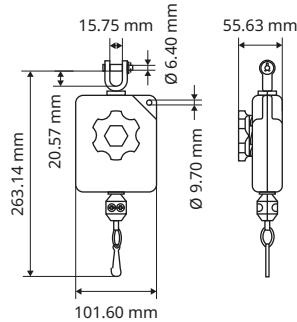
BATTERY HOLDER



The self-clamping mechanism and rubber pads provide the necessary grip and a safe lift. The ideal helper for easy battery removal from above.

REF [168TA8411](#)

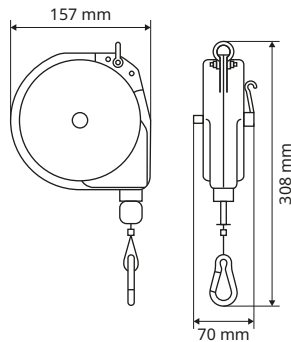
STANDARD-DUTY BALANCERS 0.5-1.8 KG



- Long-life heavy-duty spring for lasting performance
- Easy tension adjustment, no tools required
- Full range of motion with 360° swivel hanger
- Quick installation
- Durable nylon cable for long life and reduced maintenance
- Convenient snap-type tool clip for easy tool handling
- Alignment of hanger and tool hook for smooth, efficient use

Weight kg	Cable travel m	REF
0.5-0.9	2	115TA7048
0.9-1.8	2	115TA7049

HEAVY-DUTY BALANCERS 0.5-6.8 KG



- Easy tension adjustment, no special tools
- Heavy-duty steel construction for long life
- Easy spring replacement
- Long-lasting main spring designed to minimise spring flexing and fatigue
- Tool can be set in desired position with adjustable cable stop
- Durable 2.5 mm diameter stranded steel aircraft cable
- Ratchet lock holds cable in desired position

Ratchet lock	Weight kg	Cable travel m	REF
No	0.5-2.3	2.4	115TA7050
Yes	0.5-2.3	2.4	115TA7051
No	1.8-4.5	2.4	115TA7052
Yes	1.8-4.5	2.4	115TA7053
Yes	3.6-6.8	2.4	168TA8412

CONNECTOR SAVER



The connector saver offers a simple and inexpensive solution to a problem commonly to all users of electric trucks.

Potential problem:

Inadvertent damage to connectors and cabling results in high repair costs and replacements. Damaged cable is a fire and safety hazard.

Answer:

This is the only solution that retracts the cable safely whilst at the same time ensuring that there is virtually no tension on the battery connection during the charging operation.

The complete kit with installation instructions includes: cable balancer – cable clamp – wall bracket and fixings (several types available)

Pull back force kg	Cable length mm	REF
1.8	1600	107TA1017
2.7	2000	107TA1018
3.6	2000	107TA1019
4.5	2400	107TA1020
6.8	2400	168TA8412

1.8 or 2.7 kg pull back force is adequate for most applications

ACCESSORIES

BATTERY TRANSPORT

PLATFORM TROLLEY - STEEL

 TotalSource



- Load capacity: 150 kg
- Total length: 720 mm
- Total width: 480 mm
- Total height: 830 mm
- Own weight: 11 kg
- Length of the loading platform: 600 mm
- Width of the loading platform: 440 mm
- Number of castor wheels: 2
- Number of fixed wheels: 2
- Material of the wheels: rubber
- Material of the loading platform: rubber
- Foldable handle present

REF [105TA4563](#)

PLATFORM TROLLEY - STEEL

 TotalSource



- Load capacity: 300 kg
- Total length: 900 mm
- Total width: 600 mm
- Total height: 880 mm
- Own weight: 12 kg
- Length of the loading platform: 910 mm
- Width of the loading platform: 610 mm
- Number of castor wheels: 2
- Number of fixed wheels: 2
- Material of the wheels: rubber
- Material of the loading platform: rubber
- Foldable handle present

REF [106TA8844](#)

HAND TROLLEY - ALUMINIUM

 TotalSource



- Load capacity: 230 kg
- Total height: 1259 mm
- Foldable height: 724 mm
- Total width: 527 mm
- Length of the loading platform: 214 mm
- Width of the loading platform: 460 mm
- Weight: 12 kg
- Tyres: pneumatic

REF [163TA8863](#)

HAND TROLLEY STEEL

VARIOfit[®]
The perfect form
of transport



- Welded steel construction
- With 2 plastic safety handles
- powder-coated RAL 5010 g
- Permanent surface protection
- Impact- and scratch-resistant
- Pneumatic tyres and plastic wheel cap
- Capacity: 250 kg
- Toe plate: 320 x 250 mm

REF [161TA6322](#)

SHELF TROLLEY - STEEL



- Load capacity: 250 kg
- Total length: 1125 mm
- Total width: 624 mm
- Total height: 980 mm
- Own weight: 34 kg
- Length of the loading platform: 1000 mm
- Width of the loading platform: 600 mm
- Number of castor wheels: 2
- Number of fixed wheels: 2
- Material of the wheels: rubber
- Brake present

REF [136TA8402](#)

VARIOfit
The perfect form
of transport

PALLET TRUCK MANUAL - STEEL



- Load capacity: 2500 kg
- Type of pump: standard
- Material of the pump: painted steel
- Minimum height: 80 mm
- Lifting height: 200 mm
- Length of the forks: 1150 mm
- Width across the forks: 540 mm
- Own weight: 71 kg
- Material of the steering wheels: rubber
- Fork wheels: tandem/polyurethane
- Model: TRP 0007

REF [168TA7912](#)

TotalSource

BATTERY HIGH-FREQUENCY CHARGER BOX



PROTECT YOUR BATTERY CHARGERS

Technical data:

- Max dimensions of the battery charger (WxLxH): 620 x 620 x 945 mm
- Dimensions of the box (WxLxH): 700 x 700 x 1175 mm
- Capacity: 160 kg
- Weight: 81 kg
- Fork pocket inner dimensions (WxH): 190 x 90 mm
- Min fork spread: 310 mm

Features:

- Suitable for transport of different sizes of battery chargers
- The box is adjustable in height
- Fitted onto the forks of the lift truck
- The battery charger is secured with 2 straps, allowing the battery charger door to be opened at all times
- The cables with electrical plug are safely stored underneath the battery charger
- Can be stacked up to 3 rows high

Battery HF charger boxes:

- REF [168TA1617](#) - Only box for HF charger
- REF [168TA1618](#) - Charger 24 V/45 A + box
- REF [168TA1619](#) - Charger 48 V/95 A + box
- REF [168TA1620](#) - Charger 80 V/75 A + box
- REF [168TA1621](#) - Charger 80 V/100 A + box

ACCESSORIES

BATTERY TRANSPORT

UNIVERSAL BATTERY CHARGER BOX

 TotalSource



PROTECT YOUR BATTERY CHARGERS

Technical data:

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- Dimensions of the box (WxLxH): 700 x 700 x 1175 mm
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- The cables with electrical plug are safely stored underneath the battery charger
- Can be stacked up to 3 rows high

REF [131TA4944](#)

REF [168TA7897](#) - Model with bottle 20 l + box to store the cable

The box is adjustable in height

EQUIPMENT TOOLS



PROTIG 200 AC/DC - WITH ACCESS

- Reduces the risks to explosions!
- Device to weld traction cells or battery terminals, function with carbon sticks

REF [168TA8414](#)

Carbon sticks:

- REF [168TA8415](#) - 50 gouging electrodes Ø 5 mm
 REF [144TA1871](#) - 50 gouging electrodes Ø 8 mm



MOULD TERMINAL POSITIVE AND NEGATIVE

1. REF [168TA7120](#) - Negative
2. REF [168TA7121](#) - Positive



DRILLING LEAD BAR

REF [168TA8416](#)



SOLDER FLUID - 100 G

REF [168TA8417](#)



LEAD BARS

- Material: tin
- Total length: 400 mm

REF [107TA7573](#)

BATTERY SERVICE BOX



COMPLETE BOX

REF [139TA3242](#)

Description	Quantity	REF	Description	Quantity	REF
Automatic euro push, diameter: 35 mm	12 pieces	144TA5917	Hose clamp 9 mm	5 pieces	137TA1860
Float size 14	6 pieces	137TA1846	Hose clamp 14 mm	5 pieces	137TA1859
Float size 20	6 pieces	137TA1847	End stop	20 pieces	106TA8940
Float size 24	6 pieces	137TA1848	Water hose 6 x 9 mm	5 meter	168TA7126
Float size 29	6 pieces	137TA1849	Water hose 10 x 14 mm	5 meter	106TA8942
Float size 34	6 pieces	111TA3478	Flexible screw-on connector 35 mm ² , length: 110 mm	5 pieces	168TA7127
Float size 39	6 pieces	137TA1850	Flexible screw-on connector 35 mm ² , length: 130 mm	5 pieces	106TA8893
Float size 49	6 pieces	137TA1851	Flexible screw-on connector 35 mm ² , length: 150 mm	5 pieces	106TA8895
Float size 59	6 pieces	137TA1852	Flexible screw-on connector 35 mm ² , length: 170 mm	5 pieces	106TA8896
Water filter - connection 10 mm	4 pieces	106TA8951	Flexible screw-on connector 50 mm ² , length: 110 mm	5 pieces	106TA8902
Flow indicator, connection 10 mm	4 pieces	106TA8956	Flexible screw-on connector 50 mm ² , length: 130 mm	5 pieces	106TA8903
Male joint 7 mm	4 pieces	137TA1856	Flexible screw-on connector 50 mm ² , length: 150 mm	5 pieces	168TA7128
Male joint 11 mm	4 pieces	106TA8952	Flexible screw-on connector 50 mm ² , length: 170 mm	5 pieces	106TA8906
Female joint 7 mm	4 pieces	137TA1853	Insulated screw M10 x 1.5 x 23 mm	50 pieces	134TA8566
Female joint 11 mm	4 pieces	106TA8953	Battery grease anti-corrosion	1 piece	106TA8991
X-connection 10/10/10/10	4 pieces	106TA8950	Battery protection spray 400 ml	1 piece	166TA5543
X-connection 6/10/6/10	4 pieces	106TA8949	Hydrometer	1 piece	138TA3957
X-connection 6/6/6/6	4 pieces	137TA1837	Box	1 piece	125TA6353
T-connection 10/10/10	4 pieces	106TA8948			
T-connection 10/6/10	4 pieces	144TA5914			
T-connection 6/10/6	4 pieces	144TA5913			
T-connection 6/6/6	4 pieces	137TA1836			
L-connection 10/10	4 pieces	106TA8945			
L-connection 10/6	4 pieces	106TA8944			
L-connection 6/6	4 pieces	137TA1835			

PROFESSIONAL BATTERY BOX



COMPLETE BOX

REF [166TA5542](#)

Description	Quantity	REF	Description	Quantity	REF
Auto fill cap EURO35 push	12 pieces	111TA3477	Battery connection 35/150	5 pieces	106TA8898
Float size 14	6 pieces	137TA1846	Battery connection 50/130	5 pieces	106TA8908
Float size 20	6 pieces	137TA1847	Flexible connection 50/150	5 pieces	106TA8909
Float size 24	6 pieces	137TA1848	Dummy plug NW6	20 pieces	106TA8940
Float size 29	6 pieces	137TA1849	Plug removal tool	1 piece	164TA2537
Float size 34	6 pieces	111TA3478	Tool	1 piece	168TA7907
Float size 39	6 pieces	137TA1850	Male joint	4 pieces	145TA2094
Float size 49	6 pieces	137TA1851	Battery cleaner w acid ind	1 piece	166TA5543
Float size 59	6 pieces	168TA7898	Fatmax TSTAK tool trolley	1 piece	168TA7908
Quickconnect dia 7 mm	4 pieces	137TA1853	Battery post cleaner	1 piece	152TA2060
Female joint dia 11 mm	4 pieces	168TA7899	Battery connection 25 mm ² 95 mm	5 pieces	106TA8878
Male joint dia 7 mm	4 pieces	137TA1856	Flex battery connection 25/110	5 pieces	106TA8879
Filter cartridge	4 pieces	164TA2166	Flexible connection 25/130	5 pieces	106TA8880
Flow indicator	4 pieces	106TA8956	Flexible connection 25/150	5 pieces	106TA8881
Tube	5 pieces	107TA1688	Flexible connection 35/95	5 pieces	168TA7909
Hose	5 meter	106TA8942	Flexible connection 50/95	5 pieces	106TA8905
Battery grease	1 piece	106TA8991	Screw	50 pieces	163TA8197
Hose clamp 10 mm	5 pieces	137TA1859	Screw	50 pieces	144TA1732
Hose clamp 6 mm	5 pieces	137TA1860	Fatmax TSTAK III box	1 piece	166TA2446
T-connection 6.6.6	4 pieces	137TA1836	Battery acid tester	1 piece	152TA2209
T-piece	4 pieces	168TA7900	Apron PVC-45G green	1 piece	165TA9769
Pipejoint - T	4 pieces	106TA8947	Chemical resist sleeves 50 cm	1 pair	168TA7447
Pipejoint - T	4 pieces	168TA7901	V-maxx goggle chemistry	1 piece	143TA7061
X-connection 10-10-10-10	4 pieces	168TA7902	Drill bit 12 mm	1 piece	128TA3444
X-connection 6-10-6-10	4 pieces	168TA7903	Tape electrical red	1 rol	106TA9753
X-connection 6-6-6-6	4 pieces	137TA1837	Tape electrical	1 rol	166TA4394
Coupling	4 pieces	137TA1835	Tie wrap 4.5/160 mm	1 rol	111TA3886
Pipejoint - L	4 pieces	168TA7904	Traction cell tester	1 piece	106TA8967
Pipejoint - L	4 pieces	168TA7905	Neg cap perfect connection	10 pieces	145TA2144
Flexible connection 35/110	5 pieces	168TA7906	Can	1 piece	168TA7910
Flexible connection 50/110	5 pieces	106TA8907	Heavy latex gauntlet 60 cm XL	1 pair	168TA2190
Battery connection 35/130	5 pieces	106TA8897			

CABLE CUTTER



- Cable cutter for cables up to 70 mm²
- For soft copper cable only

REF [168TA7129](#)

TERMINAL CRIMPING TOOL



Crimping pliers developed for even and reliable crimp connections of uninsulated cable lugs with conductors. The special mechanism guarantees a complete, uninterrupted shrink cycle. Asymmetrical crimping jaws ensure optimal shrinkage. The crimp jaws leave a mark on the cable lug, which allows optical verification of a correct connection. The sturdy handles enable an effortless crimping process, possibly using both hands.

Suitable for:

- Copper: 10 – 16 – 25 – 35 – 50 – 70 – 95 – 120 mm² (DIN)
- Uninsulated: 8 – 14 – 22 – 38 – 60 – 70 – 80 – 100 mm² (JIS)
- Length: 573 mm

REF [168TA8419](#)

HAND-MEASURING DEVICE FOR CABLE LENGTH



- Cable diameter: 4–35 mm
- Measure range: 0–9999.9 m
- Tolerance ± 1%

REF [123TA7642](#)

CABLE STRIPPER



- With knife and hook blade, protective cap included
- For stripping all common round cables
- Self-tightening holding lever
- With adjusting screw for cutting depth adjustment
- Turnable blade for circular and longitudinal cutting
- Spare blade inside the handle
- Secure grip due to soft component material on handle and holding lever to avoid slipping

Suitable for: Ø 8–28 mm

REF [168TA8420](#)

17-PIECE 1/2" HEXAGON COMBINATION SET



Contents:

- 12 hexagon sockets: 10 – 11 – 12 – 13 – 14 – 17 – 19 – 22 – 24 – 27 – 30 – 32 mm
- 1 x 72-teeth ratchet
- 1 sliding T-handle
- 2 extensions: 125 – 255 mm
- 1 universal joint

REF [151TA3843](#)



PLASTIC FLAT NOSE PLIERS

- Fully insulating to reduce risk of short circuit
- For meter assembly and meter blocking
- Class C; range of use up to -40 °C
- Length: 180 mm

REF [168TA7135](#)



PLASTIC SNIPE NOSE PLIERS

- Fully insulating to reduce risk of short circuit
- Class C; range of use up to -40 °C
- Length: 220 mm

REF [168TA7136](#)



HEXAGON SOCKET FOR HEXAGONAL SCREWS

- With internal square 3/8"
- For metric and imperial hexagonal head screws
- Basic tool chrome-plated

REF [168TA7153](#) - Length: 44 mm
 REF [168TA7137](#) - Length: 45 mm
 REF [168TA7138](#) - Length: 46 mm
 REF [168TA7154](#) - Length: 58 mm



HEXAGON SOCKET FOR HEXAGONAL SOCKET SCREWS

- With internal square 3/8"
- For metric internal hexagonal head screws
- Basic tool chrome-plated

REF [168TA7139](#) - Width across flats: 6 mm
 REF [168TA7140](#) - Width across flats: 8 mm

SCREWDRIVERS FOR TORX® SCREWS

- Ergonomically optimized dual component handle for fatigue reduced work and optimum transmission of force
- Handle design prevents rolling

REF [168TA7141](#) - Length: 160 mm
 - Size: TX10
 REF [168TA7142](#) - Length: 185 mm
 - Size: TX15
 REF [168TA7143](#) - Length: 185 mm
 - Size: TX20
 REF [168TA7144](#) - Length: 185 mm
 - Size: TX25
 REF [168TA7145](#) - Length: 210 mm
 - Size: TX30



SOCKET 3/8"

Basic tool chrome-plated

REF [168TA7146](#) - For TX30
 REF [168TA7147](#) - For TX40
 REF [168TA7148](#) - For TX45

SCREWDRIVER (SLIM) FOR SLOTTED SCREWS

- Reduced blade isolation diameter for recessed spring and screw elements
- Ergonomically optimized dual component handle for fatigue reduced work and optimum transmission of force
- Handle design prevents rolling

REF [168TA7149](#) - Length: 202 mm
 - Blade with: 3.5 mm
 REF [168TA7150](#) - Length: 202 mm
 - Blade with: 4 mm
 REF [168TA7151](#) - Length: 232 mm
 - Blade with: 5.5 mm



SCREWDRIVER (SLIM) FOR CROSS-RECESSED SCREWS

- Reduced blade isolation diameter for recessed spring and screw elements
- Ergonomically optimized dual component handle for fatigue reduced work and optimum transmission of force
- Handle design prevents rolling
- Length: 187 mm

REF [168TA7152](#)

BATTERY FORKTRUCK MAINTENANCE



(SLIM) PLUSMINUS SCREWDRIVER

- Driving tips for PlusMinus profile screws
- Use with electronics installation components, e.g. automatic circuit breakers
- Reduced blade isolation diameter for recessed spring and screw elements
- Ergonomically optimized dual component handle for fatigue reduced work and optimum transmission of force
- Handle design prevents rolling
- Length: 212 mm

REF [168TA7156](#)



BOX WRENCH

- Cranked
- Basic tool chrome-plated
- Width across flats: 22 mm
- Length max: 225 mm
- Head thickness max: 15 mm
- Depth of crank max: 30 mm
- Head width max: 35 mm

REF [168TA7155](#)



T-HANDLE DRIVE WITH DRIVING SQUARE 3/8"

- For use with sockets
- Quick, easy and reliable locking of attached sockets thanks to spring-loaded ball
- Basic tool chrome-plated

REF [168TA7157](#)



REVERSIBLE RATCHET WITH DRIVING SQUARE 3/8"

- For use with sockets
- Reversible for clockwise and anti-clockwise directions
- Extremely smooth action
- Quick, easy and reliable locking of attached sockets thanks to spring-loaded ball

REF [168TA7158](#)



TORQUE WRENCH WITH DRIVING SQUARE, REVERSIBLE

- Transparent insulated scale range 5–50 Nm
- Reversible for tightening of lefthanded threads
- Lockable torque adjustment
- Adjustable in steps of 0.25 Nm
- Easy and secure locking of attached sockets due to screw lock
- Calibration certificate included
- Length: 385 mm

REF [168TA7159](#)



EXTENSION BAR WITH INTERNAL/EXTERNAL SQUARE 3/8"

Length: 250 mm

REF [168TA7160](#)



COVER CLOTH

- Made from rubber
- For added protection when working live or close to live parts
- Dimensions: 500 x 500 mm
- Thickness: 1 mm

REF [168TA7162](#)

HYDRAULIC CRIMPING TOOL, BATTERY POWERED



- REF [167TA8657](#) - 10-240 mm² with Bosch battery
- REF [167TA8658](#) - 6-300 mm² with Bosch battery

TERMINAL HEXAGONAL CRIMPING TOOL



- Wire size: 10 to 120 mm²
- Length: ± 650 mm

REF [168TA8413](#)



AQ-STEAM



- Cleans your traction batteries in an environment-friendly way: without wasting water!
- The most important feature of the steam technique is the extremely low water consumption (approx 2 l/hour). This makes it the perfect option for cleaning traction batteries.
- A small quantity of cleaning product can be added to the steam, which will clean, degrease and neutralise excess battery acid.

Advantages:

- Environment-friendly: no contaminated waste water and no cleaning rags
- Battery doesn't have to leave the lift truck
- Cost-saving: prolongs the lifespan of your battery – prevents leakage currents



- Time-saving: battery boxes no longer need to be pumped out
- Protected against overpressure, overheating, low-water indications ...

Technical features:

- Stainless steel version
- Input voltage: 230 V
- Max steam temperature: 160 °C
- Vacuum motor: 1000 W
- Pressure: 6.5 bar
- Dimensions: 600 x 550 x 330 mm
- Weight: 24 kg

REF [115TA4701](#)

REF [165TA7502](#) – AQ steam Pro for daily heavy use

ACID NEUTRALISER + DEGREASER



PERFECT COMBINATION WITH STEAMCLEANER AQ STEAM ENERGIC PLUS

The product is excellent for the removal of paraffin, oil and grease contaminants in production halls, around machinery, neutralization of battery acid on traction batteries workshops, other industrial floors and logistics locations. If paraffin, oil and grease residues end up in sewers or company berms, WX Oil-Quick® has the property of supporting and accelerating the natural degradation of these hydrocarbon pollutants in a biological environment.

REF [164TA2598](#)

ACCESSORIES

MAINTENANCE & PERSONAL PROTECTION EQUIPMENT

HD VASELINE PRO



A paraffin oil, based on pure white Vaseline, a paraffin oil that hardens after evaporation to a thick pasty protective film at room temperature

- Content: 250 ml
- Water-repellent
- Protects contacts in heavy-duty conditions against future corrosion
- Lubricates heavy-duty contacts and sliding or spring-loaded contacts, preventing wear and acid damage

REF [165TA1247](#)

PAINT FOR BATTERY BOX











- Black battery paint
- Acid-resistant rubber paint
- 2.5 l

REF [168TA7413](#)

DECALS

A set of decals that have been standardized to the EU norm. One safety sign for each safety meaning. Easy to recognize for all people in different countries. The safety signs are intended to be used in places where there is a risk to people. For example: workplace, warehouse, public areas. The wide range can also be used in safety manuals, product labeling and in escape and evacuation plans.

Description	Dimensions mm	REF	Description	Dimensions mm	REF
 Emergency shower	100 x 100	168TA8422	 Warning battery charger	100 x 100	168TA8425
	200 x 200	166TA4415		200 x 200	168TA8426
 No smoking	100 x 100	165TA3788	 Gloves	100 x 100	168TA8427
	200 x 200	165TA3789		200 x 200	166TA4422
 No fire	100 x 100	168TA8423	 Eye protect	100 x 100	166TA6678
	200 x 200	168TA8424		200 x 200	168TA8428
 Electricity	100 x 100	165TA3790	 Gas protect	100 x 100	168TA8429
	200 x 200	165TA3791		200 x 200	168TA8430

CHEMICAL GOGGLES

PORTWEST



These are indirect ventilation goggles with acetate lens material, suitable for chemical use. Superior anti-fog treatment (marked N on the lens) and ultra soft frame ensure a comfortable wear for long working days.

Features:

- Indirect ventilation
- Flexible PVC frame for ultra comfort
- Ultra lightweight for long uses
- Non-magnetic
- nickel and ferrous free
- Anti-fog high level treatment coating
- CE certified and marked with N on the lens
- Anti-scratch coating for added durability
- CE certified
- Individually packed for vending machines
- Retail bag which aids presentation for retail sales

Materials:

- Cellulose acetate, PVC, PP

REF [168TA2202](#)

VIENNA FULL FACE MASK - BLACK

PORTWEST



Full Face Mask with dual bayonet filter connections and ABS filter holders. Polycarbonate visor offering panoramic vision. Adjustable ergonomic harness with 6 fast release buckles attached to the rigid body of the mask which guarantees a more uniform seal to the users face. Filters sold separately.

Features:

- Class 2 thermoplastic rubber full face mask
- Durable polycarbonate visor provides all round visibility
- Adjustable 6 point quick release harness for a uniform face seal
- Dual bayonet filter connections
- Compatible with filters P902, P921, P941, P952, P971
- Filters sold separately
- Twin exhalation valves to reduce fogging and improve comfort
- Anti-scratch coating for added durability
- Anti-fog coating for additional comfort to the wearer
- Retail box which aids presentation for retail sales
- CE certified
- CE-CAT III

Materials:

Thermoplastic rubber, polycarbonate, ABS

REF [168TA2228](#)

Matching filters:

- REF [168TA2229](#) – P3
- REF [168TA2230](#) – A2P3
- REF [168TA2231](#) – ABEK1 P3

BROWGUARD WITH CLEAR VISOR



PC visor with PP browguard manufactured from impact resistant polypropylene. The wheel ratchet adjustment system is designed for easy use. Replacement visor available

Features:

- Browguard with clear polycarbonate visor
- Durable Polycarbonate visor with 1 mm thickness
- Clear visor for medium-energy impact protection
- Wheel ratchet size adjustment for easy fitting
- Soft foam sweat band included
- Replacement visor available
- Adjustable angle allowing for better fit
- CE certified
- Retail bag which aids presentation for retail sales
- Individually packed for vending machines

Materials:

Polycarbonate, PP, nylon

REF [168TA2226](#)

FACE SCREEN



This face shield protects against molten metal splashes and hot solid projections. Superior front and side face protection. Ratchet adjustment for comfort fit.

Features:

- Browguard including clear polycarbonate visor with aluminum edge
- Protects from impacts, metal splashes and hot solid projections
- Suitable for a wide range of applications
- Wheel ratchet size adjustment for easy fitting
- Replacement visor available
- Simple and secure visor replacement
- CE certified
- Retail bag which aids presentation for retail sales
- Individually packed for vending machines
- Protection against molten metal

Materials:

Polycarbonate, aluminium

REF [168TA2225](#)

EYEWASH KIT



Green shockproof polypropylene case, wall attachment support, carrying handle, closure with 2 rotating clips.

Containing:

- 1 NILE eye wash bottle
- 1 sterile solution for eye wash 500 ml SOL004
- 1 eye cap for SOL004
- 2 sterile eye compresses
- 2 sterile hydrophilic gauze envelopes: 18 x 40 cm
- 1 pair of Lister scissors: 14.5 cm
- 1 roll of TNT plaster: 5 m x 1.25 cm
- 1 pack of tissues
- 1 instruction for use sheet

REF [168TA8421](#)

PORTABLE EYEWASH KIT



- Contains the necessary items for an efficient first-aid eyewash:
- 2 x 500 ml sterile saline solution
- 2 integrated eye cups
- 1 mirror
- Thermo-formed with transparent lid
- Can easily be wall-mounted with the screws and plugs, supplied in the kit

REF [140TA8667](#)

PROTECTIVE HAND CREAM



Set of hand care products containing:

- 1 x 250 ml reconditioning cream
- 1 x 250 ml pre work protective cream

REF [166TA1581](#)

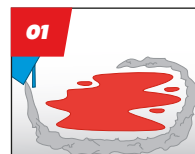
MULTIPURPOSE APRON



- Chemical protection finish
- Protects against acids, alkalis and oils
- Premium water resistant fabric
- Durable polyester PVC coated fabric
- Anti-tangle ties for secure fastening

REF [168TA2519](#)

NEUTRAL PLUS +



Surround spill with Neutral Plus powder



Sweep powder into the spill



Dispose of powder, repeat as needed

- Content: 2.3 kg
- Advanced spill-absorbing powder with acid neutraliser

For:

- Industrial battery acid spills
- Hydraulic and motor oils
- Solvents and paints

Precautions:

Do not use on hydrofluoric acid

REF [152TA2059](#)

ACCESSORIES

MAINTENANCE & PERSONAL PROTECTION EQUIPMENT

BATTERY SAFETY KIT



Contents:

- 1 pair of safety goggles
- 1 hydrometer
- 1 pair of safety gloves standards

REF [134TA8691](#)

BATTERY SAFETY KIT



Battery safety kit to work on batteries with the highest safety.

Kit contains:

- Short
- Safety goggles
- Safety gloves
- Eye wash kit
- BizTex microporous sleeve cover

REF [168TA8431](#)

SPILL KIT FOR CHEMICALS



Technical characteristics:

- Capacity: 75 l
- Safety case: robust collection box with lid, wheels and handle

Content:

- 50 absorption cloths double thickness 40 x 50 cm
- 2 absorbing socks 8 cm x 1.2 m
- 1 absorbing cushion 40 x 40 cm
- 10 cleaning cloths
- 1 pair of gloves
- 1 pair of safety goggles
- 3 recycling bags 50 l

REF [165TA1317](#)

ABSORBING SOCKS



- 20 pieces
- Total length: 1200 mm

REF [168TA7446](#)

ABSORBING TOWELS



- Dimensions: 410 x 510 mm
- 100 pieces/box
- Absorbs about everything (oil, liquids, acids ...)

REF [107TA7236](#)

ACID EATER - BATTERY STATION CLEANING KIT



- Kit contains everything needed to clean forklift batteries
- Neutralises and cleans batteries, stands, rollers, forklifts, battery compartments and concrete floors
- Eliminates trickle discharge to ensure optimum performance
- Minimises safety risks by eliminating acid burns and shock
- pH colour indicators alert users of acidic corrosion
- Easy to apply and safe to use on metal, plastic and rubber
- Durable kit can withstand any environment

REF [124TA1734](#)

ABSORBING GRANULES



- Oil absorbing granules
- Content: 20 kg

REF [165TA3772](#)

NEOPRENE CHEMICAL GAUNTLET

PORTWEST



This 38 cm Neoprene rubber gauntlet provides protection against a wide range of acids, caustics, alcohols and many solvents. Anti slip pattern for good grip in wet and dry conditions. Cotton flock lining to absorb perspiration.

Norms:

- EN 388: 2016 + A1: 2018 (311XX)
- EN ISO 374-1:2016 + A1:2018 Type A (AKLMNOPST)

REF [168TA2182](#) - S
REF [168TA2183](#) - M
REF [168TA2184](#) - L
REF [168TA2185](#) - XL

HEAVYWEIGHT LATEX RUBBER



Designed for outstanding protection and excellent abrasion resistance, the heavyweight latex rubber gauntlet is available in two options. 440 mm length with 1.1 mm thick latex or 600 mm length and 1.3 mm thick latex. Ideal for use in chemical, cement, ceramic and tile industries.

Features:

- Manufactured from genuine natural rubber
- Chemical resistant gauntlet
- Suitable for use in chemical, oil and food industries
- Retail tag which aids presentation for retail sales
- 1.3 mm thickness
- 600 mm length
- CE certified
- CE-CAT III

Norms:

- EN 388: 2016 + A1: 2018 4121X
- EN ISO 374-1:2016 + A1:2018 Type A (AKLMNOT)

REF [168TA2189](#) - L

REF [168TA2190](#) - XL

REF [168TA2191](#) - XXL

MICROPOROUS SLEEVE COVER



The ST43 sleeve cover is breathable for wearer comfort. Elasticated at both ends to ensure no liquids or airborne particles can penetrate the barrier, this product has a much more relaxed fit than many of its competitors.

Features:

- Designed with a comfort fit
- Elasticated cuffs for a secure fit
- Unit of sale is 150 pairs
- CE-CAT III
- CE certified
- This product is sold in pairs

Shell fabric : BizTex Micro 60g

REF [168TA8432](#)

EUROPEAN FIRST-AID KIT

Content compliant with the provisions of the DIN 13164 standard. Mandatory equipment on transport vehicles in some European countries.



This kit comes without wall bracket which is optional.



Contains:

- 1 roll of plaster: 5 m x 2.5 cm
- 2 gauze bandages: 6 x 4 m
- 3 gauze bandages: 8 x 4 m
- 1 pair of bandaging scissors
- 1 pack from 4 vinyl gloves
- 1 non-woven sterile sheet: 60 x 80 cm
- 1 non-woven sterile towels: 60 x 40 cm
- 2 sterile elastic bandages: 80 x 100 mm
- 1 sterile pad: 100 x 120 mm
- 1 sterile pad: 60 x 80 mm
- 3 sterile compresses: 10 x 10 cm
- 2 triangular non-woven sheets: 96 x 96 x 136 cm
- 1 isothermal blanket
- 2 alcohol wipes 70%
- 1 pack of 14 assorted plasters

REF [168TA8433](#)

EMERGENCY SHOWER



- Emergency shower complete with eyewash bath
- Fixed unit

REF [106TA9019](#)

BATTERY WASTE STORAGE CONTAINER



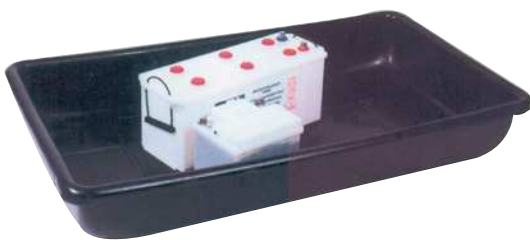
- Plastic
- Dimensions: 1200 x 1000 x 790 mm

REF [168TA7448](#) - Container without cover

REF [106TA8993](#) - Cover

REF [116TA5639](#) - Pallet for container REF 168TA7448

POLYETHYLENE BATTERY BOX FOR ACID



REF [115TA4700](#) - Capacity: 250 l
Dimensions: 1200 x 800 x 250 mm

REF [115TA4699](#) - Capacity: 560 l
Dimensions: 1310 x 1310 x 350 mm

REF [116TA5638](#) - Pallet for REF 115TA4700

ACCESSORIES

STORAGE & TRANSPORT

BATTERY STORAGE CABINET



STORAGE OF SEVERAL LITHIUM BATTERIES IN THE CABINET

- Early alarm in case of damage
- All relevant safety regulations for charging lithium batteries are observed
- Ideal for separating batteries on charge from stored units
- Can also be used as an under-table cabinet under the workbench

Properties:

- MPA-tested fire resistance over 60 minutes from inside to outside according to DIN EN 1363-1
- Real battery fire test carried out by an independent university
- Built using non-combustible, fire-resistant components
- Special fire prevention seals prevent flames escaping
- Cold smoke-tight sealing system for openings
- Transportable for positioning at the place of installation
- Lockable double doors with sturdy lock and hinges
- Two-battery operated audible smoke detectors
- External dimensions: 800 x 660 x 1110 mm
- Internal dimensions: 730 x 530 x 910 mm

REF [168TA4581](#) - With feet

REF [168TA4582](#) - With wheels

BATTERY STORAGE AND CHARGING CABINETS

Fire protection is important when charging lithium batteries. Providing important safety equipment can minimise the consequences of these storage devices burning and significantly increase safety in the plant.



- Charging of several lithium batteries in the cabinet
- Early alarm in case of damage
- All relevant safety rules for charging lithium batteries are observed
- Ideal for shielding batteries from the stored inventory during the charging process

Properties:

- Heat dissipation by fan during charging
- Charging current is interrupted if the doors are opened
- Charging stops if a malfunction or accident occurs
- Vents sealed with thermocouples
- Two battery-operated audible smoke detectors
- 230 V version with 1-phase power supply (3500 W/16 A)
- 400 V version with 3-phase power supply (2 x 3500 W/2 x 16 A)
- External dimensions: 800 x 660 x 1110 mm
- Internal dimensions: 730 x 530 x 840 mm

REF [168TA4583](#) - 1-phase with feet

REF [168TA4584](#) - 3-phase with feet

REF [168TA4585](#) - 1-phase with wheels

REF [168TA4586](#) - 3-phase with wheels



These fireproof secure cabinets are well suited to storing lithium batteries. The proven quality is reflected in the 90-minute fire resistance pursuant to DIN EN 14470-1 on both the outside and the inside. In addition, the cabinet's unique design using non-combustible materials provides good fire prevention from both the inside and the outside, even in the event that the stored lithium batteries suddenly ignite. This period is normally sufficient until further action can be taken. The risk of the fire spreading and accelerating is significantly reduced with this cabinet and consequential damage to the environment is effectively reduced in the event of flame formation caused by the lithium batteries inside the cabinet.

Properties:

- External dimensions: 1200 x 5950 x 1960 mm
- Internal dimensions: 1116 x 483 x 1603 mm
- 4 shelves

REF [168TA4587](#)

TRANSPORT OF BATTERIES



BATTERY SYSTEM FIRE PROTECTION BOX

Applications:

- UN certification for lithium batteries in packaging group II
- For lithium battery weighing up to 5 kg
- Transport possible on public roads in accordance with the regulations
- Additionally usable as a stationary safety container for storage
- Fire-protected storage for transport and on construction sites
- Ideal for safely isolating highly hazardous batteries

- Safe transport and storage system for lithium batteries
- Special fire protection lining made of non-combustible materials
- Pliable special pads prevent the batteries shifting inside the box (included)
- Boxes are stackable and can be interconnected
- Two sturdy latches
- Two carrying handles for simple handling
- Can be locked with a padlock (not included)
- Made of durable, impact-resistant plastic
- Including hazardous goods label

External dimensions	Internal dimensions	Special pads included	REF
mm	mm		
400 x 300 x 215	300 x 190 x 90	2	168TA4588
400 x 300 x 340	300 x 190 x 215	3	168TA4589
500 x 300 x 280	400 x 170 x 150	4	168TA4590



BATTERY SAFETY BARREL

- 60 litre clamping ring lidded drum
- Special valve for pressure relief in the event of damage
- UN approval for hazardous goods belonging to packaging groups I, II or III
- For use with vermiculite as a buffer material
- 60 kg permissible total weight
- Ideal for use as a storage bin for damaged batteries awaiting disposal
- Approved for the transportation of lithium batteries (UN 3480 and UN 3090) weighing 0.5–5 kg
- Special ADR regulations apply for transportation (see special regulations and packaging instructions)
- Please observe the enclosed packaging instructions!
- Including 1/2 filled with vermiculite and plastic bag

REF [168TA4591](#)

Applicable accessories (see next page):

1. REF [168TA4595](#) – Sack of expanded glass granulate
2. REF [168TA4596](#) – Sack of vermiculite
4. REF [168TA4598](#) – Plastic bag for single battery



BATTERY STEEL COLLECTION CONTAINER

- 120 litre storage capacity
- Ideal for use as a storage container for damaged batteries awaiting disposal
- Robust, hot-dip galvanized steel container with sturdy closure buckles
- Circumferential rubber seal protects against penetrating moisture
- Lid can be opened easily and locked in place in a single step
- Can be driven under, stacked and lifted by crane for easy handling
- For use with vermiculite or expanded glass granulate as a buffer material
- UN approval for hazardous solid goods belonging to packaging groups I, II and III
- Special ADR regulations apply for transportation (see special regulations and packaging instructions), may only be carried out by qualified personnel

REF [168TA4592](#)

Applicable accessories (see next page):

1. REF [168TA4595](#) – Sack of expanded glass granulate
2. REF [168TA4596](#) – Sack of vermiculite
3. REF [168TA4597](#) – Lining bag for collection container
4. REF [168TA4598](#) – Plastic bag for single battery

ACCESSORIES

STORAGE & TRANSPORT

TRANSPORT OF BATTERIES



COLLECTION CONTAINER FOR INDOOR STORAGE

- High density PE plastic (HDPE)
- Mostly acid-proof
- Can be loaded up to 1 t, stacked up to 3 t
- Can be loaded up to 600 kg as individual box, up to 450 kg per box when stacked
- Up to 6 boxes can be stacked
- For transporting old batteries (Rh 2807) in accordance with ADR 4.1.4.1 P801a
- Stackable and safe for transport
- Equipped with three runners
- Labeled with danger warnings
- 610 litre capacity
- External dimensions: 1200 x 1000 x 760 mm

REF [168TA4593](#)

Applicable accessories:

1. REF [168TA4595](#) - Sack of expanded glass grannulate
2. REF [168TA4596](#) - Sack of vermiculite
3. REF [168TA4597](#) - Lining bag for collection container
4. REF [168TA4598](#) - Plastic bag for single battery
5. REF [168TA4599](#) - Lid for collection container



COLLECTION CONTAINER FOR OUTDOOR STORAGE

- Stable GRP model enables clean and safe storage for old vehicle batteries
- Approved for transport in accordance with ADR 4.1.4.1 P801a
- Two ventilation openings and a galvanized steel base frame for stable positioning
- All fittings are stainless steel
- Inserted wooden grate forms a plain base surface
- To prevent unauthorized access, the lid can be locked
- Labeled with danger warnings
- 700 litre capacity
- External dimensions: 1340 x 990 x 1110 mm

REF [168TA4594](#)

Applicable accessories:

1. REF [168TA4595](#) - Sack of expanded glass grannulate
2. REF [168TA4596](#) - Sack of vermiculite
3. REF [168TA4597](#) - Lining bag for collection container
4. REF [168TA4598](#) - Plastic bag for single battery
5. REF [168TA4599](#) - Lid for collection container

ACCESSORIES FOR THE TRANSPORT OF BATTERIES



1

Sack of expanded glass grannulate – 55 litre

REF [168TA4595](#)



2

Sack of vermiculite – 50 litre

REF [168TA4596](#)



3

Lining bag for collection container

REF [168TA4597](#)



4

Plastic bag for single battery

REF [168TA4598](#)



5

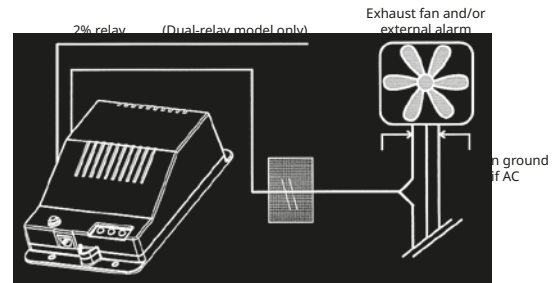
Lid for collection container 610 litre
External dimensions: 1215 x 1015 x 60 mm

REF [168TA4599](#)

ACCESSORIES

GAS DETECTOR

HYDROGEN GAS DETECTOR



Hydrogen gas detectors (HGD) protect battery charging rooms and other locations where motive and stationary batteries are present by continuously monitoring hydrogen gas levels. The HGD is equipped with LED lights and an 80 dB alarm. AC- or DC-powered models are available with dual relay. Improving Safety in the battery room with Hydrogen Gas Detectors. The HGD is designed for easy integration into your operation's ventilation system. It is available with a single or dual relay, in AC- or DC-powered models. Relays automatically the venting

action of the hydrogen exhaust fan kit or other peripheral technologies, translating alarms directly into coordinated preventative response.

- REF [168TA7457](#) - Detector hydrogen exhaust dual relay
- REF [168TA7458](#) - Detector hydrogen exhaust dual relay DC
- REF [168TA7459](#) - Additional remote display with buzzer HGD
- REF [168TA7460](#) - Cable modular 5" HGD

Relay	Relay rating	Power requirements	Dimensions	Mounting	Operating temperature	REF
	A		mm		°C	
Dual, dry contact relay	10	85 VAC to 265 VAC 50/60 Hz 17 VDC to 60 VDC	63.5 x 120.7 x 178	4 x 4.8 mm screws	-10 to 40	168TA7457 168TA7458

ACCESSORIES

GAS DETECTOR

BATTERY TERMINAL CLEANER



REF [137TA1861](#)

MANUAL POLE AND TERMINAL REAMER



REF [145TA2211](#)

BRUSH CLEANING SET



Cleaning brush set for battery pole and battery terminal

REF [106TA8985](#)

BATTERY BRUSH (TO BE FITTED ON A DRILL)



- Diameter: 51 mm
- For standard 18 mm battery terminals

REF [152TA2060](#)

BATTERY CLEANER WITH ACID INDICATOR



- With acid indicator (turns pink in presence of acid)
- Eliminates and prevents corrosion
- Prevents leakage and prolongs the lifespan of the battery
- Content: 400 ml

REF [166TA5543](#)

ANTI-CORROSION BATTERY GREASE



- Tube of anti-corrosive grease for battery terminals
- Content: 20 ml

REF [106TA8991](#)

SILICONE GREASE

LOCTITE



- Silicone grease for waterproofing and insulating plugs, battery clamps and sockets
- Content: 75 ml

REF [165TA1333](#)

BATTERY CLEANER



- Battery cleaner 1 l in a spray bottle
- Extremely suitable for cleaning the batteries of your stacker, forklift, reach truck, pallet truck
- Comes in a handy spray bottle, so you can easily spray the battery and wipe it off with a cloth
- Corrosion disappears after the cleaner is absorbed

REF [168TA7275](#) - 1 l
REF [167TA8661](#) - 5 l

BATTERY ACID CLEANER & NEUTRALIZER



- Acid neutralizer and cleaner in spray. Cleans by acid affected surfaces and neutralizes the acid. The biodegradable "Solution Safe" maintenance products neutralize, clean (on the basis of citrus) and dissolve the corrosion of terminals, cables, plugs and containers. These products change of colour when they come in contact with electrolyte (acid). In this way, the mechanic knows if there are acid radicals present. Easy in use: sprinkle and rinse. The waste water is harmless.
- Content: 1 l

REF [138TA7529](#)

ACID NEUTRALISER + DEGREASER



Content: 10 l

REF [164TA2598](#)

CONDUCTIVITY TESTER



Checks the conductivity (microSiemensvalue) of your demineralized water

REF [116TA5778](#)

ACCESSORIES

GAS DETECTOR

WATERPROOF BATTERY BOX



Description	Dimensions	REF
	mm	
Battery box large	350 x 200 x 200	145TA2265
Battery box extra large	420 x 195 x 200	168TA7278

WATERPROOF BATTERY BOX



Dimensions	REF
mm	
413 x 220 x 255	168TA7279
545 x 250 x 270	168TA7280
550 x 550 x 270	168TA7281

SMART BATTERY BOX LP



Dimensions: 428 x 248 x 295 mm

REF [168TA7282](#)

ACCESSORIES

TERMINALS

CONICAL TERMINAL



Type	Cable mm ²	REF
Positive	35-50	107TA9074
Negative	35-50	107TA9075
Positive	70-95	123TA6763
Negative	70-95	123TA6764

CONICAL TERMINAL



Type	Cable mm ²	REF
Positive left	35-50	131TA7043
Positive right	35-50	131TA7044
Negative left	35-50	131TA7045
Negative right	35-50	131TA7046
Positive left	70-95	131TA7047
Positive right	70-95	131TA7048
Negative left	70-95	131TA7049
Negative right	70-95	131TA7050

CONICAL TERMINAL



Type	Cable mm ²	REF	Used for 7SH	Used for 8-9-10 SH
Positive left	35-50	131TA7051	131TA7059	
Positive right	35-50	131TA7052	131TA7060	
Negative left	35-50	131TA7053	131TA7061	
Negative right	35-50	131TA7054	131TA7062	
Positive left	70-95	131TA7055	131TA7063	
Positive right	70-95	131TA7056	131TA7064	
Negative left	70-95	131TA7057	131TA7065	
Negative right	70-95	131TA7058	131TA7066	

END TERMINAL



Used for 01093 for CT

REF [131TA7067](#)

END TERMINAL



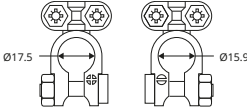
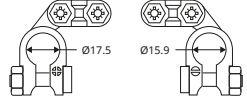

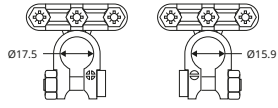
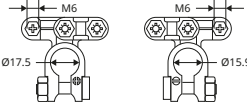
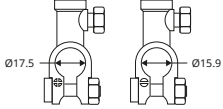



Used for 01094 for CT

REF [131TA7068](#) - Negative
REF [131TA7069](#) - Positive

ACCESSORIES

TERMINALS

STANDARD RANGE

Model	Type		Pole	Cable mm ²	REF	
1050	Fixing cable by central plate		+	16-35	168TA7176	
			-	16-35	168TA7177	
			+	50-70	168TA7178	
			-	50-70	168TA7178	
1100	Fixing cable by side plate		+	16-35	168TA7179	
			-	16-35	168TA7180	
			+	50-70	168TA7181	
			-	50-70	168TA7182	
1200	Fixing cable by 2 side plates with auxiliary fixing		+	16-35	145TA2180	
			-	16-35	168TA7183	
			+	50-70	145TA2182	
			-	50-70	145TA2183	
1250	Fixing cable by double plate		+	16-35	168TA7184	
			-	16-35	168TA7185	
			+	50-70	168TA7186	
			-	50-70	168TA7187	
1260	Fixing cable by side plate with auxiliary fixing		+	16-35	168TA7188	
			-	16-35	168TA7189	
			+	50-70	168TA7190	
			-	50-70	168TA7191	
Hole diameter F (mm)						
1000	Fixing cable by screws		+	16-35	9 + 9.5	168TA7192
			-	16-35	9 + 9.5	168TA7193
			+	50	10.5 + 11	168TA7194
			-	50	10.5 + 11	168TA7195
			+	70	12.5 + 13	168TA7196
			-	70	12.5 + 13	168TA7197
1600	Fixing cable by hexagonal head screw		+	25-35	168TA7198	
			-	25-35	168TA7199	
			+	50-70	168TA7200	
			-	50-70	168TA7201	
1750	Fixing cable by special screw		+	16-35	152TA2632	
			-	16-35	152TA2633	
			+	50-70	152TA2634	
			-	50-70	152TA2635	
Cable lug hole (mm)						
1550	Fixing cable lug by hexagonal head screw		+		8	168TA7202
			-		8	168TA7203
			+		10	168TA7204
			-		10	168TA7205
			+		12	168TA7206
			-		12	168TA7207
Thread Length (mm)						
1450	Fixing cable lug by hexagonal nut		+	M8	18	168TA7208
			-	M8	18	168TA7209
			+	M10	20	168TA7210
			-	M10	20	168TA7211
			+	M12 x 1.5	20	168TA7212
			-	M12 x 1.5	20	168TA7213

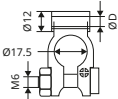
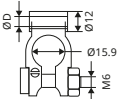
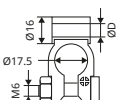
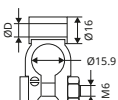
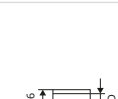
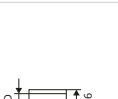
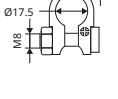
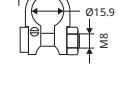
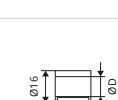
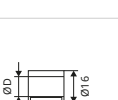
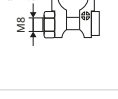
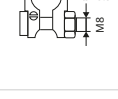








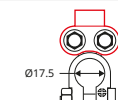
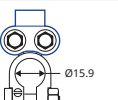

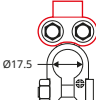
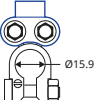

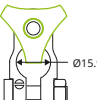
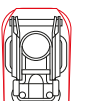
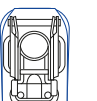
STANDARD RANGE

Model	Type	Pole	Cable mm ²	REF	
Cable lug holes (mm)					
A-B-C					
1280	Fixing cable lugs by hexagonal head screws		+	6-6-6	168TA7214
			-	6-6-6	168TA7215
		+	6-8-6	168TA7216	
		-	6-8-6	168TA7217	
		+	6-10-6	168TA7218	
		-	6-10-6	168TA7219	
		+	8-12-8	168TA7220	
		-	8-12-8	168TA7221	
Cable lug hole (mm)					
1400	Fixing cable lug by wing nut		+	8	168TA7222
			-	8	168TA7223
			+	10	168TA7224
			-	10	168TA7225
			+	12	168TA7226
			-	12	168TA7227
Cable lug hole (mm)					
1650	Fixing cable lug by hexagonal head screw		+	6	168TA7228
			-	6	168TA7229
			+	8	168TA7230
			-	8	168TA7231
			+	10	168TA7232
			-	10	168TA7233
Cable lug hole (mm)					
1950	Fixing cable lug by hexagonal head bolt		+	6	168TA7234
			-	6	168TA7235
			+	8	168TA7236
			-	8	168TA7237
			+	10	168TA7238
			-	10	168TA7239

ACCESSORIES

TERMINALS

STANDARD RANGE

Model	Type		Pole	Cable mm ²	Diameter (mm)	REF
1850	Fixing cable by soldering	 	+	10	4.0 + 5.0	168TA7240
			-	10	4.0 + 5.0	168TA7241
		 	+	16	5.0 + 6.0	168TA7242
			-	16	5.0 + 6.0	168TA7243
		 	+	25	6.5 + 7.5	168TA7244
			-	25	6.5 + 7.5	168TA7245
		 	+	35	8.0 + 9.0	168TA7246
			-	35	8.0 + 9.0	168TA7247
		 	+	16	5.5 + 6.5	168TA7248
			-	16	5.5 + 6.5	168TA7249
		 	+	25	6.5 + 7.5	168TA7250
			-	25	6.5 + 7.6	168TA7251
		 	+	35	8.0 + 9.0	168TA7252
			-	35	8.0 + 9.0	168TA7253
		 	+	50	10.0 + 11.0	168TA7254
			-	50	10.0 + 11.0	168TA7255
		 	+	50	10.0 + 11.0	168TA7256
			-	50	10.0 + 11.0	168TA7257
		 	+	70	11.5 + 12.5	168TA7258
			-	70	11.5 + 12.5	168TA7259
 	+	95	14.0 + 15.0	168TA7260		
	-	95	14.0 + 15.0	168TA7261		
2000	Fixing cable by crimp		+	10	4.0 + 5.0	168TA7262
			-	10	4.0 + 5.0	168TA7263
			+	16	5.5 + 6.5	145TA2163
			-	16	5.5 + 6.5	145TA2164
			+	25	6.5 + 7.5	145TA2165
			-	25	6.5 + 7.5	145TA2166
			+	35	8.0 + 9.0	145TA2167
			-	35	8.0 + 9.0	145TA2168
			+	50	10.0 + 11.0	145TA2169
			-	50	10.0 + 11.0	145TA2170
			+	70	12.0 + 13.0	145TA2171
			-	70	12.0 + 13.0	145TA2172
1090	Fixing cable lug by plate (with nylon protective cover)	 	+	16-70		168TA7268
			-	16-70		168TA7269
1420	Fixing cable lug by knob	 	+	8		168TA8351
			-	8		168TA8352
9050	Rapid type fixing cable by plate	 	+	16+35		168TA7270
			-	16+35		168TA7271
			+ -	16+35		168TA7272

BOLT-ON BATTERY TERMINAL



- Type: positive
- Screw M8

REF [145TA2185](#)

BOLT-ON BATTERY TERMINAL



- Type: negative
- Screw M8

REF [145TA2186](#)

BATTERY TERMINAL SCREW CONNECTION



1-pole terminal

REF [145TA2194](#)

BATTERY TERMINAL SCREW CONNECTION



2-pole terminal

REF [145TA2193](#)

BATTERY TERMINAL ADAPTER CLAMPS STANDARD TO SMALL



REF [145TA2207](#)

SCREW



Screw M8

REF [145TA2195](#)

BATTERY TERMINAL ADAPTER CLAMPS STANDARD TO FORD POST ENDS + / -



REF [145TA2205](#)

REDUCING COUPLING



REF [131TA7071](#)

ACCESSORIES

TERMINALS

FUSES



Fuse A	REF
50	145TA2197
75	145TA2198
100	111TA4011
125	123TA8382
150	123TA8383
175	123TA8384
200	123TA8385
250	123TA8386
300	151TA2022

BATTERY TERMINAL BOLTED



*Sold per pair

Screw	REF
M6 (inner)	145TA2208
M8 (inner)	145TA2209
3/8" (inner)	145TA2210
M6 (outer)	144TA1868
M8 (outer)	144TA1869
M6 to M8	168TA1094

ACCESSORIES

CABLES

BATTERY CABLES



- Rated voltage U₀/U 100/100 V
- Tested in conformity with DIN VDE0472
- Extra flexible

Special quantity discounts

Section mm ²	REF/metre	
	Black	Red
10	106TA9586	106TA9579
16	106TA9587	106TA9580
25	106TA6745	106TA9581
35	106TA9588	106TA9582
50	106TA9589	106TA9583
70	106TA9590	106TA9584
95	106TA9591	106TA9585
120	168TA7283	-
150	168TA7284	-
240	168TA7285	-

Section mm ²	REF/25 metres	
	Black	Red
10	123TA7647	123TA7653
16	123TA7648	123TA7654
25	123TA7649	123TA7655
35	123TA7650	123TA7656
50	123TA7651	123TA7657
70	123TA7652	123TA7658

Number of cores cross-sectional mm ²	Overall diameter	
	min mm	max mm
10	7.7	9.7
16	8.8	11.0
25	10.1	12.7
35	11.4	14.2
50	13.2	16.5
70	15.3	19.2
95	17.1	21.4

Nominal cross section mm ²	Charging current in Amp for the following duty cycles			
	100%	85%	60%	30%
16	135	145	175	245
25	180	195	230	330
35	225	245	290	410
50	285	310	370	520
70	355	385	460	650
95	430	470	560	790

TWINFLEX CABLE RED AND BLACK



Extra flexible

Width mm ²	REF	
	per metre	per 25 metre
2 x 6	106TA9592	131TA4892
2 x 10	112TA4812	131TA8493
2 x 16	106TA9593	131TA8494
2 x 25	106TA9594	131TA8495
2 x 35	106TA9595	131TA8496
2 x 50	106TA9596	131TA8497

ASSEMBLY HEAVY CABLE LUGS

REF [129TA9961](#)



Section mm ²	Ø mm	Quantity
10	6	10
10	8	10
10	10	10
10	12	10
16	6	10
16	8	10
16	10	10
16	12	10
25	6	10
25	8	10
25	10	10
25	12	10
25	6	10

Section mm ²	Ø mm	Quantity
35	8	10
35	10	10
35	12	10
35	14	10
50	6	10
50	8	10
50	10	10
50	12	10
50	14	10
70	8	10
70	10	10
70	14	10
95	10	10

ACCESSORIES

HEAT-SHRINK

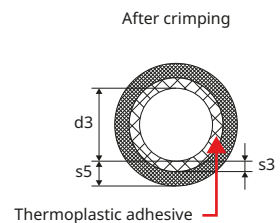
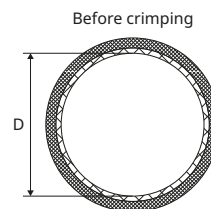
HEAT-SHRINK TUBING KIT 2/1

REF [111TA4116](#)



Size (D) mm	Size (d) mm	Colour	Length mm	Pieces
3.2	1.6	Black	50	15
3.2	1.6	Blue	50	15
3.2	1.6	Yellow	50	15
3.2	1.6	Red	50	15
3.2	1.6	White	50	15
4.8	2.4	Black	50	6
4.8	2.4	Blue	50	6
4.8	2.4	Yellow	50	6
4.8	2.4	Red	50	6
4.8	2.4	White	50	6
9.5	4.8	Black	50	10
9.5	4.8	Blue	50	10
9.5	4.8	Yellow	50	10
9.5	4.8	Red	50	10
9.5	4.8	White	50	10
12.7	6.4	Black	70	5
12.7	6.4	Blue	70	5
12.7	6.4	Yellow	70	5
12.7	6.4	Red	70	5
12.7	6.4	White	70	5

HEAT-SHRINK TUBING KIT 2/1



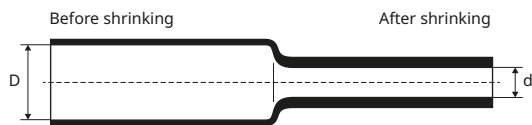
This flexible heat-shrink tubing is ideal for effective moisture-resistant insulation of electric connections

Before crimping (D) mm	After crimping (d3) mm	After crimping (s3) mm	After crimping (s5) mm	Colour	REF
19	6	0.6	2.1	Black	106TA9732
24	6	0.7	2.4	Black	106TA9733
32	8	0.7	2.4	Black	106TA9734
40	13	0.7	2.4	Black	106TA9735
52	13	0.7	2.4	Black	106TA9736

ACCESSORIES

HEAT-SHRINK

HEAT-SHRINK TUBING 3/1



D		d	Colour	REF/metre
mm	inch	mm		
1.6	1/16"	0.5	Black	106TA9697
3.2	1/4"	1	Black	106TA9698
6.4	3/8"	2	Transparent	106TA9699
6.4	3/8"	2	Black	106TA9700
6.4	3/8"	2	Red	106TA9701
6.4	3/8"	2	Blue	106TA9702
9.5	1/2"	3	Transparent	106TA9703
9.5	1/2"	3	Black	106TA9704
12.7	1/2"	4	Red	106TA9705
12.7	1/2"	4	Blue	106TA9706
12.7	1/2"	4	Transparent	106TA9707
12.7	1/2"	4	Black	106TA9708
12.7	1/2"	4	Green	106TA9709
19	3/4"	6	Red	106TA9710
19	3/4"	6	Blue	106TA9711
19	3/4"	6	Black	106TA9712
19	3/4"	6	Yellow	106TA9713
19	3/4"	6	Green	106TA9714
19	3/4"	6	Transparent	106TA9715
25.4	1"	8	Black	106TA9716
25.4	1"	8	Transparent	106TA9717
39	1 1/2"	13	Black	106TA9718

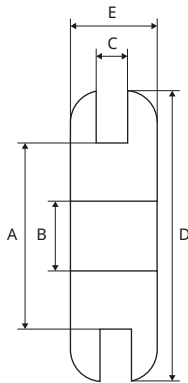
HEAT GUN 2000W



- Operating temperature 50–600 °C
- Air flow 650 l/min
- 2 airflow settings
- Variable temperature control
- Supports at the bottom
- Rubber inserts at the back

REF [168TA8434](#)

GROMMETS



Specifications:

- Flexible PVC grommets for round cables
- Maximum temperature: 50 °C
- Flameproof in conformity with UL 94-HB

Hole dia (A)	Cable dia (B)	Max plate thickness (C)	Dia (D)	Width (E)	REF
mm	mm	mm	mm	mm	
9	4	1	11	6	106TA9778
6.5	4.5	1.2	9.5	6	106TA9779
8	4.8	1.5	14	6	106TA9780
8	5	1	12	7.5	106TA9781
8	5	1.5	11	6	106TA9782
8	6	1	11.5	6	106TA9783
10	6	1	13	7	106TA9784
9	6	1.5	11.5	6	106TA9785
9.8	6	2	12.7	8	106TA9786
14	8	1	18	6	106TA9787
10	8	1.5	14	5.5	106TA9788
10	8	1.5	14	8	106TA9789
11	9	1	16	6.5	106TA9790
12	9	1	16	6.5	106TA9791
12	9	1.5	16	6.5	106TA9792
13	10	1	18	6	106TA9793
12	10	1.2	18	8	106TA9794
13	10	1.5	18	6	106TA9795
12	10	2	17.5	7	106TA9796
13	10	3	18	8	106TA9797
12	10	4	18	11	106TA9798
15	12	1.5	20	7	106TA9799
15	12	2	20	7	106TA9800

HEAT-SHRINK PVC BATTERY CABLE PROTECTOR

Step 1: cut the heat-shrink to the desired length.



Step 2: fit the heat-shrink over the connector and cable.



Step 3: Apply the heat gun to heat-shrink.



Step 4: while still warm, place back into the connector so the heat-shrink will cool to the desired shape.

Characteristics:

- Battery cable protector with heat shrink technique
- Shrinks on heating causing a tight closure
- Protects forklift battery cables and connectors against short circuits and motion wear

How to use:

- Step 1: cut the heat shrink to the desired size
- Step 2: mount the heat shrink over both cable and connector
- Step 3: use heat gun to melt the heat shrink
- Step 4: while still warm, place back into the connector so that it takes the correct shape

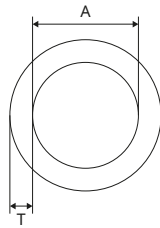
REF [168TA7286](#) - Shrink ratio 12"

REF [168TA7287](#) - Shrink ratio 18"

ACCESSORIES

HEAT-SHRINK

SPIRAL TUBINGS



Colour: black

For use with cable Ø	A	Thickness (T)	REF
mm	mm	mm	Per metre
5-20	4	1	106TA9750
10-40	9	1.5	106TA9751
25-100	19	1.5	106TA9752

CORRUGATED LOOM TUBINGS (OPEN VERSION)



Inner Ø	Outer Ø	REF	Tool
mm	mm	Per metre	
6.7	9.9	106TA9744	123TA8032
8.9	12.7	106TA9745	123TA8032
10.5	14.1	112TA4814	123TA8032
12.8	17	106TA9746	123TA8032
16.9	21.1	106TA9747	123TA8032
23.2	27.7	106TA9748	123TA8032
32.8	38.1	106TA9749	123TA8032

CORRUGATED LOOM TUBINGS (CLOSED VERSION)



Inner Ø	Outer Ø	REF
mm	mm	Per metre
5	7.1	123TA5436
6.5	10	123TA7711
9.6	13	123TA7712
11.8	15.8	123TA7713
14.2	18.6	123TA7714
21.7	28.5	123TA7715

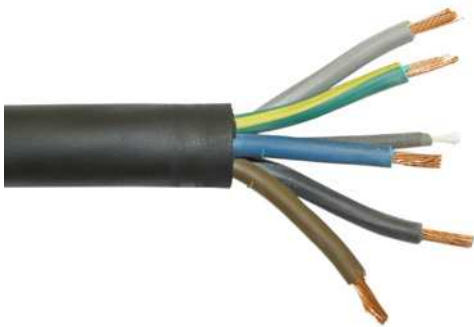
RUBBER-INSULATED MULTIPOLE ROUND CABLE H05RR-F



G' indicated with Ground (green/yellow cable)

Number of cores x section (mm ²)	REF
2 x 0.75	107TA8400
3G x 0.75	107TA8401
4G x 0.75	107TA8402

RUBBER-INSULATED MULTIPOLE ROUND CABLE H07RN-F



G' indicated with Ground (green/yellow cable)

Number of cores x Section (mm ²)	REF
2 x 1.5	106TA9608
2 x 2.5	106TA9609
2 x 6	106TA9610
3G x 1.5	106TA9612
3G x 2.5	106TA9613
3G x 10	106TA9614
4G x 1.5	106TA9616
4G x 2.5	106TA9617
4G x 6	106TA9618
4G x 10	106TA9619
4G x 16	106TA9620
5G x 1.5	106TA9621
5G x 2.5	106TA9622
5G x 4	106TA9623
5G x 6	106TA9624
7G x 1.5	106TA9626
7G x 2.5	106TA9627

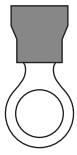
PVC-INSULATED SINGLE-CORE CABLES



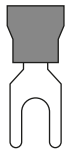
Sold per 100 m box

Section mm ²	Colour	REF Box (100 m)	Section mm ²	Colour	REF Box (100 m)	Section mm ²	Colour	REF Box (100 m)
Type: H05VK								
0.5	Grey	111TA3945	1	Green/yellow	165TA4575	2.5	Brown	111TA3977
	Green/yellow	134TA8158		Grey	165TA4576		Green/yellow	111TA3978
	Red	111TA3946		Blue	164TA6002		Yellow	111TA3979
	Green	134TA8159		Brown	106TA9655		Grey	111TA3980
	White	111TA3947		Green	165TA4577		Green	111TA3981
	Yellow	134TA8160		Red	165TA4578		Red	111TA3982
	Blue	111TA3948		Pink	165TA4579		Violet	111TA3983
	Orange	134TA8161		Violet	165TA4580		White	111TA3984
	Brown	111TA3949		White	165TA4581		Black	111TA3985
	Violet	111TA3950		Yellow	165TA4582		Brown	111TA3986
	Black	123TA5449		Black	106TA9654		Grey	111TA3987
	0.75	Blue		111TA3951	1.5		Blue	111TA3965
Brown		111TA3952	Brown	111TA3966		White	111TA3989	
Yellow		111TA3953	Yellow	111TA3967		Black	111TA3990	
Green/yellow		111TA3954	Green/yellow	111TA3968		Blue	111TA3991	
Grey		111TA3956	Grey	111TA3969		Brown	111TA3992	
Green		111TA3955	Green	111TA3970		Grey	111TA3993	
Orange		111TA3957	Orange	111TA3971		Blue	165TA4583	
Red		111TA3958	Violet	111TA3972		Brown	165TA4584	
Violet		111TA3959	Red	111TA3973		Grey	165TA4585	
White		111TA3960	White	111TA3974		Red	111TA3994	
Black		111TA3961	Black	111TA3975		Red	165TA4586	
1		Black	111TA3962	Type: H07VK			6	Black
	Brown	111TA3964	2.5	Blue	111TA3976	Black		111TA3995
				Orange	134TA8162			

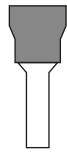
CRIMPING TERMINALS



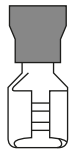
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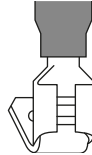
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Type 3



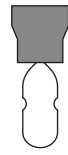
Type 4



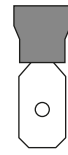
Type 5



Type 6



Type 7



Type 8



Type 9



Type 10

All cable terminals are supplied in bags of 100 pieces. For example: if you order 3 times REF 106TA9428, you will receive 300 pieces.

Type	Colour	Section mm ²	Dimensions	REF 100 pieces	Type	Colour	Section mm ²	Dimensions	REF 100 pieces					
1	Red	0.5-1.0	M3	106TA9427	4	Red	0.5-1	2.8 x 0.5 mm	106TA9462					
			M4	106TA9428				2.8 x 0.8 mm	106TA9463					
			M5	106TA9429				4.8 x 0.5 mm	106TA9464					
			M6	106TA9430				4.8 x 0.8 mm	106TA9465					
			M8	106TA9431				6.3 x 0.8 mm	106TA9466					
			M10	106TA9432				7.7 x 0.8 mm	106TA9467					
			M3	106TA9433				4.8 x 0.5 mm	106TA9468					
			M4	106TA9434				4.8 x 0.8 mm	106TA9469					
			M5	106TA9435				6.3 x 0.8 mm	106TA9470					
			M6	106TA9436				7.7 x 0.8 mm	106TA9471					
	Blue	1-2.5	M8	106TA9437	5	Blue	1-2.5	6.3 x 0.8 mm	106TA9472					
			M10	106TA9438				9.5 x 1.2 mm	106TA9473					
			M4	106TA9439				6.3 x 0.8 mm	106TA9474					
			M5	106TA9440				6.3 x 0.8 mm	106TA9475					
			Yellow	4-6				M6	106TA9441	6	Yellow	4-6	Ø 4 mm	106TA9476
								M8	106TA9442				Ø 5 mm	106TA9477
	M10	106TA9443			Ø 4 mm	106TA9478								
	M3	106TA9444			Ø 5 mm	106TA9479								
	Red	0.5-1.0	M3.5	106TA9445	7	Red	0.5-1	Ø 4 mm	106TA9480					
			M4	106TA9446				Ø 5 mm	106TA9481					
			M5	106TA9447				Ø 4 mm	123TA5434					
			M6	106TA9448				Ø 5 mm	106TA9482					
			Blue	1-2.5				M3	106TA9449	8	Blue	1-2.5	Ø 4 mm	106TA9483
								M3.5	106TA9450				Ø 5 mm	106TA9484
M4								106TA9451	6.3 x 0.8 mm				106TA9485	
M5								106TA9452	6.3 x 0.8 mm				106TA9486	
M6								106TA9453	6.3 x 0.8 mm				106TA9487	
M4								106TA9454	6.3 x 0.8 mm				106TA9488	
Yellow	4-6	M5	106TA9455	9	Yellow	4-6	6.3 x 0.8 mm	106TA9489						
		M6	106TA9456				Red	0.5-1	6.3 x 0.8 mm	106TA9490				
		M8	106TA9457				Blue	1-2.5	6.3 x 0.8 mm	106TA9491				
		M10	106TA9458				Red	0.5-1.0	L: 17 mm	106TA9492				
Red	0.5-1	-	106TA9459	10	Red	0.5-1.0	L: 25 mm	106TA9493						
		Blue	1-2.5				-	106TA9460	Blue	1-2.5	L: 17 mm	165TA3742		
							Yellow	4-6	-	106TA9461	Blue	1-2.5	L: 25 mm	106TA9495
					Yellow	4-6	L: 21 mm	106TA9496						
							L: 27 mm	106TA9497						

CABLE CONNECTOR



Capacity: 0.25–1.5 mm²

REF [112TA4804](#)

CABLE CONNECTOR



Capacity: 1–2.5 mm²

REF [131TA8491](#)

STANDARD CRIMPING TOOL



CRIMPING PLIERS



Able to: cut and crimping terminals for cable sizes from 1.5 to 6 mm²

REF [106TA9500](#)



For red, green and yellow cable terminals

REF [141TA6287](#)

INSULATED CRIMP TERMINAL KIT

REF [129TA9960](#)



Colour	Description	Qty	Colour	Description	Qty
Red	Spade male 6.3 x 0.8 mm	20	Yellow	Butt female dia 4	20
Red	Spade female 6.3 x 0.8 mm	20	Yellow	Ring M4	20
Red	Spade female full sealed 6.3 x 0.8 mm	20	Yellow	Ring M6	20
Red	Spade female + male 6.3 x 0.8 mm	20	Yellow	Ring M8	20
Red	Butt male dia 4	20	Yellow	Ring M10	20
Red	Butt female dia 4	20	Yellow	Cable connect long	20
Red	Ring M4	20	Blue	Spade male 6.3 x 0.8 mm	20
Red	Ring M6	20	Blue	Spade female 6.3 x 0.8 mm	20
Red	Ring M8	20	Blue	Spade female full sealed 6.3 x 0.8 mm	20
Red	Ring M10	20	Blue	Spade female + male 6.3 x 0.8 mm	20
Red	Cable connect long	20	Blue	Butt male dia 4	20
Yellow	Spade male 6.3 x 0.8 mm	20	Blue	Butt female dia 4	20
Yellow	Spade female 6.3 x 0.8 mm	20	Blue	Ring M4	20
Yellow	Spade female full sealed 6.3 x 0.8 mm	20	Blue	Ring M6	20
Yellow	Spade female + male 6.3 x 0.8 mm	20	Blue	Ring M8	20
Yellow	Butt male dia 4	20	Blue	Ring M10	20
			Blue	Cable connect long	20

KIT WIRE TERMINALS



50 x		6.3 x 0.8 mm	50 x		M8
50 x		L: 25 mm	50 x		L: 25 mm
50 x		6.3 x 0.8 mm	50 x		Ø 4 mm
50 x		M4	50 x		6.3 x 0.8 mm
50 x		M5	50 x		Ø 4 mm
50 x		M6	50 x		6.3 x 0.8 mm

With professional crimping pliers

REF [164TA8077](#)

CRIMP TERMINAL KIT (WIRES AND SLEEVES)



100 x		0.50 mm ²	200 x		2.50 mm ²
400 x		0.75 mm ²	100 x		4.00 mm ²
400 x		1.00 mm ²	60 x		6.00 mm ²
400 x		1.50 mm ²	40 x		10.00 mm ²

With crimping pliers

REF [164TA8078](#)

TERMINAL BLOCKS



- 12-way
- Temperature: -25 to 100 °C
- Quality polypropylene
- EN 60998

REF [112TA4807](#) - Wire size: 4 mm²
 REF [112TA4808](#) - Wire size: 6 mm²
 REF [112TA4809](#) - Wire size: 10 mm²
 REF [112TA4810](#) - Wire size: 16 mm²

CABLE TIE BASES (WITHOUT CABLE TIE)



- Dimensions: 28 x 28 mm
- Packing quantity: 100 pieces

REF [106TA9776](#) - White
 REF [106TA9777](#) - Black

REUSABLE CABLE TIE



Packing quantity: 100 pieces

Width mm	Length mm	REF	
		White	Black
9	187	123TA5445	123TA5447
9	344	123TA5446	123TA5448

CABLE TIES



- Temperature resistant: -40 up to 80 °C
- Melting point: 250 °C
- Resistant against: oil, petrol, seawater, solvents, mold, diluted light organic acids and alkalines
- White: indoor use only

Width mm	Length mm	Packaging quantity pieces	REF	
			White	Black
2.5	98	100	111TA3872	111TA3884
3.6	140	100	111TA3873	111TA3885
4.5	160	100	111TA3874	111TA3886
4.8	200	100	111TA3875	111TA3887
4.8	295	100	111TA3876	111TA3888
4.8	370	100	111TA3877	111TA3889
4.8	178	100	111TA3878	111TA3890
7.8	360	100	111TA3879	111TA3891
7.8	540	100	111TA3880	111TA3892
12.6	500	50	111TA3881	111TA3893
12.6	730	50	111TA3882	111TA3894
12.6	1000	50	111TA3883	111TA3895

CABLE TIE CUTTING TOOL



- REF [111TA3896](#) – 2.5–4.8 mm
REF [111TA3897](#) – 4.8–7.6 mm

INSULATING TAPE



- PVC
- Temperature durability: 90 °C
- Flame retardant

- REF [106TA9753](#) – Red insulating tape
19 mm x 20 m x 0.15 mm thick
REF [106TA9754](#) – Black insulating tape
19 mm x 20 m x 0.15 mm thick



INSULATION TAPE



Each reference number corresponds to 10 rolls of 10 m insulation tape (19 mm thick)

REF [166TA4393](#) - black
REF [106TA9772](#) - red
REF [106TA9773](#) - blue
REF [106TA9768](#) - yellow
REF [106TA9769](#) - white



INSULATION TAPE



Kit of 10 rolls of different colours (19 mm x 10 m)

- 4 black rolls
- 2 yellow rolls
- 2 red rolls
- 1 blue roll
- 1 white roll

REF [106TA9775](#)

METRIC CABLE GLAND AND NUT BLACK



Size mm	REF		
	Standard	With extra reducing seal	Nut
M12 x 1.5	131TA8739	131TA8753	131TA8768
M16 x 1.5	134TA8172	131TA8754	131TA8769
M20 x 1.5	131TA8740	131TA8755	131TA8770
M25 x 1.5	131TA8741	131TA8756	131TA8771
M32 x 1.5	131TA8742	131TA8757	131TA8772

METRIC CABLE GLAND AND NUT SILVER GREY



Size mm	REF		
	Standard	With extra reducing seal	Nut
M12 x 1.5	131TA8743	131TA8758	131TA8773
M16 x 1.5	131TA8744	131TA8759	131TA8774
M20 x 1.5	131TA8745	131TA8760	131TA8775
M25 x 1.5	131TA8746	131TA8761	131TA8776
M32 x 1.5	131TA8747	131TA8762	131TA8777

METRIC CABLE GLAND AND NUT LIGHT GREY



Size mm	REF		
	Standard	With extra reducing seal	Nut
M12 x 1.5	131TA8748	131TA8763	131TA8778
M16 x 1.5	131TA8749	131TA8764	131TA8779
M20 x 1.5	131TA8750	131TA8765	131TA8780
M25 x 1.5	131TA8751	131TA8766	131TA8781
M32 x 1.5	131TA8752	131TA8767	131TA8782

PG CABLE GLAND AND NUT BLACK



Size mm	REF		
	Standard	With extra reducing seal	Nut
PG 7	131TA8783	131TA8804	131TA8825
PG 9	131TA8784	131TA8805	131TA8826
PG 11	131TA8785	131TA8806	131TA8827
PG 13.5	131TA8786	131TA8807	131TA8828
PG 16	131TA8787	131TA8808	131TA8829
PG 21	131TA8788	131TA8809	131TA8830
PG 29	131TA8789	131TA8810	131TA8831

PG CABLE GLAND AND NUT SILVER GREY



Size mm	REF		
	Standard	With extra reducing seal	Nut
PG 7	131TA8790	131TA8811	131TA8832
PG 9	131TA8791	131TA8812	131TA8833
PG 11	131TA8792	131TA8813	131TA8834
PG 13.5	131TA8793	131TA8814	131TA8835
PG 16	131TA8794	131TA8815	131TA8836
PG 21	131TA8795	131TA8816	131TA8837
PG 29	131TA8796	131TA8817	131TA8838

PG CABLE GLAND AND NUT LIGHT GREY



Size mm	REF		
	Standard	With extra reducing seal	Nut
PG 7	131TA8797	131TA8818	131TA8839
PG 9	131TA8798	131TA8819	131TA8840
PG 11	131TA8799	131TA8820	131TA8841
PG 13.5	131TA8800	131TA8821	131TA8842
PG 16	131TA8801	131TA8822	131TA8843
PG 21	131TA8802	131TA8823	131TA8844
PG 29	131TA8803	131TA8824	131TA8845

ACCESSORY



Travel adapter, output EUR

REF [164TA9696](#)

UNIVERSAL TEST KIT FOR TRAILER SOCKET



- 1 test plug for testing the trailer wire including the trailer lighting (battery included) 1 person
- 1 test plug for testing the wiring of the trailer socket (2 persons)

REF [124TA2765](#) - 12 V (7-pole)

REF [134TA9204](#) - 12 V (13-pole)

MICRO-ADAPTER PLUG



From 13-pin plug to 7-pin 12 V socket

REF [134TA8173](#)

TRAILER CABLES



Sold per metre

REF [131TA8857](#) - 7 x 1.5 mm²

REF [131TA8858](#) - 6 x 1 mm² + 1 x 2 mm²

SPIRAL TRAILER CABLES



Diameter spiral mm	Cores mm	Diameter cable mm	Length mm	REF
60	6 x 1 + 1 x 2.5	10.5	3500	131TA8859
60	6 x 1 + 1 x 2.5	10.5	4500	131TA8860
40	6 x 1 + 1 x 2.5	10.5	3500	131TA8861
40	6 x 1 + 1 x 2.5	10.5	4500	131TA8862
20	6 x 1 + 1 x 1.5	10.3	3000	131TA8864
20	6 x 1 + 1 x 1.5	10.3	3500	131TA8865
20	6 x 1 + 1 x 1.5	10.3	4000	131TA8866
20	6 x 1 + 1 x 1.5	10.3	4500	131TA8867

POWER CABLE - EUROPEAN TYPE



Cable	Type	Length mm	REF
Straight black	3G1	2500	131TA7008
Straight white	3G1.5	5000	168TA7321
Straight white	3G1.5	10 000	168TA7322
Spiral black	3G1	530	131TA7009
Spiral black	3G1	500	106TA6338
Spiral black	3G1	520	111TA3845

POWER CABLE - UK TYPE



Cable	Type	Length mm	REF
Straight	3G1	2500	131TA7010
Spiral	3G1	550	131TA7011

WIRE WITH PIN



Detail plug: CEE7/7

REF [168TA7323](#)

AC CORD



Detail plug: C13

REF [165TA4005](#)

ACCESSORIES



Plug EUR

REF [116TA5179](#)



- Plug UK
- Fuse: 13 A

REF [131TA7012](#)



- Male plug
- Fuse: 10 A - 250 VAC
- 2p +

REF [131TA7013](#)



- Female plug
- Fuse: 10 A - 250 VAC
- 2p +

REF [131TA7014](#)



EUROPEAN SCHUKO TO UK CONVERTER

Fuse: 13 A

REF [168TA7324](#)



INTERNAL FLANGE PANEL PLUG - MALE

- 250 V
- 10 A

REF [168TA7325](#)



EXTERNAL STRAIGHT IEC PLU

- 250 V
- 10 A

REF [168TA7326](#)



SWISSPOLE MAIN CONNECTOR

- 250 V
- 10 A
- Cable mount

REF [168TA7327](#)

INDUSTRIAL AC PLUGS 200 - 250 VAC 50 - 60 HZ IP44



Amp A	Number of poles	REF
16	2P + \perp	131TA7072
32	2P + \perp	131TA7073
16	3P + \perp	131TA7074
32	3P + \perp	131TA7075
16	3P + N + \perp	131TA7076
32	3P + N + \perp	131TA7077

INDUSTRIAL AC PLUGS 200 - 250 VAC 50 - 60 HZ IP44



Amp A	Number of poles	REF
16	2P + \perp	131TA7083
32	2P + \perp	131TA7084
16	3P + \perp	131TA7085
32	3P + \perp	131TA7086
16	3P + N + \perp	131TA7087
32	3P + N + \perp	131TA7088

INDUSTRIAL AC PLUGS 200 - 250 VAC 50 - 60 HZ IP44



Amp A	Number of poles	REF
16	2P + \perp	131TA7015
32	2P + \perp	131TA7078
16	3P + \perp	131TA7079
32	3P + \perp	131TA7080
16	3P + N + \perp	131TA7081
32	3P + N + \perp	131TA7082

INDUSTRIAL AC PLUGS 200 - 250 VAC 50 - 60 HZ IP44



Amp A	Number of poles	REF
16	2P + \perp	131TA7089
32	2P + \perp	131TA7016
16	3P + \perp	131TA7090
32	3P + \perp	131TA7091
16	3P + N + \perp	131TA7092
32	3P + N + \perp	131TA7093

INDUSTRIAL AC PLUGS 380 - 415 VAC 50 - 60 HZ IP44

Amp A	Number of poles	REF
16	3P + \perp	106TA6750
32	3P + \perp	106TA6751
16	3P + N + \perp	106TA6752
32	3P + N + \perp	106TA6753

INDUSTRIAL AC PLUGS 380 - 415 VAC 50 - 60 HZ IP44

Amp A	Number of poles	REF
16	3P + \perp	106TA6762
32	3P + \perp	106TA6763
16	3P + N + \perp	106TA6764
32	3P + N + \perp	106TA6765

INDUSTRIAL AC PLUGS 380 - 415 VAC 50 - 60 HZ IP44

Amp A	Number of poles	REF
16	3P + \perp	106TA6758
32	3P + \perp	106TA6759
16	3P + N + \perp	106TA6760
32	3P + N + \perp	106TA6761

INDUSTRIAL AC PLUGS 380 - 415 VAC 50 - 60 HZ IP44

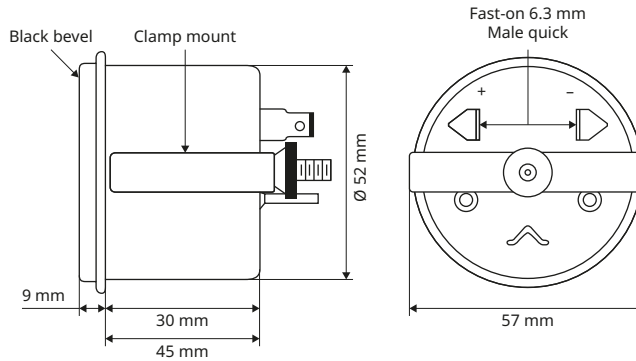
Amp A	Number of poles	REF
16	3P + \perp	106TA6754
32	3P + \perp	106TA6755
16	3P + N + \perp	106TA6756
32	3P + N + \perp	106TA6757

ACCESSORIES

BATTERY DISCHARGE INDICATORS



BATTERY DISCHARGE INDICATOR - TYPE 900

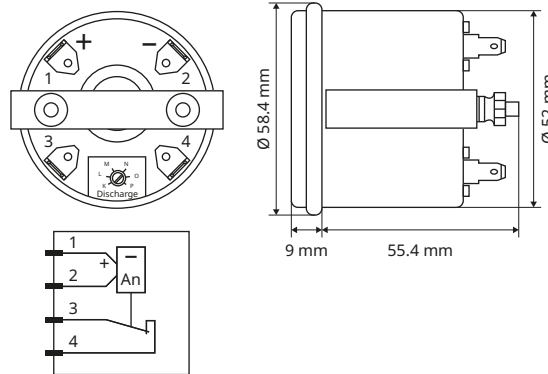


- Diameter: 52 mm
- Without lock-out

- REF [107TA1063](#) - 12 V
- REF [106TA1135](#) - 24 V
- REF [106TA1136](#) - 36 V
- REF [106TA1137](#) - 48 V
- REF [168TA7410](#) - 72 V
- REF [141TA6714](#) - 80 V



BATTERY DISCHARGE INDICATOR - TYPE 901

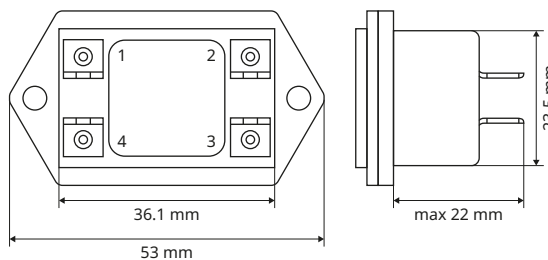


- Diameter: 52 mm
- With lock-out

- REF [145TA2229](#) - 12 V
- REF [107TA1074](#) - 24 V
- REF [106TA1153](#) - 36 V
- REF [106TA1154](#) - 48 V
- REF [106TA1155](#) - 72 V
- REF [106TA1156](#) - 80 V



BATTERY DISCHARGE INDICATOR



Terminals:

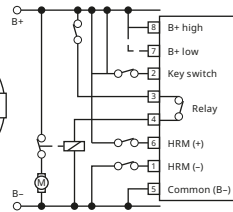
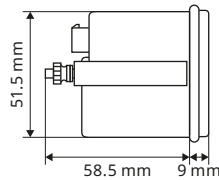
1. Battery +
2. Battery -
3. Memory battery (+)
4. Key switch

- Outer diameter: 52 mm
- With lock-out

- REF [123TA7788](#) - 12 V
- REF [123TA7789](#) - 24 V
- REF [123TA7790](#) - 36 V
- REF [123TA7791](#) - 48 V

BATTERY DISCHARGE INDICATOR AND HOUR METER

CURTIS 



- Diameter: 52 mm
- With lock-out
- Curtis 803-series

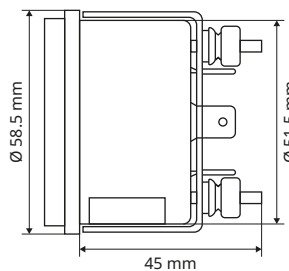
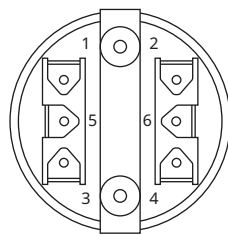
REF [107TA1064](#) - 12 V

REF [106TA1141](#) - 24 and 48 V

REF [107TA1065](#) - 72 and 80 V

BATTERY CHARGE METER (NO BDI)

CURTIS 



Terminals:

1. Not connected
2. Battery +
3. Battery ground
4. Not connected
5. Higher output
6. Lower output

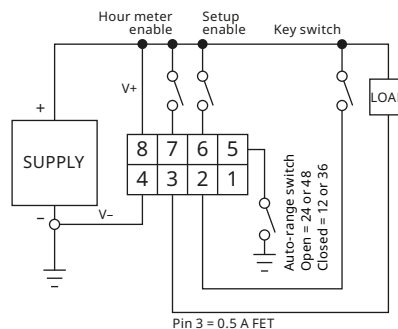
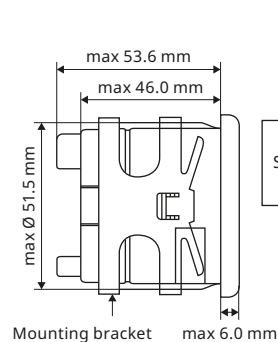
- Diameter: 52 mm
- Not intended for use with battery-powered vehicles!

REF [123TA7792](#) - 12 V

REF [123TA7961](#) - 24 V

MAINTENANCE MONITOR WITH ADJUSTABLE HOUR METER

CURTIS 



ENGAGE II

- 12/48 VDC
- Diameter: 52 mm
- Field programmable maintenance monitor allows users to program maintenance intervals for their specific application
- Adjustable hour meter allows replacement of a failed hour meter without loss of total elapsed time
- FET output (0.5 A) which allows the user to choose appropriate notification methods, such as alarms or buzzers
- Clock function allows vehicle operator easy and safe access to time of day status

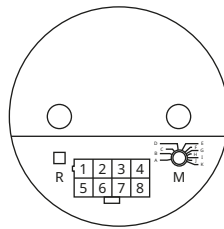
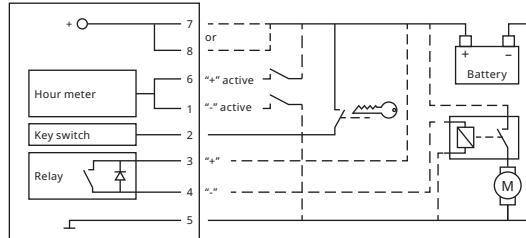
REF [123TA7755](#)

ACCESSORIES

BATTERY DISCHARGE INDICATORS



BATTERY DISCHARGE INDICATOR AND HOUR METER

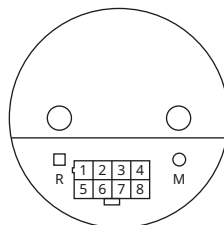
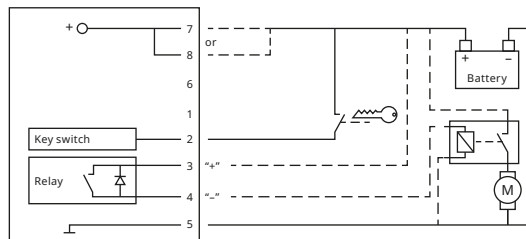


1. Hour counter input -
2. Key switch
3. Relay +
4. Relay -
5. Battery -
6. Hour counter input +
7. Battery +
8. Battery +

- Diameter: 52 mm
- With lock-out

- REF [107TA1071](#) - 24 V, 8 LED
- REF [116TA5951](#) - 24 V, 10 LED
- REF [107TA1072](#) - 36 V, 8 LED
- REF [116TA5952](#) - 36 V, 10 LED
- REF [107TA1073](#) - 48 V, 8 LED
- REF [116TA5953](#) - 48 V, 10 LED

BATTERY DISCHARGE INDICATOR

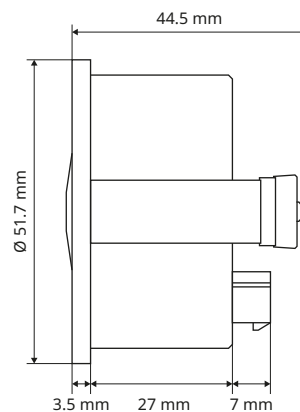


1. Hour counter input -
2. Key operated switch +
3. Relay +
4. Relay -
5. Battery -
6. Hour counter input +
7. Battery +
8. Battery +

- Diameter: 52 mm
- With lock-out

- REF [134TA2825](#) - 12 V
- REF [134TA2826](#) - 24 V
- REF [134TA2827](#) - 36 V
- REF [134TA2828](#) - 48 V

BATTERY DISCHARGE INDICATOR



- Diameter: 52 mm
- With lock-out
- 4 wires, ±, relay

- REF [129TA8811](#) - 12 V
- REF [129TA8812](#) - 24 V
- REF [129TA8813](#) - 36 V
- REF [129TA8814](#) - 48 V

BATTERY DISCHARGE INDICATOR



- Diameter: 52 mm
- With lock-out

REF [145TA2231](#) - 24 V
 REF [145TA2233](#) - 48 V
 REF [145TA2234](#) - 72 V
 REF [145TA2235](#) - 80 V
 REF [145TA2236](#) - 96 V

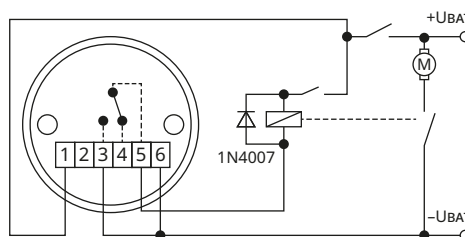
BATTERY DISCHARGE INDICATOR AND HOUR METER



- Diameter: 52 mm
- 3-wire standard version

REF [168TA7411](#) - 24 V
 REF [139TA7703](#) - 36 V
 REF [145TA2238](#) - 48 V
 REF [145TA2239](#) - 72 V
 REF [145TA2240](#) - 80 V
 REF [145TA2241](#) - 96 V

BATTERY DISCHARGE INDICATOR/CONTROLLER



- Diameter: 52 mm
- With lock-out

REF [107TA1046](#) - 24 V
 REF [107TA1047](#) - 36 V
 REF [107TA1048](#) - 40 V
 REF [107TA1049](#) - 48 V
 REF [107TA1050](#) - 72 V
 REF [107TA1051](#) - 80 V

ACCESSORIES

BATTERY DISCHARGE INDICATORS

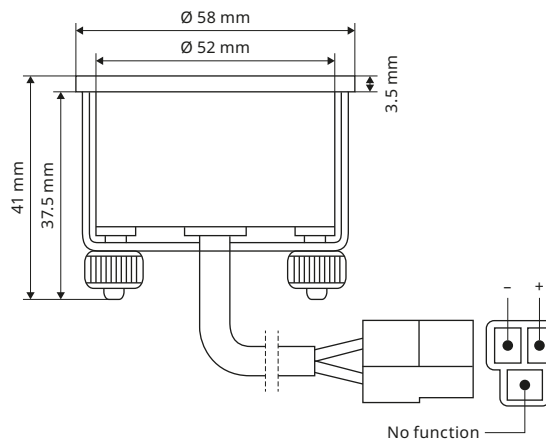
BATTERY DISCHARGE INDICATOR AND HOUR METER



Diameter: 52 mm

- REF [145TA2242](#) - 12 V
- REF [145TA2243](#) - 24 V
- REF [145TA2245](#) - 40 V
- REF [145TA2246](#) - 48 V
- REF [145TA2247](#) - 72 V
- REF [145TA2248](#) - 80 V

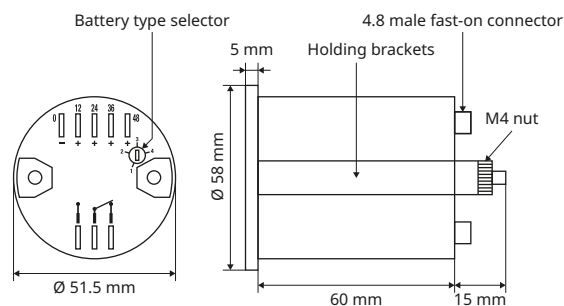
BATTERY DISCHARGE INDICATOR



- Diameter: 52 mm
- Without lock-out

- REF [106TA6742](#) - 12 V
- REF [106TA1101](#) - 24 V
- REF [106TA1102](#) - 36 V
- REF [105TA4584](#) - 48 V
- REF [106TA1103](#) - 72 V
- REF [106TA1104](#) - 80 V

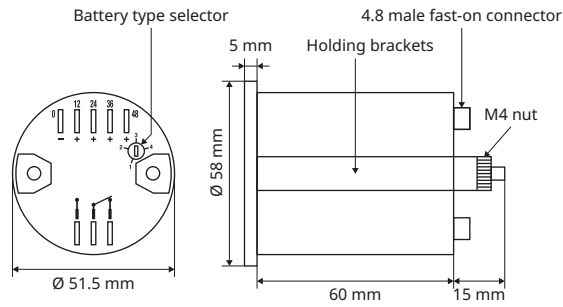
BATTERY DISCHARGE INDICATOR/CONTROLLER



Diameter: 52 mm

- REF [107TA1062](#) - Multivoltage:
12/24/36/48 V
- Without lock-out
- REF [107TA1061](#) - Multivoltage:
12/24/36/48 V
- With lock-out

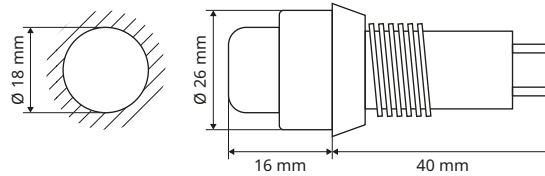
BATTERY DISCHARGE INDICATOR



- Multivoltage: 12/24/36/48 V
- Diameter: 52 mm
- With lock-out

REF [106TA1131](#)

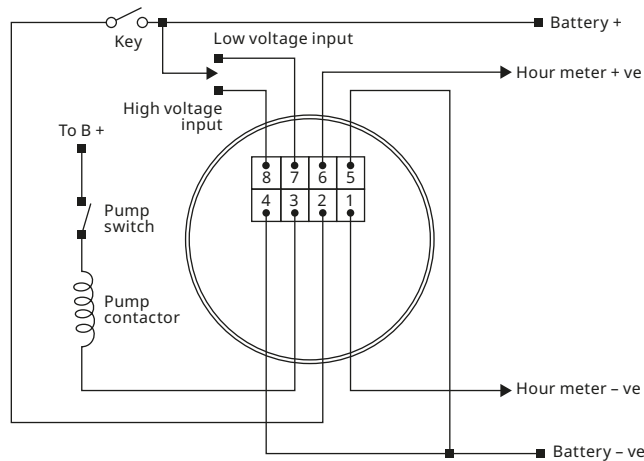
BATTERY DISCHARGE INDICATOR



- Diameter: 18 mm
- Used for sweepers

REF [107TA1057](#) - 12 V
 REF [107TA1058](#) - 24 V
 REF [107TA1059](#) - 36 V
 REF [107TA1060](#) - 48 V

BATTERY DISCHARGE INDICATOR/HOUR METER



- 24/80 V (multivoltage)
- Diameter: 52 mm
- With lock-out
- Automatic voltage detection

REF [134TA8373](#)

ACCESSORIES

BATTERY DISCHARGE INDICATORS

MULTI VOLTAGE BATTERY DISCHARGE INDICATOR



- Programmable multi-voltage battery discharge meter with hour counter
- This battery indicator with hour counter and SMD-technology is based on a powerful microprocessor
- One of the most important characteristics are the two touch buttons and a potentiometer on the back which make it possible to program according to the battery
- At 70% depth of discharge, a flashing LED signals an "energy reserve" alert
- At 80% alternately flashing LEDs provide an "empty" status warning
- With pump cut-out
- Diameter: 52 mm
- IP66
- 24/80 V
- With hour counter

REF [128TA3113](#)

BATTERY DISCHARGE INDICATOR



- 12/24 V
- Dimensions: 52 x 30 mm

REF [168TA7412](#)

LI-ION BATTERY CAPACITY INDICATOR



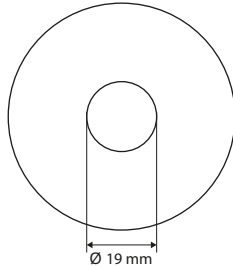
- Ideal for all M+ and AQ-LITH® traction batteries.
- This indicator reads the CAN bus signals from the BMS and displays the SOC, voltage, current, temperature and all warnings.
- With potential-free contact for minimum State of Charge (adjustable)

REF [168TA1143](#)

ACCESSORIES

BATTERY SWITCHES

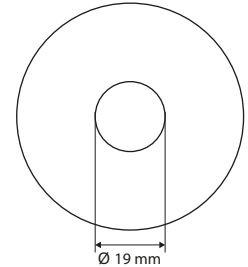
BATTERY SWITCHES



1-pole switches to disconnect battery and field circuit

- Large studs: 125 A continuous 1000 A (5 sec)
- Small studs: 20 A continuous
- Fits panels up to a thickness of 5 mm

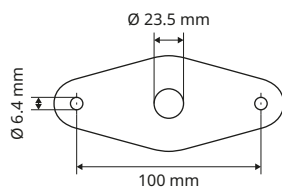
REF [134TA8696](#)



1-pole switches to disconnect battery and field circuit

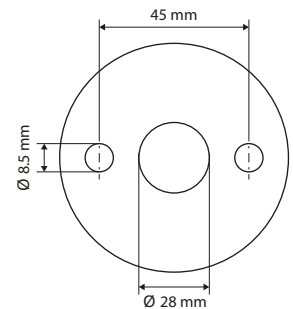
- Large studs: 125 A continuous 1000 A (5 sec)
- Small studs: 20 A continuous
- Fits panels up to a thickness of 23 mm

REF [106TA1190](#)



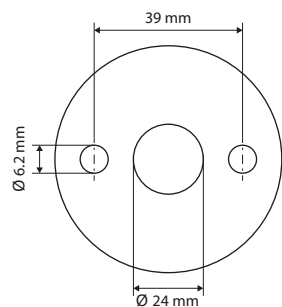
- 250 A – 2500 A (5 sec)
- 2-pole (4 connections)

REF [134TA8698](#)



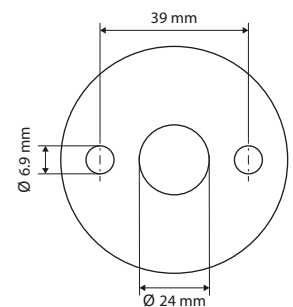
- 150 A – 1000 A (5 sec)
- 1-pole (2 connections)

REF [134TA8697](#)



- 100 A – 500 A (5 sec)
- 1-pole (2 connections)

REF [106TA1189](#)



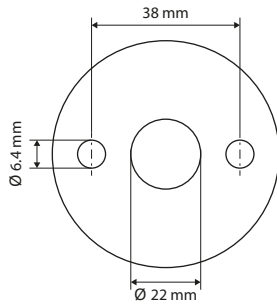
- 50 A – 500 A (5 sec)
- 1-pole (2 connections)

REF [106TA1187](#)

ACCESSORIES

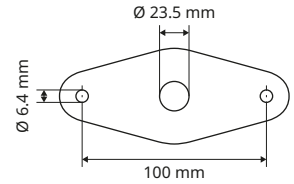
BATTERY SWITCHES

BATTERY SWITCHES



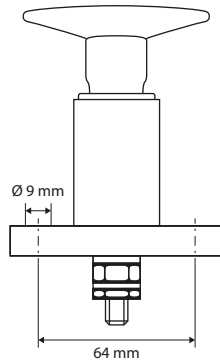
- 250 A – 2500 A (5 sec)
- 1-pole (2 connections)

REF [106TA1184](#)



- 300 A – 2500 A (5 sec)
- 1-pole (2 connections)

REF [141TA2235](#)



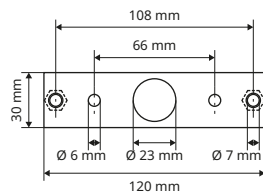
- 600 A – 4500 A (5 sec)
- 1-pole (2 connections)

REF [146TA3887](#)



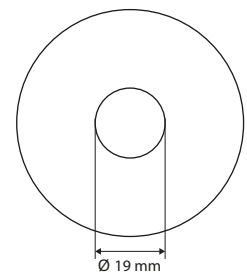
- 275 A
- 1-pole

REF [134TA8702](#)



- 1- pole (2 connections)
- Used for Toyota

REF [134TA8701](#)



- 1-pole (2 connections)

REF [106TA1190](#)

BATTERY SWITCHES



- 125 A
- 1-pole (2 connections)
- Used for Hyster

REF [134TA8709](#)



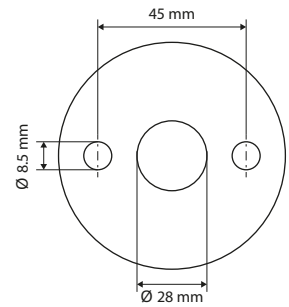
- 1-pole (2 connections)
- Used for Caterpillar

REF [110TA8155](#)



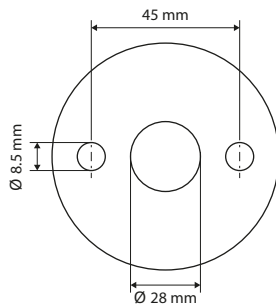
- 1-pole (2 connections)
- Used for Hyundai

REF [147TA1433](#)



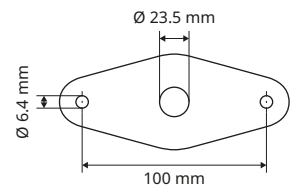
- 150 A - 1000 A (5 sec)
- 1-pole (2 connections)
- Switch with independent SM aux contact

REF [163TA8470](#)



- 150 A - 1000 A (5 sec)
- 1-pole (2 connections)

REF [134TA8699](#)



- 250 A - 2500 A (5 sec)
- 1-pole (2 connections)

REF [106TA1183](#)

ACCESSORIES

BATTERY SWITCHES

BATTERY SWITCH KEYS



1 key

REF [165TA9414](#)



Metal key

REF [106TA1188](#)



Key for REF 134TA8699

REF [134TA8713](#)



- Plastic key – 1-side pin
- For REF 106TA1187 and REF 144TA6015

REF [107TA1095](#)



- Plastic key – 2-side pin
- For REF 106TA1187 and REF 144TA6015

REF [134TA8711](#)



Key for REF 141TA2235

REF [134TA8714](#)



- REF [134TA8716](#) - Key used for Cobo
- REF [134TA8715](#) - Key used for Hella
- REF [134TA8710](#) - Key used for Bosch and other brands

SEPARATOR - DUAL BATTERY



- 100 A
- 12 V

REF [161TA1612](#)

BATTERY SEPERATOR - DUAL INPUT



- 100 A
- 12/24 VDC

REF [168TA7461](#)

ACCESSORIES

CONVERTERS

DC/DC CONVERTERS



Input V	Output V	Power W	Current A	REF
30/150	12	50	4.17	168TA7330
30/150	12	75	6.25	168TA7331
30/150	12	100	8.33	168TA7332
30/150	12	150	12.50	168TA7333
30/150	24	100	4.17	168TA7334



Input V	Output V	Power W	Current A	REF
48	24	200	8.40	168TA7335
48	28	200	7.10	160TA1821
24/36	12	300	25.00	135TA2755
24/36	13.5	300	22.20	160TA8600
36/48	12	200	16.70	168TA7336
36/48	13.5	200	14.80	168TA7337
36/48	13.5	300	22.20	135TA2756
48/60	12	300	25.00	135TA2757
48/60	13.5	300	22.20	111TA3913
48/60	24	300	12.50	111TA3914
48/60	28	300	10.70	160TA3851
72/96	12	300	25.00	135TA2759
72/96	13.5	200	14.80	168TA7338
72/96	13.5	300	22.20	111TA3915
72/96	24	300	12.60	135TA2760
72/96	28	200	7.10	135TA2776
72/96	28	300	10.70	111TA3916

ACCESSORIES

CONVERTERS

DC/DC CONVERTERS



Input V	Output V	Power W	Current A	IP rating	REF
24	12	200	16.67	66	168TA7339
24	12.4	300	24.19	66	168TA7340
13/48	13.5	300	22.22	66	168TA7341
36/48	12	180	15.00	66	135TA2761
36/48	12	180	15.00	66	168TA7342
36/48	12	180	15.00	66	168TA7343
36/48	12	300	25.00	66	135TA2768
36/48	12	300	25.00	66	168TA7344
36/48	12	300	25.00	66	135TA2764
	13.4	300	22.39	66	168TA7345
36/48	13.4	300	22.39	66	168TA7346
36/48	14.1	300	21.28	66	168TA7347
36/48	24	180	7.50	66	168TA7348
36/48	24	300	12.50	66	135TA2765
48	26.5	300	11.32	66	168TA7349
36/80	12	300	25.00	66	168TA7350
72/80	12	180	15.00	66	135TA2762
72/80	12	300	25.00	66	168TA7351
72/80	12	300	25.00	66	135TA2769
72/80	12	300	25.00	66	135TA2766
72/80	24	300	12.50	66	135TA2767
72/80	48	300	6.25	66	168TA7352
72/80	13.5	300	22.22	66	168TA7353
48	13.4	500	37.31	66	168TA7354

DC/DC CONVERTERS



Input V	Output V	Power W	Current A	IP rating	REF
12	24	80	3.33	20	135TA2712
24/36/48	12	100	8.33	20	135TA2714
24/36/48	24	120	5.00	20	135TA2713
48/72/80	12	120	10.00	20	111TA4016
48/72/80	24	120	5.00	20	168TA7355
48	12	240	20.00	20	106TA1074
48	24	240	10.00	20	111TA3905
72	12	240	20.00	20	112TA1151
72	24	240	10.00	20	112TA1152
80	12	240	20.00	20	106TA1085
80	24	240	10.00	20	106TA1088
12	12	240	20.00	20	135TA2724
12	24	240	10.00	20	168TA7356
24	12	400	33.33	20	168TA7357
24	24	400	16.67	20	168TA7358
36	12	400	33.33	20	106TA1071
36	24	400	16.67	20	135TA2726
48	12	500	41.67	20	106TA1075
48	24	500	20.83	20	106TA1079
72	12	500	41.67	20	135TA2727
72	24	500	20.83	20	135TA2728
80	12	500	41.67	20	106TA1086
80	24	500	20.83	20	106TA1089
48	12	1000	83.33	20	135TA2730
48	24	1000	41.67	20	135TA2731
72	12	1000	83.33	20	135TA2732
72	24	1000	41.67	20	135TA2733
80	12	1000	83.33	20	135TA2734
80	24	1000	41.67	20	135TA2735



Input V	Output V	Power W	Current A	REF
10/17	12.2	360	30	168TA7359
16/35	24.2	280	12	168TA7360
16/35	48.2	280	6	168TA7361
20/35	24.2	400	17	168TA7362
32/70	12.2	240	20	168TA7363
32/70	24.2	120	5	168TA7364
32/70	24.2	280	12	168TA7365
32/70	48.2	120	2.5	168TA7366
40/70	24.2	380	16	168TA7367



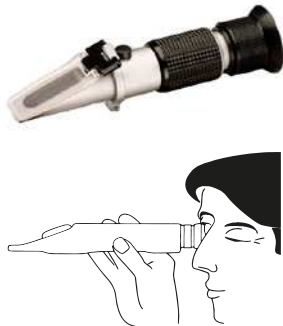
Input V	Output V	Power W	Current A	REF
24	13	400	30	168TA7368
48	13	400	30	168TA7369
48	24	400	16	168TA7370
48	24	600	25	168TA7371

ACCESSORIES

BATTERY TESTERS & ANALYZERS



HANDHELD REFRACTOMETER FOR ANTIFREEZE AND BATTERY FLUID



- Instantaneous measurement of the battery density or the freezing point of the coolant
- Automatic compensation of the measurement depending on the temperature
- Measurement range:
 - Battery acid: 1.1-1.3 kg/l
 - Propylene and ethylene coolant: -85 °C to -50 °C
 - Windscreen fluid: -25 °C to -40 °C
 - Ad blue: 30-45% urea

REF [127TA9679](#) - Optical refractometer (Beta)

Top quality

BATTERY CAPACITY TESTER



Check the battery condition in seconds, even when the battery is in use!

Features:

- Test condition without shutting down battery
- Measure battery resistance, voltage, current, temperature
- Auto-hold and auto-data storage
- Memory and read function
- Compact and lightweight
- USB PC interface

Specifications:

- Battery capacity: 0-1200 Ah
- Range: 6-60 V
- Resolution: 1-10 mV
- Temp: -20 to 60 °C

REF [145TA2251](#)

FLUKE BT521 BATTERY ANALYSER

FLUKE



The Fluke BT521 Advanced Battery Analyser with short probe, extender set and temperature sensor is the ideal test tool for maintenance, troubleshooting and performance testing of individual stationary batteries and battery banks used in critical battery back-up applications. The intuitive user interface, compact design and rugged construction ensure optimum performance, test results and reliability. Fluke BT521 covers a broad range of battery test functions, from DC voltage and resistance tests to full condition testing using an automated string function testing, and the test probe integrated infra-red temperature measurement system. This analyser is designed for measurements on stationary batteries of all types.

Content:

- 1 x 4-wire test pin set
- 1 x basic test lead set (BTL 10)
- 1 x twist guard test lead set with adapter (TL175)
- 1 x intelligent test probe with extender and temperature sensor (BTL21)
- 1 x AC/DC current clamp (i410)
- 1 x 7.4 V lithium-ion battery (BP500)
- 1 x 18 VAC charger (BC500)
- 1 x 1 m mini-USB cable
- 1 x shoulder strap
- 1 x belt strap
- 1 x magnetic hanging strap
- 1 x soft carrying case
- 2 x spare fuses
- 100 x paper battery taps
- 1 x Fluke View battery management software with USB driver
- 1 x user manual

REF [144TA7196](#)

DIGITAL VOLTMETER



- Digital voltmeter for batteries, alternators and regulators
- 12/24 V

REF [106TA8959](#)

ELECTRONIC CIRCUIT TESTER



- Voltages: 6/12/24 V
- Test connection with tester tips (+) and 10 A clamp (-)

REF [106TA8958](#)

ELECTRONIC TESTER CLAMP



- Connector for making connections and taking measurements on insulated cables without cutting or breaking the protective sleeve
- The cable is pierced with a thin needle
- The incision is nearly untraceable and causes no damage to the wiring
- Wedge-shaped base, with a groove on the inside allowing you to insert the needle exactly in the middle of the cable
- Allows for the connection of two types of banana plugs: the traditional version and the secured version
- When unscrewed from the housing, it can be used as a testing point

REF [106TA8957](#)

VOLTAGE TESTER



Features:

- Product safety on the highest level
- Vibrating alarm for safe voltage detection
- Load connection via two membrane push buttons
- Continuity check via buzzer and LED or LCD respectively
- Precise illumination of the measuring point

REF [145TA2259](#)

CAR ELECTRONIC TESTER



- Battery, alternator and regulator tester
- 12 V

REF [106TA8960](#)

ACCESSORIES

BATTERY TESTERS & ANALYZERS

PEN-TYPE METER



- Pencil format digital multimeter
- 2000 counts
- AC/DC voltage, AC/DC current and resistance measurements
- Continuity warning and diode test
- Non-contact voltage detection
- Check of logic levels (0/1) with light indication
- Peak value measurement
- Hold readings on screen
- Auto scale, auto power off and low battery indication
- CAT III 600V according to EN 61010

REF [168TA8435](#)

DIGITAL MULTIMETER



- Digital multimeter
- 2000 counts
- DC/AC voltage, DC/AC current, resistance and temperature measurements
- Continuity warning and diode test
- Battery check (1.5 V, 9 V, 12 V)
- Hold readings on screen
- Auto power off and low battery indication
- CAT III 600 V according to EN 61010

REF [168TA7473](#)

DIGITAL AUTOMOTIVE MULTIMETER



- Digital multimeter with environmental measurements: Temperature, relative humidity, sound level and brightness
- 4000 counts
- Measurements of DC/AC voltage, DC/AC current, resistance, capacity and frequency
- Continuity warning and diode test

- Selection of °C/°F
- Hold readings on screen
- Autoscale, auto power off, backlit display and low battery indication
- CAT III 600 V according to EN 61010
- Power supply: 3 AAA 1.5 V batteries
- Dimensions: 195 x 92 x 55 mm

REF [168TA7474](#)

FLUKE 375 FC TRUE-RMS AC/DC CLAMP METER

FLUKE



High-performance clamp meter with wireless communication and logging capabilities

The 375 FC true-RMS clamp meter is compatible with the Fluke iFlex flexible current probe (sold separately), which expands the measurement range to 2500 A AC. The Fluke 375 FC is also part of the Fluke Connect® family of wireless test tools.

Now you can:

- Log and trend measurements to pinpoint intermittent faults.
- Transmit results wirelessly via Fluke Connect® Measurements app.
- Create and send reports straight from the field.
- Stay safely away from the arc flash zone through Bluetooth connectivity to Apple and Android devices.

Features:

- True RMS
- Backlight
- Auto shut-off
- Display hold
- Low-pass filter
- Inrush
- Large jaw (34 mm)
- Current AC/DC
- Min, max, average, and inrush measurements
- Logging
- Fluke Connect®

Included accessories:

Soft carrying case, TL75 test leads, AA-batteries, coated instruction card, safety information sheet

- Dimensions (HxWxD): 249 x 85 x 45 mm
- Weight: 0.395 kg
- Warranty: 3 years

REF [151TA2265](#)

RECOMMENDED ACCESSORIES:



i2500 -18 inch iFlex (45 cm)
Flexible current probe

REF [138TA3972](#)



TL223-1

REF [140TA7507](#)



AC285

REF [131TA8467](#)



TPAK

REF [131TA8446](#)

Functions	Range	Resolution	Accuracy
AC current via Jaw	600 A	0.1 A	2% ± 5 digits 2.5% ± 5 digits
AC current via flexible current probe	2500 A	0.1 A (≤ 600 A) 1 A (≤ 2500 A)	3% ± 5 digits
DC current	600 A	0.1 A	2% ± 5 digits
AC voltage	1000 V	0.1 V (≤ 600 V) 1 V (≤ 1000 V)	1.5% ± 5 digits
DC voltage	1000 V	0.1 V (≤ 600 V) 1 V (≤ 1000 V)	1% ± 5 digits
mVDC	500 mV	0.1 mV	1% ± 5 digits
Frequency via jaw	5 Hz to 500 Hz	0.1 Hz	0.5% ± 5 digits
Frequency via flexible current probe	5 Hz to 500 Hz	0.1 Hz	0.5% ± 5 digits
Resistance	60 kΩ	0.1 Ω (≤ 600 Ω) 1 Ω (≤ 6000 Ω) 10 Ω (≤ 60 kΩ)	1% ± 5 digits
Capacitance	1000 μF	0.1 μF (≤ 100 μF) 1 μF (≤ 1000 μF)	1% ± 4 digits

ACCESSORIES

BATTERY TESTERS & ANALYZERS

BATTERY TESTERS

STANDARD - ANALOGUE



- Battery test: 6 V and 12 V
- System test: 12 V cranking/charging
- Operating range: up to 1000 CCA/SAE
- True load capacity: up to 100 A

REF [134TA8692](#)



- Battery test: 12 V
- System test: 12 V cranking/charging
- Operating range: up to 1000 CCA/SAE
- True load capacity: up to 500 A

REF [143TA8326](#)

STANDARD - DIGITAL



- 6 V and 12 V battery and 12 V start/stop battery test
- 12 V cranking/charging, internal resistance tests
- Flooded, VRLA/gel, AGM flat, AGM spiral, EFB
- CCA/SAE, DIN, IEC, CA/MCA
- 40-1200 CCA (SAE)

REF [168TA7913](#)



- Battery test: 6 V and 12 V
- System test: 12 V cranking/charging
- Operating range: up to 1000 CCA/SAE
- True load capacity: up to 100 A

REF [168TA7914](#)

PROFESSIONAL - DIGITAL



- Battery test: 6 V and 12 V
- System test: 12 V cranking/charging
- Operating range: up to 1000 CCA/SAE
- True load capacity: up to 100 A

REF [168TA7915](#)



- Battery test: 12 V battery and 12 V start/stop battery test
- System test: 12 V and 24 V cranking/charging, internal resistance tests
- Printer: 2" thermal printer
- Supported battery types: flooded, VRLA/gel, AGM flat, AGM spiral, EFB
- Battery ratings: CCA/SAE, EN, JIS, DIN, IEC, CA/MCA
- Operating range: 40-2000 CCA(SAE)
- Languages: English, French, Spanish, German, Italian, Portuguese
- Test code and test counter: no
- Software: no

REF [168TA7916](#)





03.

BOOSTERS

ENERGICCAP BATTERYLESS JUMP STARTER 12/24 V 18 000/9000 PEAK AMP

SUPERCAPACITOR JUMP STARTER

MORE THAN JUST A JUMP STARTER

This supercapacitor jump starter is a professional, high-performance jump-starter that's lightweight and starts any type of 12 V or 24 V vehicle system in less than two minutes. It works on a capacitor instead of the battery, which enables a range of benefits:

REF [165TA3827](#)

SUPER FAST RECHARGE: 15 SEC!

Recharge in only 15 seconds with the engine running. No storage charging required.

ULTRA LIGHTWEIGHT

50% lighter than a traditional battery powered jump starter as there is no battery inside.

ULTRA HIGH PERFORMANCE

No loss of power or performance in cold or hot temperatures (-45 to 65 °C).

ONE JUMP STARTER FOR A LIFETIME OF USAGE: 1 MLN CYCLES!

The internal starting ultracapacitors are rated to 1 000 000 cycles. There are no replacement batteries or consumables required.

AUTOMATIC RECHARGE

Recharges automatically from the vehicle once it has been started so it is ready to use again immediately



1. REVERSE POLARITY ALARM

An alert informs users if the terminals are not connected correctly.

2. DIGITAL VOLTMETER

Allows users to quickly see the available voltage and test the alternator of a vehicle.

3. HEAVY-DUTY SWITCH

Makes it easy to switch from 12 V to 24 V.

4. SHOCKPROOF ABS CASE

Includes a reinforced internal structure that enhances strength and durability.

SPECIFICATIONS

Jump starter

Operating temperature	-45 to 65 °C
Weight	12.8 kg
Measurements	25 x 25 x 50 cm

Charge time fully discharged	6-8 hours
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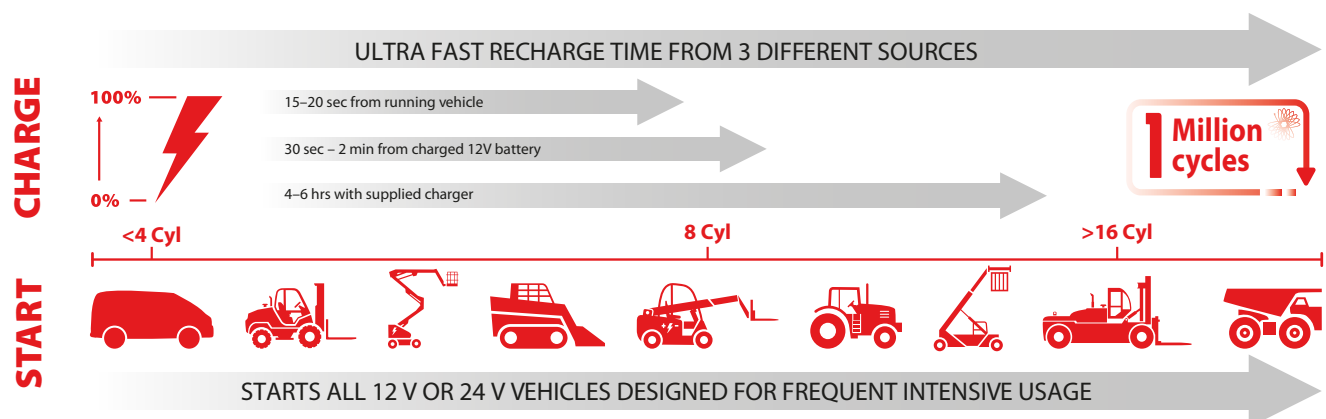
Charger

Amperage	3.6 A
Voltage	220-230 VAC
Frequency	50-60 Hz

Cables

Length	170 cm
Cable section	50 mm ²
Material	Pure copper

WATCH OUR JUMP STARTER MOVIE.



ENERGICAP BATTERYLESS JUMP STARTER 12V 9000 PEAK AMP

ENERGIC Plus



This supercap technology jump starter works on a capacitor instead of a battery which results in several benefits: high capacity and ultrafast charging, no start limits, light in weight, cold weather resistant and the ability to stock the starter for a long time, even when fully charged. This batteryless jump starter can start any type of vehicle.

Technical characteristics:

- Max cranking capacity: 1800 A
- Short-circuit current: 9000 A
- Charging voltage: 12/220 VDC
- Charging time: 10 sec to 2 min
- Charging time with charger: 5 hours on 220 V
- Weight: 9.5 kg
- Supercap technology
- Swiss quality

REF [165TA3826](#)

START BOOSTERS - ENERGIC PLUS®

ENERGIC Plus



Professional start booster to start each type of vehicle, from an engine-powered lift truck to an electric aerial work platform. Even if there is no battery present or if the battery is completely discharged. Select your booster according to your machine by means of the required peak amperage (cranking current).

Characteristics:

- Excellent Swiss quality
- Starts any type of vehicle, from ICE lift trucks over aerial work platforms to cars
- Replaces any exhausted or missing battery

Range:

Select your booster depending on your fleet by means of the required peak amperage (cranking current)

REF [147TA4369](#) - Used for battery: REF [166TA5307](#)

REF [147TA4370](#) - Used for battery: REF [166TA5308](#)

REF [147TA4371](#) - Used for battery: REF [166TA5308](#)

REF [147TA4372](#) - Used for battery: REF [166TA5309](#)

REF [147TA4373](#) - Used for battery: REF [166TA5310](#)

Fig	Starting current	Peak current	Maximum discharge kW	Car plug output 12 V A	Output - fuse A	Weight kg	Dimensions mm	REF
12 V								
1	850 A	2500 A	10.2	16	-	9.96	370 x 310 x 160	147TA4369
2	1170 A	3100 A	14.04	16	500	12.63	390 x 315 x 205	147TA4370
12/24 V								
3	2340 A - 12 V 1170 A - 24 V	6200 A - 12 V 3100 A - 24 V	28.08	16	500	22.79	440 x 320 x 220	147TA4371
4	2400 A - 12 V 1200 A - 24 V	5400 A - 12 V 2700 A - 24 V	28.80	16	500	29.11	540 x 410 x 260	147TA4372
5	6400 A - 12 V 3200 A - 24 V	15 500 A - 12 V 7750 A - 24 V	64.5	16	500	69.80	1100 x 610 x 650	147TA4373

NOCO BOOSTERS



GB20



GB40



GB50



GB70



GB150

NOCO LITHIUM STARTBOOSTERS

Model	Voltage	Starting current	Internal battery	USB input/output	LED flashlight	IP rating	REF
	V	A			Lumen		
GB20	12	500	24 watt-hour	5 V / 2.1 Amp max	100	IP65	168TA7859
GB40	12	1000	24 watt-hour	5 V / 2.1 Amp max	100	IP65	168TA7860
GB50	12	1500	35 watt-hour	5 V / 2.1 Amp max	200	IP65	168TA7861
GB70	12	2000	56 watt-hour	5 V / 2.1 Amp max	400	IP65	168TA7862
GB150	12	3000	88 watt-hour	5 V / 2.1 Amp max	500	IP65	168TA7863

BOOSTER CABLES WITH INSULATED TERMINALS (SET)



Current A	Section mm ²	Length mm	REF
150	10	2500	131TA8484
200	10	2500	143TA4866
220	16	3000	131TA8485
320	16	3000	143TA4867
400	35	4500	143TA4863
500	25	3500	143TA8308

JUMP LEADS (SET)



Current A	Section mm ²	Length mm	REF
250	10	3500	112TA4803
320	16	2500	143TA4869
350	16	3000	106TA9424
700	35	4500	144TA1771
1000	50	5000	145TA2226

NON-INSULATED BATTERY CLAMPS

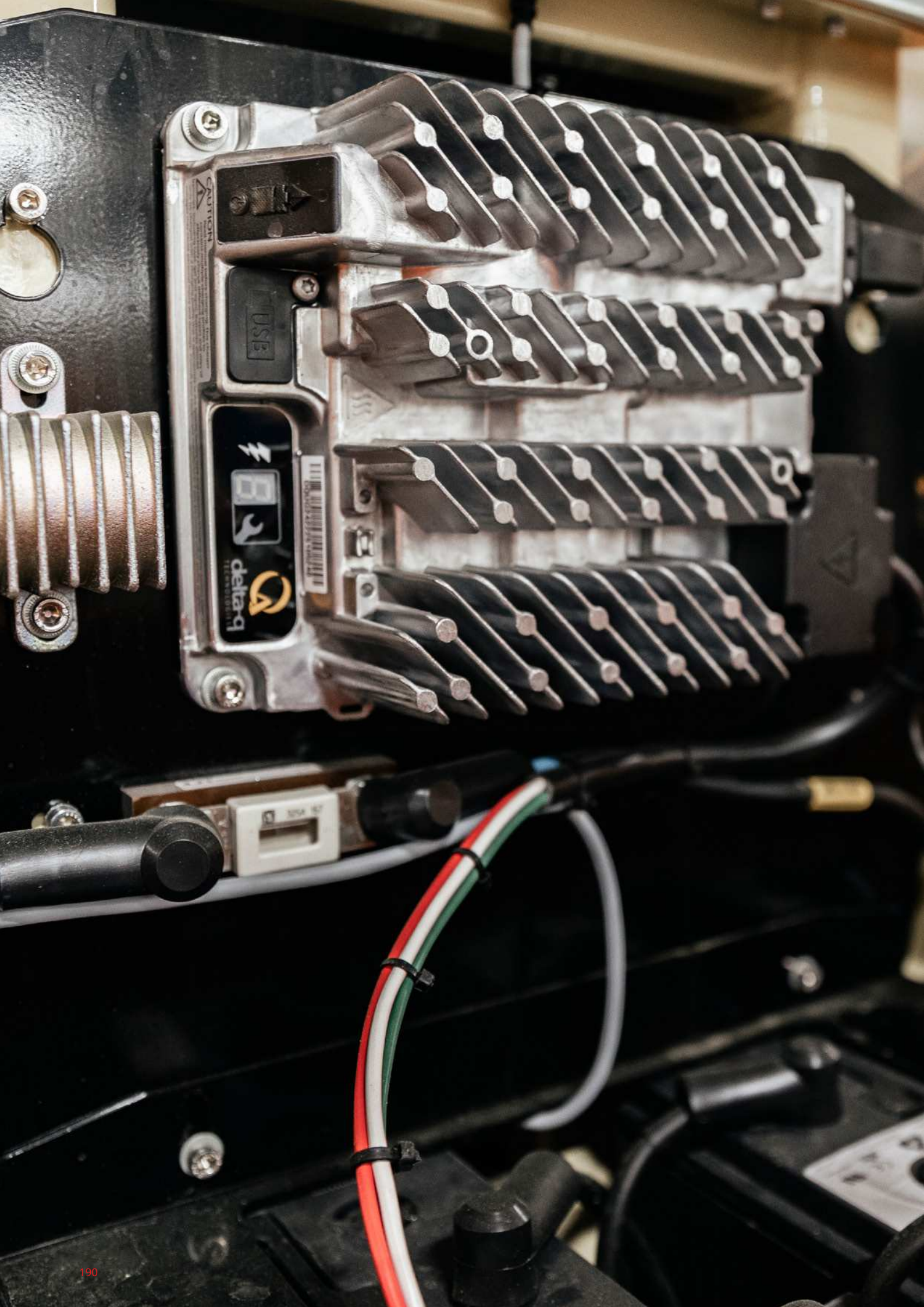


Current A	REF	
	Red	Black
40	106TA6827	106TA6826
60	131TA8472	131TA8478
120	131TA8473	131TA8479
250	112TA4801	112TA4802
350	106TA9422	106TA9423
600	131TA8476	131TA8482

INSULATED BATTERY CLAMPS



Current A	REF	
	Red	Black
350	131TA8474	131TA8480
500	131TA8475	131TA8481
600	131TA8477	131TA8483
850	168TA2643	168TA2644





04.

CHARGERS

CHOOSING THE RIGHT CHARGER

The first thing you need to know is which type of charger you need. As you know, some machines are equipped with built-in chargers while others have external chargers. To determine which charger you'll need we have to take a look at the application.

Most low-power electric machines like lift trucks, scissor lifts and narrow-aisle lift trucks work on single-phase power and can be fully charged with **less than 3 kilowatts of power**. These machines can be charged using **a built-in charger** as long as they have space for it **or an external charger**.

Bigger machines like large forklifts, telehandlers and boom lifts **require an external charger**. This is because they need (in most cases) **more than 3 kilowatts of power** to charge. These chargers are bigger and no room is foreseen inside the machine, that's why you'll need an external charger.

To determine whether you need more or less than 3 kilowatts of power to charge your battery, consult the manual for your machine.

We offer a range of different chargers to choose from. Read on to find out which applications they're suitable for, and which charger meets your needs the best.

BUILT-IN CHARGERS

You should always follow the original battery manufacturer's guidelines to ensure compatibility. If your machine requires less than 3 kilowatts of power and comes with an external charger, you have the option of switching to a built-in charger, as long as you have the space to mount it. Our range includes a variety of high-quality, universal built-in chargers from leading brands including Delta-Q, SPE, and more.

EXTERNAL CHARGERS

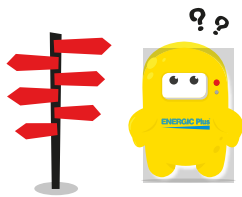
We offer two types of external chargers: **Energic Plus high-frequency (HF) chargers** and **Energic Plus conventional low-frequency (LF) battery chargers**. High-frequency chargers are the more expensive option upfront, however, they use less energy than conventional chargers and save you money in the long run. Conventional battery chargers are cheaper to buy than high-frequency chargers, but they don't offer the same long-term savings.

Energic Plus high-frequency chargers can charge all types of batteries and include a CAN bus interface that lets you access relevant milestones in the charge history. This provides insights that enable you to optimise the charger's performance. Our high-frequency chargers also come with ample onboard memory, which makes it easy to modify charging parameters to suit any type of battery, including those with lithium technology.

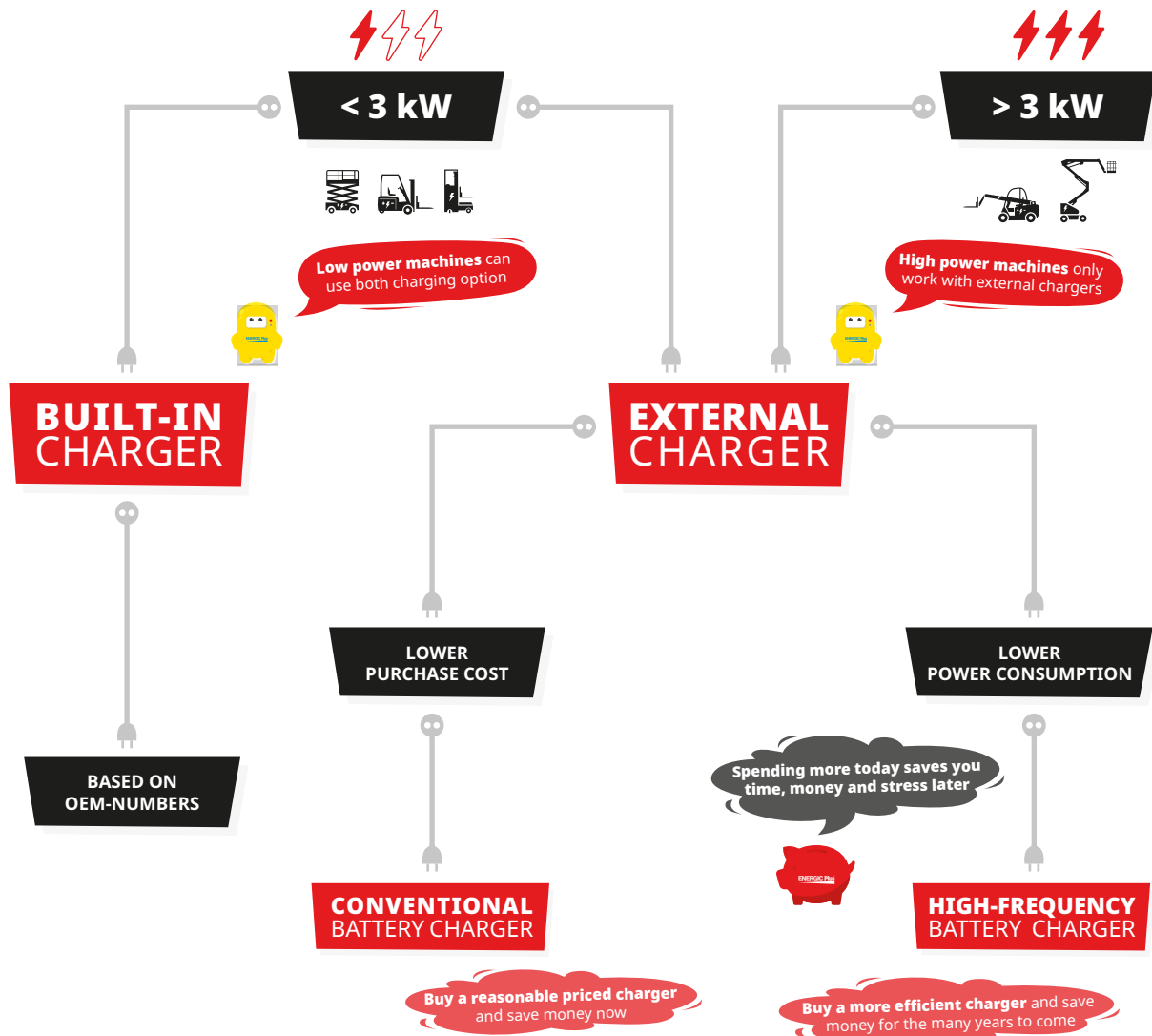
Our new **Energic Plus LF charger** is our smartest charger yet. LED indications that shows the status of health and error codes. It also includes a delayed start option, and it can be used to charge flooded lead-acid motive-power batteries, in line with standard WA charging (WOWA on demand). The smart control board monitors different parameters and provides warning and information related to the condition of the battery.

Ready to select the ideal charger for your machine? Discover the full range of available options in this chapter.

HOW DO YOU CHOOSE THE RIGHT CHARGER FOR YOUR BATTERIES?



How much power do you need to charge your battery?



THE BEST POSSIBLE CHARGER FOR YOU

On a quest for a brand-new battery charger? Lost inside the overwhelming offer? No worries, our handy guide leads you towards the perfect charger.

CHARGERS

LF CONVENTIONAL CHARGERS

ENERGIC Plus



DISCOVER OUR RANGE OF LOW-FREQUENCY CHARGERS

The new **low-frequency chargers** from Energic Plus are the result of 40 years of experience in traction battery charging. Over the years, we produced over 200 000 chargers, and uncovered crucial insights and expertise that now come together in our smartest charger yet: the LF charger.

Characteristics:

- Deep discharge start up (below 1.6 V/cell)
- Clear LED display that shows the different charge phases
- Equalisation mode that can be programmed or manually operated
- Delayed start
- The ability to charge flooded lead-acid motive-power batteries, in line with standard Wa charging (WoWa on demand)
- Desulphation mode
- Dual input available
- The smart control board monitors different parameters and issues warnings and information related to the battery condition

Model	T5	T6	T7	T9	TC
Type	Conventional battery charger	Conventional battery charger	Conventional battery charger	Conventional battery charger	Conventional battery charger
Battery type	Wet battery	Wet battery	Wet battery	Wet battery	Wet battery
Total width (mm)	242	366	580	496	561
Total height (mm)	241	295	355	783	581
Total length (mm)	222	283	310	304	614
Minimum operating temperature (°C)	-5	-5	-5	-5	-5
Maximum operating temp (°C)	50	50	50	50	50
Minimum storage temperature (°C)	-20	-20	-20	-20	-20
Maximum storage temperature (°C)	60	60	60	60	60
Relative humidity	75%	75%	75%	75%	75%

THE CHARGING OPERATION IS CONTROLLED BY A MICROPROCESSOR.

A typical charge cycle happens in three phases:

1. INITIAL OR BULK CHARGE

The battery is in a discharged state, meaning the SOC (state-of-charge) ranges from 20% to 80%. The battery cell voltage is below the 'gassing' point (around 2.40 V/cell at a temperature of 30 °C), and in this condition, the battery can accept a large amount of energy. The charger operates close to its maximum power rating, and keeps the battery voltage under control.

2. FINISHING OR ABSORPTION CHARGE

The battery voltage exceeds the 'gassing' point, and the SOC is now higher than 80%. The electrolyte produces gas, and the charging current is reduced to prevent the battery from overheating. The charger adjusts its output current accordingly and finishes charging when it detects a fully charged state (SOC = 100%).

3. EQUALISATION

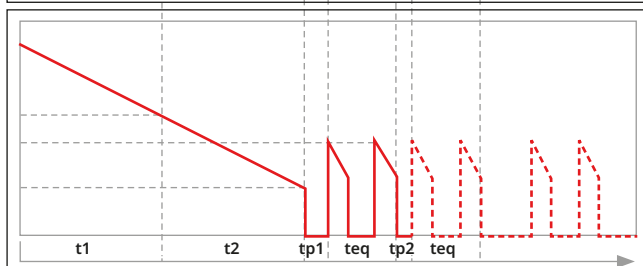
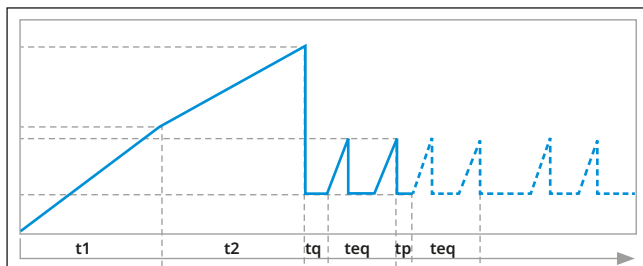
Once the battery is fully charged, the charger stops automatically and the battery cools down. If the battery is left connected to the charger for a sufficient amount of time (typically over the weekend), the charger will deliver additional, controlled, low-current pulses. Known as 'equalisation', the purpose of this process is to bring all the battery cells to exactly the same state-of-charge.



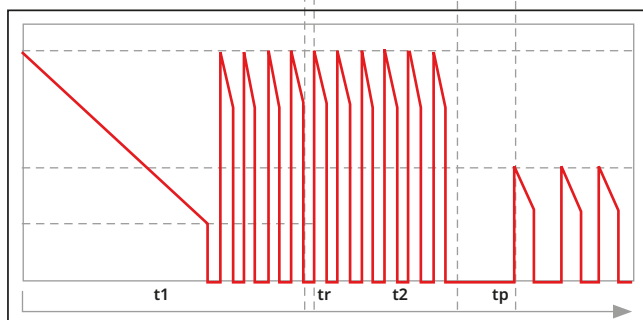
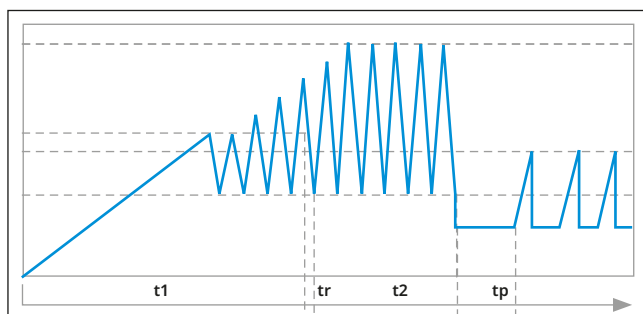
OPTIMISE THE CHARGING CURVE BY ADJUSTING THE INPUT VOLTAGE SETTINGS

LF battery chargers are equipped with two adjustment blocks for AC input, nominal voltage selection, and charging curve optimisation. In cases of 3 x 400 VAC or 3 x 230 VAC, adjustments of up to 10% higher or lower can be made on the AC input adjustment blocks. This setting is present on all LF chargers, and is intended to compensate for AC input voltage fluctuations at the installation point.

It is recommended to check the actual value of the available AC input voltage at the installation point, and adjust the output current of the charger accordingly. A screw-type terminal block is used for this setting in all chargers. A single wire needs to be moved in single-phase models, and three wires need to be moved in three-phase models.



Charging curve Wa



Charging curve Wsa-Pulse

SMART CONTROL BOARD

LF chargers are controlled by the new 'GE01' control board. This smart control board allows for the altering of parameters related to the battery condition, including but not limited to:

- Gassing voltage (from 2.3–2.51 V/cell)
- Maximum voltage (from 2.55–3 V/Cell + disabled)
- Equalisation mode (soft, medium, hard)
- Charge mode (Wa + Wsa puls)
- Delayed start

This function allows the user to deviate from standard situations and adjust the charger settings to suit specific battery needs or local environment conditions. More information about these features can be found in the product manual and the service manuals.

The smart control board monitors different parameters, and issues warnings related to the battery's condition such as:

- AC line contactor failure
- Battery voltage too high
- AC input failure
- Gassing voltage not reached, exceeded charging timeout in first phase
- Battery temperature too high
- Battery type mismatch
- Control board failure or wrong AC input setting

CHARGE CURVE

LF chargers are designed to charge flooded lead-acid motive-power batteries using conventional profiles in line with Wa, Wsa and Wsa-pulsed specifications.

The charge current follows the Wa charge curve and the Wsa-Pulse charge curve as described in the DIN 41774 norm.

In the following pictures both charging profiles are shown.

WATCH OUR MOVIE.

CHARGERS

LF CONVENTIONAL CHARGERS

ENERGIC Plus

LF SINGLE-PHASE SMART PLUS CHARGERS

LF single-phase – (Wa – Wsa taper curve – 1 x 220/250 VAC single-phase 50 Hz)
Smart board + EQ and STOP button

Model	Output	Battery capacity range (C5/Ah)		Mains	Phase current	Housing model	Package	Installation	Weight	P-out max	P-in app	REF
1 x 230 VAC 50 Hz	A	7 to max 8 hrs charging time (80% Cn)	10 to max 12 hrs charging time (80% Cn)	VAC (± 10%)	A (± 10%)	Type	EUR pallet 800 x 1200 mm	Wall-shelf-floor	kg	kW	kVA	
12 V												
LF-1 12/10	10	50–70	60–90	230	0.9	T5	72	S-F	8	0.13	0.2	166TA7069
LF-1 12/15	15	70–95	90–120	230	1.5	T5	72	S-F	9	0.2	0.3	166TA7070
LF-1 12/20	20	95–120	120–150	230	1.7	T5	72	S-F	11	0.25	0.36	166TA7071
LF-1 12/25	25	120–160	150–200	230	2.1	T5	72	S-F	12	0.32	0.46	166TA7072
LF-1 12/30	30	160–190	200–235	230	2.5	T5	60	S-F	14	0.38	0.55	166TA7073
LF-1 12/40	40	190–250	235–310	230	3.3	T5	60	S-F	15	0.5	0.7	166TA7074
LF-1 12/50	50	250–305	310–380	230	4.1	T5	60	S-F	16	0.6	0.9	166TA7075
LF-1 12/60	60	305–360	380–450	230	5	T6	30	S-F	16	0.8	1.1	166TA7076
LF-1 12/80	80	360–480	450–600	230	6.6	T6	30	S-F	25	1	1.4	166TA7077
24 V												
LF-1 24/10	10	50–70	60–90	230	1.7	T5	72	S-F	11	0.25	0.36	166TA7079
LF-1 24/15	15	70–95	90–120	230	2.5	T5	60	S-F	14	0.38	0.55	166TA7080
LF-1 24/20	20	95–120	120–150	230	3.3	T5	60	S-F	14	0.5	0.7	166TA7081
LF-1 24/25	25	120–160	150–200	230	4.1	T5	60	S-F	14	0.6	0.9	166TA7082
LF-1 24/30	30	160–190	200–235	230	5	T5	60	S-F	16	0.8	1.1	167TA1143
LF-1 24/40	40	190–250	235–310	230	6.6	T5	48	S-F	19	1	1.4	166TA7084
LF-1 24/50	50	250–305	310–380	230	8.3	T5	36	S-F	21	1.3	1.9	166TA7085
LF-1 24/60	60	305–360	380–450	230	9.9	T6	30	S-F	23	1.5	2.2	166TA7086
LF-1 24/80	80	360–480	450–600	230	13.2	T6	30	S-F	25	2	2.9	167TA1144
LF-1 24/100	100	480–600	600–750	230	16.5	T7	16	S-F	38	2.5	3.6	166TA7088
LF-1 24/120	120	600–720	750–900	230	20	T7	16	S-F	43	3	4.3	166TA7089
LF-1 24/140	140	720–840	900–1050	230	26	T7	16	S-F	48	3.8	5.5	166TA7090
36 V												
LF-1 36/20	20	95–120	120–150	230	4.9	T5	48	S-F	19	0.8	1.1	166TA7091
LF-1 36/25	25	120–160	150–200	230	6.1	T5	48	S-F	20	0.9	1.3	166TA7092
LF-1 36/30	30	160–190	200–235	230	7.3	T5	36	S-F	22	1.1	1.6	166TA7093
LF-1 36/40	40	190–250	235–310	230	9.8	T5	36	S-F	24	1.5	2.1	166TA7094
LF-1 36/50	50	250–305	310–380	230	12.2	T6	30	S-F	26	1.9	2.7	166TA7095
LF-1 36/60	60	305–360	380–450	230	14.7	T6	30	S-F	30	2.3	3.3	166TA7096
LF-1 36/80	80	360–480	450–600	230	19.6	T6	24	S-F	35	3	4.3	166TA7097
LF-1 36/100	100	480–600	600–750	230	24.5	T7	16	S-F	41	3.8	5.4	166TA7098
LF-1 36/120	120	600–720	750–900	230	32	T7	16	S-F	53	5	6.6	166TA7099
40 V												
LF-1 40/50	50	250–305	310–380	230	14	T6	30	S-F	26	2.3	3.3	166TA7100
LF-1 40/60	60	305–360	380–450	230	18	T6	30	S-F	29	2.5	3.6	166TA7101
LF-1 40/80	80	360–480	450–600	230	22	T7	16	S-F	36	3.4	5	166TA7102
LF-1 40/100	100	480–600	600–750	230	28	T7	16	S-F	51	4.2	6.2	166TA7103

LF SINGLE-PHASE SMART PLUS CHARGERS

ENERGIC Plus

LF single-phase – (Wa – Wsa taper curve – 1 x 220/250 VAC single-phase 50 Hz)
Smart board + EQ and STOP button

Model	Output	Battery capacity range (C5/Ah)		Mains	Phase current	Housing model	Package	Installation	Weight	P-out max	P-in app	REF
1 x 230 VAC 50 Hz	A	7 to max 8 hrs charging time (80% Cn)	10 to max 12 hrs charging time (80% Cn)	VAC (± 10%)	A (± 10%)	Type	EUR pallet 800 x 1200 mm	Wall-shelf- floor	kg	kW	kVA	
48 V												
LF-1 48/10	10	50–70	60–90	230	3.3	T5	60	S-F	14	0.5	0.7	166TA7104
LF-1 48/15	15	70–95	90–120	230	5	T5	60	S-F	16	0.8	1.1	166TA7105
LF-1 48/20	20	95–120	120–150	230	6.5	T5	36	S-F	23	1	1.4	166TA7106
LF-1 48/25	25	120–160	150–200	230	8.2	T5	36	S-F	24	1.3	1.8	166TA7107
LF-1 48/30	30	160–190	200–235	230	9.8	T5	36	S-F	25	1.5	2.1	166TA7108
LF-1 48/40	40	190–250	235–310	230	13	T6	30	S-F	26	2	2.8	166TA7109
LF-1 48/50	50	250–305	310–380	230	16.3	T6	30	S-F	28	2.5	3.5	166TA7110
LF-1 48/60	60	305–360	380–450	230	19.6	T6	30	S-F	31	3	4.3	166TA7111
LF-1 48/80	80	360–480	450–600	230	26.1	T7	16	S-F	38	4	5.7	166TA7112
LF-1 48/100	100	480–600	600–750	230	32	T7	16	S-F	53	5	6.6	166TA7113
LF-1 48/120	120	600–720	750–900	230	39	T7	16	S-F	60	6	8	166TA7114
72 V												
LF-1 72/60	60	305–360	380–450	230	32	T9	8	S-F	73	5	6.6	166TA7115
LF-1 72/80	80	360–480	450–600	230	43	T9	8	S-F	90	7	10	166TA7116
LF-1 72/100	100	480–600	600–750	230	55	T9	8	S-F	102	8	12	166TA7117
80 V												
LF-1 80/40	40	190–250	235–310	230	26.1	T9	8	S-F	38	4	5.7	166TA7118
LF-1 80/60	60	305–360	380–450	230	39	T9	8	S-F	72	6	8	166TA7119
LF-1 80/80	80	360–480	450–600	230	43	T9	8	S-F	102	7.5	11.2	166TA7120
LF-1 80/100	100	480–600	600–750	230	64	T9	8	S-F	115	9	13.2	166TA7121
LF-1 80/120	120	600–720	720–900	230	85	T9	8	S-F	128	10.5	15.2	167TA1145

CHARGERS

LF CONVENTIONAL CHARGERS

ENERGIC Plus

LF THREE-PHASE SMART CHARGERS

LF three-phase – Wa – Wsa taper curve – 3 x 380/440 VAC
Three-phase 50 Hz equipped with smart control board + manual EQ and stop button

Model	Output	Battery capacity range (C5/Ah)		Phase current 3 x 400 VAC	Phase current 3 x 230 VAC	Housing type	Package	Installation	Weight	P-out max	P-in app	Standard model	Dual input	Dual input with air pump
	A	7 to max 8 hrs charging time (80% Cn)	10 to max 12 hrs charging time (80% Cn)	A	A		EUR pallet 800 x 1200 mm	Wall-shelf-floor	kg	kW	kVA	Standard 3 x 400 VAC ± 10% input	3 x 400/3 x 220 V ± 10% AC	Dual input 3 x 400 VAC/3 x 230 VAC ± 10% + air pump
24 V														
LF-3 24/40	40	185-250	235-310	2.1	3.6	T7	16	S-F	40	1	1.4	166TA7122	167TA1146	166TA7177
LF-3 24/60	60	250-360	310-450	3.1	5.5	T7	16	S-F	40	1.5	2.1	166TA7123	167TA1147	166TA7178
LF-3 24/80	80	360-480	450-600	4.2	7.3	T7	16	S-F	40	2	2.7	166TA7124	167TA1148	166TA7179
LF-3 24/100	100	480-600	600-750	5.2	9.1	T7	16	S-F	46	2.5	3.4	166TA7125	167TA1149	166TA7180
LF-3 24/120	120	600-720	750-900	6.3	10.9	T7	16	S-F	51	3	4.1	166TA7126	167TA1150	166TA7181
LF-3 24/140	140	720-840	900-1050	7.3	12.7	T7	16	S-F	54	3.5	4.8	166TA7127	167TA1151	166TA7182
LF-3 24/160	160	840-960	1050-1200	8.4	14.6	T9	8	F	58	4	5.5	166TA7128	167TA1152	166TA7183
LF-3 24/180	180	960-1080	1200-1350	9.4	16.4	T9	8	F	62	4.5	6.2	166TA7129	167TA1153	166TA7184
LF-3 24/200	200	1080-1200	1350-1500	10.5	18.2	T9	8	F	65	5	6.8	166TA7130	167TA1154	166TA7185
36 V														
LF-3 36/40	40	185-250	235-310	3.1	5.5	T7	16	S-F	48	1.5	2.1	166TA7131	167TA1155	166TA7186
LF-3 36/60	60	250-360	310-450	4.7	8.2	T7	16	S-F	50	2.3	3.1	166TA7132	167TA1156	166TA7187
LF-3 36/80	80	360-480	450-600	6.3	10.9	T7	16	S-F	52	3	4.1	166TA7133	167TA1157	166TA7188
LF-36/100	100	480-600	600-750	7.9	13.7	T7	16	S-F	54	3.8	5.2	166TA7134	167TA1158	166TA7189
LF-3 36/120	120	600-720	750-900	9.4	16.4	T7	16	S-F	58	4.5	6.2	166TA7135	167TA1159	166TA7190
LF-3 36/140	140	720-840	900-1050	11	19.1	T7	12	S-F	62	5.3	7.3	166TA7136	167TA1160	166TA7191
LF-3 36/160	160	840-960	1050-1200	12.6	21.9	T9	8	F	65	6	8.2	166TA7137	167TA1161	166TA7192
LF-3 36/180	180	960-1080	1200-1350	14.1	24.6	T9	8	F	95	6.8	9.3	166TA7138	167TA1162	166TA7193
LF-3 36/200	200	1080-1200	1350-1500	15.7	27.3	T9	8	F	100	7.6	10.4	166TA7139	167TA1163	166TA7194
40 V														
LF-3 40/60-0	60	250-360	310-450	4.8	7.9	T7	12	S-F	62	2.6	3.4	166TA7140	167TA1164	166TA7195
LF-3 40/80	80	360-480	450-600	6.8	11.9	T7	12	S-F	65	3.4	4.5	166TA7141	167TA1165	166TA7196
LF-3 40/100	100	480-600	600-750	9	16	T7	12	S-F	68	4.3	5.7	166TA7142	167TA1166	166TA7197
48 V														
LF-3 48/40	40	185-250	235-310	4.2	7.3	T7	16	S-F	48	2	2.7	166TA7143	167TA1167	166TA7198
LF-3 48/60	60	250-360	310-450	6.3	10.9	T7	16	S-F	55	3	4.1	166TA7144	167TA1168	166TA7199
LF-3 48/80	80	360-480	450-600	8.4	14.6	T7	16	S-F	58	4	5.5	166TA7145	167TA1169	166TA7200
LF-3 48/100	100	480-600	600-750	10.5	18.2	T7	16	S-F	62	5	6.8	166TA7146	167TA1170	166TA7201
LF-3 48/120	120	600-720	750-900	12.6	21.9	T7	12	S-F	68	6	8.2	166TA7147	167TA1171	166TA7202
LF-3 48/140	140	720-840	900-1050	14.7	25.5	T7	12	S-F	72	7.1	9.7	166TA7148	167TA1172	166TA7203
LF-3 48/160	160	840-960	1050-1200	16.8	29.1	T9	8	F	88	8.1	11.1	166TA7149	167TA1173	166TA7204
LF-3 48/180	180	960-1080	1200-1350	18.8	NA	T9	8	F	92	9.1	12.5	166TA7150	167TA1174	166TA7205
LF-3 48/200	200	1080-1200	1350-1500	20.9	NA	T9	8	F	113	10.1	13.8	166TA7151	167TA1175	166TA7206

LF THREE-PHASE SMART CHARGERS



LF three-phase – Wa – Wsa taper curve – 3 x 380/440 VAC
Three-phase 50 Hz equipped with smart control board + manual EQ and stop button

Model	Output	Battery capacity range (C5/Ah)		Phase current 3 x 400 VAC	Phase current 3 x 230 VAC	Housing type	Package	Installation	Weight	P-out max	P-in app	Standard model	Dual input	Dual input with air pump
	A	7 to max 8 hrs charging time (80% Cn)	10 to max 12 hrs charging time (80% Cn)	A	A		EUR pallet 800 x 1200 mm	Wall-shelf-floor	kg	kW	kVA	Standard 3 x 400 VAC ± 10% input	3 x 400/3 x 220 V ± 10% AC	Dual input 3 x 400 VAC/3 x 230 VAC ± 10% + air pump
72 V														
LF-3 72/40	40	185–250	235–310	6.1	10.7	T7	16	S-F	62	3	4	166TA7152	167TA1176	166TA7207
LF-3 72/60	60	250–360	310–450	9.2	16	T7	12	S-F	64	4.5	6	166TA7153	167TA1177	166TA7208
LF-3 72/80	80	360–480	450–600	12.3	21.3	T7	12	S-F	70	6	8	166TA7154	167TA1178	166TA7209
LF-3 72/100	100	480–600	600–750	15.3	26.7	T7	8	S-F	96	7.6	10.2	166TA7155	167TA1179	166TA7210
LF-3 72/120	120	600–720	750–900	18.4	32	T9	8	F	98	9.1	12.2	166TA7156	167TA1180	166TA7211
LF-3 72/140	140	720–840	900–1050	21.5	NA	T9	8	F	110	10.6	14.2	166TA7157	167TA1181	166TA7212
LF-3 72/160	160	840–960	1050–1200	24.5	NA	TC	4	F	120	12.1	16.2	166TA7158	167TA1182	166TA7213
LF-3 72/180	180	960–1080	1200–1350	27.6	NA	TC	4	F	135	13.6	18.2	166TA7159	167TA1183	166TA7214
LF-3 72/200	200	1080–1200	1350–1500	30.7	NA	TC	4	F	140	15.1	20.2	166TA7160	167TA1184	166TA7215
80 V														
LF-3 80/40	40	185–250	235–310	6.8	11.9	T7	12	S-F	70	3.4	4.5	166TA7161	167TA1185	166TA7216
LF-3 80/60	60	250–360	310–450	10.2	17.8	T7	12	S-F	72	5	6.7	166TA7162	167TA1186	166TA7217
LF-3 80/80	80	360–480	450–600	13.6	23.7	T7	10	S-F	92	6.7	9	166TA7163	167TA1187	166TA7218
LF-3 80/100	100	480–600	600–750	17	29.6	T7	9	S-F	100	8.4	11.2	166TA7164	167TA1188	166TA7219
LF-3 80/120	120	600–720	750–900	20.4	NA	T9	8	F	113	10.1	13.5	166TA7165	167TA1189	166TA7220
LF-3 80/140	140	720–840	900–1050	23.9	NA	T9	4	F	123	11.8	15.8	166TA7166	167TA1190	166TA7221
LF-3 80/160	160	840–960	1050–1200	27.3	NA	TC	4	F	139	13.4	17.9	166TA7167	167TA1191	166TA7222
LF-3 80/180	180	960–1080	1200–1350	30.7	NA	TC	4	F	144	15.1	20.2	166TA7168	167TA1192	166TA7223
LF-3 80/200	200	1080–1200	1350–1500	34.1	NA	TC	4	F	150	16.8	22.5	166TA7169	167TA1193	166TA7224
96 V														
LF-3 96/40	40	185–250	235–310	8	13.9	T7	12	S-F	78	4	5.2	166TA7170	167TA1194	166TA7225
LF-3 96/60	60	250–360	310–450	12	20.8	T7	12	S-F	80	6	7.8	166TA7171	167TA1195	166TA7226
LF-3 96/80	80	360–480	450–600	16	27.8	T9	8	F	105	8.1	10.6	166TA7172	167TA1196	166TA7227
LF-3 96/100	100	480–600	600–750	20	NA	T9	8	F	115	10.1	13.2	166TA7173	167TA1197	166TA7228
LF-3 96/120	120	600–720	750–900	24	NA	TC	4	F	120	12.1	15.8	166TA7174	167TA1198	166TA7229
LF-3 96/140	140	720–840	900–1050	28	NA	TC	4	F	130	14.1	18.4	166TA7175	167TA1199	166TA7230
LF-3 96/160	160	840–960	1050–1200	32	NA	TC	4	F	145	16.1	21	166TA7176	167TA1200	166TA7231

CHARGERS

LF CONVENTIONAL CHARGERS

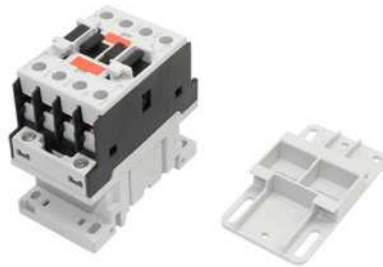
CONTACTORS



FOR ARD, RLD AND RE SERIE

- Tension: 230 VAC
- 50/60 Hz
- Current: 16 A
- Number of NO contacts (Normally Open): 3
- Number of NC contacts (Normally Closed): 1
- Total number of connections: 10

REF [129TA6640](#)



FOR ARD, RLD AND RE SERIE

- Tension: 230 VAC
- 50/60 Hz
- Current: 25 A
- Number of NO contacts (Normally Open): 3
- Number of NC contacts (Normally Closed): 1
- Total number of connections: 12

REF [166TA4128](#)



FOR RX SERIES

- Tension: 230 VAC
- 50/60 Hz
- Current: 25 A
- Number of NO contacts (Normally Open): 3
- Number of NC contacts (Normally Closed): 1
- Total number of connections: 11

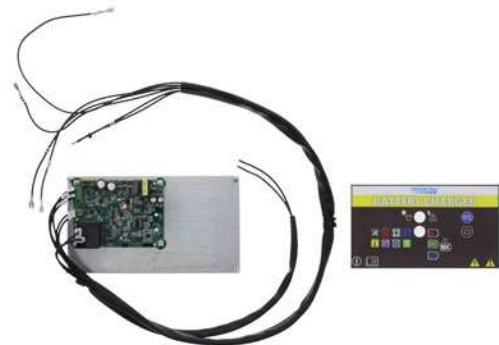
REF [166TA4129](#)

CONTACTOR FOR LF CHARGER



- REF [166TA7232](#) – AC3 cont coil 12 V BF12
- REF [166TA7233](#) – AC3 cont coil 12 V BF18
- REF [166TA7234](#) – AC3 cont coil 12 V BF25
- REF [166TA7235](#) – AC3 cont coil 12 V BF32

RETROFIT KITS



These retrofit kits are designed to replace old controller systems and to update them to the latest safety specifications.

All retrofit kits:

- Come with standard auto-equalization as standard
- Are supplied with full installation manual
- Have an integrated test function for checking the installation

REF [167TA8886](#) – 24–96 V kit multivoltage

DIGITAL CONTROL BOARD FOR RLD/ARD CHARGER



REF [167TA8887](#) - Multivoltage 12/80 V

DIGITAL CONTROL BOARD FOR RX SINGLE-PHASE CHARGER



REF [166TA4131](#) - 12 V
REF [166TA4132](#) - 24 V
REF [166TA4133](#) - 36 V
REF [166TA4134](#) - 48 V

DIGITAL CONTROL BOARD FOR RX THREE-PHASE CHARGER



REF [166TA4135](#) - 24 V
REF [166TA4136](#) - 36 V
REF [166TA4137](#) - 40 V
REF [166TA4138](#) - 48 V
REF [166TA4139](#) - 72 V
REF [166TA4140](#) - 80 V

PRINT BOARD FOR LF CHARGER



REF [166TA7236](#) - For 12 V single-phase LF chargers
REF [166TA7237](#) - For all other LF chargers

CHARGERS

HIGH-FREQUENCY CHARGERS

ENERGIC Plus®

HIGH-FREQUENCY CHARGERS



DISCOVER THE NEW HIGH-FREQUENCY BATTERY CHARGER RANGE

Energic Plus opens up a new world with its new High-frequency battery chargers with CAN bus interface.



High-frequency chargers save a considerable amount of energy, saving you a lot of money.



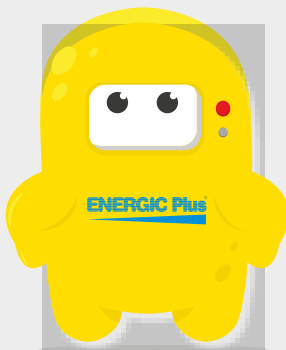
The ample onboard memory allows for access to relevant milestones in the charge history, thereby increasing the charger's performance and flexibility.



This new battery charger is equipped with a powerful "flash" microcontroller with integrated CAN bus interface, paving the way for communication with other devices such as the controller, BMS, computer, displays etc. This allows for integration into the most advanced systems.



Using a single button on the display, it is easy to modify the charging characteristics and parameters to correctly match any type of battery (including lithium technology).



BENEFITS

- Save money while charging thanks to the latest high-efficiency technology
- Optimise the amount of time you have to charge your battery
- Versatile battery charger: lead-acid, gel, AGM, calcium, stationary batteries, lithium-ion batteries ...
- Broad capacity range charging
- User-friendly display
- 3-year warranty

FEATURES

- Onboard alarm with displayed error codes
- Onboard recovery equalisation profile
- Weekend equalisation
- 3-level programming: for end users and engineers
- Master/slave settings
- Delayed charging
- Thermal compensation of the battery voltage

HIGH-FREQUENCY CHARGERS (WITHOUT AIR PUMP)

ENERGIC Plus

Charging times (C5/Ah)			Model	Type	I1	IMAX	VAC input	Input current	REF
7 ÷ 8.5 h	9 ÷ 11 h	12 ÷ 13 h							
Ah	Ah	Ah							
12 V									
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG1 CAN	12 60	50	60	230	6	166TA6350
24 V									
145 ÷ 215	240 ÷ 290	310 ÷ 335	NG1 CAN	24 35	30	36	230	7	166TA6352
180 ÷ 270	300 ÷ 360	390 ÷ 420	NG1 CAN	24 45	37.5	45	230	9	166TA6354
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG3 CAN	24 60	50	60	230	11	166TA6356
335 ÷ 505	560 ÷ 670	730 ÷ 785	NG3 CAN	24 85	70	84	230	16	166TA6358
385 ÷ 575	640 ÷ 770	830 ÷ 895	NG3 CAN	24 95	80	96	230	18	166TA6360
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG3 CAN	24 100	100	100	230	22	166TA6362
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG5 CAN	24 120	100	120	400	5	166TA6364
575 ÷ 865	960 ÷ 1150	1250 ÷ 1345	NG9 CAN	24 145	120	144	400	6	166TA6366
960 ÷ 1440	1600 ÷ 1920	2080 ÷ 2240	NG9+ CAN	24 200	200	200	400	8	166TA6368
36 V									
95 ÷ 145	160 ÷ 190	210 ÷ 225	NG1 CAN	36 25	20	24	230	6	166TA6370
290 ÷ 430	480 ÷ 575	625 ÷ 670	NG3 CAN	36 70	60	72	230	20	166TA6372
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG5 CAN	36 120	100	120	400	7	166TA6374
575 ÷ 865	960 ÷ 1150	1250 ÷ 1345	NG9 CAN	36 145	120	144	400	9	166TA6376
48 V									
85 ÷ 130	145 ÷ 175	185 ÷ 200	NG1 CAN	48 22	18	21.6	230	7	166TA6378
175 ÷ 260	290 ÷ 345	375 ÷ 405	NG3 CAN	48 45	36	43.2	230	16	166TA6380
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG3 CAN	48 60	50	60	230	22	166TA6382
385 ÷ 575	640 ÷ 770	830 ÷ 895	NG5 CAN	48 95	80	96	400	8	166TA6384
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG7 CAN	48 120	100	120	400	10	166TA6386
575 ÷ 865	960 ÷ 1150	1250 ÷ 1345	NG9 CAN	48 145	120	144	400	12	166TA6388
650 ÷ 970	1080 ÷ 1295	1405 ÷ 1510	NG9+ CAN	48 160	135	162	400	13	166TA6390
72 V									
50 ÷ 70	80 ÷ 95	105 ÷ 110	NG1 CAN	72 12	10	12	230	6	166TA6392
145 ÷ 215	240 ÷ 290	310 ÷ 335	NG3 CAN	72 35	30	36	230	19	166TA6394
265 ÷ 395	440 ÷ 530	570 ÷ 615	NG5 CAN	72 65	55	65	400	8	166TA6396
430 ÷ 650	720 ÷ 865	935 ÷ 1010	NG9 CAN	72 110	90	110	400	13	166TA6398
80 V									
130 ÷ 195	215 ÷ 260	280 ÷ 300	NG3 CAN	80 30	25	30	230	19	166TA6400
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG5 CAN	80 60	50	60	400	8	166TA6402
300 ÷ 450	500 ÷ 600	650 ÷ 700	NG7 CAN	80 75	62.5	75	400	10	166TA6404
385 ÷ 575	640 ÷ 770	830 ÷ 895	NG9 CAN	80 100	80	96	400	13	166TA6406
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG9+ CAN	80 120	100	120	400	16	166TA6408

CHARGERS

HIGH-FREQUENCY CHARGERS

ENERGIC Plus

HIGH-FREQUENCY CHARGERS (WITHOUT AIR PUMP)



Charging times (C5/Ah)			Model	Type	I1	IMAX	VAC input	Input current	REF
6 ÷ 8.5 h	9 ÷ 11 h	12 ÷ 13 h							
Ah	Ah	Ah							
24 V									
920 ÷ 1660	1850 ÷ 2210	2390 ÷ 2580	BG15	24 280	230	280	400	12	168TA1743
920 ÷ 1660	1850 ÷ 2210	2390 ÷ 2580	BG15	24 280	-	-	400	12	168TA1744
48 V									
840 ÷ 1520	1850 ÷ 2020	2180 ÷ 2350	BG15	48 250	210	250	400	21	168TA1745
840 ÷ 1520	1850 ÷ 2020	2180 ÷ 2350	BG15	48 250	-	-	400	21	168TA1746
80 V									
1080 ÷ 1295	1080 ÷ 1295	1450 ÷ 1510	BG15	80 160	135	160	400	22	168TA1747
1080 ÷ 1295	1080 ÷ 1295	1450 ÷ 1510	BG15	80 160	-	-	400	22	168TA1748



Charging times (C5/Ah)			Model	Type	I1	IMAX	VAC input	Input current	REF
6 ÷ 8.5 h	9 ÷ 11 h	12 ÷ 13 h							
Ah	Ah	Ah							
24 V									
320 ÷ 575	640 ÷ 770	830 ÷ 895	SG3	24 80	80 (I1 @ 230 VAC)	40 (I1 @ 120 VAC)	95/265	11	168TA1749
48 V									
200 ÷ 360	400 ÷ 480	520 ÷ 560	SG3	48 60	50 (I1 @ 230 VAC)	25 (I1 @ 120 VAC)	95/265	14	168TA1750
72 V									
140 ÷ 252	280 ÷ 330	360 ÷ 390	SG3	72 35	35 (I1 @ 230 VAC)	18 (I1 @ 120 VAC)	95/265	15	168TA1751
80 V									
100 ÷ 180	200 ÷ 240	260 ÷ 300	SG3	96 25	25 (I1 @ 230 VAC)	13 (I1 @ 120 VAC)	95/265	14	168TA1752

HIGH-FREQUENCY CHARGERS (WITH AIR PUMP)

ENERGIC Plus

Charging times (C5/Ah)			Model	Type	I1	IMAX	VAC input	Input current	REF
7 ÷ 8.5 h	9 ÷ 11 h	12 ÷ 13 h							
Ah	Ah	Ah							
12 V									
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG1 CAN AIR	12 60	50	60	230	6	166TA6351
24 V									
145 ÷ 215	240 ÷ 290	310 ÷ 335	NG1 CAN AIR	24 35	30	36	230	7	166TA6353
180 ÷ 270	300 ÷ 360	390 ÷ 420	NG1 CAN AIR	24 45	37.5	45	230	9	166TA6355
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG3 CAN AIR	24 60	50	60	230	11	166TA6357
335 ÷ 505	560 ÷ 670	730 ÷ 785	NG3 CAN AIR	24 85	70	84	230	16	166TA6359
385 ÷ 575	640 ÷ 770	830 ÷ 895	NG3 CAN AIR	24 95	80	96	230	18	166TA6361
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG3 CAN AIR	24 100	100	100	230	22	166TA6363
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG5 CAN AIR	24 120	100	120	400	5	166TA6365
575 ÷ 865	960 ÷ 1150	1250 ÷ 1345	NG9 CAN AIR	24 145	120	144	400	6	166TA6367
960 ÷ 1440	1600 ÷ 1920	2080 ÷ 2240	NG9+ CAN AIR	24 200	200	200	400	8	166TA6369
36 V									
95 ÷ 145	160 ÷ 190	210 ÷ 225	NG1 CAN AIR	36 25	20	24	230	6	166TA6371
290 ÷ 430	480 ÷ 575	625 ÷ 670	NG3 CAN AIR	36 70	60	72	230	20	166TA6373
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG5 CAN AIR	36 120	100	120	400	7	166TA6375
575 ÷ 865	960 ÷ 1150	1250 ÷ 1345	NG9 CAN AIR	36 145	120	144	400	9	166TA6377
48 V									
85 ÷ 130	145 ÷ 175	185 ÷ 200	NG1 CAN AIR	48 22	18	21.6	230	7	166TA6379
175 ÷ 260	290 ÷ 345	375 ÷ 405	NG3 CAN AIR	48 45	36	43.2	230	16	166TA6381
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG3 CAN AIR	48 60	50	60	230	22	166TA6383
385 ÷ 575	640 ÷ 770	830 ÷ 895	NG5 CAN AIR	48 95	80	96	400	8	166TA6385
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG7 CAN AIR	48 120	100	120	400	10	166TA6387
575 ÷ 865	960 ÷ 1150	1250 ÷ 1345	NG9 CAN AIR	48 145	120	144	400	12	166TA6389
650 ÷ 970	1080 ÷ 1295	1405 ÷ 1510	NG9+ CAN AIR	48 160	135	162	400	13	166TA6391
72 V									
50 ÷ 70	80 ÷ 95	105 ÷ 110	NG1 CAN AIR	72 12	10	12	230	6	166TA6393
145 ÷ 215	240 ÷ 290	310 ÷ 335	NG3 CAN AIR	72 35	30	36	230	19	166TA6395
265 ÷ 395	440 ÷ 530	570 ÷ 615	NG5 CAN AIR	72 65	55	65	400	8	166TA6397
430 ÷ 650	720 ÷ 865	935 ÷ 1010	NG9 CAN AIR	72 110	90	110	400	13	166TA6399
80 V									
130 ÷ 195	215 ÷ 260	280 ÷ 300	NG3 CAN AIR	80 30	25	30	230	19	166TA6401
240 ÷ 360	400 ÷ 480	520 ÷ 560	NG5 CAN AIR	80 60	50	60	400	8	166TA6403
300 ÷ 450	500 ÷ 600	650 ÷ 700	NG7 CAN AIR	80 75	62.5	75	400	10	166TA6405
385 ÷ 575	640 ÷ 770	830 ÷ 895	NG9 CAN AIR	80 100	80	96	400	13	166TA6407
480 ÷ 720	800 ÷ 960	1040 ÷ 1120	NG9+ CAN AIR	80 120	100	120	400	16	166TA6409

CHARGERS

HIGH-FREQUENCY CHARGERS

BATTERY HIGH-FREQUENCY CHARGER BOX



PROTECT YOUR BATTERY CHARGERS

Technical data:

- Max dimensions of the battery charger (WxLxH): 620 x 620 x 945 mm
- Dimensions of the box (WxLxH): 700 x 700 x 1175 mm
- Capacity: 160 kg
- Weight: 81 kg
- Fork pocket inner dimensions (WxH): 190 x 90 mm
- Min fork spread: 310 mm

Features:

- Suitable for transport of different sizes of battery chargers
- The box is adjustable in height
- Fitted onto the forks of the lift truck
- The battery charger is secured with 2 straps, allowing the battery charger door to be opened at all times
- The cables with electrical plug are safely stored underneath the battery charger
- Can be stacked up to 3 rows high

REF [168TA1617](#) - Only box for HF charger

REF [168TA1618](#) - Charger 24 V/45 A + box

REF [168TA1619](#) - Charger 48 V/95 A + box

REF [168TA1620](#) - Charger 80 V/75 A + box

REF [168TA1621](#) - Charger 80 V/100 A + box

UNIVERSAL BATTERY CHARGER BOX



PROTECT YOUR BATTERY CHARGERS

Technical data:

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- Dimensions of the box (WxLxH): 700 x 700 x 1175 mm
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Features:

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- The cables with electrical plug are safely stored underneath the battery charger
- Can be stacked up to 3 rows high

REF [131TA4944](#)

REF [168TA7897](#) - Model with bottle 20 l + box to store the cable

The box is adjustable in height

ACCESSORIES FOR HIGH-FREQUENCY CHARGERS



- Thermal sensor CAN bus**
- Kit probe termical CAN bus range log. rid.
 - Length: 5 m

REF [166TA6410](#)



- External indicator CAN bus**
- Indicator CAN bus range
 - Length: 3 m
 - Micro-Fit: 12 VIE

REF [166TA6411](#)



- External indicator**
- CBHD1-XR-P
 - CBHD3
 - Remote 3 LED indicator LBF318EZ

REF [168TA1623](#)



- Kit LED extension CAN bus**
- Prol. LED CAN bus range
 - D: 10 mm, 100 cm
 - Micro-Fit 12 VIE

REF [166TA6412](#)



- Thermal sensor and remote indicator CAN bus**
- Prol. LED and probe CAN bus range
 - Length: 300 cm
 - Micro-Fit: 12 VIE

REF [166TA6413](#)



- Support**
- Suitable for: NG1/NG3/NG5/NG7/NG9

REF [116TA6111](#)

- Indicator**
- Displays the charging phase for integrated chargers

REF [116TA6113](#) - Remote indicator, 2.5 m

- For UBC/BC 1
- Ø 22 mm installation hole

REF [116TA6115](#) - Remote indicator, 2 m

- For NG1/NG3/NG5/NG7/NG9
- Ø 22 mm installation hole)

REF [138TA7004](#) - Remote indicator, 4 m

- For NG1/NG3/NG5/NG7/NG9
- Ø 22 mm installation hole



- Plastic rotary handle**
- Diameter: 67 mm

REF [166TA3171](#)



- Interlock security**
- Automatically stops the truck when main voltage is present
 - For BC1, NG1 and NG3

REF [116TA6118](#)



- Switch**
- 40 A
 - 690 V - 50 Hz
 - Dimensions: 65 x 55 x 53 mm

REF [166TA3172](#)

CHARGERS

HIGH-FREQUENCY CHARGERS

ENERGIC Plus

HIGH-FREQUENCY CHARGERS

- Single-phase battery chargers
- High-frequency system with advanced technology
- Charging process controlled by microprocessor
- Thermal protection
- High brightness digital display
- Voltage: 12 V and 24 V
- Programmable for charging curve, charging current and battery voltage via "dip switch"
- Suitable for lead-acid, sealed, gel traction

Features:

- Active PFC
- Metal case with handle
- Portable design
- Stand-alone application

Specifications:

- Dimensions (LxWxH): 280 x 200 x 137 mm
- Protection grade: IP30
- Input voltage: universal 100 ÷ 240 VAC - 50-60 Hz



SINGLE-PHASE HIGH-FREQUENCY CHARGER FOR ON/OFF BOARD USE

Fig	Type	Current A	Charging time (C5/Ah) 10-12 h Ah	Charging time (C20/Ah) 10-12 h Ah	REF
1.	12 V				
	CBHD1-XR-P	15	100-150	130-185	166TA5955
	CBHD3	30	200-280	245-350	166TA5957
2.	24 V				
	CBHD1-XR-P	15	100-150	130-185	166TA5954
	CBHD3	30	200-280	245-350	166TA5956

Type	Current A	Charging time (C5/Ah) 8-9 h Ah	Charging time 10-12 h Ah	Charging time (C20/Ah) 10-12 h Ah	REF
12 V					
CBHF2-M	15	80-110	100-150	130-185	166TA7238
CBHF2-M	20	95-120	120-195	150-240	166TA7239
CBHF2-M	25	120-160	180-260	220-315	166TA7240
CBHF2-M	30	145-180	200-280	245-350	166TA7241
24 V					
CBHF2-M	15	80-110	100-150	130-185	166TA7242
CBHF2-M	20	95-120	120-195	150-240	166TA7243
CBHF2-M	25	120-160	180-260	220-315	166TA7244
CBHF2-M	30	145-180	200-280	245-350	166TA7245
36 V					
CBHF2-M	15	80-110	100-150	130-185	166TA7246
CBHF2-M	20	95-120	120-195	150-240	166TA7247
CBHF2-M	25	120-160	180-260	220-315	147TA5194
45 V					
CBHF2-M	15	80-110	100-150	130-185	166TA7248
CBHF2-M	20	95-120	120-195	150-240	147TA6884

XMV - UNIVERSAL BATTERY CHARGER AND CONDITIONER



The XMV is a multivoltage, programmable battery charger with universal capabilities. It supports batteries of any type, chemistry, voltage or size, from single cells to large packs. The state-of-the-art architecture of the power conversion system combines performance, energy efficiency and robustness, and it makes these systems easily customizable. With standard power ranges from 12 kW to 40 kW and a highly flexible connectivity package, XMV can support all battery lab applications: formation, testing, cycling, de-sulphation, regeneration. XMV digital control systems include a set of pre-loaded charging profiles, and it allows the creation of additional, fully customized, profiles. The extreme precision of the output current and voltage control allow the generation of high-quality charging profiles, that are perfectly consistent and repeatable, even in case of unstable AC input voltage and wide temperature variations.

The complete absence of output current ripple minimizes the battery temperature rise, while maximizing system efficiency. The XMV is the perfect choice for battery manufacturing facilities, testing and recovery labs, and repair shops.

Advantages:

- Universal battery charger
- All battery chemistries supported
- Optimized for battery cycling, testing and de-sulphation
- Highly efficient in continuous heavy-duty operation
- Fully programmable
- Maximum safety, unparalleled productivity
- Easy to install, configure, service and repair
- Future-proof, scalable architecture
- Fail-safe fully automatic operation
- Input voltages and certifications for worldwide deployment
- Seamless integration with battery lab equipment

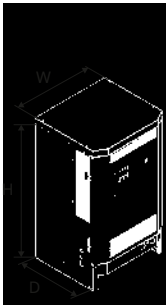
Model 1-phases 1 x 230 VAC 50/60 Hz

Model	Maximum output power	Nominal battery voltage	Max DC current @ 24/48/80 VDC	Connector	AC input voltage	AC input current	Power factor	Idle power	Cabinet type	REF
	kW	VDC	VDC		VAC	A		W		
XMV-M.50EU	3	2/80	0/120	50/50/25	1 x 230	15	>0.9	10	TD	168TA1625
XMV-M.80	3	2/48	0/70	80/50/X	1 x 230	15	>0.9	10	TD	168TA1626

Model 3-phases 3 x 400/415 VAC 50/60 Hz

Model	Maximum output power	Nominal battery voltage	DC output voltage range	Max DC current @ 24/48/80 VDC	Connector	AC input voltage	AC input current	Power factor	Idle power	Cabinet type	REF
	kW	VDC	VDC			VAC	A		W		
XMV.12.EU	12	2/96	0/150	200/200/150	Single	3 x 400	20	>0.98	<10	TL	167TA8890
XMV.15.EU	15	2/96	0/150	250/250/188	Single	3 x 400	25	>0.98	<10	TL	167TA8891
XMV.20S.EU	20	2/96	0/150	250/250/250	Single	3 x 400	41	>0.99	<10	TP	167TA8892
XMV.20.EU	20	2/96	0/150	320/320/250	Single	3 x 400	41	>0.99	<10	TP	167TA8893
XMV.30.EU	30	2/96	0/150	500/500/375	Single or dual	3 x 400	61	>0.99	<10	TP	167TA8894
XMV.40.EU	40	2/96	0/150	600/600/500	Single or dual	3 x 400	82	>0.99	<10	TP	167TA8895

Cabinet TL



Cabinet TP



Width (W)	Depth (D)	Height (H)	Installation	IP rating	Cooling
530 mm	483 mm	929 mm	Indoor	IP21	Forced ventilation, air intake on the back, air outlets on the front and sides
20.9"	19.0"	36.6"		(optional IP54 for outdoor installation)	
712 mm	560 mm	1210 mm			
28.0"	22.0"	47.6"			

Features:

- Certified to the highest safety, efficiency and environmental sustainability standards
- Programmable charging curve
- Standard charging curves and parameters pre-programmed for quick setup
- Built-in Datalogger for easy troubleshooting
- Real-time monitoring and compensation of battery voltage, temperature, state of charge (SOC) and state of health (SOH)
- Automatic compensation of DC cable voltage drop
- Status display via graphic LCD, audible alarm and high brightness multicolor LEDs
- Anti-arcing on battery disconnection via auxiliary contacts
- Active protection circuitry, with automatic detection of: wrong battery, reverse polarity, overload, over-temperature, wrong AC input voltage or missing phase, temporary black-out of the mains, blocked fan, obstructed air flow, BMS malfunction, DC contactor malfunction.
- Connectivity options: CAN bus, USB, Ethernet, WiFi, Bluetooth
- Optional:
 - Stacklight for enhanced visibility of charger and battery status
 - Auto watering system
 - Air pump for electrolyte recirculation

CHARGERS

HIGH-FREQUENCY CHARGERS

HF MULTIVOLTAGE BATTERY CHARGER

ENERGIC Plus



This high-frequency multivoltage battery charger with CAN bus is a fully digital device with a double function: constant current generator and battery charger, with CAN bus interface. Versatility, efficiency, and on the spot service remain its fundamental points of strength, combined together with the innovative features of CAN bus chargers: "flash" microprocessor endowing enabling high calculation power and huge storage capacity, regulation of all charging features by a single button, and the possibility to view in historical data concerning previous charge cycles.

As current generator: allows recovery of sulphated or total discharged batteries. Using MODE button, a constant current charge can be sustained for a long duration, achieving de-sulphation of batteries.

As battery charger: allows the recharge of batteries from 2 to 96 V nominal, with adjustable current from 0 to 50 A, and selectable time from 1 to 100 hours.

- Charger weight only 9 kg and is easy to move.
- This unit can be used for on-site assistance, providing improved charging of any battery or replacement of any old charger that may have failed.

REF [124TA1705](#)

I1	IMAX	Mains	Type	Voltage	VAC	Charging times		
						10 h Ah	11-12 h Ah	13-18 h Ah
A	A	A		V				
50	50	1-15	2-96 50	2-96	400	50-400	450-520	560-950

HF BATTERY CHARGER FOR CLUB CAR, E-Z-GO AND YAMAHA

ENERGIC Plus



- UL-approved, CE-certified
- User manual with troubleshooting codes
- Set to flooded lead-acid batteries (AGM or Gel settings available on request)
- Easy-to-read red, yellow, green lights indicate the charge status
- Lightweight (5.4 kg) and portable thanks to the convenient handle (dimensions: 270 x 190 x 120 mm)
- Float feature allows for batteries to maintain full charge at the end of charge cycle
- Choose DC-connectors for various golf carts including 36/48 V E-Z-GO, 36/48 V Club Car and 48 V Yamaha
- Begin charge cycle with batteries as low as 2 volts
- Programmable voltages/current

Charger can be set for 36 V or 48 V operation by opening the lid and modifying the dipswitch configuration. If you order one of the above references it will be preset to the corresponding voltage.

REF [147TA5194](#) - For 36 V 25 A
REF [147TA6884](#) - For 48 V 20 A



Current A	Charging time (5 h)		Charging time (20 h)	REF
	8-9 h	10-12 h	10-12 h	
12 V				
15	80-110	100-150	130-185	166TA7238
20	95-120	120-195	150-240	166TA7239
25	120-160	180-260	220-315	166TA7240
30	145-180	200-280	245-350	166TA7241
24 V				
15	80-110	100-150	130-185	166TA7242
20	95-120	120-195	150-240	166TA7243
25	120-160	180-260	220-315	166TA7244
30	145-180	200-280	245-350	166TA7245
36 V				
15	80-110	100-150	130-185	166TA7246
20	95-120	120-195	150-240	166TA7247
25	120-160	180-260	220-315	147TA5194
48 V				
15	80-110	100-150	130-185	166TA7248
20	95-120	120-195	150-240	147TA6884

CONNECTION CABLES



REF [147TA6131](#)



REF [147TA6132](#)



REF [147TA6133](#)



REF [147TA6134](#)



REF [147TA6135](#)



REF [147TA6136](#)



REF [147TA6137](#)

DISCOVER OUR RANGE

Vehicle	36 V E-Z-GO	48 V E-Z-GO	48 V E-Z-GO TXT	36 V Club Car/ Yamaha G9, G14, G16	48 V Club Car	Yamaha G19, G22	TDRE Yamaha
Set of 3 connection cables REF 147TA6151	-	✓	-	✓	✓	-	-
Set of the 7 connection cables REF 147TA6152	✓	✓	✓	✓	✓	✓	✓
REF connection cable	147TA6131	147TA6132	147TA6133	147TA6134	147TA6135	147TA6136	147TA6137

CHARGERS

HIGH-FREQUENCY CHARGERS

HIGH-FREQUENCY CHARGERS



ABOUT FRONIUS

A passion for new technologies, intensive research and revolutionary solutions have been shaping the Fronius brand since 1945. As the technology leader, we find, develop and implement innovative methods to monitor and control energy for welding technology, photovoltaics and battery charging. We forge new paths, try something difficult and succeed where others have failed in achieving what seems to be impossible. But these are not the only reasons why Fronius is the global leader in innovation and technology. We have a clear vision, an unremittingly inventive spirit and an ingrained sense of quality, so we can keep shifting the limits of what is possible and set the trends that change the market. In the Business Unit Perfect Welding, we direct our attention to generating the perfect arc to ensure consistently high welding quality. The focus for our Business Units Solar Energy and

Perfect Charging is to have a reliable and comprehensive supply of energy – 24 hours a day.

The advanced technology and sheer quality of the innovative products from Fronius have filled people with enthusiasm for generations, inspiring confidence, trust and satisfaction. Their sustainability is impressive, they boost productivity, increase energy yields and also reduce operating costs. They help our customers to make significant progress and lay the foundations for growth and successful development. Fronius has 37 subsidiaries on five continents – yet we are still the same owner-managed company we have always been, combining the values of a family business with regional roots, with the visions of a global company.

ACCTIVA EASY

COMPACT CONNECTOR SYSTEM FOR CHARGING AND TESTING

- Easy charging: suitable for charging and for charge conservation of all lead starter batteries
- Testing: test function for starting capability and generator function
- Display: charging status indicated by bars on display
- Safety: maximum safety for vehicle, vehicle electronics and battery
- Winter storage: ideal for getting starter batteries through the winter



STD CA AGM EFB START STOP GEL

DC voltage	DC current	Capacity	Type battery	Protection class	AC voltage	REF
V	A	Ah				
12	2	1-85	Lead-acid, gel, AGM	IP30	110/230 VAC 50/60 Hz	166TA6289
12	4	2-150	Lead-acid, gel, AGM	IP30	110/230 VAC 50/60 Hz	166TA6290
12	6	3-200	Lead-acid, gel, AGM	IP30	110/230 VAC 50/60 Hz	166TA6291
24	3	1.5-100	Lead-acid, gel, AGM	IP30	110/230 VAC 50/60 Hz	166TA6243
6 / 12	4 / 3	2-100	Lead-acid, gel, AGM	IP30	230 VAC 50/60 Hz	166TA6248
12 / 24	4 / 2.5	2-90	Lead-acid, gel, AGM	IP30	230 VAC 50/60 Hz	166TA6249

ACCTIVA SELLER 30 A

A RELIABLE POWER SUPPLY FOR THE SHOWROOM

- Easy charging: suitable for charging and for charge conservation of all lead starter batteries
- Vehicle presentation: special software for preserving the battery capacity
- Design: compact design for stowing out of sight. Edge protector to prevent paint damage
- Display/operation: clear LED display and straightforward "Plug and Charge" operation
- Safety: maximum safety for vehicle, vehicle electronics and battery



STD CA AGM EFB START STOP GEL

DC voltage	DC current	Capacity	Type battery	Protection class	AC voltage	REF
V	A	Ah				
12	30	For all car batteries	Lead-acid, gel, AGM	IP40	230 V 50/60 Hz	166TA6292

HIGH-FREQUENCY CHARGERS



STD CA AGM EFB START STOP GEL

ACCTIVA SMART 25 A

THE ALL-ROUNDER FOR A WIDE RANGE OF APPLICATIONS

- Smart charging: automatic charging and buffering of parallel consumers during short service periods
- Refresh mode: regenerates deep discharge batteries (desulphating)
- Battery replacement: the back-up mode ensures that the user settings in the vehicle are retained while the battery is being changed
- Display/operation: graphic display with user guidance
- Safety: maximum safety for vehicle, vehicle electronics and battery

DC voltage	DC current	Capacity	Type battery	Protection class	AC voltage	REF
V	A	Ah				
6/12/24	25	3-250	Lead-acid, gel, AGM	IP40	230 V 50/60 Hz	166TA6293



STD CA AGM EFB START STOP GEL

ACCTIVA PROFESSIONAL 35 A

THE PROFESSIONAL CHARGING SYSTEM FOR THE WORKSHOP

- Professional charging: automatic charging and buffering of parallel consumers during short service periods
- Battery replacement: the back-up mode ensures that the user settings in the vehicle are retained while the battery is being changed
- Diagnosis and software updates: buffering mode supplies parallel consumers with up to 35 A of current during diagnosis and software updates
- Power supply mode: enables an external power supply without a battery
- Display/operation: graphic display with user guidance, if necessary with an expert mode

DC voltage	DC current	Capacity	Type battery	Protection class	AC voltage	REF
V	A	Ah				
6/12/24	35	3-350	Lead-acid, gel, AGM	IP40	230 V 50/60 Hz	166TA6241



STD CA AGM EFB START STOP GEL

ACCTIVA PROFESSIONAL FLASH 70 A

THE PROFESSIONAL POWER SUPPLY FOR DIAGNOSIS AND SOFTWARE UPDATES

- Professional charging: automatic charging and buffering of parallel consumers during short service periods
- Refresh mode: regenerates deep discharge batteries (desulphating)
- Diagnosis and software updates: buffering mode supplies parallel consumers with up to 70 A of current during diagnosis and software updates
- Testing: test function for the charging capability of the battery
- Display/operation: clear display and straightforward "Plug and Charge" operation

DC voltage	DC current	Capacity	Type battery	Protection class	AC voltage	REF
V	A	Ah				
12	70	10-250	Lead-acid, gel, AGM	IP21	230 V 50/60 Hz	166TA6250

CHARGERS

HIGH-FREQUENCY CHARGERS

HIGH-FREQUENCY CHARGERS



SELECTIVA FAMILY

BATTERY CHARGER FOR LEAD-ACID BATTERIES



Selectiva 1 kW

- Type: 1 kW
- Dimensions (WxHxD): 247 x 162 x 88 mm
- Weight including charging and mains leads: 4 kg
- Protection class: IP40
- Mains lead: 2 m
- Charging lead: 2.5 m
- Mains voltage: 1 x 230 VAC (-15%/+15%)



Selectiva 2 kW

- Type: 2 kW
- Dimensions (WxHxD): 341 x 198 x 110 mm
- Weight including charging and mains leads: 6 kg
- Protection class: IP21
- Mains lead: 2.5 m
- Charging lead: 3 m
- Mains voltage: 1 x 230 VAC (-15%/+15%)



Selectiva 3 kW

- Type: 3 kW
- Dimensions (WxHxD): 417 x 198 x 110 mm
- Weight including charging and mains leads: 8 kg
- Protection class: IP21
- Mains lead: 2.5 m
- Charging lead: 3 m
- Mains voltage: 1 x 230 VAC (-15%/+15%)



Selectiva 8 kW

- Type: 8 kW
- Dimensions (WxHxD): 633 x 344 x 180 mm
- Weight including charging and mains leads: 23 kg
- Protection class: IP20
- Mains lead: 3 m
- Charging lead: 3 m
- Mains voltage: 3 x 400 VAC (-10%/+30%)



Selectiva 16 kW

- Type: 16 kW
- Dimensions (WxHxD): 647 x 392 x 247 mm
- Weight including charging and mains leads: 34 kg
- Protection class: IP20
- Mains lead: 3 m
- Charging lead: 3 m
- Mains voltage: 3 x 400 VAC (-10%/+30%)

HIGH-FREQUENCY CHARGERS



SELECTION TABLE

THE RIGHT CHARGER FOR YOUR BATTERY AND CHARGING TIME

Output	Capacity				Devices designation	Mains			REF	
	Wet batteries (PZS)		VRLA batteries			Voltage	Current	Power		Fuse
Current	6 h*	13 h*	10 h	12 h	ACV				A	
A	Ah	Ah	Ah	Ah						
12 V										
20	110	300	120	135	Selectiva 1020 / 1 kW	1 x 230	3	0.3	16	166TA6186
30	160	450	180	200	Selectiva 1030 / 1 kW	1 x 230	3	0.4	16	166TA6187
24 V										
10	52	150	55	70	Selectiva 2010 / 1 kW	1 x 230	3	0.3	16	166TA6188
15	80	225	80	100	Selectiva 2015 / 1 kW	1 x 230	3	0.4	16	166TA6189
20	110	300	120	135	Selectiva 2020 / 1 kW	1 x 230	4	0.7	16	166TA6190
32	180	480	190	215	Selectiva 2032 / 1 kW	1 x 230	8	1	16	166TA6191
35	200	525	220	235	Selectiva 2040 / 1 kW	1 x 230	8	1.1	16	166TA6192
40	225	660	225	270	Selectiva 2040 / 2 kW	1 x 230	8	1.1	16	166TA6193
50	280	825	280	335	Selectiva 4.0 2050 / 2 kW	1 x 230	10	1.9	16	166TA6194
60	340	990	335	400	Selectiva 4.0 2060 / 2 kW	1 x 230	12	2.3	16	166TA6195
70	395	1155	390	470	Selectiva 4.0 2070 / 2 kW	1 x 230	12	2.4	16	166TA6196
80	450	1320	445	535	Selectiva 4.0 2080 / 3 kW	1 x 230	15.2	3	16	166TA6199
100	560	1650	560	670	Selectiva 4.0 2100 / 3 kW	1 x 230	15	3.3	16	166TA6200
100	560	1650	560	670	Selectiva 4.0 2100 / 8 kW	3 x 400	7	3.9	16	166TA6204
120	620	1815	620	740	Selectiva 4.0 2120 / 3 kW	1 x 230	16	3.3	16	166TA6201
120	670	1980	670	800	Selectiva 4.0 2120 / 8 kW	3 x 400	8	4.6	16	166TA6205
140	800	2310	780	935	Selectiva 4.0 2140 / 8 kW	3 x 400	9	5.4	16	166TA6206
160	930	2640	890	1070	Selectiva 4.0 2160 / 8 kW	3 x 400	10	6.1	16	166TA6207
180	1010	2970	1000	1200	Selectiva 4.0 2180 / 8 kW	3 x 400	11	6.9	16	166TA6208
200	1120	3300	1110	1335	Selectiva 4.0 2200 / 8 kW	3 x 400	12	7.6	16	166TA6209
36/48 V										
20	110	300	110	135	Selectiva 4.0 4020 / 2 kW	1 x 230	8	1.5	16	166TA6197
35	185	545	195	235	Selectiva 4.0 4035 / 2 kW	1 x 230	12	2.3	16	166TA6198
45	250	740	250	300	Selectiva 4.0 4045 / 3 kW	1 x 230	15	3.3	16	166TA6202
60	310	910	310	365	Selectiva 4.0 4060 / 3 kW	1 x 230	15	3.3	16	166TA6203
60	340	990	335	400	Selectiva 4.0 4060 / 8 kW	3 x 400	7	4.6	16	166TA6211
75	420	1240	420	500	Selectiva 4.0 4075 / 8 kW	3 x 400	9	5.7	16	166TA6212
90	505	1485	500	600	Selectiva 4.0 4090 / 8 kW	3 x 400	11	6.8	16	166TA6213
120	670	1980	670	800	Selectiva 4.0 4120 / 8 kW	3 x 400	14	9.1	16	166TA6214
140	800	2310	780	930	Selectiva 4.0 4140 / 8 kW	3 x 400	14	9.3	16	166TA6215
160	870	2508	860	1035	Selectiva 4.0 4160 / 8 kW	3 x 400	15	9.4	16	166TA6216
72/80 V										
40	225	660	225	270	Selectiva 4.0 8040 / 8 kW	3 x 400	8	5.0	16	166TA6218
60	340	990	335	400	Selectiva 4.0 8060 / 8 kW	3 x 400	12	7.4	16	166TA6219
75	420	1240	420	500	Selectiva 4.0 8075 / 8 kW	3 x 400	14	9.1	16	166TA6220
90	495	1430	485	580	Selectiva 4.0 8090 / 8 kW	3 x 400	14	9.2	16	166TA6221
120	670	1980	670	800	Selectiva 4.0 8120 / 16 kW	3 x 400	24	14.8	32	166TA6233
140	800	2310	780	935	Selectiva 4.0 8140 / 16 kW	3 x 400	28	17.3	32	166TA6234
160	930	2640	890	1070	Selectiva 4.0 8160 / 16 kW	3 x 400	30	18.2	32	166TA6235
180	1000	2870	970	1170	Selectiva 4.0 8180 / 16 kW	3 x 400	31	18.3	32	166TA6236

Valid for all charging processes: battery temperature 27 °C, charging times can fluctuate by about ± 0.5 hours.
Using a pneumatic electrolyte circulation system, the charging time is shortened by approx 1 hour compared to standard.
Charging instructions by battery manufacturer have to be observed!

CHARGERS

HIGH-FREQUENCY CHARGERS



HIGH-FREQUENCY CHARGERS

Option	Selectiva 1 kW	Selectiva 2 kW	Selectiva 3 kW	Selectiva 8 kW	Selectiva 16 kW
Aquamatic	-	✓	✓	✓	✓
External start/stop	✓	✓	✓	✓	✓
Remote control system (length 30 m)	-	✓	✓	✓	✓
Relay board	-	✓	✓	✓	✓
Charging status indication	✓	Standard	Standard	Standard	Standard
LED strip	-	✓	✓	✓	✓
Floor bracket	-	✓	✓	✓	✓
Wall bracket	✓	✓	✓	✓	✓
Edge guard	✓	✓	✓	-	-
Carrying strap + carrying bar		✓	✓	✓	✓
Common error message	✓	✓	✓	✓	✓
USB interface	✓	Standard	Standard	Standard	Standard
Temperature-controlled charging	✓	✓	✓	✓	✓
Immobiliser device	✓	✓	✓	✓	✓
Air filter	-	✓	✓	✓	✓
IP23	-	-	-	✓	✓
Safety check label	-	✓	✓	✓	✓
Dealer text	-	✓	✓	✓	✓
Warranty extension up to 12 months	✓	✓	✓	✓	✓
Warranty extension up to 36 months	✓	✓	✓	✓	✓
Charging plugs	We are pleased to offer you charging plugs on enquiry				



DELTA-Q CHARGERS

ABOUT DELTA-Q

The “Charged by Delta-Q” mark indicates that a battery was iteratively tested and validated with Delta-Q’s chargers, software, and charge algorithms.

Charging Performance

Delta-Q is an expert in understanding the charging requirements of lead-acid and lithium batteries. Charging logic is captured in a ‘charge profile’ instructions that guide the charger in returning energy to the batteries. We develop, iteratively test, and validate these charge profiles in an extensive battery lab, often with the involvement of battery manufacturers and OEM engineers.

With highly reliable hardware and robust software, our charging solutions adapt to the difficult operating conditions and scenarios that our OEM customers’ machines face in the field. Delta-Q continually expands its battery charger line to serve OEM customers at various power levels, adding software capabilities and developing charge profiles for more batteries.

Why choose for a Delta-Q charger?

- Charger lasts up to 8 times longer
- Electricity savings and shorter charge times
- Fits on multiple applications
- Easy to integrate
- Customisable charge profiles

GET MORE OUT OF YOUR BATTERY THANKS TO THE CUSTOMISABLE CHARGE PROFILES

The big difference between the Delta-Q charger and a standard battery charger is that Delta-Q uses the specific battery charging profile created by the manufacturer.

What does this mean?

With a standard battery charger, your battery will have 50% of its original capacity left after about 130 cycles. When you use a Delta-Q battery charger, you’re able to use the original battery charging profile. This makes that your battery will only be at 50% capacity after 300 cycles.

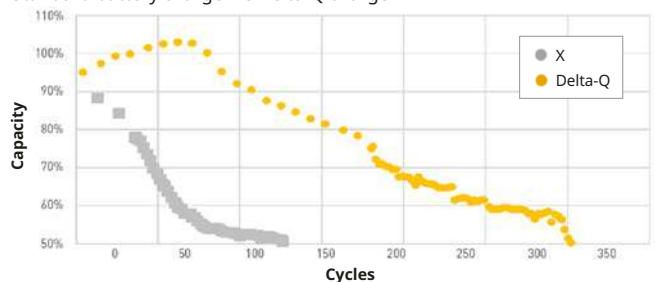
Conclusion: with Delta-Q you’ll get twice as much out of your battery.

On which machines can I use the Delta-Q charger?

- Mobile elevating work platforms
- Ground support equipment
- Material handling equipment
- Personnel & burden carriers
- Scrubbers & sweepers
- Terminal tractors

Battery capacity:

Standard battery charger vs Delta-Q charger



IC SERIES

- Lead-acid and lithium-ion chargers provide superior reliability, charge quality, ease of integration: 650/900/1200 W



DC voltage	DC max current	CAN bus	Capacity range	REF
V	A		Ah	
24	27	No	150–560	141TA7908
24	27	Yes	150–560	166TA7452
24	37	No	100–780	165TA2196
24	37	Yes	100–780	166TA7453
24	50	No	100–1035	163TA7958
24	50	Yes	100–1035	166TA7454
36	18	No	150–375	166TA7455
36	18	Yes	150–375	166TA7456
36	25	No	70–520	165TA2197
36	25	Yes	70–520	166TA7457
36	33	No	70–690	165TA2194
36	33	Yes	70–690	166TA7458
48	13.5	No	50–280	141TA7910
48	13.5	Yes	50–280	166TA7459
48	20	No	50–400	165TA2198
48	20	Yes	50–400	166TA7460
48	25	No	50–520	165TA2195
48	25	Yes	50–520	166TA7461

CHARGERS

HIGH-FREQUENCY CHARGERS

DELTA-Q CHARGERS



RQ SERIES

- The RQ350 is redefining quality in the 350 W battery charger market
- It is IP66 rated charger with CAN bus communication for telematics

DC max voltage	DC max current	CAN bus	REF
V	A		
12	15	No	166TA7444
12	15	Yes	166TA7445
24	13	No	166TA7446
24	13	Yes	166TA7447
36	10	No	166TA7448
36	10	Yes	166TA7449
48	7	No	166TA7450
48	7	Yes	166TA7451

ICL SERIES

ICL Series is Delta-Q Technologies lithium only line of battery chargers: 900/1200/1500 W

DC max voltage	DC max current	CAN bus	REF
V	A		
57	27	Yes	166TA7462
57	33.3	Yes	166TA7463
58	33.3	Yes	166TA7464
85	20	Yes	166TA7465
85	25	Yes	166TA7466
120	15	Yes	166TA7467
120	18.7	Yes	166TA7468

RC SERIES

Built with our customers in mind, this set-feature charger is capable of charging lithium-ion and lead-acid batteries: 900/1000/1200 W

DC voltage	DC max current	CAN bus	Remark	REF
V	A		Ah	
24	41	Yes	CAN terminated	166TA7469
24	41	Yes	CAN unterminated	166TA7470
36	25	Yes	CAN terminated	166TA7471
36	25	Yes	CAN selectable	166TA7472
36	33	Yes	CAN terminated	166TA7473
36	33	Yes	CAN selectable	166TA7474
48	20	Yes	CAN terminated	166TA7475
48	20	Yes	CAN selectable	166TA7476
48	25	Yes	CAN terminated	166TA7477
48	25	Yes	CAN selectable	166TA7478

DELTA-Q CHARGERS



QUIQ SERIES

- QuiQ Series chargers share proven high-frequency electronics and an identical IP66-rated sealed mechanical enclosure.
- Customizable, including choice of up to 10 lab-validated charging profiles for lead-acid (wet/flooded, AGM, gel) or lithium-ion batteries.

DC voltage	DC current	Capacity range	REF	REF
V	A	Ah	1000 W, standard ring terminals	1000 W w/remote LED
24	25	25-565	163TA7949	166TA7479
36	21	25-475	163TA7950	166TA7480
48	18	50-410	163TA7951	166TA7481
72	12	40-275	165TA2192	166TA7482

DC voltage	DC current	REF	REF
V	A	1500 W, standard ring terminals	1500 W, Deutsch connector + SB50
48	30	165TA8005	163TA7956
72	20	-	163TA7957

DELTA-Q CHARGERS



THE XV3300: A 3-IN-1 CHARGING SOLUTION

The XV3300 is the first-in-class, 3-in-1 mid-power charging system! It is integrated with a 3.3 kW high-performance charger, 500 W DC/DC converter and an EV charging station (EVSE) interface. The XV3300 is compact, scalable and reliable – an ideal charging solution for powertrain electrification!

Technical specifications:

- Battery type: wet, lithium
- Weight: 7 kg
- Dimensions (WxLxH): 300 x 204 x 110 mm
- CAN bus: yes

AC voltage	AC current	DC voltage	DC current	REF
V	A	V	A	
85/265	16	30/58.8	65	168TA1627
85/265	16	30/58.8	65	168TA8013
85/265	16	30/65	65	168TA1628
85/265	16	30/65	65	168TA1633
85/265	16	70/120	40	168TA1629
85/265	16	70/120	40	168TA1630
85/265	16	70/120	40	168TA8014

CHARGERS

HIGH-FREQUENCY CHARGERS

ACCESSORIES FOR DELTA-Q CHARGER



AC cable IC series Schuko

- Length: 2100 mm
- AC cord – IC650
- IP66

REF [165TA2193](#)



AC cable pigtail

- Length: 3000 mm
- Use only original delta Q cable for perfect seal

REF [166TA7485](#)



DC cable IC series

- Length: 1980 mm
- DC CORD – IC650
- With temperature sensor

REF [165TA8006](#)



AC cable GB 2099 CN

- Length: 3100 mm

REF [166TA7486](#)



Interlock

- Length: 390 mm
- With sensor

REF [166TA7483](#)



DC/signal cable CAN bus

REF [166TA7487](#)



Signal cable CAN bus

- Length: 5150 mm

REF [166TA7488](#)



Signal cable CAN bus

- Length: 1840 mm

REF [166TA7489](#)



Plastic handle IC series

- Length: 130 mm
- Width: 36 mm

REF [166TA7492](#)



Signal LED harness

- Length: 3000 mm
- With sensor

REF [166TA7490](#)

ACCESSORIES FOR DELTA-Q CHARGER



DC cover IC650

REF [166TA7493](#)



Remote LED

• Length: 3000 mm

REF [166TA7491](#)



Plastic handle QUIQ

• Length: 207 mm
• Width: 25 mm

REF [166TA7494](#)



Charger program kit QUIQ

REF [165TA8007](#)



LED label

• Length: 37 mm
• Height: 92 mm
• Kit of 10 stickers

REF [166TA7495](#)



AC cord Australia

REF [168TA7491](#)



AC cable loom UK

REF [168TA7493](#)



AC cord Europe

REF [168TA7492](#)

CHARGERS

HIGH-FREQUENCY CHARGERS

SIGNET - UNIVERSAL CHARGERS - HIGH-FREQUENCY

ABOUT SIGNET SYSTEM INC.

Signet Systems Inc., established in 1998, is a pioneering manufacturer of industrial battery chargers, inverters, power supplies, and other power conditioning systems. They made history with the world's first water-resistant switching charger and inverter, boasting a remarkable 92% efficiency rate. Signet's products serve leading U.S. companies in diverse industries, including scissor lifts, electric wheelchairs, utility vehicles, golf carts, and more.

Currently, focus is on developing on-board chargers for electric vehicles.



Model	DC voltage V	Max current A	REF
HB150-12V	12	10	161TA1580
HB250-12V	12	15	166TA7496
HBF450-12V	12	30	166TA7499
HB300-24V	24	15	166TA7497
HBF300-24V	24	15	166TA7498
HB500-24V	24	18	142TA2917
HB600-24V	24	19	139TA1760
HBS750-24V	24	25	164TA8165
HBF900-24V	24	30	138TA4273
HBS1200-24V	24	40	166TA7503
HBS1000-36V	36	23	166TA7500
HBS1000-48V	48	20	166TA7501
HB1000-48V	48	20	151TA2213
HBS1500-48V	48	25	166TA7502

SPE - UNIVERSAL CHARGERS - HIGH-FREQUENCY

S.P.E. ELETTRONICA INDUSTRIALE



ABOUT S.P.E ON-BOARD AND STAND-ALONE INDUSTRIAL ELECTRONIC CHARGERS



A HISTORY OF DEDICATION AND QUALITY

Founded in 1972 by Sergio Poletti, S.P.E. Elettronica Industriale is a family-owned company with a long history in the production of on-board and stand-alone battery chargers, and is constantly engaged in the development of solutions for charging batteries of all types (lead-acid, gel, AGM, lithium), offering both standard and customized products.

Located in Crevalcore (Bologna), S.P.E. Elettronica Industriale has gained a leading position in the electronic battery charger industry over the years. Thanks to the long experience and continuous R&D work implemented by its 90 employees, S.P.E. is able to guarantee the highest quality, reliability and satisfaction to its customers.

	Model	Battery voltage	Charging current	Battery range (5 h)	Battery range (20 h)	REF
		V	A	Ah	Ah	
	HF1-IP 12-10	12	10	60-100	70-130	166TA7504
	HF1-IP 12-13	12	13	80-130	90-150	166TA7505
	HF1-IP 24-10	24	10	60-100	70-130	166TA7506
	HF1-IP 24-13	24	13	-	-	166TA7272
	HF2-UI-PFC 24-20	24	20	-	160-280	166TA7507
	HF2-UI-PFC 24-25	24	25	175-270	210-315	141TA3263
	HF2-UI-PFC 36-15	36	15	100-150	130-180	166TA7508
	HF2-UI-PFC 36-20	36	20	120-195	150-235	166TA7509
	HF2-UI-PFC 48-12	48	12	85-135	105-165	166TA7510
	HF2-UI-PFC 48-15	48	15	100-150	130-180	166TA7511
	HF2-UI-PFC 48-17	48	17	110-180	140-220	166TA7512
	TORO 800	12	27	190-230	238-288	166TA7513
	TORO 800	24	27	190-230	238-288	166TA7514
	TORO 800	36	18	125-155	157-194	166TA7515
	TORO 800	48	13.5	95-115	118-144	166TA7516
	TORO1000 12-30	12	30	200-280	245-350	166TA7517
	TORO1000 24-30	24	30	200-280	245-350	166TA7518
	TORO1000 36-20	36	20	120-195	150-240	166TA7519
	TORO1000 48-15	48	15	100-150	130-185	166TA7520
	TORO1200 12-50	12	50	350-420	420-540	166TA7521
	TORO1200 24-50	24	50	350-420	420-540	166TA7522
	TORO1200 36-30	36	30	255-320	310-390	166TA7523
	TORO1200 48-25	48	25	175-210	210-270	166TA7524



* Can be set to the correct voltage and current via a dipswitch


CHARGERS


HIGH-FREQUENCY CHARGERS

SPE - UNIVERSAL CHARGERS - HIGH-FREQUENCY

S.P.E. ELETTRONICA INDUSTRIALE



	Model	Battery voltage	Charging current	Battery range		REF
		V	A	(5 h)	(20 h)	
				Ah	Ah	
	CBHF1-SM 12-4	12	4	20-40	30-50	152TA2173
	CBHF1-SM 12-8	12	8	40-80	60-105	
	CBHF1-SM 12-10	12	10	60-100	70-130	
	CBHF1-SM 12-12	12	12	90-120	120-157	
	CBHF1-SM 24-4	24	4	20-40	30-50	
	CBHF1-SM 24-8	24	8	40-80	60-105	
	CBHF1-SM 24-10	24	10	60-100	70-130	
	CBHF1-SM 24-12	24	12	90-120	120-157	
	CBHF1-V2 12-8	12	8	40-80	60-105	152TA6410
	CBHF1-V2 12-10	12	10	60-100	70-130	
	CBHF1-V2 12-12	12	12	90-120	120-157	
	CBHF1-V2 12-14	12	14	90-130	120-170	
	CBHF1-V2 24-8	24	8	40-80	60-105	
	CBHF1-V2 24-10	24	10	60-100	70-130	
	CBHF1-V2 24-12	24	12	90-120	120-157	
	CBHF1-V2 24-14	24	14	90-130	120-170	

	Model	Battery voltage	Charging current	Battery range			REF
		V	A	(8-9 h)	(10-12 h)	(20 h)	
				Ah	Ah	Ah	
	CBHF2 12-15	12	15	80-100	100-150	130-185	152TA4524
	CBHF2 12-20	12	20	95-120	120-195	150-240	
	CBHF2 12-25	12	25	120-160	180-260	220-315	
	CBHF2 12-30	12	30	145-180	200-280	245-350	
	CBHF2 24-15	24	15	80-100	100-150	130-185	
	CBHF2 24-20	24	20	95-120	120-195	150-240	
	CBHF2 24-25	24	25	120-160	180-260	220-315	
	CBHF2 24-30	24	30	145-180	200-280	245-350	
	CBHF2 36-15	36	15	80-110	100-150	130-185	
	CBHF2 36-20	36	20	95-120	120-195	150-240	
	CBHF2 36-25	36	25	120-160	180-260	220-315	
	CBHF2 48-15	48	15	80-110	100-150	130-185	
	CBHF2 48-20	48	20	95-120	120-195	150-240	

	Model	Battery voltage	Charging current	Battery range			REF	
		V	A	(8-9 h)	(10-12 h)	(20 h)	Wet	Gel
				Ah	Ah	Ah		
	CBHF2 12-35 (XP)	12	35	180-220	250-320	305-390	165TA7961	165TA7962
	CBHF2 12-40 (XP)	12	40	220-260	295-360	360-440	165TA7963	165TA7964
	CBHF2 24-35 (XP)	24	35	180-220	250-320	305-390	165TA7969	165TA7970
	CBHF2 24-40 (XP)	24	40	220-260	295-360	360-440	165TA7971	165TA7972
	CBHF2 36-30 (XP)	36	30	145-180	200-280	245-350	165TA7975	165TA7976
	CBHF2 48-22 (XP)	48	22	105-140	150-220	165-265	165TA7977	165TA7978

* Can be set to the correct voltage and current via a dipswitch

SPE - UNIVERSAL CHARGERS - HIGH-FREQUENCY




	Model	Battery voltage	Charging current	Battery range		REF
		V	A	(5 h) Ah	(20 h) Ah	
	CBHD1 COMPACT 12-2.5	12	2.5	10-25	15-30	166TA7526
	CBHD1 COMPACT 12-5	12	5	20-50	30-60	166TA7527
	CBHD1 COMPACT 24-2.5	24	2.5	10-25	15-30	166TA7528
	CBHD1 COMPACT 24-5	24	5	20-50	30-60	166TA7529
	CBHD1 SMALL 12-8	12	8	40-80	60-105	166TA7530
	CBHD1 SMALL 12-10	12	10	60-100	70-130	166TA7531
	CBHD1 SMALL 24-8	24	8	40-80	60-105	166TA7532
	CBHD1 SMALL 24-10	24	10	60-100	70-130	166TA7533
	CBHD1 SMALL 24-11.5	24	11.5	80-118		166TA7534
	CBHD1-XR 12-12	12	13	80-130	90-150	166TA7535
	CBHD1-XR 24-12	24	13	80-130	90-150	166TA7536
	CBHD1-XR-P 12-8	12	8	40-80	60-105	166TA7537
	CBHD1-XR-P 12-13	12	13	80-130	90-150	166TA7538
	CBHD1-XR-P 24-8	24	8	40-80	60-105	166TA7539
	CBHD1-XR-P 24-13	24	13	80-130	90-150	166TA7540
	CBHD2 12-15	12	15	100-150	130-180	141TA3261
	CBHD2 12-20	12	20	120-195	150-235	
	CBHD2 24-15	24	15	100-150	130-180	
	CBHD2 24-18	24	18	-	-	
	CBHD2 24-20	24	20	120-195	150-235	
	CBHD3 12-15	12	15	100-150	130-180	166TA7541
	CBHD3 12-20	12	20	120-195	150-240	
	CBHD3 12-25	12	25	180-260	220-315	
	CBHD3 24-15	24	15	100-150	130-180	
	CBHD3 24-20	24	20	120-195	150-240	
	CBHD3 24-25	24	25	180-260	220-315	

* Can be set to the correct voltage and current via a dipswitch




CHARGERS

HIGH-FREQUENCY CHARGERS







MICROPOWER CHARGERS - HIGH-FREQUENCY

	Model	AC voltage	Voltage	Current	Charging times			REF	
		V	V		8 h	10 h	12 h		
	SHARP 10	1 x 110/230	12	7	29	38	46	166TA7542	
	SHARP 10	1 x 110/230	24	4	16	22	26	166TA7543	
	SHARP 10	1 x 208/240	12	10	41	55	66	166TA7544	
	SHARP 10	1 x 208/240	12	17	69	93	112	166TA7545	
	SHARP 10	1 x 208/240	24	8	33	44	53	147TA4630	
	SHARP 10	1 x 208/240	24	11	45	60	72	166TA7546	
	SHARP 20	1 x 220/240	12	20	153	209	266	166TA7547	
	SHARP 20	1 x 220/240	12	30	230	314	399	166TA7548	
	SHARP 20	1 x 220/240	12	50	383	523	665	166TA7549	
	SHARP 20	1 x 220/240	12	60	459	628	798	166TA7550	
	SHARP 20	1 x 220/240	24	20	153	209	266	166TA7551	
	SHARP 20	1 x 220/240	24	30	230	314	399	166TA7552	
	SHARP 20	1 x 220/240	24	45	345	471	598	166TA7553	
	SHARP 20	1 x 220/240	24	60	459	628	798	166TA7554	
	SHARP 20	1 x 220/240	36	20	153	209	266	166TA7555	
	SHARP 20	1 x 220/240	36	40	306	418	532	166TA7556	
	SHARP 20	1 x 220/240	48	15	115	157	199	166TA7557	
	SHARP 20	1 x 220/240	48	30	230	314	399	166TA7558	
		SC8	1 x 220/240	24	30	230	-	399	166TA7559
		SC13	1 x 220/240	24	45	345	-	598	166TA7560

SINGLE-PHASE HIGH-FREQUENCY CHARGER FOR ONBOARD USE

	Voltage	Current	REF
	V	A	
	24	15	167TA8898
	24	30	166TA5337
	48	60	167TA8899








MEWP - HIGH-FREQUENCY ONBOARD CHARGERS

Used on	Voltage V	Current A	IP	Used for	Capacity range Ah	REF
GENIE						
	24	19	IP66	Lead-acid, gel, AGM	160-260	139TA1760
	24	27	IP66	Lead-acid, gel, AGM	150-560	166TA7263
	48	30	IP66	Lead-acid, gel, AGM	140-380	164TA1641
HAULOTTE						
	12	30	IP20	Lead-acid	160-300	160TA3491
	24	27	IP66	Lead-acid, gel, AGM	150-560	141TA7908
	24	35	IP20	Lead-acid, gel, AGM	145-335	166TA6352






CHARGERS

HIGH-FREQUENCY CHARGERS

MEWP - HIGH-FREQUENCY ONBOARD CHARGERS

Used on	Voltage V	Current A	IP	Used for	Capacity range Ah	REF
JLG						
	24	18	IP66	Lead-acid, gel, AGM	150-250	142TA2917
	24	25	IP66	Lead-acid, gel, AGM	25-565	139TA5033
	48	25	IP21	Lead-acid	100-370	126TA5948
	24	70	-	-	-	167TA8896
NIFTYLIFT						
	12	25	IP21	Lead-acid	180-350	151TA1754
	24	30	IP21	Lead-acid	140-380	151TA1759
	48	30	IP44	-	-	151TA1758








CLEANING - HIGH-FREQUENCY ONBOARD CHARGERS

Used on	Voltage V	Current A	IP	Used for	Capacity range Ah	REF
TENNANT						
	24	13	IP55	Gel, AGM	95-165	166TA7272
	24	20	IP30	Gel, AGM	160-260	166TA7273
	36	70	IP21	Lead-acid, gel, AGM	340-660	166TA7265
NILFISK						
	24	13	IP30	Gel	95-165	166TA7266
	24	9	IP30	Gel	40-80	166TA7267









CHARGERS

HIGH-FREQUENCY CHARGERS

CLEANING - HIGH-FREQUENCY ONBOARD CHARGERS

Used on	Voltage V	Current A	IP	Used for	Capacity range Ah	REF
PRAMAC						
	12	6	IP30	Lead-acid	40-70	166TA7274
						
	12	10	IP30	Lead-acid	60-100	166TA7275
						
	24	11.5	IP30	Lead-acid	80-118	166TA7276
						
COMAP, FIMAP						
	12	8	IP30	Lead-acid, gel, AGM	50-85	166TA7277
						
	24	5	IP30	Lead-acid, gel, AGM	25-50	166TA7278
						
	24	11	IP30	Lead-acid, gel, AGM	70-120	166TA7279
						
	24	15	IP30	Lead-acid, gel, AGM	100-160	166TA7280
						








MATERIAL HANDLING - HIGH-FREQUENCY ONBOARD CHARGERS

Used on	Voltage V	Current A	IP	Used for	Capacity range Ah	REF
NOBLELIFT						
	12	6	40	Lead-acid	20-100	145TA2393
	24	8	54	Gel	-	166TA7282
	24	8	20	Lithium	-	166TA7283
JUNGHEINRICH						
	24	9	IP20	Lead-acid	60-90	166TA7652
	24	30	IP20	Lead-acid	100-400	166TA7653
	24	30	IP20	Lead-acid	100-300	123TA6128
	24	25	IP54	Lead-acid	100-400	166TA7654
	24	35	IP54	Lead-acid	100-414	166TA7655

CHARGERS

HIGH-FREQUENCY CHARGERS

MATERIAL HANDLING - HIGH-FREQUENCY ONBOARD CHARGERS

Used on	Voltage V	Current A	IP	Used for	Capacity range Ah	REF
LINDE						
	48	120	-	-	-	166TA7284
	48	65	-	-	-	166TA7286
BT						
	24	15	IP65	-	-	166TA7287
	24	30	-	-	-	166TA7289
HYSTER						
	24	20	21	Lead-acid	91-222	166TA7290
	24	30	21	Lead-acid	137-322	166TA7291
	24	20	-	Gel	80-100	167TA8897

CHARGERS

HIGH-FREQUENCY CHARGERS AUTOMOTIVE

HIGH-FREQUENCY LINE BATTERY CHARGER



Model	Voltage	Current	Lead-acid (Ah)		Gel acid (Ah)		Current draw	REF
	V		A	7-8 h	10-11-14 h	12-14 h		
HFY	12/24	5	31-35	42-47-57	38-47	1.12	167TA8900	
	12/24	10	61-71	85-94-113	75-94	2.25	167TA8901	
	12/24	15	92-106	127-141-170	113-141	3.37	167TA8902	
	12/24	20	122-141	169-188-227	151-188	4.49	167TA8903	
HFX	12/24	25	153-176	212-235-283	189-235	5.58	167TA8904	
	12/24	30	183-212	254-282-340	226-282	6.7	167TA8905	
	36	20	122-141	169-188-227	151-188	6.7	167TA8906	
	48	15	92-106	127-141-170	113-141	6.7	167TA8907	



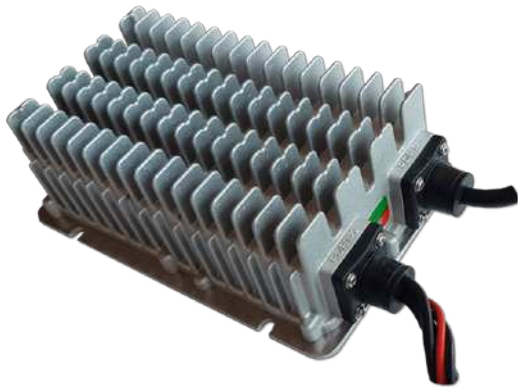
Model	Voltage	Current	VAC	Lead-acid (Ah)		Gel acid (Ah)		Current draw	REF
	V			A	7-8 h	10-11-14 h	12-14 h		
LLC2430	24	30	1 x 230	183-212	254-282-340	226-282	4.1	168TA1635	
LLC3620	36	20	1 x 230	122-141	169-188-227	151-188	4.1	168TA1636	
LLC4815	48	15	1 x 230	92-106	127-141-170	113-141	4.1	168TA1637	

CHARGERS

HIGH-FREQUENCY CHARGERS AUTOMOTIVE

WATERPROOF HIGH-FREQUENCY CHARGER

AQ-TRON



- One profile: the correct charging curve is programmed in the factory and will avoid mistakes when assembled
- Compatible charge curve for mostly all standard batteries.
 - Version 'wet': compatible for the most semi-traction, monoblocs and deep-cycles
 - Version 'AGM': compatible for all lead carbon (DLC) and AGM (DAB) batteries
 - Version 'gel': compatible for gel (DGY) batteries
 - Version 'Li-ion': compatible for Li-ion batteries
 - Other profiles possible on demand
- Operating temperature: from -30 to 65 °C
- Storage temperature: from -40 to 95 °C
- Humidity: from 5% to 95%
- Altitude: up to 2000 m
- Protection grade: IP67
- V in = 180/264 VAC

Inclusive:

- Battery temperature sensor: the temperature of the battery will influence the charging curve and will increase the safety of the charging process and life time of the battery
- Remote charge indicator
- Interlock safety system: will prevent the vehicle from starting when the battery charger is still connected to the grid.



IP67



On-board use



Safe and reliable



High-frequency



Ideal for every battery



Low batteries



Plug-n-play



PFC and Soft Start



MODULE 1



MODULE 2



MODULE 3



MODULE 4



MODULE 5

WATERPROOF HIGH-FREQUENCY CHARGER

AQ-TRON

MODELS

Every housing of these chargers has a specific design according to the control card that is used. Therefore, so an optimal heat dissipation, even in extremely hot and humid environments, is assured. Severe tests were applied and a long lasting lifetime of the charger is guaranteed.

Model	Current	Power supply	Battery capacity Ah (CS)			Module	Dimensions	REF	
	A	Amp (A)	8 h	10 h	12 h		mm	SLA	Wet
Voltage: 12 V									
AQHF12-10 WP	10	2	80	100	120	1	187 x 122 x 70	168TA8288	168TA8289
AQHF12-15 WP	15	2	120	150	180	1	187 x 122 x 70	168TA8290	168TA8291
AQHF12-20 WP	20	2	160	200	240	1	187 x 122 x 70	168TA8292	168TA8293
AQHF12-25 WP	25	2	200	250	300	2	210 x 128 x 79	168TA8294	168TA8295
Voltage: 24 V									
AQHF24-10 WP	10	2	80	100	120	1	187 x 122 x 70	168TA8296	168TA8297
AQHF24-15 WP	15	2	120	150	180	1	187 x 122 x 70	168TA8298	168TA8299
AQHF24-20 WP	20	3	160	200	240	1	187 x 122 x 70	168TA8300	168TA8301
AQHF24-25 WP	25	3	200	250	300	2	210 x 128 x 79	168TA8302	168TA8303
AQHF24-30 WP	30	4	240	300	360	3	210 x 142 x 78	168TA8304	168TA8305
AQHF24-35 WP	35	4	280	350	420	4	210 x 168 x 88	168TA8306	168TA8307
AQHF24-40 WP	40	5	320	400	480	4	210 x 168 x 88	168TA8308	168TA8309
AQHF24-50 WP	50	6	400	500	600	4	210 x 168 x 88	168TA8310	168TA8311
Voltage: 36 V									
AQHF36-10 WP	10	2	80	100	120	2	210 x 128 x 79	-	168TA8312
AQHF36-15 WP	15	2	120	150	180	2	210 x 128 x 79	168TA8313	168TA8314
AQHF36-20 WP	20	4	160	200	240	2	210 x 128 x 79	-	168TA8315
AQHF36-25 WP	25	5	200	250	300	2	210 x 128 x 79	168TA8316	168TA8317
AQHF36-30 WP	30	6	240	300	360	3	210 x 142 x 78	-	168TA8318
AQHF36-50 WP	50	9	400	500	600	5	315 x 200 x 117	168TA8319	-
Voltage: 48 V									
AQHF48-12 WP	12	3	80	100	120	2	210 x 128 x 79	168TA8320	168TA8321
AQHF48-15 WP	15	4	120	150	180	2	210 x 128 x 79	168TA8322	168TA8323
AQHF48-20 WP	20	6	160	200	240	2	210 x 128 x 79	168TA8324	168TA8325
AQHF48-25 WP	25	8	200	250	300	2	210 x 128 x 79	168TA8326	168TA8327
AQHF48-30 WP	30	8	240	300	360	4	210 x 168 x 88	168TA8328	168TA8329
AQHF48-35 WP	35	10	280	350	420	4	210 x 168 x 88	168TA8330	168TA8331
AQHF48-40 WP	40	10	320	400	480	5	315 x 200 x 117	168TA8332	168TA8333
AQHF48-50 WP	50	12	400	500	600	5	315 x 200 x 177	168TA8334	168TA8335
AQHF48-80 WP	80	18	450	560	750	7	419 x 270 x 110	-	-
Voltage: 72 V									
AQHF72-10 WP	10	4	80	100	120	2	210 x 128 x 79	-	-
AQHF72-15 WP	15	6	120	150	180	2	210 x 128 x 79	-	-
AQHF72-20 WP	20	8	160	200	240	3	210 x 142 x 78	-	-
AQHF72-25 WP	25	8	200	250	300	4	210 x 168 x 88	-	168TA8336
AQHF72-30 WP	30	11	240	300	360	5	210 x 200 x 117	-	-
AQHF72-35 WP	35	13	280	350	420	6	348 x 189 x 94	168TA8337	-

Each type available with AGM, wet, gel, SLA or lithium profile. Other profiles possible on demand. If you wish to order a charger with a specific profile, you can put "AGM", "WET", "GEL" or "LFP" behind the reference. Example: AQHF48-25 WP AGM.

CHARGERS

HIGH-FREQUENCY CHARGERS AUTOMOTIVE

AQ-TRON

AQ-TRON SMART CHARGERS - AUTOMOTIVE



REF [168TA1638](#)



REF [168TA1639](#)



REF [168TA1640](#)



REF [168TA1641](#)



REF [168TA1642](#)

SMART CHARGING

These AQ-TRON chargers maximize the life of your battery through a series of 4 to 10 steps in a unique charging process, the chargers constantly monitor the condition of the battery. When required, they take appropriate action: desulphating, reviving, charging, conditioning and maintaining. AQ-TRON chargers regulate the charge voltage to protect sensitive and expensive electronics. Some AQ-TRON chargers recondition and help revive deeply discharged batteries. Others even have a backup power supply mode, so you can change your vehicle's battery without losing any program settings. Once the charger is connected, you can forget about how long the battery needs to be charged or whether it is sulphated. Our chargers take care of all this automatically. We call it "connect and forget".

Model	Watt	Voltage output	Current	Type	Dimensions	Weight	REF
	W	V	A		mm	kg	
Voltage input: 220/240 V							
LADAQ1000	20	6/12	1	All types 6/12 V lead-acid batteries	Max 30	130 x 60 x 34	0.25 168TA1638
LADAQ2000	40	6/12	2	All types 6/12 V lead-acid and 12 V lithium batteries	Max 60	235 x 82 x 122	0.4 168TA1639
LADAQ3500	70	6/12	3.5	All types 6/12 V lead-acid and 12 V lithium batteries	Max 120	265 x 92 x 122	0.52 168TA1640
LADAQ7000	120	12/24	7/3.5	All types 12/24 V lead-acid and 12 V lithium batteries	14-230 (12 V) 14-115 (24 V)	310 x 118 x 142	0.85 168TA1641
LADAQ15000	350	12/24	15/7.5	All types 12/24 V lead-acid and 12 V lithium batteries	50-400 (12 V) 25-200 (24 V)	437 x 125 x 207	1.5 168TA1642

NOCO CHARGERS

ABOUT NOCO

Innovating since 1914.

Established in 1914, NOCO designs and creates premium consumer battery chargers, jump starters, and batteries, as well as, a wide range of accessories. Through these world-class offerings, NOCO has effectively set the new standard in design, performance, and safety and has introduced an entirely new generation of products.



GENIUS RANGE

Model	AC voltage V	DC voltage V	DC current A	Charging times (hours)				Battery type			REF
				20 A	40 A	80 A	100 A	Wet	Gel/AGM	Lithium	
GENIUS1EU	120/240	6/12	1	15	30	60	75	Yes	Yes	Yes	168TA4359
GENIUS2EU	120/240	6/12	2	5	10	20	25	Yes	Yes	Yes	168TA4360
GENIUS2DEU	120/240	12	2	5	10	20	25	Yes	Yes	Yes	168TA4361
GENIUS2X2	120/240	6/12	2 x 2	7.5	15	30	37.5	Yes	Yes	Yes	168TA4362
GENIUS2X4	120/240	6/12	4 x 2	7.5	15	30	37.5	Yes	Yes	Yes	168TA4363
GENIUS5EU	120/240	6/12	5	3	6	12	15	Yes	Yes	Yes	168TA4364
GENIUS10EU	120/240	6/12	10	1.5	3	6	7.5	Yes	Yes	Yes	168TA4365

GENIUSPRO RANGE

Model	AC voltage V	DC voltage V	DC current A	Charging times (hours)						Battery type			REF
				25 A	50 A	100 A	200 A	500 A	1000 A	Wet	Gel/AGM	Lithium	
GENIUSPRO25	120/240	6/12/24	25	0.75	1.5	3	6	15	30	Yes	Yes	Yes	168TA4366
GENIUSPRO50	120/240	6/12/24	50	-	0.75	1.5	3	6	15	Yes	Yes	Yes	168TA4367

CHARGERS

HIGH-FREQUENCY CHARGERS AUTOMOTIVE

DOCTOR CHARGE 50



For lead-acid, gel and AGM batteries

Voltage: 6 V

- Charging amp: 45 A
- Boost charge amp: 70 A
- Start amp: yes
- Battery capacity charge: 10–600 Ah
- Battery capacity maintenance: yes
- Charge – test – start

Voltage: 12 V

- Charging amp: 45 A
- Boost charge amp: 70 A
- Start amp: yes
- Battery capacity charge: 10–600 Ah
- Battery capacity maintenance: yes
- Charge – test – start

Voltage: 24 V

- Charging amp: 23 A
- Boost charge amp: 35 A
- Start amp: yes
- Battery capacity charge: 10–300 Ah
- Battery capacity maintenance: yes
- Charge – test – start

REF [145TA1806](#)

DOCTOR CHARGE 130



Voltage: 12 V











- Charging amp: 140 A
- Start amp: yes
- Battery capacity: 20–1200 Ah
- Battery capacity maintenance: yes
- Charger – test – start
- For lead-acid, gel and AGM batteries

Voltage: 24 V

- Charging amp: 70 A
- Start amp: yes
- Battery capacity: 20–1200 Ah
- Battery capacity maintenance: yes
- Charger – test – start
- For lead-acid, gel and AGM batteries

REF [166TA7650](#)

CTEK CHARGERS - HIGH-FREQUENCY

	Model	Voltage V	Charging current A	Battery capacity Ah	Battery type lead-acid V	Insulation	Charger type	REF
Basic								
	XS0.8	14.4	Max 0.8	1.2-32, maintenance charging up to 100	12	IP65	6 step, fully automatic charging cycle	166TA7562
	MXS3.8	14.4/14.7	Max 3.8	1.2-85, maintenance charging up to 130	12	IP65	7 step fully automatic charging cycle	166TA7563
	MXS5.0	14.4/14.7/15.8	Max 5	1.2-110, maintenance charging up to 160	12	IP65	8 step, fully automatic charging cycle	166TA7564
	MXS7.0	14.4/14.7/15.8/ 13.6	Max 7	14-150, maintenance charging up to 225	12	IP65	8 step, fully automatic charging cycle	166TA7565
	MXS10	14.4/14.7/15.8/ 13.6	Max 10	20-200, maintenance charging up to 300	12	IP65	8 step, fully automatic charging cycle	166TA7566
Pro								
	MXS10EC	14.4/14.7/15.8/ 13.6	Max 10	20-200, maintenance charging up to 300	12	IP65	8 step, fully automatic charging cycle	166TA7567
	PRO25S	14.4/15.8/13.6	Max 25	40-500	12	IP44	8 step, fully automatic charging cycle	166TA7568
	PRO25S	13.8/14.4/13.3	Max 25	30-450	12 lithium (LiFePO4)	IP44	8 step, fully automatic charging cycle	166TA7568
	MXTS40	14.4/14.7/15.8 and 28.8/29.4/ 31.6	Max 40/20	12 V: 20-1200 24 V: 10-600	12/24 lead-acid	IP20	8 step, fully automatic charging cycle with adjustable parameters	166TA7569
	MXT4.0	28.8/29.4/31.6	Max 4	8-100, maintenance charging up to 250	24	IP65	8 step, fully automatic charging cycle	166TA7571





05.

REGENERATION & MAINTENANCE



Battery problems? Battery sulfation may be the issue. Or do you think your batteries are simply not delivering the performance you need from them? You could replace them. But will your next batteries survive any longer? Besides regenerating batteries, it is equally important to know what's going on with your asset. Our range of battery regenerators do not only extend the battery's life cycle but they analyse them down to cell level to get the most out of your batteries.

Without proper maintenance, even the best equipment will fail prematurely and increase your costs. But maintain your batteries thoroughly and you'll save yourself time and money. After all, a battery is the most expensive part of your electric forklift.

What's more important in business than earning money, keeping your customers happy and making sure your machines last a long time?

DID YOU KNOW THAT PROFESSIONAL BATTERY MAINTENANCE IS SUPER IMPORTANT?

It makes a huge difference to the efficiency and lifespan of your battery. Deep-cycle and lead-acid batteries require regular maintenance. They should be visually checked at least once a week for external defects. When charging, it's also a good idea to check the state of the electrolyte and top it up with deionized water if necessary.

TIPS FOR IMPROVING THE LIFE OF YOUR BATTERIES

- Do not completely discharge the batteries
- Make sure you always perform the required maintenance
- Perform an equalisation charge at least once a week
- Don't let your batteries sit idle without float charging
- Learn the basics of battery maintenance

To get the most out of your batteries, you need to understand how to take care of them. And you need to do it safely. Of course, batteries don't last forever. Sometimes, you have no choice but to replace them. A battery's capacity decreases over time. They are usually replaced when they no longer last a full working cycle. It's also a good time to replace a battery if it's visibly damaged, or the casing is bulging or in poor condition.

In some cases, a battery can be given a longer life. We offer a range of battery regenerators from Energic Plus. These devices 'regenerate' your batteries that are not functioning optimally. Furthermore, they analyse the batteries down to the single-cell level and provide a report on the condition before and after the regeneration in Ah and %.

You get the most out of your battery with minimal effort, and you save a lot of money. On top of that, you contribute to a greener planet.

DISCOVER OUR RANGE OF BATTERY MAINTENANCE TOOLS

When talking about battery accessories and maintenance tools, the offer is enormous. Luckily TVH has it all! Tools to transport batteries: containers, sleds or spacer plates. Automatic systems and manual tools for battery filling or watering, battery testers, products to clean your battery ... you name it we have it.

Discover the full range in this chapter.



GET TO KNOW ENERGETIC PLUS®

Energetic Plus stands for quality, innovation and durability in power electronics for battery-operated systems. We have a long-lasting and successful worldwide presence in the energy storage and power supply sectors. As one of the leading suppliers of battery charging equipment on the market, we are ready to keep your batteries going.

PRODUCT RANGE

Our range has **more than 500 different reliable, industrial chargers**. Looking for a specific model? No problem at all. Next to high-frequency chargers and chargers for traction batteries, we can help with measuring equipment, connectors and more.

Our showpiece is the **Energetic Replus battery regenerator**, which can give any lead-acid battery a second life. Our regenerator successfully removes sulphation by applying a high-frequency pulse in several steps. This process restores battery capacity, giving you the ability to reuse old and sulphated batteries. Our equipment can also be used for annual maintenance, which can double the lifespan of your batteries.

The Energetic Replus battery regenerator not only restores the capacity of your batteries, but it's also the perfect battery analyser. A complete built-in load bank performs a complete load test to check the current capacity of your battery. And that's not all: if you use the battery regenerator in combination with our Battery Monitoring System, you can detect bad cells in your battery bank. **One product range, multiple opportunities.** It's time to increase your efficiency!

CUSTOM-MADE SOLUTIONS

In need of a particular solution? No worries: our team will gladly assemble the ideal battery maintenance package. Just for you.

For more information, visit www.energeticplus.com, or contact us via info@energeticplus.com.



THE MOST PROFESSIONAL PIECE OF BATTERY MAINTENANCE EQUIPMENT FOR YOUR WORKSHOP!



80% of the batteries breaking down and losing capacity are sulphated, but can be restored with the correct equipment. Want to extend the lifespan of your batteries? The electrical high-frequency pulsation process of our battery regenerators will restore them quickly and easily. You get the ability to reuse old and sulphated batteries in no time. It's also ideal to use for annual maintenance. From starter to stationary and even Ni-Cad batteries: our versatile regenerator is ready to patch them up.

WHAT IS SULPHATION?

When using batteries small sulphate crystals form. But no panic: these are normal and not harmful at all. But during prolonged charge deprivation, the amorphous lead sulphate converts to a crystalline form that deposits on the negative plates. This leads to the development of larger crystals. These reduce the battery's active material that is responsible for high capacity and low resistance.

Sulphation build-up can simply not be avoided. It's a process that accelerates over time. Why? There are several reasons:

- The battery was inactive for too long
- The battery was discharged too deeply
- The wrong charger was used
- A bad cell was left untreated
- The battery has reached too high/low temperatures
- The charge cycles weren't observed

LUCKILY FOR YOU, OUR REGENERATOR IS READY TO HELP

- Save money
- Offer professional battery maintenance services to your clients
- Applicable to following industries: forklift, MEWP, ground support, golf carts, cleaning, telecom, UPS and solar power
- Combination of battery discharger and charger, 2-in-1
- Detailed test reports
- Extended lifespan of batteries
- Quick regenerations
- Free analysing software
- Wireless connection between regenerator and computer
- Possibility to monitor the regenerator process via smartphone or laptop.
- 18-month warranty
- CE-certified, MET-certified (US market)

OVERVIEW OF THE REPLUS BATTERY RECONDITIONERS

Multipurpose all-in-one battery tester, analyser and desulphation unit, multivoltage with a wide capacity range, that will automatically switch between discharging, charging/restoring in order to get the maximum amount of life out of your batteries.

- Professional workshop equipment for the battery professional
- Comes with free training at your location

When used in combination with our BMS, you will get detailed reports on overall battery condition as well as individual cell condition. The most complete battery maintenance system available on today's market.



Model M1001I:

- Input power: AC 1P2W + PE 220 V, 50/60 Hz, 35 A max
- Output: DC 1.2–100 V, 0–30 A charging/discharging
- Battery capacity: 300 Ah (c10)
- Transformer: 7.5 kW
- Certification: CE/UL

REF [139TA1918](#)



Model M1005G:

- Input power: AC 3P3W + PE 380/400 V, 50/60 Hz, 20 A max
- Output: DC 1.2–120 V, 0–50 A
- Battery capacity: 500 Ah (c10)
- Transformer: 10 kW
- Certification: CE

REF [165TA3752](#) – 3 x 220 VAC
REF [139TA1917](#) – 3 x 400 VAC



Model M1007F:

- Input power: AC 3P3W + PE 380/400 V, 50/60 Hz, 35 A max
- Output: DC 1.2–150 V, 0–100 A charging/discharging
- Battery capacity: 1000 Ah (c10)
- Transformer: 20 kW
- Certification: CE/UL

REF [165TA3753](#) – 3 x 220 VAC
REF [138TA6595](#) – 3 x 400 VAC



Model M101:

- Input power: AC 1PW + PE 220 V, 50/60 Hz, 12 A max
- Output: DC 1.2–30 V, 0–30 A
- Battery capacity: 300 Ah
- Transformer: 15 A (max 2.7 kW)
- Certification: CE

REF [166TA4100](#)

* Discharge capacity can be increased to 200 A if you connect MPD1007E in syncing.

REGENERATION & MAINTENANCE

REGENERATION REPORTS

The Replus software allows you to create fully detailed reports in PDF, WORD or Excel that give you an excellent idea of the condition of the battery before and after the process. With a few clicks you can easily add your company logo to the report for a professional look.

This is how you should interpret the below report: when you compare 1 and 4 ...

This curve shows a complete battery maintenance process:

1. Discharge
2. Restoration charging
3. Cooling
4. Equalisation charge
5. Discharge
6. Restoration

LOAD TEST RESULT (MCS)

Site Name	Energic Pus HQ	Test Date	3/04/2015 14:06:11
Site Code	Waregem	Test Time	48:44:43 / 57:36:00
Province	West - Vlaanderen	MCS NO.	

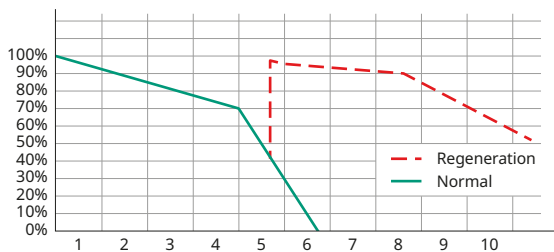
Brand		Volt.	48V	Ah	1100	Cells	24	Standby Volt.	49.2V	Type		Year/Manuf.	2013	Ambient Temp.	27°C
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Index	Method	Pulse	Setup Time	Elapsed Time	Setup Volt	Max Volt	Min Volt	Setup Amp	AH	Temperature	%
1	Discharge	1	13:12:00	07:13:09	41.3	51.4	41.3	100.0	-722.0	+013	(66)
2	Restoration	1	06:36:00	06:36:00	60.4	58.5	43.5	100.0	659.9	+023	60
3	Restoration	4	07:00:00	07:00:00	62.4	56.3	51.4	31.4	53.1	+020	5
4	Restoration	2	08:48:00	08:48:00	62.4	62.1	52.4	55.0	483.4	+042	44
5	Discharge	1	13:12:00	10:19:34	41.3	57.4	41.3	100.0	-1032.6	+036	(94)
6	Restoration	2	08:48:00	08:48:00	62.4	55.3	43.3	100.0	880.0	+040	80

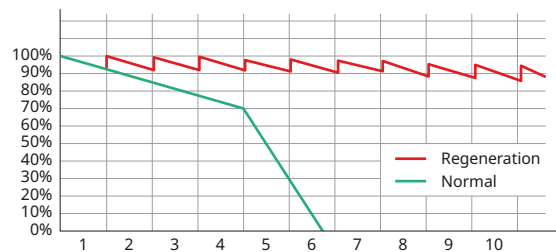
48:44:43

2 WAYS TO USE THE BATTERY REGENERATOR



Reconditioning regeneration

Reconditioning regeneration allows you to restore old (5, 6, 7 ... years), medium to well-maintained batteries that have 'silted up' as a result of natural sulphation, to a 90-100% productivity.



Maintenance regeneration

Maintenance regeneration allows you to keep your battery in optimal, sulphate-free condition, by means of a yearly short regeneration.

BATTERY MONITORING SYSTEMS (BMS) - WIRELESS DETECTION OF BAD CELLS



A battery bank consists of a number of cells/batteries connected in series. With the BMS you will get professional individual voltage measurements of all cells during a complete discharge **providing a perfect evaluation of the battery**. Ordinary capacity systems only display the total voltage and capacity of the battery, but never the results per individual cell. With this BMS you get a clear overview of the performance of each cell, allowing you to make an exact evaluation.

The BMS offers:

- Duration test during the entire discharge / regeneration process
- Real-time monitoring
- Analysis function by means of the supplied software
- No tangled up wires thanks to the easy wireless connection
- Crystal-clear overview of the battery capacity
- Can be synched with the Replus regenerator

The system consists of a number of voltage detectors, equal to the number of cells. The sensors transfer the voltage of each cell wirelessly to the receiver (best to be performed during A COMPLETE discharge process). The receiver – connected to a PC – collects the data.

If you use this system in combination with our new MPD1007E battery discharger or Replus battery regenerator, you will be able to detect faulty elements and increase the battery's capacity.

Thanks to the **software programme** that is supplied with the sensors, you can now easily detect which element is no longer keeping its charge and needs to be replaced or regenerated. The software checks the actual voltage of each sender every 3 minutes and stores this value in a table. Colour codes indicate the charge condition of each cell (empty to full) continuously, as a result of which the performance curves are very detailed.

Free analysing software and indication of the bad element

Type	Description	REF
2 V sensors	48 V set + aux test contact (25 sensors 2 V)	141TA1479
	80 V set + aux test contact (40 sensors 2 V)	141TA1480
	96 V set (48 sensors 2 V)	166TA8834
6 V sensors	36 V set (6 sensors 6 V)	166TA8835
	48 V set (9 sensors 6 V)	165TA3754
	84 V set (14 sensor 6 V)	166TA8836
	144 V set (24 sensors 6 V)	166TA8837

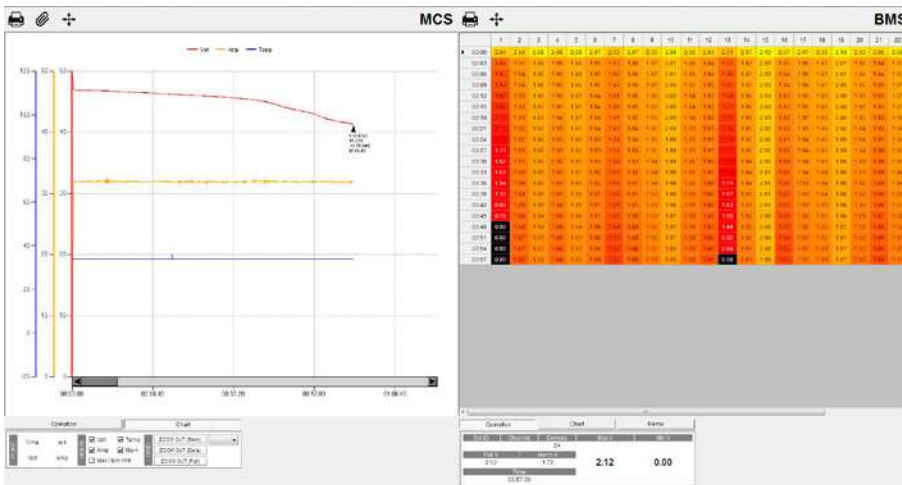
Type	Description	REF
8 V sensors	48 V set (6 sensors 8 V)	166TA8838
12 V sensors	120 V set (10 sensors 12 V)	166TA3766
	24 V set (12 sensors 2 V)	166TA8839
Accessories	Receiver	166TA8840
	Male antenna	166TA8841
	Female antenna	166TA5434

REGENERATION & MAINTENANCE

BMS SYSTEM: WIRELESS DETECTION OF BAD CELLS

Cell No	00:00	00:03	00:06	00:09	00:12	00:15	00:18	00:21	00:24	00:27	00:30	00:33	00:36	00:39	00:42	00:45	00:48	--3min
#1	2.11	2.11	2.04	2.03	2.01	2.01	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.98	1.98	1.98	
#2	2.13	2.13	2.06	2.05	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	
#3	2.14	2.14	2.06	2.06	2.04	2.04	2.04	2.03	2.02	2.02	2.02	2.02	2.01	2.01	2.01	2.01	2.01	
#4	2.14	2.14	2.03	2.02	1.99	1.98	1.98	1.97	1.96	1.96	1.96	1.95	1.94	1.94	1.94	1.93	1.93	
#5	2.15	2.15	2.02	2.02	1.98	1.98	1.98	1.98	1.95	1.95	1.94	1.93	1.93	1.92	1.92	1.91	1.90	
#6	2.13	2.13	2.01	2.00	1.97	1.96	1.96	1.95	1.94	1.94	1.93	1.93	1.93	1.92	1.92	1.91	1.91	
#7	2.13	2.13	2.02	2.01	1.98	1.98	1.98	1.98	1.94	1.94	1.93	1.93	1.93	1.92	1.92	1.91	1.91	
#8	2.10	2.10	2.02	2.01	2.00	2.00	1.99	1.99	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.96	1.96	
#9	2.10	2.10	2.01	2.00	1.97	1.96	1.96	1.95	1.95	1.94	1.94	1.93	1.93	1.92	1.92	1.92	1.91	
#10	2.15	2.15	1.99	1.98	1.92	1.92	1.91	1.89	1.89	1.87	1.87	1.86	1.85	1.85	1.84	1.83	1.83	
#11	2.10	2.10	1.91	1.89	1.84	1.83	1.82	1.80	1.80	1.77	1.77	1.76	1.75	1.75	1.74	1.73	1.73	
#12	2.14	2.14	1.96	1.95	1.92	1.92	1.91	1.89	1.88	1.87	1.86	1.85	1.84	1.83	1.82	1.81	1.80	
Sum	25.58	25.59	24.14	24.01	23.87	23.83	23.58	23.42	23.34	23.28	23.22	23.14	23.08	22.99	22.94	22.83	22.74	
Avg	2.13	2.13	2.01	2.00	1.97	1.97	1.97	1.95	1.95	1.94	1.94	1.93	1.92	1.92	1.91	1.90	1.90	

Custom-made BMS kits without receiver available on request. BMS doesn't come with receivers, these need to be ordered separately unless you have a battery regenerator, then you can use the receiver of the regen machine.

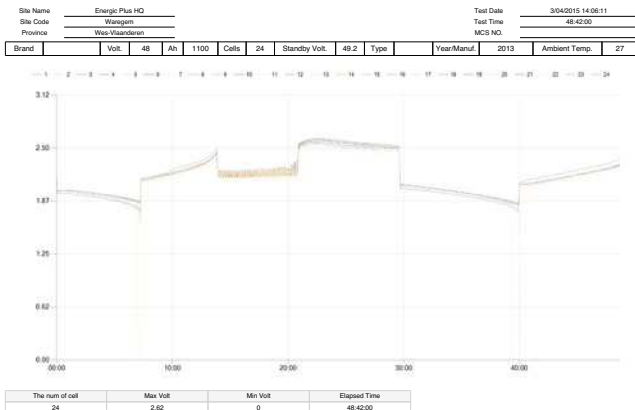


SYNCHED REGENERATION REPORT OF REPLUS + BMS SYSTEM

If you combine the regenerator with the BMS, then this can be controlled by 1 software package that gives you all the info you need to have a fully detailed view on the condition of your battery down to cell level, during a complete load test. On this particular graph it is clear that the battery has 2 weak cells that need to be replaced.

FULLY DETAILED REPORTS

Load Test Result (BMS)



Load Test Result (BMS)

The figure shows a detailed report for a load test, similar to the previous one. It includes a table with columns: Brand, Volt, 48 Ah, 1100, Cells, 24, Standby Volt, 49.2, Type, Year/Manuf, 2013, Ambient Temp, 27. The table shows data for 24 cells, with cells #10 and #11 highlighted in red.

With just 2 clicks, you can create these fully detailed reports that you can then easily save as a PDF, Word or Excel file. This professional information will give you a full understanding of the battery. These reports can be used to inform the customer on the current condition of his battery or can be kept by yourself as a track record of the condition of your own batteries. BMS systems can be used with any battery discharger!

BATTERY DISCHARGER MPD-1007E



Product overview:

A discharge test is the only way to properly verify battery capacity, and this has been made possible with the D-100H. During the discharge test, you don't need to adjust the current manually: the MPD1007E is a constant current automatic discharger with exact sensing function of the current through digital control, regardless of voltage range. It can be connected to the Replus regeneration system and check battery performance accurately. The discharger can be used as a stand-alone discharger, or it can be connected in synch to the Replus regenerators in order to increase the discharge power of the Replus regeneration machines.

Features:

- Perfect sync possible with Replus regenerators and Energic Plus BMS system
- Automatic switching according to discharge current
- Designed for testing 12 V, 24 V, 36 V, 48 V, 72 V, 80 V, 96 V batteries
- Discharge range: 1.0–200.0 A (up to 1000 AH c5 forklift battery)
- Discharge auto-shutdown for time duration, setup voltage and capacity
- Over discharge battery protection
- Built-in circuit breakers for emergency shutdown and overload protection
- Reverse voltage protection

REF [165TA2362](#)

AC input	
Voltage range	AC 100/120 V or AC 200/240 V
Frequency	50 Hz/60 Hz
Phase	Single-phase
Discharge functions	
Voltage range	DC 10.0/110.0 V
Current range	1.0–200.0 A (constant current)
Accuracy	Current: 1.0% Voltage: 0.2–0.5%
Resolution	Current: 0.1 A Voltage: 0.01 V
Discharge data transfer	USB, Zigbee wireless (2.4 GHz)
User interface	
Display panel	128 x 64 mono-LCD
Interface switch	Rotary and push switch
LED Indicator	2 LED indicators Power, discharging
Alarms (notifications on display screen)	Battery connection Reverse battery electrode

Sync with replus regenerators	
Replus support model	REF 139TA1918 - M1001 REF 138TA6595 - M1005 REF 139TA5237 - M1007
Current range	1.0–200.0 A
Protocol interface	RS-232
Discharge function support	Manual mode discharge Program mode discharge and restoration mode pulse 3, 4
PC software support	Yes, wireless communication support. (use existing replus operation method)
BMS (battery monitoring system) support	
Environment	
Operation temperature	0–50 °C (32–122 °F)
Humidity	5–90% RH
Mechanical	
Dimensions/weight	45 kg
Accessories	
Cable	70 mm ² x 1.5 m, SB-350
USB	Provide USB

ESSENTIAL TOOL FOR ANY PROFESSIONAL BATTERY WORKSHOP.

Easy to use, works on all traction batteries.
Comes with instruction video.

XMV - UNIVERSAL BATTERY CHARGER AND CONDITIONER



The XMV is a multivoltage, programmable battery charger with universal capabilities. It supports batteries of any type, chemistry, voltage or size, from single cells to large packs. The state-of-the-art architecture of the power conversion system combines performance, energy efficiency and robustness, and it makes these systems easily customizable. With standard power ranges from 12 kW to 40 kW and a highly flexible connectivity package, XMV can support all battery lab applications: formation, testing, cycling, de-sulphation, regeneration. XMV digital control systems include a set of pre-loaded charging profiles, and it allows the creation of additional, fully customized, profiles. The extreme precision of the output current and voltage control allow the generation of high-quality charging profiles, that are perfectly consistent and repeatable, even in case of unstable AC input voltage and wide temperature variations.

The complete absence of output current ripple minimizes the battery temperature rise, while maximizing system efficiency. The XMV is the perfect choice for battery manufacturing facilities, testing and recovery labs, and repair shops.

Advantages:

- Universal battery charger
- All battery chemistries supported
- Optimized for battery cycling, testing and de-sulphation
- Highly efficient in continuous heavy-duty operation
- Fully programmable
- Maximum safety, unparalleled productivity
- Easy to install, configure, service and repair
- Future-proof, scalable architecture
- Fail-safe fully automatic operation
- Input voltages and certifications for worldwide deployment
- Seamless integration with battery lab equipment

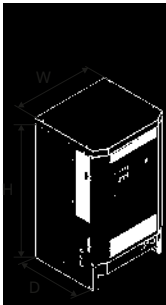
Model 1-phases 1 x 230 VAC 50/60 Hz

Model	Maximum output power	Nominal battery voltage	Max DC current @ 24/48/80 VDC	Connector	AC input voltage	AC input current	Power factor	Idle power	Cabinet type	REF
	kW	VDC	VDC		VAC	A		W		
XMV-M.50EU	3	2/80	0/120	50/50/25	1 x 230	15	>0.9	10	TD	168TA1625
XMV-M.80	3	2/48	0/70	80/50/X	1 x 230	15	>0.9	10	TD	168TA1626

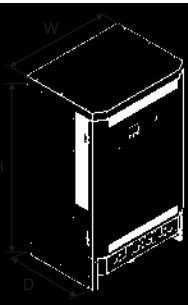
Model 3-phases 3 x 400/415 VAC 50/60 Hz

Model	Maximum output power	Nominal battery voltage	DC output voltage range	Max DC current @ 24/48/80 VDC	Connector	AC input voltage	AC input current	Power factor	Idle power	Cabinet type	REF
	kW	VDC	VDC			VAC	A		W		
XMV.12.EU	12	2/96	0/150	200/200/150	Single	3 x 400	20	>0.98	<10	TL	167TA8890
XMV.15.EU	15	2/96	0/150	250/250/188	Single	3 x 400	25	>0.98	<10	TL	167TA8891
XMV.20S.EU	20	2/96	0/150	250/250/250	Single	3 x 400	41	>0.99	<10	TP	167TA8892
XMV.20.EU	20	2/96	0/150	320/320/250	Single	3 x 400	41	>0.99	<10	TP	167TA8893
XMV.30.EU	30	2/96	0/150	500/500/375	Single or dual	3 x 400	61	>0.99	<10	TP	167TA8894
XMV.40.EU	40	2/96	0/150	600/600/500	Single or dual	3 x 400	82	>0.99	<10	TP	167TA8895

Cabinet TL



Cabinet TP



Width (W)	Depth (D)	Height (H)	Installation	IP rating	Cooling
530 mm	483 mm	929 mm	Indoor	IP21 (optional IP54 for outdoor installation)	Forced ventilation, air intake on the back, air outlets on the front and sides
20.9"	19.0"	36.6"			
712 mm	560 mm	1210 mm			
28.0"	22.0"	47.6"			

Features:

- Certified to the highest safety, efficiency and environmental sustainability standards
- Programmable charging curve
- Standard charging curves and parameters pre-programmed for quick setup
- Built-in Datalogger for easy troubleshooting
- Real-time monitoring and compensation of battery voltage, temperature, state of charge (SOC) and state of health (SOH)
- Automatic compensation of DC cable voltage drop
- Status display via graphic LCD, audible alarm and high brightness multicolor LEDs
- Anti-arcing on battery disconnection via auxiliary contacts
- Active protection circuitry, with automatic detection of: wrong battery, reverse polarity, overload, over-temperature, wrong AC input voltage or missing phase, temporary black-out of the mains, blocked fan, obstructed air flow, BMS malfunction, DC contactor malfunction.
- Connectivity options: CAN bus, USB, Ethernet, WiFi, Bluetooth
- Optional:
 - Stacklight for enhanced visibility of charger and battery status
 - Auto watering system
 - Air pump for electrolyte recirculation

FLUKE 279FC THERMAL MULTIMETER

FLUKE®



The 279FC is a full-featured digital Multimeter with integrated thermal imaging and is designed to increase your productivity and confidence. The Thermal Multimeter helps you find, repair, validate and report many electrical issues quickly so that you are confident problems are quickly solved. Thermal imaging Multimeters are a first-line troubleshooting tool for electrical equipment that can check hot spots on high-voltage equipment and transformers, detect heating of fuses, wires, insulators, connectors, splices and switches. Compatible with iFlex® (a flexible current clamp) to expand your measurement capabilities and get into tight, hard-to-reach spaces for current measurement (up to 2500 A AC). Also with built-in Fluke Connect®, transmit results wirelessly to a smartphone and save time on reporting to validate work is complete.

FLUKE 279FC

Specifications:

- Full-featured Multimeter with built-in Thermal imager
- 15 measurement functions including: AC voltage with low-pass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex), Frequency
- Thermal imaging reveals many electrical issues quickly and safely, eliminating the need for time-consuming testing and validation
- Two-in-one tool is designed to increase productivity. No need to go back to the truck or office to retrieve a shared camera or wait for the thermographer. Do more in less time.
- iFlex expands your measurement capabilities, allowing you to get into tight, hard-to-reach spaces for current measurement (up to 2500 A AC)
- Designed for durability, built to withstand a 3 m drop, double insulated with raised rubber holster for increased protection
- Save measurements and images while communicating wirelessly with a smartphone up to 6.1 m away
- Image resolution 80 x 60 mm
- Full-colour 3.5"/8.89 cm LCD screen provides clean, crisp readings
- Rechargeable lithium-ion battery allows for a for a full work day (10+ hours) under normal conditions
- Auto power off to save battery power
- Dimensions (HxWxD): 216 x 57 x 94 mm
- Weight: 0.794 kg
- Warranty: 3 years

REF [165TA3756](#) – Fluke 279FC/IFLEX TRMS thermal multimeter with iFlex

DIGITAL HYDROMETER FOR LEAD-ACID BATTERIES



Specific gravity testing is easy and efficient with this refractometer. Simply insert the nozzle into the battery and depress the finger pump, which draws a few drops of sulfuric acid (H₂SO₄) through the tube. Within three seconds the measured refractive index is converted into a temperature compensated specific gravity reading and the specific gravity, temperature and cell count are displayed. Combining a lightweight and durable design with easy maintenance, field-replaceable spare parts and a large data storage memory; this hydrometer is the perfect tool for every lead-acid battery.

Benefits:

- Measures specific gravity, ambient temperature and count
- Automatic temperature compensation to 25 °C
- Time savings: 5 times faster than conventional methods
- Stores up to 1000 readings
- Wirelessly transfers testing data to provide software to create an Excel report

Features:

- Able to record temperature in Fahrenheit or Celsius
- ±0.002 accuracy
- LCD display
- IP64 water resistant

REF [166TA5541](#)

AC input specifications

Measurement range	Specific gravity electrolyte: 1000 to 1400 (automatic temperature compensation)
Resolution	0.001
Measurement accuracy	±0.002 (10 to 30 °C) ±0.003 (0 to 10 or 30 to 40 °C) ±0.005 (-10 to 0 or 40 to 50 °C)
Sample chamber temperature	-10 to 50 °C
Ambient temperature	5 to 40 °C
Power supply	006P alkaline battery (9 V)
Dimensions	70 x 40 x 210 mm (not including the nozzle)
Weight	Approx 235 g (including battery)

DIGITAL HYDROMETER DH10-C



99.9% ACCURATE DUE TO THE BUILT-IN TEMPERATURE COMPENSATION AND 50% FASTER THAN STANDARD HYDROMETERS

With this digital hydrometer, you can measure up to 50% faster than using the traditional method. The direct temperature compensation makes sure you get the results fast and with an accuracy of 99.9%. All measurements are saved and can be transferred to PC completely wirelessly. No more waste of time and wrong measurements. With the digital hydrometer, you can work more efficiently and precisely.

Features:

- Robust housing
- Ideal for fast measuring routines
- Direct measurement out of the storage container
- Only 2 ml of sample needed for measurement
- Perfect traceability of results
- Inspection window to check whether your sample is filled without bubbles
- Bluetooth data transfer to your PC

Specifications:

- Measuring range
 - Density: 0 to 3 g/cm³
 - Temperature: 0 to 40 °C
- Sample volume: 2 ml
- Dimensions (LxWxH): 245 x 103 x 126 mm
- Internal storage: 1024 measured results, 250 sample IDs, 30 measuring methods
- Power supply: 3 AA-batteries
- Weight: 660 g
- Immediate temperature compensation to 25 °C

REF [164TA9799](#)

DIGITAL HYDROMETER



Features:

- Easy operation
- Compact, lightweight design enabling one-hand measurement
- No-hassle measurement of hard-to-reach samples
- Large LCD display with backlight
- Measuring cell with inspection window and backlight
- The communication is done via infra red, if your pc or laptop doesn't have a standard infra red access gate you need to use REF 139TA5918. This is a USB to Infra red receiver.
- You install the driver on the laptop, you connect the infra red stick in the pc and then you put the digital hydrometer in front of the USB stick, then you select export all data from the hydrometer and the data will be sent automatically to your desktop.

Specifications:

- Measuring range:
 - Density: 0 to 3 g/cm³
 - Temperature: 0 to 40 °C
 - Viscosity: 0 to 1000 mPa·s
- Sample volume: 2 ml
- Dimensions (LxWxH): 140 x 138 x 27 mm
- Data memory: 1024 measured results
- Power supply: two 1.5 V alkaline batteries

REF [138TA7531](#)

FLUKE BT521 BATTERY ANALYSER

FLUKE®



This Fluke battery analyser is a must-have tool to test the status of batteries.

This Fluke BT521 is a great choice to analyse batteries. From individual, stationary batteries to battery banks used in critical battery back-up, this tool will do the job. The Fluke BT521 will provide key measurements such as resistance, DC and AC voltage, DC and AC current, ripple voltage, frequency, and temperature. All measured values are captured during testing and can be reviewed on the instrument or downloaded for on-the-go analysis.



Features:

- Accurate measurements
- Comprehensive logging
- Sequence measurement mode
- Intelligent test probe set
- Soft-carrying case

REF [145TA8979](#)

BATTERY IMPEDANCE METER



This battery impedance meter is the right tool to measure electrical impedance.

Thanks to this battery impedance meter, the battery condition can be checked within seconds, even when the battery is in use. Easily measure battery resistance, voltage, current, and temperature in a blink of an eye.

Features:

- Measures different values
- Memory and read function
- Compact
- Lightweight
- USB PC interface

Specifications:

- Battery capacity: 0–1200 Ah
- Range: 6/60 V
- Resolution: 1–10 mV
- Temp: –20 to 60 °C

REF [145TA2251](#)





06.

CONNECTORS

CONNECTORS

ANDERSON POWER PRODUCTS

ABOUT ANDERSON POWER PRODUCTS



Anderson™ is an international leader in high power interconnect solutions. Today, we have become a valued supplier for a wide variety of markets including back-up power, telecom/datacom, alternative energy generation and distribution, medical equipment, defense, and the material handling industries

EBC CONNECTORS



EBC CONNECTOR - EBC 80/160/320

EURO BATTERY CONNECTOR

The Anderson™ family of Euro Battery Connectors (EBC) are expertly designed for ease of use and incorporate an innovative contact carrier to simplify assembly.

The EBC connectors include the industry standard 80, 160, and 320 sizes, all in accordance with DIN 43589-1.

Design and materials offer performance that meets or exceeds all the requirements of EN1175-1. All Materials chosen are RoHS compliant and selected to ensure years of reliability in adverse industrial environments.

These attributes make the EBC DIN connectors the ideal choice for a wide range of industrial applications in material handling, battery charging, utility vehicles, motive power, and sweepers/scrubbers amongst many others.

Key attributes:

- **Safety agency approvals:** UL, CSA, and EN1175-1:1998
- **Meets DIN 43589-1:** offers dimensional compatibility for housings, contacts and air tubes
- **Voltage keying:** EBC connectors offer keys for dry-cell, wet-cell, and universal applications coded for 24/36/48/72/80 and 96 volts DC applications
- **Sturdy advanced polymer housings:** provide superior resistance to impact, acid and temperature extremes
- **Silver plated copper contacts:** provide excellent conductivity and superior mating cycle performance

OVERVIEW RANGE - EBC80



Cable size mm ²	Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 80 A				
10	168TA3772	168TA3820	168TA3875	168TA3926
16	116TA6045	168TA3821	168TA3876	116TA6047
25	116TA6046	168TA3822	168TA3877	116TA6048
35	168TA3773	168TA3823	168TA3878	168TA3927
With auxiliary contacts				
10	168TA3774	168TA3824	168TA3879	168TA3928
16	168TA3775	168TA3825	168TA3880	168TA3929
25	168TA3776	168TA3826	168TA3881	168TA3930
35	168TA3777	168TA3827	168TA3882	168TA3931
With air supply				
10	168TA3778	168TA3828	168TA3883	168TA3932
16	168TA3779	168TA3829	168TA3884	168TA3933
25	168TA3780	168TA3830	168TA3885	168TA3934
35	168TA3781	168TA3831	168TA3886	168TA3935
With air supply and auxiliary contacts				
10	168TA3782	168TA3832	168TA3887	168TA3936
16	168TA3783	168TA3833	168TA3888	168TA3937
25	168TA3784	168TA3834	168TA3889	168TA3938
35	168TA3785	168TA3835	168TA3890	168TA3939
With pilot and auxiliary contacts				
10	168TA3786	168TA3836	168TA3891	168TA3940
16	168TA3787	168TA3837	168TA3892	168TA3941
25	168TA3788	168TA3838	168TA3893	168TA3942
35	168TA3789	168TA3839	168TA3894	168TA3943

CONNECTORS

ANDERSON POWER PRODUCTS



OVERVIEW RANGE - EBC160



Cable size mm ²	Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 160 A				
16	168TA3790	168TA3840	168TA3895	168TA3944
25	116TA6054	168TA3841	168TA3896	116TA6057
35	116TA6055	168TA3842	168TA3897	116TA6058
50	116TA6056	168TA3843	168TA3898	116TA6059
With auxiliary contacts				
16	168TA3791	168TA3844	168TA3899	168TA3945
25	168TA3792	168TA3845	168TA3900	168TA3946
35	168TA3793	168TA3846	168TA3901	168TA3947
50	168TA3794	168TA3847	168TA3902	168TA3948
With air supply				
25	168TA3796	168TA3849	168TA3904	168TA3949
35	168TA3797	168TA3850	168TA3905	168TA3950
50	168TA3798	168TA3851	168TA3906	168TA3951
With air supply and auxiliary contacts				
16	168TA3799	168TA3852	168TA3903	168TA3953
25	168TA3800	168TA3853	168TA3904	168TA3954
35	168TA3801	168TA3854	168TA3905	168TA3955
50	168TA3802	168TA3855	168TA3906	168TA3956
With pilot and auxiliary contacts				
16	168TA3803	168TA3856	168TA3907	168TA3957
25	168TA3804	168TA3857	168TA3908	168TA3958
35	168TA3805	168TA3858	168TA3909	168TA3959
50	168TA3806	168TA3859	168TA3910	168TA3960

OVERVIEW RANGE - EBC320



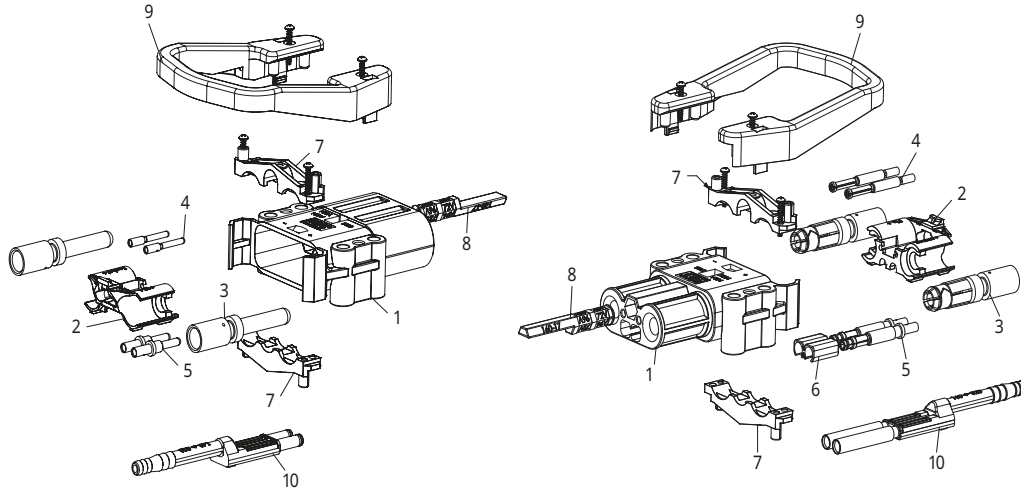
Cable size mm ²	Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 320 A				
50	116TA6067	168TA3860	168TA3911	116TA6069
70	116TA6068	168TA3861	168TA3912	116TA6070
95	168TA3807	168TA3862	168TA3913	168TA3961
With auxiliary contacts				
50	168TA3808	168TA3863	168TA3914	168TA3962
70	168TA3809	168TA3864	168TA3915	168TA3963
95	168TA3810	168TA3865	168TA3916	168TA3964
With air supply				
50	168TA3811	168TA3866	168TA3917	168TA3965
70	168TA3812	168TA3867	168TA3918	168TA3966
95	168TA3813	168TA3868	168TA3919	168TA3967
With air supply and auxiliary contacts				
50	168TA3814	168TA3869	168TA3920	168TA3968
70	168TA3815	168TA3870	168TA3921	168TA3969
95	168TA3816	168TA3871	168TA3922	168TA3970
With pilot and auxiliary contacts				
50	168TA3817	168TA3872	168TA3923	168TA3971
70	168TA3818	168TA3873	168TA3924	168TA3972
95	168TA3819	168TA3874	168TA3925	168TA3973

CONNECTORS

ANDERSON POWER PRODUCTS



SPARE PARTS OVERVIEW - EBC80/160/320



Male connector

Female connector




Item	Description	REF EBC 80		REF EBC 160		REF EBC 320	
		Male	Female	Male	Female	Male	Female
Power contacts							
3		168TA3624	168TA3640	N/A	N/A	N/A	N/A
		116TA6050	116TA6052	168TA3655	168TA3665	N/A	N/A
		116TA6051	116TA6053	116TA6061	116TA6064	N/A	N/A
		168TA3625	168TA3641	116TA6062	116TA6065	N/A	N/A
		N/A	N/A	116TA6063	116TA6066	116TA6072	116TA6074
		N/A	N/A	N/A	N/A	116TA6073	116TA6075
		N/A	N/A	N/A	N/A	168TA3671	168TA3675
4	Upper auxiliary contact	168TA3626	168TA3642	168TA3656	168TA3666	168TA3672	168TA3676
5	*Lower pilot auxiliary contact	168TA3627	168TA3643	168TA3657	168TA3667	168TA3657	168TA3667
8	Voltage coding pins	168TA3628	168TA3642	168TA3658	168TA3658	168TA3658	168TA3658
	Grey coding pin - wet (160 and 320 use same coding pins)						
	Green coding pin - dry (160 and 320 use same coding pins)	168TA3629	168TA3643	168TA3659	168TA3659	168TA3659	168TA3659
	**Yellow coding pin - universal (160 and 320 use same coding pins)	168TA3630	Not used	168TA3660	Not used	168TA3660	Not used
9	*** Handle - high profile with screws	N/A	N/A	168TA2836	168TA2836	168TA2836	168TA2836
	*** Handle - low profile with screws	168TA2837	168TA2837	168TA2834	168TA2834	168TA2834	168TA2834
	Handle red - low profile with screws	168TA2835	168TA2835	N/A	N/A	N/A	N/A
10	* Air tube	168TA3631	168TA3644	168TA3661	168TA3668	168TA3673	168TA3677
1	Housing only	168TA3632	168TA3645	168TA3662	168TA3669	168TA3663	168TA3678
2	Contact holder	168TA3633	168TA3633	168TA3663	168TA3664	168TA3674	168TA3674
6	Supplemental lower pilot aux holder	Not used	Not used	Not used	168TA3670	Not used	168TA3670
7	Cable clamps with screen	168TA3634	168TA3634	168TA3664	168TA3664	168TA3674	168TA3674
1 + 2 + 7 + 8	Male housing with contact holder and cable clamp with screws (grey key) - individual pack	168TA3635		168TA3654		168TA3650	
1 + 2 + 6 + 7 + 8	Female housing with contact holder, ***lower pilot aux holder, cable clamps with screws (grey key) - individual pack	168TA3636		168TA3646		168TA3650	
1 + 2 + 7 + 8	Male housing with contact holder and cable clamp with screws (green key) - Individual pack	168TA3637		168TA3647		168TA3651	
1 + 2 + 6 + 7 + 8	Female housing with contact holder, ***lower pilot aux holder, cable clamps with screws (green key) - individual pack	168TA3638		168TA3648		168TA3652	
1 + 2 + 7 + 8	Male housing with contact holder and cable clamp with screws (yellow key) - individual pack	168TA3639		168TA3649		168TA3653	



ACCESSORIES - EBC SERIES

HANDLES

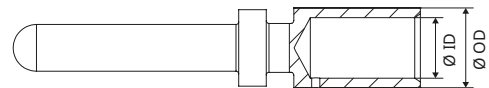


Type	Size	Flat/DIN	Housing	T-handle + HDW (black)	T-handle + HDW (red)	Snap-on plug (polycarbonate)	Snap-on socket (flat)
EBC	80	DIN	Standard	168TA2837	168TA2835	-	-
EBC	160	DIN	Standard	-	-	168TA2836	168TA2834
EBC	320	DIN	Standard	-	-	168TA2836	168TA2834

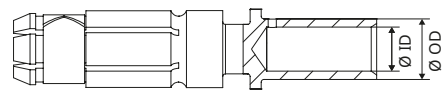
	Description	REF
DIN latch		
	A frame handle without hardware	168TA8032
	A frame handle and latch assembly without hardware	168TA8033
	Latch plate without hardware	168TA8439

	Description	REF
Manual release		
	Manual release battery bracket	168TA8034
	Manual release for A160 and 320	168TA8035
Locking		
	Locking, heavy-duty	168TA8438

CONTACTS



Male connector



Female connector

Series	Wire size		OD		ID	
	Metric (mm ²)	AWG	mm	in	mm	in
EBC 80	10	# 6 to 8	6.0	0.24	4.5	0.18
EBC 80 / 160	16	# 4 to 6	8.4	0.33	6.0	0.24
	25	# 2 to 4	11.0	0.43	8.0	0.31
	35	# 1 to 2	12.5	0.49	9.0	0.35
EBC 160 / 320	50	# 1 to 1/0	14.5	0.57	11.0	0.43
EBC 320	70	# 2/0 to 3/0	17.0	0.67	13.0	0.51
	95	# 3/0 to 4/0	19.8	0.78	15.0	0.59

ACCESSORIES - EBC SERIES

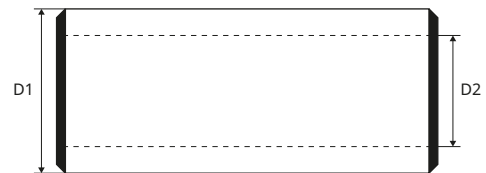
DIN CONNECTORS



Type	Type	Wire size		REF
		AWG	European mm ²	
DIN	EBC80 - plug	8	10	168TA3624
DIN	EBC80 - plug	6	16	116TA6050
DIN	EBC80 - plug	4	25	116TA6051
DIN	EBC80 - plug	2	35	168TA3625
DIN	EBC80 - socket	8	10	168TA3640
DIN	EBC80 - socket	6	16	116TA6052
DIN	EBC80 - socket	4	25	116TA6053
DIN	EBC80 - socket	2	35	168TA3641
DIN	EBC160 - plug	6	16	168TA3655
DIN	EBC160 - plug	4	25	116TA6061
DIN	EBC160 - plug	2	35	116TA6062
DIN	EBC160 - plug	1 to 1/0	50	116TA6063

Type	Type	Wire size		REF
		AWG	European mm ²	
DIN	EBC160 - socket 6	16		168TA3665
DIN	EBC160 - socket 4	25		116TA6064
DIN	EBC160 - socket 2	35		116TA6065
DIN	EBC160 - socket 1 to 1/0	50		116TA6066
DIN	EBC320 - plug 1 to 1/0	50		116TA6072
DIN	EBC320 - plug 2/0 to 3/0	70		116TA6073
DIN	EBC320 - plug 3/0 to 4/0	95		168TA3671
DIN	EBC320 - socket 1 to 1/0	50		116TA6074
DIN	EBC320 - socket 2/0 to 3/0	70		116TA6075
DIN	EBC320 - socket 3/0 to 4/0	95		168TA3675

REDUCING BUSHINGS

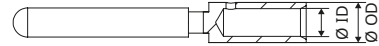


In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
6	13.3	8	8.4	106TA9868
6	13.3	12 to 10	3.3 to 5.3	106TA9869
6	13.3	16 to 14	1.3 to 2.1	106TA9870
2	33.6	4	21.2	138TA4448
2	33.6	6	16	138TA4449
2	33.6	10 to 8	5.3 to 8.4	138TA4450

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	53.5	1	42.4	106TA9871
1/0	53.5	2	33.6	106TA9872
1/0	53.5	4	21.2	106TA9873
1/0	53.5	6	16	106TA9874
1/0	53.5	10 to 8	5.3 to 8.4	138TA4451
2/0	67.4	1/0	53.5	106TA9878

ACCESSORIES - EBC SERIES

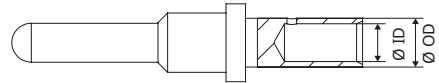
UPPER/LOWER AUXILIARIES



Upper auxiliary pin



Upper auxiliary socket



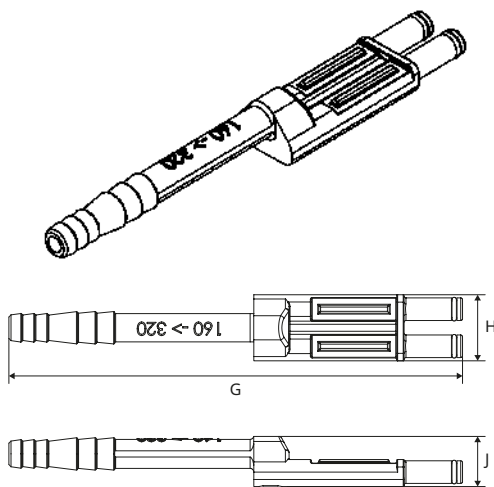
Lower pilot auxiliary pin



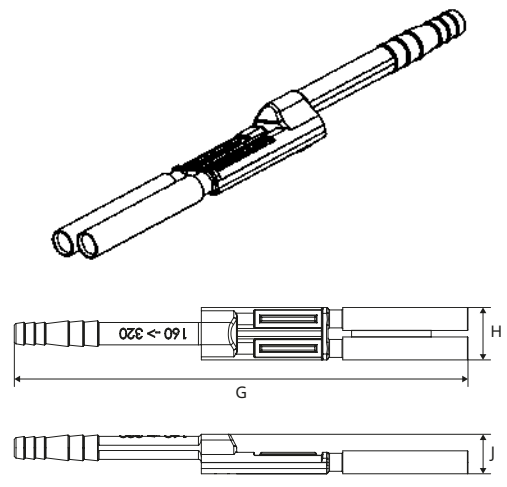
Lower pilot auxiliary socket

Series	Upper auxiliaries						Lower pilot auxiliaries					
	Wire size		OD		ID		Wire size		OD		ID	
	mm ²	AWG	mm	in	mm	in	mm ²	AWG	mm	in	mm	in
EBC 80	2.5	14 to 18	3.9	0.15	2.2	0.09	2.5	14 to 18	3.9	0.15	2.2	0.09
EBC 160/320	4	12	4.1	0.16	2.9	0.11	6.0	10	5.0	0.20	3.9	0.15

FEMALE/MALE TWIN AIR TUBE



Male air tube

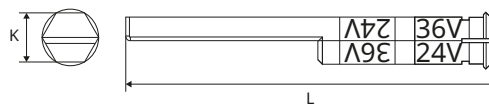
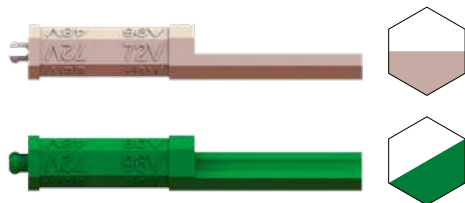


Female air tube

Series	Male						Female					
	G		H		J		G		H		J	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
EBC 80	87	3.4	15.8	0.62	13.0	0.51	102	4.0	15.8	0.62	13.0	0.51
EBC 160/320	125	4.9	17.8	0.70	14.0	0.55	154	6.1	17.8	0.70	13.9	0.55

ACCESSORIES - EBC SERIES

WET/DRY VOLTAGE KEY - GREY OR GREEN



Series	Wet/dry voltage key				Universal voltage key			
	K		L		K		L	
	mm	in	mm	in	mm	in	mm	in
EBC 80	8.0	0.31	45	1.77	8.0	0.31	46	1.8
EBC 160/320	9.3	0.37	69	2.72	11.8	0.46	69	2.7

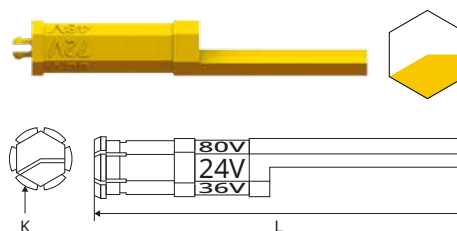
WET/DRY VOLTAGE KEY - GREY OR GREEN

Keying plug	Identification	Assembled in
	Used for wet cell battery/charger Colour: grey	Battery receptacle and charging plug
	Used for dry cell battery/charger Colour: green	Battery receptacle and charging plug
	Used for vehicle only Colour: yellow (universal)	Vehicle plug only - used when vehicle may use wet or dry cell batteries

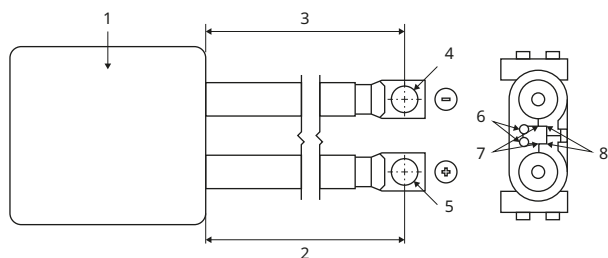
UNIVERSAL VOLTAGE KEY - YELLOW

(Use with male housing only)

Universal (yellow) voltage keys are to be used exclusively at the vehicle side to permit both the use of wet-cell and dry-cell batteries.



REQUEST YOUR OWN CABLE ASSEMBLY



NEW

- 1 What brand and type of housing do you need?
- 2+3 What are the cable lengths, colour and size?
- 4+5 What type of cable glands do you need?
- 6 Are there air adapters or pilot contacts needed?
- 7 Are there auxiliary contacts needed?
- 8 What type of coding pin and voltage do you need?
- 9 What type of handles do you need?



Send us the information and receive your offer today!

A SERIES CONNECTORS

A SERIES CONNECTOR - A80/A160/A320



A SERIES

The Anderson Power™ family of A series battery connectors are expertly designed for ease of use and incorporate an innovative contact carrier to simplify assembly. The A series connectors include standard 80, 160 and 320 sizes. Robust design and materials offer superior performance. All materials chosen are RoHS compliant and selected to ensure years of reliability in adverse industrial environments. These attributes make the A series connectors the ideal choice for a wide range of industrial applications in material handling, battery charging, utility vehicles,

motive power and sweepers/scrubbers amongst many others.

Key Attributes:

- **Safety agency approvals:** UL and CSA
- **Voltage keying:** A series connectors offer keys for dry-cell, wet-cell, and universal applications coded for 24/36/48/72/80 and 96 volts DC applications
- **Sturdy advanced polymer housings:** provide superior resistance to impact, acid and temperature extremes
- **Silver plated copper contacts:** provide excellent conductivity and superior mating cycle performance

OVERVIEW RANGE - A80/A160/A320



Type	Size contacts	REF			
		Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 80 A					
Standard	10	168TA5818	168TA5843	168TA5872	168TA5882
	16	168TA3974	168TA5844	168TA3982	168TA5883
	25	168TA4266	168TA3980	168TA4276	168TA4281
	35	168TA5819	168TA5845	168TA5873	168TA5884
With auxiliary contacts	10	168TA5820	168TA5846	168TA5874	168TA5885
	16	168TA5821	168TA5847	168TA5875	168TA5886
	25	168TA5822	168TA5848	168TA5876	168TA5887
	35	168TA5823	168TA5849	168TA5877	168TA5888
With pilot and auxiliary contacts	10	168TA5824	168TA5850	168TA5878	168TA5889
	16	168TA5825	168TA5851	168TA5879	168TA5890
	25	168TA5826	168TA5852	168TA5880	168TA5891
	35	168TA5827	168TA5853	168TA5881	168TA5892
DIN style: 160 A					
Standard	16	168TA5828	168TA5854	168TA5893	168TA5904
	25	168TA3975	168TA5855	168TA5894	168TA5905
	35	168TA4267	168TA5856	168TA5895	168TA4282
	50	168TA3976	168TA5857	168TA4277	168TA4283
With auxiliary contacts	16	168TA5829	168TA5858	168TA5896	168TA5906
	25	168TA5830	168TA5859	168TA5897	168TA5907
	35	168TA5831	168TA5860	168TA5898	168TA5908
	50	168TA5832	168TA5861	168TA5899	168TA5909
With pilot and auxiliary contacts	16	168TA5833	168TA5862	168TA5900	168TA5910
	25	168TA5834	168TA5863	168TA5901	168TA5911
	35	168TA5835	168TA5864	168TA5902	168TA5912
	50	168TA5836	168TA5865	168TA5903	168TA5913

CONNECTORS

ANDERSON POWER PRODUCTS

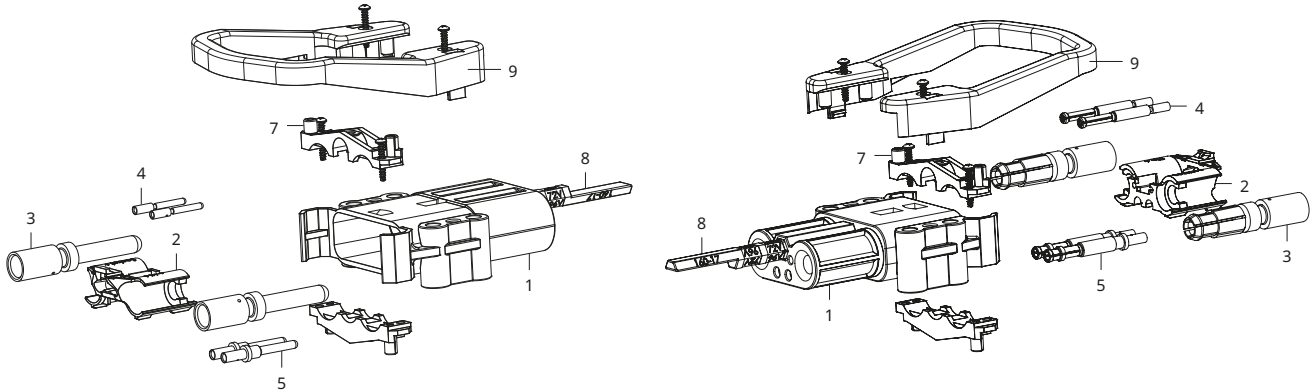


OVERVIEW RANGE - A80/A160/A320



Type	Size contacts	REF			
		Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 320 A					
Standard	50	168TA3977	168TA4273	168TA4278	168TA4284
	70	168TA3978	168TA4274	168TA4279	168TA3984
	95	168TA3979	168TA4275	168TA4280	168TA4286
With auxiliary contacts	50	168TA5837	168TA5866	168TA5914	168TA5920
	70	168TA5838	168TA5867	168TA5915	168TA5921
	95	168TA5839	168TA5868	168TA5916	168TA5922
With pilot and auxiliary contacts	50	168TA5840	168TA5869	168TA5917	168TA5923
	70	168TA5841	168TA5870	168TA5918	168TA5924
	95	168TA5842	168TA5871	168TA5919	168TA5925

SPARE PARTS OVERVIEW - A80/A160/A320



Item	Description	REF A80		REF A160		REF A320	
		Male	Female	Male	Female	Male	Female
Power contacts							
3	10 mm ² (8 AWG)	168TA3624	168TA3627	N/A	N/A	N/A	N/A
	16 mm ² (6 AWG)	116TA6050	168TA3640	168TA3655	168TA3665	N/A	N/A
	25 mm ² (4 AWG)	116TA6051	116TA6052	116TA6061	116TA6064	N/A	N/A
	35 mm ² (2 AWG)	168TA3625	168TA3641	116TA6062	116TA6065	N/A	N/A
	50 mm ² (1 AWG to 1/0)	N/A	N/A	116TA6063	116TA6066	116TA6072	116TA6074
	70 mm ² (2/0 to 3/0)	N/A	N/A	N/A	N/A	116TA6073	116TA6075
	95 mm ² (3/0 to 4/0)	N/A	N/A	N/A	N/A	168TA3671	168TA3675
	120 mm ² (4/0)	N/A	N/A	N/A	N/A	168TA3682	168TA3686
4	Upper auxiliary contact 4 mm ² (12 AWG)	N/A	N/A	168TA3683	168TA3679	168TA3683	168TA3679
	Upper auxiliary contact 1.5/2.5 mm – (18/14 AWG)	168TA3626	168TA3642	168TA3684	168TA3680	168TA3684	168TA3680
5	Lower auxiliary contact 6 mm ² (10 AWG)	N/A	N/A	168TA3657	168TA3667	168TA3657	168TA3667
	Lower auxiliary contact 1.5/2.5 mm – (18/14 AWG)	168TA3627	168TA3643	168TA3685	168TA3681	168TA3685	168TA3681
Voltage coding pins							
8	Grey coding pin – wet (160 and 320 use same coding pins)	168TA3628	168TA3628	168TA3658	168TA3658	168TA3658	168TA3658
	Green coding pin – dry (160 and 320 use same coding pins)	168TA3629	168TA3629	168TA3659	168TA3659	168TA3659	168TA3659
	* Yellow coding pin – universal (160 and 320 use same coding pins)	168TA3630	Not used	168TA3660	Not used	168TA3660	Not used
9	**Handle – high profile with screws	N/A	N/A	168TA2844	168TA2844	168TA2844	168TA2844
	**Handle – low profile with screws	168TA2843	168TA2843	168TA2845	168TA2845	168TA2845	168TA2845
	Handle red – low profile with screws	168TA2835	-	N/A	N/A	N/A	N/A
1	Housing only	168TA5788	168TA5789	168TA3689	168TA3693	168TA3695	168TA3697
2	Contact holder	168TA3633	168TA3633	168TA3690	168TA3690	168TA3696	168TA3696
7	Cable clamps with screws	168TA5790	168TA5790	168TA3691	168TA3691	168TA5791	168TA5792
1 + 2 + 7 + 8	Male housing with contact holder and cable clamp with screws (grey key) – individual pack	168TA3687	-	168TA3692	-	168TA3698	-
1 + 2 + 7 + 8	Female housing with contact holder, ***lower pilot aux holder, cable clamps with screws (grey key) – individual pack	-	168TA3688	-	168TA3694	-	168TA3699
1 + 2 + 7 + 8	Male housing with contact holder and cable clamp with screws (green key) – individual pack	168TA5793	-	168TA5796	-	168TA5799	-
1 + 2 + 7 + 8	Female housing with contact holder, ***lower pilot aux holder, cable clamps with screws (green key) – individual pack	-	168TA5795	-	168TA5798	-	168TA5800
1 + 2 + 7 + 8	Male housing with contact holder and cable clamp with screws (yellow key) – individual pack	168TA5794	-	168TA5797	-	168TA5801	-

CONNECTORS

ANDERSON POWER PRODUCTS








ACCESSORIES - A SERIES

HANDLES

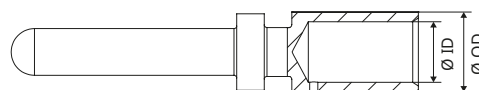


Type	Size	Flat/DIN	Housing	T-handle + HDW (black)	T-handle + HDW (red)	Snap-on plug (polycarbonate)	Snap-on socket (flat)
A	80	DIN	Standard	168TA2843	168TA2835	-	-
A	160	DIN	Standard	-	-	168TA2844	168TA2845
A	320	DIN	Standard	-	-	168TA2844	168TA2845

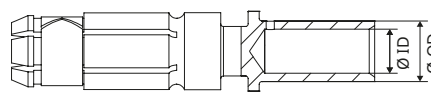
	Description	REF
	A frame handle without hardware	168TA8032
	A frame handle and latch assembly without hardware	168TA8033
	Latch plate without hardware	168TA8439

	Description	REF
	Manual release battery bracket	168TA8034
	Manual release for A160 and 320	168TA8035
	Locking, heavy-duty	168TA8438

CONTACTS



Male power contact



Female power contact

Series	Wire size		OD		ID	
	Metric (mm ²)	AWG	mm	in	mm	in
A80	10	# 6 to 8	6.0	0.24	4.5	0.18
A80 / A160	16	# 4 to 6	8.4	0.33	6.0	0.24
	25	# 2 to 4	11.0	0.43	8.0	0.31
	35	# 1 to 2	12.5	0.49	9.0	0.35
A160 / A320	50	# 1 to 1/0	14.5	0.57	11.0	0.43
A320	70	# 2/0 to 3/0	17.0	0.67	13.0	0.51
	95	# 3/0 to 4/0	19.8	0.78	15.0	0.59
	95	# 3/0 to 4/0	19.8	0.78	15.0	0.59
	120	4/0	19.8	0.78	15.6	0.61

ACCESSORIES - A SERIES

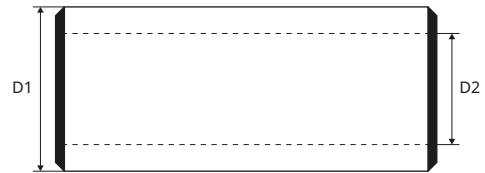
DIN CONNECTORS



Type	Type	Wire size		REF
		AWG	European mm ²	
DIN	A80 - plug	8	10	168TA3624
DIN	A80 - plug	6	16	116TA6050
DIN	A80 - plug	4	25	116TA6051
DIN	A80 - plug	2	35	168TA3625
DIN	A80 - socket	8	10	168TA3640
DIN	A80 - socket	6	16	116TA6052
DIN	A80 - socket	4	25	116TA6053
DIN	A80 - socket	2	35	168TA3641
DIN	A160 - plug	6	16	168TA3655
DIN	A160 - plug	4	25	116TA6061
DIN	A160 - plug	2	35	116TA6062
DIN	A160 - plug	1 to 1/0	50	116TA6063

Type	Type	Wire size		REF
		AWG	European mm ²	
DIN	A160 - socket	6	16	168TA3665
DIN	A160 - socket	4	25	116TA6064
DIN	A160 - socket	2	35	116TA6065
DIN	A160 - socket	1 to 1/0	50	116TA6066
DIN	A320 - plug	1 to 1/0	50	116TA6072
DIN	A320 - plug	2/0 to 3/0	70	116TA6073
DIN	A320 - plug	3/0 to 4/0	95	168TA3671
DIN	A320 - plug	4/0	120	168TA3682
DIN	A320 - socket	1 to 1/0	50	116TA6074
DIN	A320 - socket	2/0 to 3/0	70	116TA6075
DIN	A320 - socket	3/0 to 4/0	95	168TA3675
DIN	A320 - socket	4/0	120	168TA3686

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
6	13.3	8	8.4	106TA9868
6	13.3	12 to 10	3.3 to 5.3	106TA9869
6	13.3	16 to 14	1.3 to 2.1	106TA9870
2	33.6	4	21.2	138TA4448
2	33.6	6	16	138TA4449
2	33.6	10 to 8	5.3 to 8.4	138TA4450

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	53.5	1	42.4	106TA9871
1/0	53.5	2	33.6	106TA9872
1/0	53.5	4	21.2	106TA9873
1/0	53.5	6	16	106TA9874
1/0	53.5	10 to 8	5.3 to 8.4	138TA4451
2/0	67.4	1/0	53.5	106TA9878

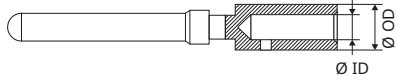
CONNECTORS

ANDERSON POWER PRODUCTS

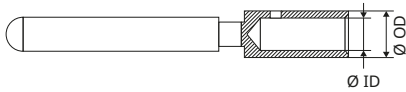


ACCESSORIES - A SERIES

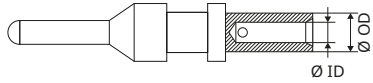
AUXILIARY CONTACTS



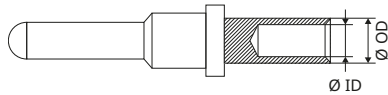
Upper auxiliary pin – typical of A80



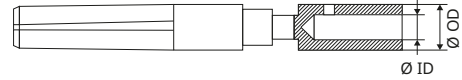
Upper auxiliary pin – typical of A160/A320



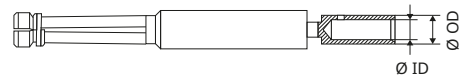
Lower pilot auxiliary pin – typical of A80



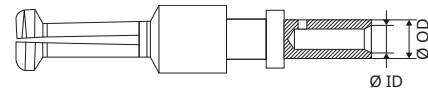
Lower pilot auxiliary pin – typical of A160/A320



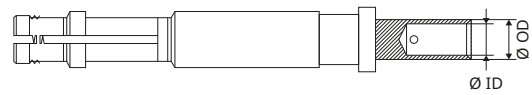
Upper auxiliary socket – typical of A80



Upper auxiliary socket – typical of A160/A320



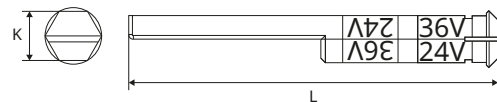
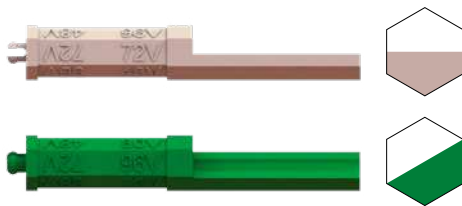
Lower auxiliary socket – typical of A80



Lower auxiliary socket – typical of A160/A320

Series	Part number	Position	mm ²	AWG	OD		ID	
					mm	in	mm	in
A80	E80-32 / E80-33	Upper	1.5/2.5	18/14	3.9	0.15	2.2	0.09
	E80-30 / E80-31	Lower	1.5/2.5	18/14	3.9	0.15	2.2	0.09
A160	160-14 / 160-15	Upper	4	12	4.1	0.16	2.9	0.1
	320-24 / 320-25	Upper	1.5/2.5	18/14	4.6	0.18	2.2	0.09
A320	160-12 / 160-13	Lower	6	10	5	0.2	3.9	0.15
	320-2 / 320-23	Lower	1.5/2.5	18/14	4.6	0.18	2.2	0.09

WET/DRY VOLTAGE KEY - GREY OR GREEN



Series	Wet/dry voltage key				Universal voltage key			
	K	L	K	L	K	L	K	L
	mm	in	mm	in	mm	in	mm	in
EBC 80	8.0	0.31	45	1.77	8.0	0.31	46	1.8
EBC 160/320	9.3	0.37	69	2.72	11.8	0.46	69	2.7

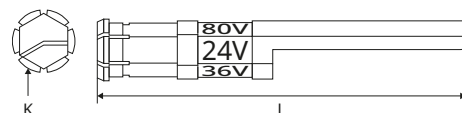
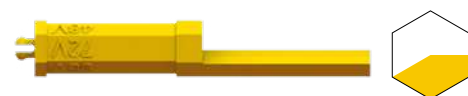
WET/DRY VOLTAGE KEY - GREY OR GREEN

Keying plug	Identification	Assembled in
	Used for wet cell battery/charger Colour: grey	Battery receptacle and charging plug
	Used for dry cell battery/charger Colour: green	Battery receptacle and charging plug
	Used for vehicle only Colour: yellow (universal)	Vehicle plug only – used when vehicle may use wet or dry cell batteries

UNIVERSAL VOLTAGE KEY - YELLOW

(Use with male housing only)

Universal (yellow) voltage keys are to be used exclusively at the vehicle side to permit both the use of wet-cell and dry-cell batteries.



SB SERIES CONNECTORS



SB 50

SB 120

SB 175

SB 350

FLATWIPING CONNECTOR SB 50/120/175/350

Based on the design pioneered by Anderson in 1953, the two pole SB connectors set the standard for DC power distribution and battery connections. SB connectors feature a rugged one piece plastic housing using stainless steel springs to retain the contacts and create the “contact force” that provides extremely low resistance enabling greater electrical efficiency. The SB connectors are also genderless (flip one 180 degrees and they will mate to each other) reducing the customer’s bill of materials and providing greater economies of scale when purchasing. The SB series of connectors range in size from

SB 50 to the SB 350. Each family size offers colour-coded, mechanically keyed housings designed to prevent both visually and physically cross-mating devices with different voltages. All the connectors are UL rated to 600 volts so the keys and colors are just identifiers to prevent accidents. Contacts are traditionally silver plated to minimize electrical resistance while offering supreme durability and reliability. Popular SB applications include: electrical testing equipment, commercial trucking charger, automatic guided vehicles, ups, material handling, motive power and electric vehicles.

OVERVIEW RANGE - SB SERIES

Type	Wire size		REF									
	AWG	Exact mm ²		European mm ²	Yellow 12 V	Orange 18 V	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V
SB50	#6	13.3	16	136TA3094	136TA3105	106TA9801	138TA4375	136TA3141	136TA3155	106TA9804	-	
	#8	8.4	10	167TA9390	167TA9402	167TA9414	167TA9430	167TA9447	167TA9464	167TA9475	-	
	#10/12	5.3/3.3	6/4	136TA3095	136TA3106	105TA4670	106TA9802	136TA3142	136TA3156	106TA9803	-	
SB120	#1	42.4	50	-	-	167TA9415	167TA9431	167TA9448	-	-	-	
	#2	33.6	35	-	-	136TA3116	136TA3129	136TA3143	-	-	-	
	#4	21.1	25	-	-	136TA3117	136TA3130	136TA3144	-	-	-	
	#6	13.3	16	-	-	136TA3118	136TA3131	136TA3145	-	-	-	
SB175	2/0	67.4	70	-	-	-	168TA2849	-	-	-	-	
	1/0	53.5	50	105TA4672	105TA4673	106TA9805	105TA4674	106TA9806	-	167TA9476	167TA9500	
	#1	42.4	50	167TA9391	167TA9403	167TA9416	167TA9432	167TA9449	-	167TA9477	167TA9501	
	#2	33.6	35	136TA3096	136TA3107	136TA3119	136TA3132	136TA3146	-	167TA9478	167TA9502	
	#4	21.1	25	136TA3097	136TA3108	136TA3120	136TA3133	136TA3147	-	167TA9479	167TA9503	
	#6	13.3	16	167TA9392	167TA9404	167TA9417	167TA9433	167TA9450	-	167TA9480	167TA9504	
SB350	1/0	53.5	50	167TA9393	167TA9405	167TA9418	167TA9434	167TA9451	167TA9465	167TA9481	-	
	2/0	67.4	70	105TA4675	106TA9807	106TA9808	106TA9809	106TA9810	106TA9811	167TA9482	-	
	3/0	85	95	136TA3098	136TA3109	136TA3121	136TA3134	136TA3148	136TA3157	167TA9483	-	
	4/0	107.2	120	136TA3099	136TA3110	136TA3122	136TA3135	136TA3149	136TA3158	167TA9484	-	
	300 mcm	152	150	167TA9394	167TA9406	167TA9420	167TA9435	167TA9452	167TA9466	167TA9485	-	
SB175 3-pole	1/0	33.6	50	-	-	-	167TA9446	-	-	-	-	
	#1	42.4	50	-	-	-	168TA2854	-	-	-	-	
	#2	33.6	35	-	-	-	168TA2855	-	-	-	-	
	#4	21.1	25	-	-	-	168TA2856	-	-	-	-	
	#6	13.3	16	-	-	-	168TA2857	-	-	-	-	

CONNECTORS

ANDERSON POWER PRODUCTS

OVERVIEW RANGE - SB SERIES



PACKAGE DEALS



Type	Wire size			REF (box 10 pcs)							
	AWG	Exact mm ²	European mm ²	Yellow 12 V	Orange 18 V	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V
SB50	#6	13.3	16	168TA3269	168TA3298	168TA3327	168TA3363	168TA3405	168TA3442	168TA3467	-
	#8	8.4	10	168TA3270	168TA3299	168TA3328	168TA3364	168TA3406	168TA3443	168TA3468	-
	#10/12	5.3/3.3	6/4	168TA3271	168TA3300	168TA3329	168TA3365	168TA3407	168TA3444	168TA3469	-
SB120	#1	42.4	50	-	-	168TA3330	168TA3366	168TA3408	-	-	-
	#2	33.6	35	-	-	168TA3331	168TA3367	168TA3409	-	-	-
	#4	21.1	25	-	-	168TA3332	168TA3368	168TA3410	-	-	-
	#6	13.3	16	-	-	168TA3333	168TA3369	168TA3411	-	-	-
SB175	2/0	67.4	70	-	-	-	168TA3370	-	-	-	-
	1/0	53.5	50	168TA3272	168TA3301	168TA3334	168TA3371	168TA3412	-	168TA3470	168TA3501
	#1	42.4	50	168TA3273	168TA3302	168TA3335	168TA3372	168TA3413	-	168TA3471	168TA3502
	#2	33.6	35	168TA3274	168TA3303	168TA3336	168TA3373	168TA3414	-	168TA3472	168TA3503
	#4	21.1	25	168TA3275	168TA3304	168TA3337	168TA3374	168TA3415	-	168TA3473	168TA3504
	#6	13.3	16	168TA3276	168TA3305	168TA3338	168TA3375	168TA3416	-	168TA3474	168TA3505
SB350	1/0	53.5	50	168TA3277	168TA3306	168TA3339	168TA3376	168TA3417	168TA3445	168TA3475	-
	2/0	67.4	70	168TA3278	168TA3307	168TA3340	168TA3377	168TA3418	168TA3446	168TA3476	-
	3/0	85	95	168TA3279	168TA3308	168TA3341	168TA3378	168TA3419	168TA3447	168TA3477	-
	4/0	107.2	120	168TA3280	168TA3309	168TA3342	168TA3379	168TA3420	168TA3448	168TA3478	-
	300 mcm	152	150	168TA3281	168TA3310	168TA3343	168TA3380	168TA3421	168TA3449	168TA3479	-
SB175 3-pole	1/0	33.6	50	-	-	-	168TA3400	-	-	-	-
	#1	42.4	50	-	-	-	168TA3401	-	-	-	-
	#2	33.6	35	-	-	-	168TA3402	-	-	-	-
	#4	21.1	25	-	-	-	168TA3403	-	-	-	-
	#6	13.3	16	-	-	-	168TA3404	-	-	-	-

BATTERY CONNECTOR CHART WITH CHEMICAL HOUSING



Type	Wire size			Red	Grey	Black
	AWG	Exact mm ²	European mm ²	24 V	36 V	80 V
SB50	#6	13.3	16	168TA6166	168TA6186	168TA6215
	#8	8.4	10	168TA6167	168TA6187	168TA6216
	#10/12	5.3/3.3	6/4	168TA6168	168TA6188	168TA6217
SB120	#1	42.4	50	168TA6169	168TA6189	-
	#2	33.6	35	168TA6170	168TA6190	-
	#4	21.1	25	168TA6171	168TA6191	-
	#6	13.3	16	168TA6172	168TA6192	-
SB175	1/0	53.5	50	168TA6173	168TA6193	-
	#1	42.4	50	168TA6174	168TA6194	-
	#2	33.6	35	168TA6175	168TA6195	-
	#4	21.1	25	168TA6176	168TA6196	-
	#6	13.3	16	168TA6177	168TA6197	-
SB350	1/0	53.5	50	168TA6178	168TA6198	-
	2/0	67.4	70	168TA6179	168TA6199	-
	3/0	85	95	168TA6180	168TA6200	-
	4/0	107.2	120	168TA6181	168TA6201	-
	300 mcm	152	150	168TA6182	168TA6202	-

ACCESSORIES - SB SERIES

HANDLES



Type	Size	Flat/DIN	Housing	T-handle + HDW (red)	A-frame + HDW (polycarbonate, grey)	A-frame + HDW (polycarbonate, red)	A-frame + HDW (polycarbonate, black)	Ergonomical (polycarbonate, red)	Steel (red)
SB	50	Flat	Standard	168TA2820	138TA4427	138TA4429	138TA4428	-	-
SB	120	Flat	Standard	138TA4426	138TA4427	138TA4429	138TA4428	-	-
SB	175	Flat	Standard	-	116TA5895	107TA8417	138TA4431	144TA9210	-
SB	350	Flat	Standard	-	116TA5895	107TA8417	138TA4431	144TA9210	-
SB	50	Flat	Standard	-	-	-	-	-	138TA4432
SB	120	Flat	Standard	-	-	-	-	-	138TA4432
SB	175	Flat	Standard	-	-	-	-	-	138TA4433
SB	350	Flat	Standard	-	-	-	-	-	138TA4433



Model	Dust cover		Environmental boots				Cable clamps			
	Red	Black	With cover		No cover		Self attaching		Bolt-on	
			Load	Source	Load	Source	Discrete	Discrete	Discrete	Bundled
SB50	138TA4446	-	168TA3548	168TA3551	168TA3554	168TA3555	168TA3556	168TA3557	168TA3558	168TA3561
SB120	-	168TA3547	168TA3549	168TA3552	168TA3549	168TA3552	-	-	168TA3559	168TA3562
SB175	107TA8411	-	168TA3550	168TA3553	168TA3550	168TA3553	106TA9864	106TA9864	168TA3560	106TA9865
SB350	131TA4680	-	-	-	-	-	-	-	106TA9866	-



Model	Lockout	Manual release bracket	
		Mounting/battery side	Locking/truck side
SB50	-	-	-
SB120	-	-	-
SB175	168TA3564	168TA3566	168TA3568
SB350	168TA3565	168TA3567	106TA9856



HANDLE FOR 3-POLE CONNECTOR

REF [138TA4408](#)



CONNECTOR LOCKOUTS

- For use with 175 A or 350 A connectors
- Lock not included, needs to be ordered separately with REF 142TA7045

REF [168TA3565](#) – For use with SB350-lockout

REF [168TA3564](#) – For use with SB175-lockout

CONNECTORS

ANDERSON POWER PRODUCTS



ACCESSORIES - SB SERIES

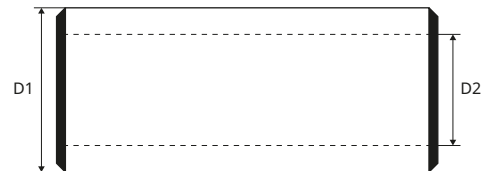
CONTACTS



Type	Type	Wire size			Open/ closed	REF
		AWG	Exact mm ²	European mm ²		
Flat	SB50	#6	13.3	16	Closed	168TA3989
Flat	SB50	#8	8.4	10	Closed	168TA3990
Flat	SB50	#10/12	5.3/3.3	6/4	Closed	168TA3991
Flat	SB120	#1	42.4	50	Closed	168TA3992
Flat	SB120	#2	33.6	35	Closed	168TA3993
Flat	SB120	#4	21.1	25	Closed	168TA3994
Flat	SB120	#6	13.3	16	Closed	168TA3995
Flat	SB175	2/0	67.4	70	Closed	168TA3996
Flat	SB175	1/0	53.5	50	Closed	168TA3997
Flat	SB175	#1	42.4	50	Closed	168TA3998
Flat	SB175	#2	33.6	35	Closed	168TA3999
Flat	SB175	#4	21.1	25	Closed	168TA4000
Flat	SB175	#6	13.3	16	Closed	168TA4001

Type	Type	Wire size			Open/ closed	REF
		AWG	Exact mm ²	European mm ²		
Flat	SB350	1/0	53.5	50	Closed	168TA4002
Flat	SB350	2/0	67.4	70	Closed	168TA4003
Flat	SB350	3/0	85	95	Closed	168TA4004
Flat	SB350	4/0	107.2	120	Closed	168TA4005
Flat	SB350	300mcm	152	150	Closed	168TA4006
Flat	SB175 3-pole	1/0	33.6	50	Closed	168TA3997
Flat	SB175 3Pole	#1	42.4	50	Closed	168TA3998
Flat	SB175 3Pole	#2	33.6	35	Closed	168TA3999
Flat	SB175 3Pole	#4	21.1	25	Closed	168TA4000
Flat	SB175 3Pole	#6	13.3	16	Closed	168TA4001

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
6	13.3	8	8.4	106TA9868
6	13.3	12 to 10	3.3 to 5.3	106TA9869
6	13.3	16 to 14	1.3 to 2.1	106TA9870
2	33.6	4	21.2	138TA4448
2	33.6	6	16	138TA4449
2	33.6	10 to 8	5.3 to 8.4	138TA4450

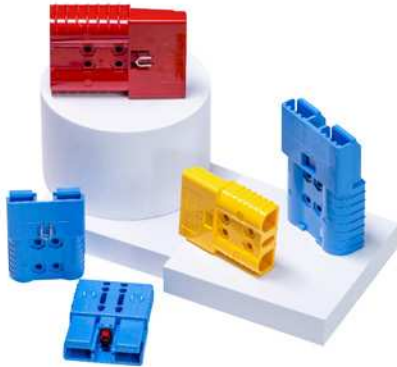
In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	53.5	1	42.4	106TA9871
1/0	53.5	2	33.6	106TA9872
1/0	53.5	4	21.2	106TA9873
1/0	53.5	6	16	106TA9874
1/0	53.5	10 to 8	5.3 to 8.4	138TA4451
2/0	67.4	1/0	53.5	106TA9878



SPECIAL HANDLE FOR SB50

REF [145TA7825](#)

SBE/SBX SERIES CONNECTORS



**FLAT WIPING CONNECTORS
SBE80/160/320 - SBX175/350**

SBE and SBX connectors build on the capability of the SB® connectors that handle two primary power contacts with the capacity to have up to 8 auxiliary power/signal contacts. The centers of the connector housing feature a location for either: two PP15-45 housings and contacts, an innovative 1 x 4 auxiliary accessory, or two PPMX housings that can accommodate up to 8 aux contacts. In addition, the housings meet IEC 60950 and IEC60529 touch safe requirements.

Sequencing within auxiliary positions is possible using the 4 pin lengths available in the 1 x 4 auxiliary accessory however the auxiliary contacts mate last / un-mate first in relation to the power contacts. While SBE and SBX housings offer similar capabilities, the SBE connector housings are molded from a chemical resistant PBT/PC blend resin allowing them to meet EN 1175-1 requirement and are tested to EN 1175-1 standards. SBX are molded from a rugged PC resin that is more impact resistant and are tested to UL/CSA requirements.

OVERVIEW RANGE - SBE/SBX SERIES

Type	Wire size			REF								
	AWG	Exact mm ²	European mm ²	Yellow 12 V	Orange 18 V	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V	Purple 120 V
SBE80	#4	21.1	25	167TA9395	167TA9407	167TA9421	167TA9436	-	-	-	-	-
	#6	13.3	16	167TA9396	167TA9408	136TA3123	167TA9437	-	-	-	-	-
SBE160	1/0	53.5	50	106TA9817	106TA9818	106TA9819	106TA9820	106TA9821	106TA9822	106TA9823	-	-
	#2	33.6	35	105TA4676	106TA9812	106TA9813	106TA9814	105TA4677	106TA9815	106TA9816	-	-
SBE320	300 mcm	152	150	167TA9397	167TA9409	167TA9422	167TA9438	167TA9453	167TA9467	167TA9486	167TA9505	167TA9517
	4/0	107.2	120	167TA9398	167TA9410	167TA9423	167TA9439	167TA9454	167TA9468	167TA9487	167TA9506	167TA9518
	3/0	85	95	167TA9399	167TA9411	167TA9424	167TA9440	167TA9455	167TA9469	167TA9488	167TA9507	167TA9519
	2/0	67.4	70	106TA9831	106TA9832	106TA9833	107TA8404	106TA9834	106TA9835	106TA9836	106TA9837	106TA9838
	1/0	50	50	136TA3100	136TA3111	136TA3124	136TA3136	136TA3150	136TA3159	136TA3163	136TA3166	136TA3167
	2	35	35	168TA2846	168TA2847	168TA2848	168TA2850	168TA2851	168TA2852	168TA2853	168TA2858	168TA2859
SBX175	1/0	53.5	50	136TA3101	136TA3112	136TA3125	136TA3137	136TA3151	136TA3168	-	-	-
	#2	33.6	35	136TA3102	136TA3113	136TA3126	136TA3138	136TA3152	136TA3169	-	-	-
SBX350	2	33.6	35	167TA9400	167TA9412	167TA9425	167TA9441	167TA9456	167TA9470	167TA9489	-	-
	2/0	67.4	70	106TA9824	106TA9825	106TA9826	106TA9827	106TA9828	106TA9829	106TA9830	-	-
	3/0	85	95	136TA3103	136TA3114	136TA3127	136TA3139	136TA3153	136TA3161	136TA3164	-	-
	4/0	107.2	120	136TA3104	136TA3115	136TA3128	136TA3140	136TA3154	136TA3162	136TA3165	-	-
	300 mcm	152	150	167TA9401	167TA9413	167TA9426	167TA9442	167TA9457	167TA9471	167TA9490	-	-

CONNECTORS

ANDERSON POWER PRODUCTS

OVERVIEW RANGE - SBE/SBX SERIES



PACKAGE DEALS



Type	Wire size			REF (box 10 pcs)								
	AWG	Exact	European	Yellow	Orange	Red	Grey	Blue	Green	Black	Brown	Purple
		mm ²	mm ²	12 V	18 V	24 V	36 V	48 V	72 V	80 V	96 V	120 V
SBE80	#4	21.1	25	168TA3282	168TA3311	168TA3344	168TA3381	-	-	-	-	-
	#6	13.3	16	168TA3283	168TA3312	168TA3345	168TA3382	-	-	-	-	-
SBE160	1/0	53.5	50	168TA3284	168TA3313	168TA3346	168TA3383	168TA3422	168TA3450	168TA3480	-	-
	#2	33.6	35	168TA3285	168TA3314	168TA3347	168TA3384	168TA3423	168TA3451	168TA3481	-	-
SBE320	300 mcm	152	150	168TA3286	168TA3315	168TA3348	168TA3385	168TA3424	168TA3452	168TA3482	168TA3506	168TA3520
	4/0	107.2	120	168TA3287	168TA3316	168TA3349	168TA3386	168TA3425	168TA3453	168TA3483	168TA3507	168TA3521
	3/0	85	95	168TA3288	168TA3317	168TA3350	168TA3387	168TA3426	168TA3454	168TA3484	168TA3508	168TA3522
	2/0	67.4	70	168TA3289	168TA3318	168TA3351	168TA3388	168TA3427	168TA3455	168TA3485	168TA3509	168TA3523
	1/0	33.6	50	168TA3290	168TA3319	168TA3352	168TA3389	168TA3428	168TA3456	168TA3486	168TA3510	168TA3524
SBX175	1/0	53.5	50	168TA3291	168TA3320	168TA3353	168TA3390	168TA3429	168TA3457	-	-	-
	#2	33.6	35	168TA3292	168TA3321	168TA3354	168TA3391	168TA3430	168TA3458	-	-	-
SBX350	2	33.6	35	168TA3293	168TA3322	168TA3355	168TA3392	168TA3431	168TA3459	168TA3487	-	-
	2/0	67.4	70	168TA3294	168TA3323	168TA3356	168TA3393	168TA3432	168TA3460	168TA3488	-	-
	3/0	85	95	168TA3295	168TA3324	168TA3357	168TA3394	168TA3433	168TA3461	168TA3489	-	-
	4/0	107.2	120	168TA3296	168TA3325	168TA3358	168TA3395	168TA3434	168TA3462	168TA3490	-	-
	300 mcm	152	150	168TA3297	168TA3326	168TA3359	168TA3396	168TA3435	168TA3463	168TA3491	-	-

ACCESSORIES - SBE/SBX SERIES



HANDLES



Type	Size	Flat/DIN	Housing	T-handle + HDW (red)	A-frame + HDW (polycarbonate, grey)	A-frame + HDW (polycarbonate, red)	A-frame + HDW (polycarbonate, black)	Ergonomical (polycarbonate, red)	Steel (red)
SBE	80	Flat	Standard	168TA2822	-	-	-	-	-
SBE	160	Flat	Standard	-	116TA5895	107TA8417	138TA4431	144TA9210	138TA4434
SBE	320	Flat	Standard	-	116TA5895	107TA8417	138TA4431	144TA9210	138TA4434
SBX	175	Flat	Standard	-	116TA5895	107TA8417	138TA4431	144TA9210	138TA4434
SBX	350	Flat	Standard	-	116TA5895	107TA8417	138TA4431	144TA9210	138TA4434



Model	Not specific	Manual release bracket Mounting/battery side	Locking/truck side	Auxillary kit	16 to 12 AWG	20 to 16 AWG
SBE80	168TA3563	-	-	107TA8413	-	-
SBE160	107TA8422	106TA9859	106TA9858	107TA8413	-	-
SBX175	107TA8422	106TA9859	106TA9858	107TA8413	-	-
SBE320	107TA8423	106TA9861	106TA9860	-	168TA3569	168TA6460
SBX350	107TA8423	106TA9861	106TA9860	-	168TA3569	168TA6460

ACCESSORIES - SBE/SBX SERIES

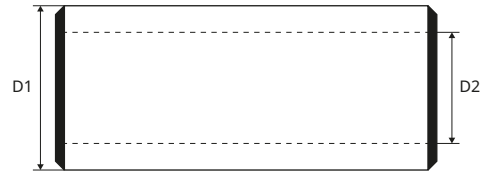
CONTACTS



Type	Type	Wire size			REF
		AWG	Exact mm ²	European mm ²	
Flat	SBE80	#4	21.1	25	168TA4007
Flat	SBE80	#6	13.3	16	168TA4008
Flat	SBE160	1/0	53.5	50	168TA4009
Flat	SBE160	#2	33.6	35	168TA4010
Flat	SBE320	300mcm	152	150	168TA4011
Flat	SBE320	4/0	107.2	120	168TA4012
Flat	SBE320	3/0	85	95	168TA4013
Flat	SBE320	2/0	67.4	70	168TA4014
Flat	SBE320	1/0	50	50	168TA4015
Flat	SBE320	2	35	35	168TA4016

Type	Type	Wire size			REF
		AWG	Exact mm ²	European mm ²	
Flat	SBX175	1/0	53.5	50	168TA4009
Flat	SBX175	#2	33.6	35	168TA4010
Flat	SBX350	2	33.6	35	168TA4016
Flat	SBX350	2/0	67.4	70	168TA4014
Flat	SBX350	3/0	85	95	168TA4013
Flat	SBX350	4/0	107.2	120	168TA4012
Flat	SBX350	300mcm	152	150	168TA4011

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
6	13.3	8	8.4	106TA9868
6	13.3	12 to 10	3.3 to 5.3	106TA9869
6	13.3	16 to 14	1.3 to 2.1	106TA9870
2	33.6	4	21.2	138TA4448
2	33.6	6	16	138TA4449
2	33.6	10 to 8	5.3 to 8.4	138TA4450

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	53.5	1	42.4	106TA9871
1/0	53.5	2	33.6	106TA9872
1/0	53.5	4	21.2	106TA9873
1/0	53.5	6	16	106TA9874
1/0	53.5	10 to 8	5.3 to 8.4	138TA4451
2/0	67.4	1/0	53.5	106TA9878

CONNECTORS

ANDERSON POWER PRODUCTS

SBS SERIES CONNECTORS



The patented SBS connector family is designed to provide high power in a compact ergonomic housing with protection against accidental contact with live circuits. This is of particular importance in applications where DC voltages exceed 30 volts and can be health threatening.



SBS 50, SBS 75X and SBS 75G are available in Wire-to-wire and wire-to-board configurations both provide power contacts rated up to 110 amps. The SBS 75X offers up to 4 mate-last break-first auxiliary power/signal contacts rated up to 20 amps. The SBS 75G features a third first-mate last-break ground or power contact. All contact positions are rated for circuit interruption (hot plugging).

The SBSX-75A sealed waterproof connectors come in multiple configurations offering up to a maximum of 140 A of power and the durability of up to 5000 mating cycles. The IP68 waterproof rating ensures that the connector will be free of water for full protection up to 30 minutes at 6 feet in the mated conditions, or with the use of covers in unmated condition.

OVERVIEW RANGE - SBS SERIES



Type	Wire size			REF						
	AWG	Exact mm ²	European mm ²	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V	White 144V
SBS50	6	13.3	16	167TA9427	167TA9443	167TA9458	167TA9472	167TA9491	167TA9508	168TA2860
	8	8.4	10	167TA9428	167TA9444	167TA9459	167TA9473	167TA9492	167TA9509	168TA2861
	10/12		2.5/6	167TA9429	167TA9445	167TA9460	167TA9474	167TA9493	167TA9510	168TA2862
SBS75X	6	13.3	16	-	-	-	-	167TA9494	167TA9511	-
	8	8.4	10	-	-	-	-	167TA9495	167TA9512	-
	10/12		2.5/6	-	-	-	-	167TA9496	167TA9513	-
SBS75G	6	13.3	16	-	-	167TA9461	-	167TA9497	167TA9514	167TA9520
	8	8.4	10	-	-	167TA9462	-	167TA9498	167TA9515	167TA9521
	10/12		2.5/6	-	-	167TA9463	-	167TA9499	167TA9516	167TA9522

OVERVIEW RANGE - SBS SERIES



PACKAGE DEALS



Type	Wire size			REF (box 10 pcs)						
	AWG	Exact mm ²	European mm ²	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V	White 144V
SBS50	6	13.3	16	168TA3360	168TA3397	168TA3436	168TA3464	168TA3492	168TA3511	-
	8	8.4	10	168TA3361	168TA3398	168TA3437	168TA3465	168TA3493	168TA3512	-
	10/12		2.5/6	168TA3362	168TA3399	168TA3438	168TA3466	168TA3494	168TA3513	-
SBS75X	6	13.3	16	-	-	-	-	168TA3495	168TA3514	-
	8	8.4	10	-	-	-	-	168TA3496	168TA3515	-
	10/12		2.5/6	-	-	-	-	168TA3497	168TA3516	-
SBS75G	6	13.3	16	-	-	168TA3439	-	168TA3498	168TA3517	168TA3525
	8	8.4	10	-	-	168TA3440	-	168TA3499	168TA3518	168TA3526
	10/12		2.5/6	-	-	168TA3441	-	168TA3500	168TA3519	168TA3527

OVERVIEW RANGE - SBS SERIES



Type	Wire size			REF					
	AWG	Exact mm ²	European mm ²	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V
SBS50	6	13.3	16	168TA6183	168TA6203	168TA6206	168TA6209	168TA6218	168TA6224
	8	8.4	10	168TA6184	168TA6204	168TA6207	168TA6210	168TA6219	168TA6225
	10/12		2.5/6	168TA6185	168TA6205	168TA6208	168TA6211	168TA6220	168TA6226
SBS75X	6	13.3	16	-	-	-	168TA6212	168TA6221	-
	8	8.4	10	-	-	-	168TA6213	168TA6222	-
	10/12		2.5/6	-	-	-	168TA6214	168TA6223	-

ACCESSORIES - SBS SERIES

HANDLES



Type	Size	Flat/DIN	Housing	T-handle + HDW (red)	A-frame + HDW (polycarbonate, grey)	A-frame + HDW (polycarbonate, red)	A-frame + HDW (polycarbonate, black)	Steel (red)
SBS	50	Flat	Standard	168TA2820	138TA4427	138TA4429	138TA4428	138TA4432
SBS	75	Flat	Standard	168TA2821	138TA4427	138TA4429	138TA4428	138TA4432

CONTACTS



Type	Type	Wire size			REF
		AWG	Exact mm ²	European mm ²	
Flat	SBS50	6	13.3	16	168TA4017
Flat	SBS50	8	8.4	10	168TA4018
Flat	SBS50	10/12	-	2.5/6	168TA4019
Flat	SBS75X	6	13.3	16	168TA4017
Flat	SBS75X	8	8.4	10	168TA4018
Flat	SBS75X	10/12	-	2.5/6	168TA4019
Flat	SBS75G	6	13.3	16	168TA4017
Flat	SBS75G	8	8.4	10	168TA4018
Flat	SBS75G	10/12	-	2.5/6	168TA4019

PIN CONTACTS FOR SBS75X AUXILIARY

	Wire size		REF
	AWG	Exact mm ²	
Standard length 7.7 mm			
	12	2.5	168TA1723
	16 to 14	1.0 to 1.5	168TA1724
	20 to 16	0.75 to 1.0	168TA1725
	24 to 20	0.5 to 0.75	168TA1726
Pre-mate 9.3 mm			
	12	2.5	168TA1727
	16 to 14	1.0 to 1.5	168TA1728
	20 to 16	0.75 to 1.0	168TA1729
	24 to 20	0.5 to 0.75	168TA1730
Post-mate 6.4 mm			
	12	2.5	168TA1731
	16 to 14	1.0 to 1.5	168TA1732
	20 to 16	0.75 to 1.0	168TA1733
	24 to 20	0.5 to 0.75	168TA1734

SOCKET CONTACTS FOR SBS75X AUXILIARY

	Wire size		REF
	AWG	Exact mm ²	
	12	2.5	168TA1735
	16 to 14	1.0 to 1.5	168TA1736
	20 to 16	0.75 to 1.0	168TA1737
	24 to 20	0.5 to 0.75	168TA1738

CONNECTORS

ANDERSON POWER PRODUCTS



SEALED CONNECTOR SERIES



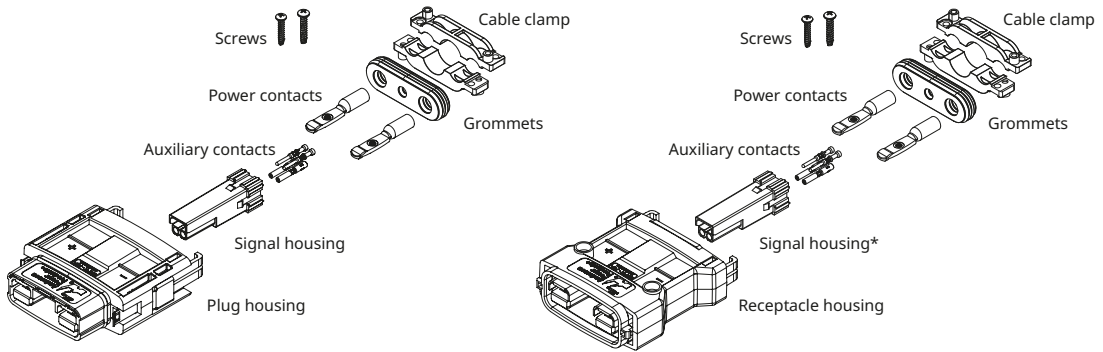
SBS X-75A SERIES

The SBS[®]X-75A sealed waterproof connectors come in a multiple of configuration offerings with up to a maximum of 140 A of power and the durability of up to 5000 mating cycles. Positive metal latches help safeguard against accidental disconnects that may be caused by vibration, while the built-in cable clamp allows for strain relief on wires.

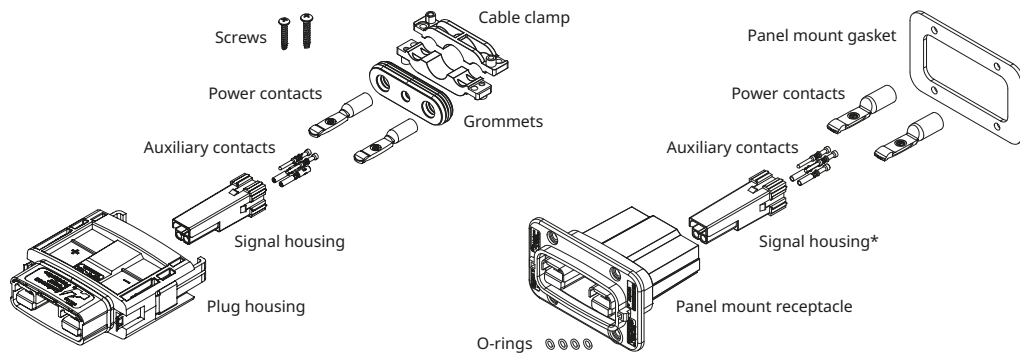
The compact sleek high-power design of these environmentally rugged connectors makes them ideal for outdoor applications. The IP68 weatherproof rating ensures that the connector will be free of water for full protection up to 30 minutes at 6 feet in the mated conditions, or with the use of covers in unmated condition.

COMPONENTS

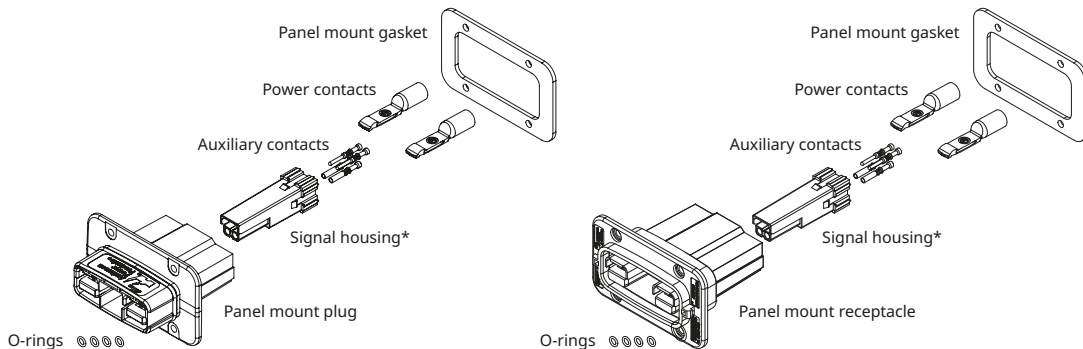
Wire-to-wire



Wire-to-panel mount



Panel mount-to-panel mount

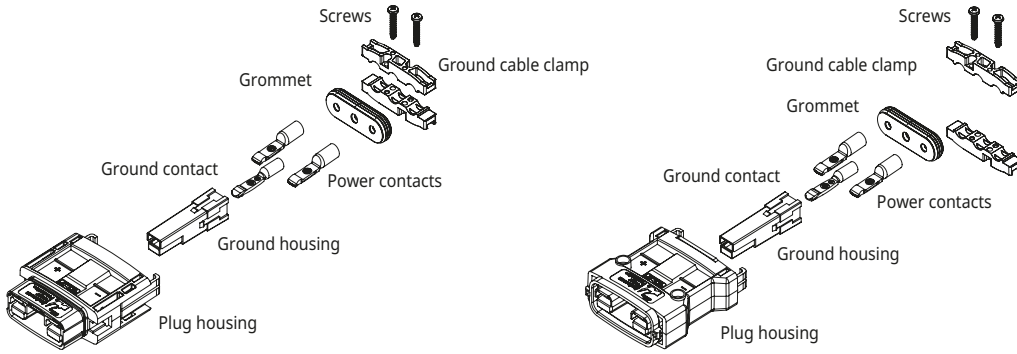


* Center signal housings are available in 4 or 6 positions. See ordering section for details.

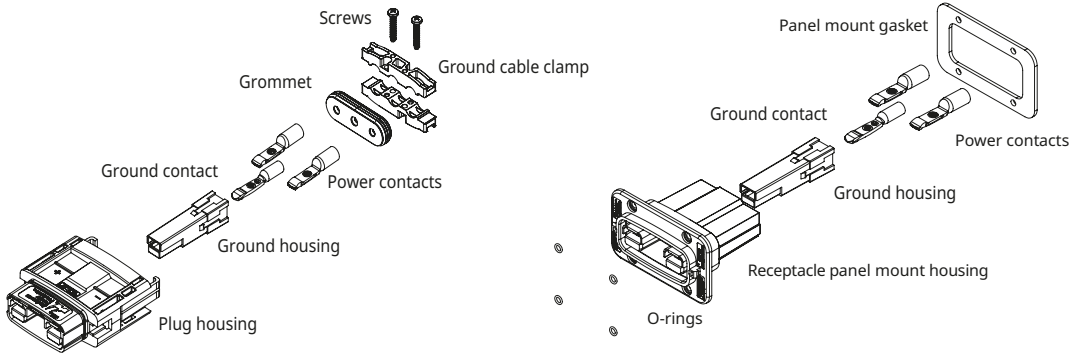
SEALED CONNECTOR SERIES

COMPONENTS

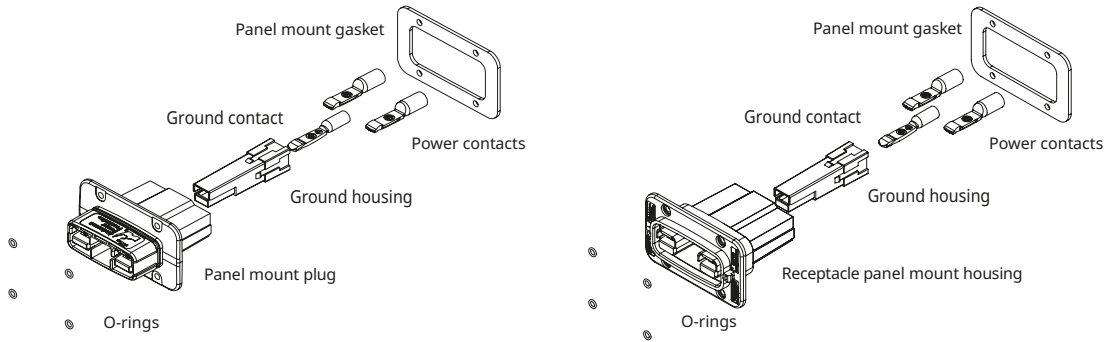
Wire-to-wire



Wire-to-panel mount



Panel mount-to-panel mount



CONNECTORS

ANDERSON POWER PRODUCTS



SEALED CONNECTOR SERIES

STEP 1: SELECT THE HOUSING KIT - PACKAGED AS INDIVIDUAL KITS. CONTACTS AND GROMMETS SOLD SEPARATELY

Colour denotes signal or ground housings only. All other housings are black. Signal housings are available in 4 or 6 position styles. 6 position utilizes PPMX contacts. Ground utilizes ground contacts.









	Description – sealed SBS®X-75A	Kit includes: housing, signal housing and below parts	REF
Minimum quantity: 1			
	Male plug – red	Latches, cable clamp, hardware and front O-rings	168TA8621
	Male plug – blue		168TA8622
	Male plug – grey		168TA8623
	Male plug – black		168TA8624
	6 Position auxiliary male plug – white	6 position signal housing, contact holder, latches, cable clamp, hardware and front O-rings	168TA8706
	Male plug – green (ground)	Ground housing, latches, cable clamp, hardware and front O-rings	168TA8707
	Female receptacle – red	Cable clamp, hardware	168TA8625
	Female receptacle – blue		168TA8626
	Female receptacle – grey		168TA8627
	Female receptacle – black		168TA8628
	6 position auxiliary female receptacle – white	6 position signal housing, contact holder, cable clamp, hardware	168TA8708
	Female receptacle – green (ground)	Ground housing, cable clamp, hardware	168TA8709
	Panel mount receptacle – red*	Panel gasket, mounting O-rings	168TA8625
	Panel mount receptacle – blue*		168TA8629
	Panel mount receptacle – grey*		168TA8630
	Panel mount receptacle – black*		168TA8631
	6 position auxiliary panel mount receptacle – white	6 position signal housing, contact holder, panel gasket, mounting O-rings	168TA8710
	Panel mount receptacle – green (ground)*	Ground housing, panel gasket, mounting O-ring	168TA8711
	Panel mount plug – red*	Front O-ring, panel gasket, mounting O-rings	168TA8632
	Panel mount plug – blue*		168TA8633
	A panel mount plug – grey*		168TA8634
	Panel mount plug – black*		168TA8635
	6 position auxiliary panel mount plug – white	6 position signal housing, contact holder, front O-ring, panel gasket, mounting O-rings	168TA8712
	Panel mount plug – green (ground)*	Ground housing, front O-ring, panel gasket, mounting O-rings	168TA8713

SEALED CONNECTOR SERIES

STEP 1: SELECT THE HOUSING KIT - PACKAGED AS INDIVIDUAL KITS. CONTACTS AND GROMMETS SOLD SEPARATELY

Bulk Component Ordering Information - All components sold separately.




For grommets and contacts see step 2 and 3.

	Description – sealed SBS®X-75A	Includes	REF
Minimum quantity: 100			
	Male plug housing	Housing, latches and O-rings	168TA8616
	Female receptacle housing	Housing	168TA8617
	Panel mount receptacle housing	Housing	168TA8618
	Panel mount plug housing *	Housing, front O-ring	168TA8619
Minimum quantity: 200			
	Signal housing – red	Housing	168TA8620
	Signal housing – blue	Housing	168TA8636
	Signal housing – grey	Housing	168TA8637
	Signal housing – black	Housing	168TA8638
	Ground housing – green	Housing	168TA8715
	6 Position signal housing – white	Housing	168TA8716
	6 Position contact holder – black	Contact holder	168TA8717
	Cable clamp	Cable clamp (set of two)	168TA8639
	Ground cable clamp	Cable clamp (set of two)	168TA8714
	#4 to 20 5/8" (15.88 mm) plastite head screws – cable clamp	Screws	168TA8640
	Panel mount hardware kit	Panel mount gasket, mounting O-rings	168TA8641

* Panel Mount Plug mates with Panel Mount Receptacle for Panel-to-Panel applications. Please note that this configuration has not been tested for Ingress protection ratings, please contact the manufacturer for further details on this requirement to see if it will work for your application needs. Panel Mount hardware not included.

STEP 1: SELECT THE HOUSING KIT - PACKAGED AS INDIVIDUAL KITS. CONTACTS AND GROMMETS SOLD SEPARATELY

Covers – Use when parts are unmated for IP68 protection

	Description – sealed SBS®X-75A	Includes	REF
Minimum quantity: 1			
	Plug cover*	Housing, lanyard	168TA8642
	Receptacle cover	Housing, latches, O-ring, lanyard	168TA8643
	Panel mount receptacle cover	Housing, latches, O-ring, lanyard	168TA8644

* Inquire with manufacturer or sales representative regarding panel mount plug covers.

CONNECTORS

ANDERSON POWER PRODUCTS



SEALED CONNECTOR SERIES

STEP 2: GROMMETS SOLD SEPARATELY

To select proper grommet size, you will need to know the outer diameter of jacketed cable for each of the Power and Signal cables. Find your overall power size, then determine appropriate outer dimension for both Power and Signal cables. Not using signal, then select NS grommet that matches your power only size. Panel mount housings do not require grommets.

DISCRETE WIRES



Discrete wire
Power and signal

Wire size		Power wire Diameter range	Signal cable/wire size Diameter range	REF
AWG	mm ²	mm ²	mm ²	
10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.08 to 0.10 (2.03 to 2.54)	168TA8645
6 to 4	6 to 4	0.31 to 0.34 (7.87 to 8.64)	0.08 to 0.10 (2.03 to 2.54)	168TA8646

JACKET CABLE



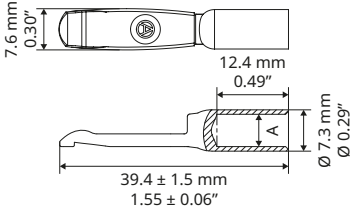
Jacket cable
Power and signal

Wire size		Power wire Diameter range	Signal cable/wire size Diameter range	REF			
AWG	mm ²	mm ²	mm ²				
Minimum quantity: 1							
10 to 12	2.5 to 6	0.15 to 0.18 (3.81 to 4.57)	0.15 to 0.18 (3.81 to 4.57)	168TA8647			
			0.18 to 0.21 (4.57 to 5.33)	168TA8648			
			0.32 to 0.35 (8.13 to 8.89)	168TA8649			
			0.35 to 0.38 (8.89 to 9.65)	168TA8650			
			0.38 to 0.41 (9.65 to 10.41)	168TA8651			
			0.41 to 0.44 (10.41 to 11.18)	168TA8652			
			No signal	168TA8653			
8	10	0.24 to 0.27 (6.10 to 6.86)	0.15 to 0.18 (3.81 to 4.57)	168TA8654			
			0.18 to 0.21 (4.57 to 5.33)	168TA8655			
			0.24 to 0.27 (6.10 to 6.86)	168TA8718			
			0.32 to 0.35 (8.13 to 8.89)	168TA8656			
			0.35 to 0.38 (8.89 to 9.65)	168TA8657			
			0.38 to 0.41 (9.65 to 10.41)	168TA8658			
			0.41 to 0.44 (10.41 to 11.18)	168TA8659			
			No signal	168TA8660			
			6	16	0.31 to 0.34 (7.87 to 8.64)	0.15 to 0.18 (3.81 to 4.57)	168TA8661
						0.18 to 0.21 (4.57 to 5.33)	168TA8662
0.31 to 0.34 (7.87 to 8.64)	168TA8719						
0.32 to 0.35 (8.13 to 8.89)	168TA8663						
0.35 to 0.38 (8.89 to 9.65)	168TA8664						
0.38 to 0.41 (9.65 to 10.41)	168TA8665						
0.41 to 0.44 (10.41 to 11.18)	168TA8666						
No signal	168TA8667						
4	25	0.41 to 0.44 (10.41 to 11.18)				0.15 to 0.18 (3.81 to 4.57)	168TA8668
						0.18 to 0.21 (4.57 to 5.33)	168TA8669
			0.32 to 0.35 (8.13 to 8.89)	168TA8670			
			0.35 to 0.38 (8.89 to 9.65)	168TA8671			
			0.38 to 0.41 (9.65 to 10.41)	168TA8672			
			0.41 to 0.44 (10.41 to 11.18)	168TA8673			
			No signal	168TA8674			

NOTE: don't see your cable size requirements? Please contact us.

SEALED CONNECTOR SERIES

STEP 3: CONTACTS SOLD SEPARATELY FOR POWER, GROUND AND SIGNAL

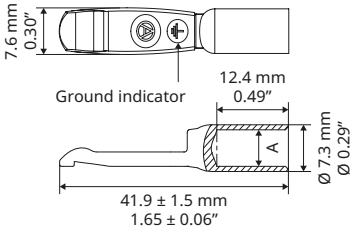


Silver plated primary power wire contacts

SBS®X-75A housings use two silver plated contacts per housing for the best electrical performance and durability up to 10 000 mating cycles.

Description	Diameter (A)				REF
	AWG	mm ²	Inches	mm	
Standard	4	25	0.28	7.11	168TA8675
	6	16	0.22	5.60	168TA4017
	8	10	0.19	4.70	168TA4018
	12 to 10	2.5 to 6	0.14	3.50	168TA4019

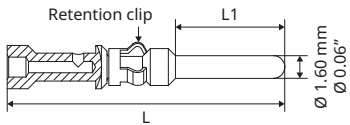
* Are sold as pairs. 2 contacts ship for every 1 ordered.



Silver plated pre-mate wire contacts

Pre-Mate contacts used for grounding are for the center Pre-Mate position on the SBS® - X75A wire housings.

Description	Diameter (A)				REF
	AWG	mm ²	Inches	mm	
Pre-mate	6	16	0.22	5.60	168TA8677
	8	10	0.19	4.70	168TA8678
	12 to 10	2.5 to 6	0.14	3.50	168TA8679



Pin contacts for auxiliary 4 positions

Gold plated contacts are available in 3 lengths to allow sequencing of circuits.

Description	AWG	mm ²	REF
Minimum quantity: 500			
Standard length 7.7 mm	16 to 14	1.0 to 1.5	168TA8683
	20 to 16	0.75 to 1.0	168TA8684
	24 to 20	0.50 to 0.75	168TA8441
Pre-mate length 9.3 mm	16 to 14	1.0 to 1.5	168TA1728
	20 to 16	0.75 to 1.0	168TA1729
	24 to 20	0.50 to 0.75	168TA1730
Pre-mate length 6.4 mm	16 to 14	1.0 to 1.5	168TA1732
	20 to 16	0.75 to 1.0	168TA1733
	24 to 20	0.50 to 0.75	168TA1734

Auxiliary pin contact lengths

	L		L1	
	Inches	mm	Inches	mm
Standard length 7.7 mm	0.77	19.6	0.30	7.7
Pre-Mate 9.3 mm	0.83	21.2	0.37	9.3
Post-Mate 6.4 mm	0.72	18.3	0.25	6.4

Auxiliary socket contacts crimp barrel ID

AWG	Inch	mm
16 to 14	0.08	2.1
20 to 16	0.07	1.7
24 to 20	0.04	1.1

Socket contacts 4 position auxiliary

Selective gold plated contacts offer low resistance and durability up to 10 000 mating cycles.

Description	AWG	mm ²	REF
Minimum quantity: 500			
Socket contacts	16 to 14	1.0 to 1.5	168TA8685
	20 to 16	0.75 to 1.0	168TA8686
	24 to 20	0.50 to 0.75	168TA8687

Pin and socket contacts PPMX 6 position Auxiliary connector

Gold plated contacts are ideal for signal or low power use with durability up to 5 000 mating cycles.

Description/	AWG	mm ²	REF
1 piece			
Pin contacts	24 to 20	0.50 to 0.25	168TA6409
Socket contacts			168TA6410

NOTE: contacts sold individually, not sold as a set of two

FLAT WIPING CONNECTORS SB SERIES

SB SMART SERIES

The SB® Smart is designed for applications where storage batteries intelligently interact with the system. Two primary power positions (up to 230 amps each) are combined with sixteen auxiliary power/signal positions (up to 15 amps each) into a single interconnect solution. This allows one connection to be used to route high power lines, low power lines, and signal circuits.

Unique to the SB® Smart is the selectively keyed housings that allow only mating between select connector halves. This prevents motors from mating with chargers, chargers from mating with chargers, or other undesirable connection scenarios.



Features:

- **Selective keyed housings:** unique keying feature only allows intended connector halves to mate
- **Power and auxiliary contacts:** enables the power connector to also transmit signals for intelligent power switching, battery monitoring, CAN communication, loop circuitry, and other signal or power circuits up to 15 amps
- **Sequencing of auxiliary contacts:** male auxiliary contacts available in 3 lengths
- **Wire and busbar connections:** satisfies multiple interconnect needs with one connection solution
- **Low resistance connection:** silver plated power contacts are strongly forced together by stainless steel springs
Gold plated auxiliary contacts ensure signal quality or reliable power
- **Hot plug capable contacts:** power contacts are hot plug capable up to 60 A at 120 VDC. Auxiliary contacts are hot plug capable up to 5 A at 120 VDC

OVERVIEW RANGE - SB SMART SERIES



Type	Wire size			
	AWG	Exact mm ²	European mm ²	Black 80 V
SB Smart battery	1/0	33.6	50	168TA6227
	1	42.4	50	168TA6228
	2	33.6	35	168TA6229
	4	21.1	25	168TA6230
	6	13.3	16	168TA6231
SB Smart forklift	1/0	33.6	50	168TA6232
	1	42.4	50	168TA6233
	2	33.6	35	168TA6234
	4	21.1	25	168TA6235
	6	13.3	16	168TA6236

Type	Wire size			
	AWG	Exact mm ²	European mm ²	Black 80 V
SB Smart charger	1/0	33.6	50	168TA6237
	1	42.4	50	168TA6238
	2	33.6	35	168TA6239
	4	21.1	25	168TA6240
	6	13.3	16	168TA6241

ACCESSORIES - SB SMART SERIES

CONTACTS



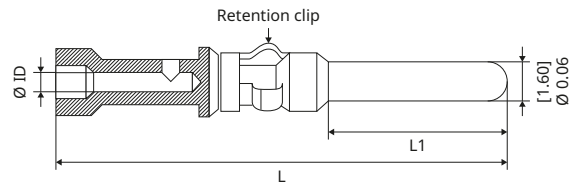
Type	Type	Wire size			REF
		AWG	Exact mm ²	European mm ²	
Flat	SB Smart	1/0	53.5	Low	168TA4065
Flat	SB Smart	1	42.4	Low	168TA3992
Flat	SB Smart	2	33.6	High	138TA8204
Flat	SB Smart	4	21.1	High	106TA9898
Flat	SB Smart	6	13.3	High	106TA9899

ACCESSORIES - SB SMART SERIES

PIN CONTACTS FOR 1 X 4 AUXILIARY CONNECTORS

AWG	mm ²	REF	Minimum quantity	REF	Minimum quantity
Standard length 7.7 mm					
12	2.5	168TA8440	500	168TA1723	50
16 to 14	1.0 to 1.5	168TA8457		168TA8456	
20 to 16	0.75 to 1.0	168TA1725		168TA1725	
24 to 20	0.50 to 0.75	168TA8441		168TA1726	
Pre-Mate 9.3 mm					
12	2.5	168TA8442	500	168TA1727	50
16 to 14	1.0 to 1.5	168TA1728		168TA8443	
20 to 16	0.75 to 1.0	168TA1729		168TA8444	
24 to 20	0.50 to 0.75	168TA1730		168TA8445	
Post-Mate 6.4 mm					
12	2.5	168TA1731	500	168TA8446	50
16 to 14	1.0 to 1.5	168TA1732		168TA8447	
20 to 16	0.75 to 1.0	168TA1733		168TA8448	
24 to 20	0.50 to 0.75	168TA1734		168TA8449	

Auxiliary pin	L		L1	
Contact lengths	mm	in	mm	in
Standard length 7.7 mm	19.6	0.77	7.7	0.30
Pre-Mate 9.3 mm	21.2	0.83	9.3	0.37
Post-Mate 6.4 mm	18.3	0.72	6.4	0.25

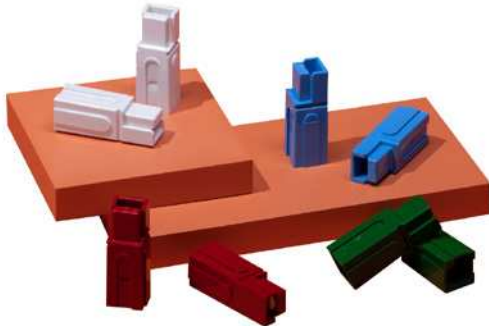


CONNECTORS

ANDERSON POWER PRODUCTS



FLAT WIPING CONNECTOR - POWERPOLE SERIES



This versatile connector series invented by Anderson Power meets a wide range of power connection needs. The four housing sizes in the Powerpole product family can carry a wide range of amperage and wire sizes in the most compact footprint. For currents up to 350 A and from wire sizes of #20 AWG (0.75 mm²) to 3/0 (70 mm²), Powerpole can handle them all. A wide range of colored housing options can be stacked together to create a proven, reliable custom connector. These housings can be used with different contacts to create wire-to-wire, wire-to-board, or wire-to-busbar connections. The Powerpole connector combines high quality materials with a cost-effective and innovative design for powerful versatility.

OVERVIEW RANGE - POWERPOLE SERIES



Type	Wire size		REF										
	AWG	Exact mm ²	Yellow	Orange	Red	Grey	Blue	Green	Black	Brown	Pink	Purple	White
PP15	16/20	1.3/0.52	168TA2760	168TA2762	106TA9882	168TA2766	106TA9885	138TA8175	106TA9883	168TA2770	168TA5724	168TA5725	106TA9884
PP30	12/16	3.3/1.3	138TA8188	168TA2763	106TA9887	138TA8189	105TA4691	138TA8187	106TA9888	168TA2771	168TA2772	168TA2774	106TA9889
PP45	10/14	5.3/2.1	168TA2761	168TA2764	168TA2765	168TA5722	168TA2767	168TA2768	168TA2769	168TA5723	168TA2773	168TA5726	168TA2775
PP75	#6	13.3	-	-	106TA9891	-	106TA9892	138TA8190	105TA4692	-	-	-	138TA8191
PP120	#2	33.6	-	-	112ta4817	-	138TA8201	138TA8203	138TA8202	-	-	-	105TA4693
PP180	1/0	53.5	-	-	138TA8213	-	138TA8210	138TA8214	138TA8211	-	-	-	138TA8212

ACCESSORIES - POWERPOLE SERIES



CONTACTS



Type	Type	Wire size		Remarks			REF
		AWG	Exact mm ²	Mating force	Material	Open/closed	
Powerpole	PP15	14 to 10 K	2.1 to 5.3	High	Tin plated	Open	168TA4073
Powerpole	PP15	14 to 10 K	2.1 to 5.3	Low	Tin plated	Open	168TA4074
Powerpole	PP15	14 to 10 SF	2.1 to 6.0	High	Tin plated	Open	168TA4075
Powerpole	PP15	14 to 10 SF	2.1 to 6.0	Low	Tin plated	Open	168TA4076
Powerpole	PP15	16 to 12	1.3 to 3.3	High	Tin plated	Open	168TA4077
Powerpole	PP15	16 to 12	1.3 to 3.3	Low	Tin plated	Open	168TA4078
Powerpole	PP15	20 to 16	0.52 to 1.3	High	Tin plated	Open	168TA4079
Powerpole	PP15	20 to 16	0.52 to 1.3	Low	Tin plated	Open	168TA4080
Powerpole	PP45	14 to 10 K	2.1 to 5.3	High	Tin plated	Open	168TA4073
Powerpole	PP45	14 to 10 K	2.1 to 5.3	Low	Tin plated	Open	168TA4074
Powerpole	PP45	14 to 10 SF	2.1 to 6.0	High	Tin plated	Open	168TA4075
Powerpole	PP45	14 to 10 SF	2.1 to 6.0	Low	Tin plated	Open	168TA4076
Powerpole	PP45	16 to 12	1.3 to 3.3	High	Tin plated	Open	168TA4077
Powerpole	PP45	16 to 12	1.3 to 3.3	Low	Tin plated	Open	168TA4078
Powerpole	PP45	20 to 16	0.52 to 1.3	High	Tin plated	Open	168TA4079
Powerpole	PP45	20 to 16	0.52 to 1.3	Low	Tin plated	Open	168TA4080
Powerpole	PP15	14 to 10 K	2.1 to 5.3	Low	Silver plated	Open	168TA4081
Powerpole	PP15	14 to 10 SF	2.1 to 6.0	Low	Silver plated	Open	168TA4082

ACCESSORIES - POWERPOLE SERIES

CONTACTS



Type	Type	Wire size		Remarks			REF
		AWG	Exact mm ²	Mating force	Material	Open/closed	
Powerpole	PP15	20 to 16	0.52 to 1.3	Low	Silver plated	Open	168TA4083
Powerpole	PP15	16 to 12	1.3 to 3.3	Low	Silver plated	Closed	106TA9890
Powerpole	PP15	20 to 16	0.52 to 1.3	Low	Silver plated	Closed	168TA4062
Powerpole	PP45	14 to 10 K	2.1 to 5.3	Low	Silver plated	Open	168TA4081
Powerpole	PP45	14 to 10 SF	2.1 to 6.0	Low	Silver plated	Open	168TA4082
Powerpole	PP45	20 to 16	0.52 to 1.3	Low	Silver plated	Open	168TA4083
Powerpole	PP45	16 to 12	1.3 to 3.3	Low	Silver plated	Closed	106TA9890
Powerpole	PP45	20 to 16	0.52 to 1.3	Low	Silver plated	Closed	168TA4062
Powerpole	PP75	6	13.3	Low	Silver plated	Closed	168TA4063
Powerpole	PP75	6	13.3	High	Silver plated	Closed	138TA8197
Powerpole	PP75	8	8.4	High	Silver plated	Closed	138TA8200
Powerpole	PP75	12 to 10	3.5 to 5.3	Low	Silver plated	Closed	168TA4064
Powerpole	PP75	12 to 10	3.5 to 5.3	High	Silver plated	Closed	138TA8199
Powerpole	PP120	1/0	53.5	Low	Silver plated	Closed	168TA4065
Powerpole	PP120	1	42.4	Low	Silver plated	Closed	168TA3992
Powerpole	PP120	2	33.6	High	Silver plated	Closed	138TA8204
Powerpole	PP120	4	21.1	High	Silver plated	Closed	106TA9898
Powerpole	PP120	6	13.3	High	Silver plated	Closed	106TA9899
Powerpole	PP180	3/0	85	Low	Silver plated	Closed	168TA4066
Powerpole	PP180	2/0	67.4	Low	Silver plated	Closed	167TA9524
Powerpole	PP180	1/0	53.5	High	Silver plated	Closed	138TA8215
Powerpole	PP180	1	42.4	High	Silver plated	Closed	168TA4067
Powerpole	PP180	2	33.6	High	Silver plated	Closed	106TA9903
Powerpole	PP180	4	21.1	High	Silver plated	Closed	106TA9904
Powerpole	PP180	6	13.3	High	Silver plated	Closed	168TA4068

ABOUT REMA



The history of the now globally successful group of companies goes back to 1919, when the company "REMA – Richard Müller Elektroarmaturen" was founded near Leipzig. Connecting materials such as cable lugs and connecting sleeves were produced for the progressive electrification of Germany. At the end of the 1940s, the company moved to Bonn and has since operated under the name REMA Lipprandt GmbH & Co. KG.

The REMA Group has had its headquarters in Rheinbach near Bonn since June 2016. In addition to the administration and the development center, the company's largest production facility is also located here. Further production is located in Meiningen, Thuringia and final assembly and assembly work is also carried out in the branches in China and the USA.

Subsidiaries in South Carolina, USA and Shanghai, China offer our international customers advice and on-site support. In total, we employ around 250 people worldwide.

INNOVATIONS AND KNOW-HOW

The further development of the company was always supported by intensive research and development work. Through targeted know-how transfer, new markets were continually opened up and innovative products were developed.

One example is the still unrivaled MRC connector "Molded REMA Connector". With these patented plug connections, the cable insulation is almost inseparably connected to the plug housing, creating a gas-tight and waterproof plug-cable connection. Particularly in combination with the RemaFlex cables – also developed in-house – which have a special insulation jacket, there is a significantly increased resilience and durability.

By coordinating development and research activities in Rheinbach, the needs and requirements of everyone involved are taken into account. This means that our locations and all customers worldwide benefit from synergies and a maximum of know-how transfer.

DIN CONNECTORS



DIN 80/160/320/640

The REMA® brand DIN-style connectors exceed the requirement of the DIN Standard 43589 for both mechanical and electrical durability. The three traditional sizes of power connectors are based upon the amperage requirements: DIN 80 A, DIN 160 A, DIN 320 A. To meet the demands of newer high-current applications, including "fast charging", REMA® has developed a larger capacity DIN 640 A connector.

Features of the REMA® DIN-style connector include:

- Housing constructed of glass fiber reinforced composite material for extreme durability and resistance battery acid
- REMA® engineered contacts made of high grade electrolyte copper and silver plated for corrosion protection
- UL 1977 certified component
- Meets or exceeds the following industry standards: DIN 43589, EN 1175-1, IEC 20989, UL 1977
- In compliance with machinery directive 2006/42 EG and therefore with CE marking
- Accepts REMA® DIN-Style connector options including coding/locking pins, air supply, auxiliary contacts and handles
- Small number of parts
- Easy, intuitive assembly



OVERVIEW RANGE - DIN 80


Cable size mm ²	Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 80 A				
16	116TA5134	139TA1927	131TA4678	112TA4818
25	106TA9914	139TA1928	106TA9916	112TA4819
35	123TA7593	139TA1929	123TA7592	123TA7591
With auxiliary contacts				
16	139TA1930	165TA4611	139TA1943	139TA1945
25	139TA1931	165TA4614	139TA1944	139TA1946
35	139TA1932	-	-	165TA4616
With air supply				
16	139TA1934	139TA1936	165TA4621	106TA9965
25	106TA9971	139TA1937	165TA4622	139TA1948
35	139TA1935	139TA1938	165TA4625	165TA4626
With air supply and auxiliary contacts				
16	139TA1939	165TA4631	165TA4632	165TA4633
25	139TA1940	165TA4634	165TA4635	165TA4636
35	139TA1941	165TA4639	-	165TA4640
With pilot and auxiliary contacts				
16	165TA4645	165TA4646	165TA4647	165TA4648
25	165TA4649	165TA4650	165TA4651	165TA4652

OVERVIEW RANGE - DIN 160



Cable size mm ²	Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 160 A				
16	165TA4608	139TA1967	165TA4609	165TA4610
25	106TA9923	139TA1968	112TA4822	139TA1977
35	106TA9924	139TA1969	112TA4823	106TA9927
50	106TA9925	139TA1970	112TA4824	106TA9928
With auxiliary contacts				
16	165TA4612	-	-	165TA4613
25	139TA1971	165TA4615	139TA1978	139TA1981
35	139TA1972	165TA4617	139TA1979	139TA1982
50	139TA1973	165TA4618	139TA1980	139TA1983
70	139TA2018	165TA4619	139TA2029	139TA2032
95	139TA2019	165TA4620	139TA2030	139TA2033
With air supply				
25	106TA9978	165TA4623	165TA4624	139TA1984
35	106TA9979	165TA4627	165TA4628	139TA1985
50	106TA9980	165TA4629	165TA4630	139TA1986
With air supply and auxiliary contacts				
25	139TA1974	165TA4637	165TA4638	139TA1987
35	139TA1975	165TA4641	165TA4642	139TA1988
50	139TA1976	165TA4643	165TA4644	139TA1989
With pilot and auxiliary contacts				
25	165TA4653	165TA4654	165TA4655	165TA4656
35	165TA4657	165TA4658	165TA4659	165TA4660
50	165TA4661	165TA4662	165TA4663	165TA4664

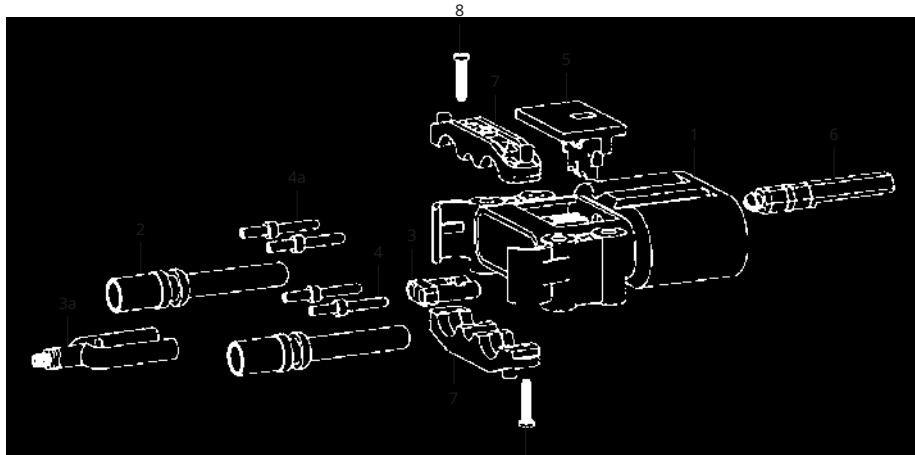
OVERVIEW RANGE - DIN 320


Cable size mm ²	Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 320 A				
50	116TA4699	139TA2014	106TA9940	112TA4825
70	106TA9938	139TA2015	105TA4683	112TA4826
95	139TA2013	139TA2016	139TA2027	112TA4827
With auxiliary contacts				
50	139TA2017	165TA4673	139TA2028	139TA2031
With air supply				
50	106TA9984	139TA2021	139TA2034	106TA9975
70	106TA9985	139TA2022	139TA2035	106TA9976
95	139TA2020	139TA2023	139TA2036	139TA2037
With air supply and auxiliary contacts				
50	139TA2024	165TA4674	165TA4675	139TA2038
70	139TA2025	165TA4676	165TA4677	139TA2039
95	139TA2026	165TA4678	165TA4679	139TA2040
With pilot and auxiliary contacts				
50	165TA4680	165TA4681	165TA4682	165TA4683
70	165TA4684	165TA4685	165TA4686	165TA4687
95	165TA4688	165TA4689	165TA4690	165TA4691

OVERVIEW RANGE - DIN 640


Cable size mm ²	Plug (male)	Socket (female)
DIN style: 640 A		
70	165TA4665	165TA4666
95	165TA4667	165TA4668
120	165TA4669	165TA4670
240	165TA4671	165TA4672

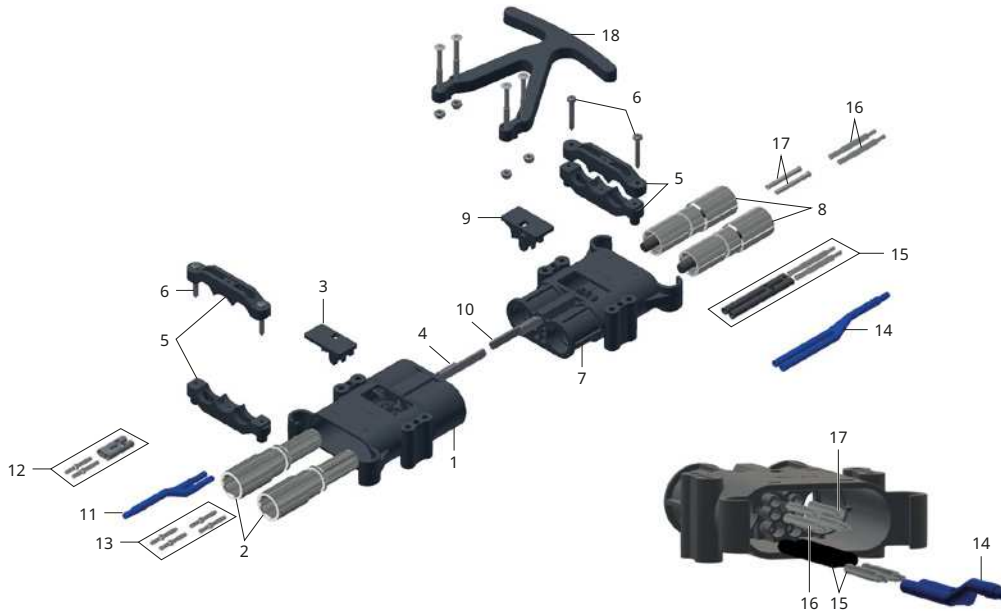
SPARE PARTS OVERVIEW - DIN 80/160/320



8

Item	Description	REF 80 A		REF 160 A		REF 320 A	
		Plug	Socket	Plug	Socket	Plug	Socket
1	Contact holder	168TA3593	168TA3597	168TA3623	168TA3607	168TA3612	168TA3615
	Contact holder + fixed handle	-	168TA3598	-	168TA3608	-	-
3a	Contact holder + fixed handle	168TA5787	168TA6361	168TA6362	168TA6363	168TA6364	168TA6365
3a	Air adapter						
3a	Air adapter 6 and 8 mm	106TA9972	106TA9968	106TA9981	106TA9977	106TA9986	106TA9982
2	Air adapter 6 and 9 mm	-	-	139TA2008	139TA2009	-	-
	Main contact 1 piece	-	-	-	-	-	-
	16 mm ²	106TA9917	106TA9919	168TA3603	168TA3609	-	-
	25 mm ²	106TA9918	106TA9920	106TA9929	106TA9932	-	-
	35 mm ²	168TA3594	168TA3599	106TA9930	106TA9933	-	-
	50 mm ²	-	-	106TA9931	106TA9934	106TA9942	106TA9945
	70 mm ²	-	-	168TA3604	168TA3610	106TA9943	106TA9946
	95 mm ²	-	-	-	-	106TA9944	106TA9947
3	Adaptor for pilot contacts + pilot contacts 2 pieces	106TA9921	106TA9922	106TA9935	106TA9936	106TA9948	106TA9949
4							
4a	Auxiliary contact 1 piece	106TA9973	106TA9969	106TA9973	105TA4685	106TA9948	106TA9949
5	locking part	168TA3595	168TA3600	168TA3605	168TA3611	106TA9987	106TA9983
6	Cooling pin grey = wet + wet	139TA1961	139TA1961	139TA2010	139TA2010	168TA3613	168TA3616
	Cooling pin green = dry	139TA1962	139TA1962	139TA2011	139TA2011	139TA2011	139TA2011
	Cooling pin yellow = wet and dry	139TA1963	-	139TA2012	-	139TA2012	-
7 + 8	Cable clamp + screw	168TA3596	168TA3596	168TA3606	168TA3606	168TA3614	168TA3614
9	Handle grey	107TA7665	107TA7665	139TA2003	139TA2003	139TA2049	139TA2049
	Handle red	139TA1965	139TA1965	139TA2006	139TA2006	139TA2051	139TA2051
	Housing	-	-	-	-	-	-
1	Contact holder	139TA1951	139TA1952	139TA1990	139TA1991	139TA2041	168TA3617
5	Locking part						
7 + 8	Cable clamp						
	Housing						
1	Contact holder						
5	Locking part	168TA3602	168TA3618	168TA3619	168TA3620	168TA3621	168TA3622
7 + 8	Cable clamp						
3a	Air adaptor						

SPARE PARTS OVERVIEW - DIN 640



Item	Description	REF
11	DIN640 air adapter plug (6/8 mm connection)	168TA4449
12	DIN640 pilot contact set plug	168TA8040
13	DIN640 aux contact for plug	168TA4450
14	DIN640 air adaptor socket (6/8 mm connection)	168TA4458
15	DIN640 pilot contact set socket	168TA8041
16	DIN640 aux contact for socket	168TA4459
17	DIN640 aux contact for socket	168TA8042

Item	Description	REF
4, 10	DIN640 coding pin grey (wet)	168TA4426
4	DIN640 coding pin yellow (wet and dry)	168TA4428
4	DIN640 coding pin blue (Li-ion)	168TA8043
4, 10	DIN640 coding pin green (dry)	168TA4427
10	DIN640 coding pin socket blue (Li-ion)	168TA8044
18	DIN640 handle bended incl. 4 screws M6 x 60	168TA8045

ACCESSORIES - DIN SERIES



HANDLES



Type	Size	Flat/DIN	Housing	Snap-on plug/socket (polycarbonate)	Snap-on plug/socket red
DIN	80	DIN	Standard	107TA7665	139TA1965
DIN	160	DIN	Standard	139TA2003	139TA2006
DIN	320	DIN	Standard	139TA2049	139TA2051
DIN	640	DIN	Standard	168TA2833	-

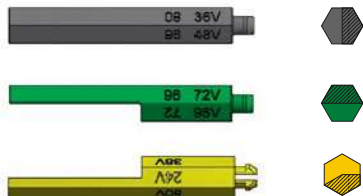


DIN LOCKING PLATES

REF [168TA4263](#) - 80 A
 REF [168TA4264](#) - 160 A
 REF [168TA4265](#) - 320 A

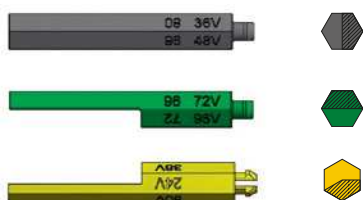
ACCESSORIES - DIN SERIES

CODING PINS - DIN 80



Coding pin	Current rating I	Colour	Voltage range V	REF
Wet batteries	ACC DIN VDE 0623-589	Grey RAL7035	24/96	168TA6163
Dry batteries	ACC DIN VDE 0623-589	Green RAL6005	24/96	168TA4404
Universal (only for plugs, for wet and dry batteries)	ACC DIN VDE 0623-589	Yellow RAL1018	24/96	168TA4405

CODING PINS - DIN 160/320/640

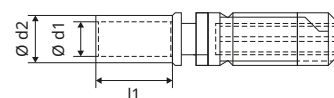


Coding pin	Current rating I	Colour	Voltage range V	REF
Wet batteries	ACC DIN VDE 0623-589	Grey RAL7035	24/96	168TA4426
Dry batteries	ACC DIN VDE 0623-589	Green RAL6005	24/96	168TA4427
Universal (only for plugs, for wet and dry batteries)	ACC DIN VDE 0623-589	Yellow RAL1018	24/96	168TA4428



Coding pin	Current rating I	Colour	Voltage range V	REF
Lithium-ion (plug)	ACC DIN VDE 0623-589	Blue	24/96	168TA8043
Lithium-ion (socket)	ACC DIN VDE 0623-589	Blue	24/96	168TA8044

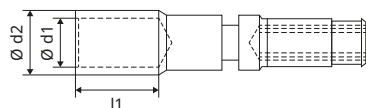
CONTACTS - DIN 80/160



Preparation wire acc DIN VDE 0623-589

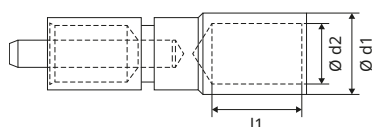
Cross section	Dia d2 (± 0.1)	Dia d1 (± 0.1)	I1 (± 0.30)	Cross section	Dia d2 (± 0.1)	Dia d1 (± 0.1)	I1 (± 0.30)
mm ²	mm	mm	mm	mm ²	mm	mm	mm
6	8.4	3.6	18.0	6	8.4	6.1	20.0
10	8.4	4.6	18.0	10	11.0	8.1	20.0
16	8.4	6.1	18.0	16	12.5	9.0	20.0
25	11.0	8.1	18.0	25	14.5	11.1	20.0
35	12.5	9.0	18.0	35	17.0	13.1	20.0

CONTACTS - DIN 320



Cross section	Dia d2 (± 0.1)	Dia d1 (± 0.1)	I1 (± 0.30)
mm ²	mm	mm	mm
50	14.5	11.0	20.0
70	17.0	13.0	20.0
95	19.8	15.0	25.0

CONTACTS - DIN 640



Cross section	Dia d2 (± 0.1)	Dia d1 (± 0.1)	I1 (± 0.30)	Cross section	Dia d2 (± 0.1)	Dia d1 (± 0.1)	I1 (± 0.30)
mm ²	mm	mm	mm	mm ²	mm	mm	mm
70	13.0	17.0	20.0	150	On demand	On demand	On demand
95	15.0	19.8	25.0	185	On demand	On demand	On demand
120	16.5	22.5	27.0	240	23.5	31.5	40.0

ACCESSORIES - DIN SERIES



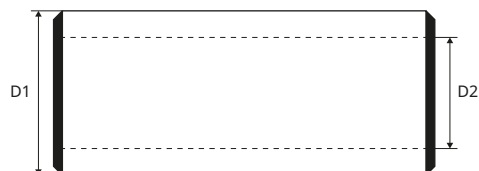
CONTACTS



Type	Type	Wire size			Open/closed	REF
		AWG	Exact mm ²	European mm ²		
DIN	DIN 80 – plug	6	13.3	16	Closed	106TA9917
DIN	DIN 80 – socket	6	13.3	16	Closed	106TA9919
DIN	DIN 80 – plug	4	21.1	25	Closed	106TA9918
DIN	DIN 80 – socket	4	21.1	25	Closed	106TA9920
DIN	DIN 80 – plug	2	33.6	35	Closed	168TA3594
DIN	DIN 80 – socket	2	33.6	35	Closed	168TA3599
DIN	DIN 160 – plug	6	13.3	16	Closed	168TA3603
DIN	DIN 160 – socket	6	13.3	16	Closed	168TA3609
DIN	DIN 160 – plug	4	21.1	25	Closed	106TA9929
DIN	DIN 160 – socket	4	21.1	25	Closed	106TA9932
DIN	DIN 160 – plug	2	33.6	35	Closed	106TA9930
DIN	DIN 160 – socket	2	33.6	35	Closed	106TA9933
DIN	DIN 160 – plug	1/0	53.5	50	Closed	106TA9931
DIN	DIN 160 – socket	1/0	53.5	50	Closed	106TA9934
DIN	DIN 160 – plug	2/0	67.43	70	Closed	168TA3604
DIN	DIN 160 – socket	2/0	67.43	70	Closed	168TA3610
DIN	DIN 320 – plug	1/0	53.5	50	Closed	106TA9942
DIN	DIN 320 – socket	1/0	53.5	50	Closed	106TA9945
DIN	DIN 320 – plug	2/0	67.43	70	Closed	106TA9943
DIN	DIN 320 – socket	2/0	67.43	70	Closed	106TA9946
DIN	DIN 320 – plug	3/0	85	95	Closed	106TA9944
DIN	DIN 320 – socket	3/0	85	95	Closed	106TA9947
DIN	DIN 640 – plug	–	–	70	Closed	168TA4052
DIN	DIN 640 – socket	–	–	70	Closed	168TA4053
DIN	DIN 640 – plug	–	–	95	Closed	168TA4054
DIN	DIN 640 – socket	–	–	95	Closed	168TA4055
DIN	DIN 640 – plug	–	–	120	Closed	168TA4056
DIN	DIN 640 – socket	–	–	120	Closed	168TA4057
DIN	DIN 640 – plug	–	–	240	Closed	168TA4058
DIN	DIN 640 – socket	–	–	240	Closed	168TA4059
DIN	DIN 640 – plug	–	–	150	Closed	On demand
DIN	DIN 640 – socket	–	–	150	Closed	On demand
DIN	DIN 640 – plug	–	–	185	Closed	On demand
DIN	DIN 640 – socket	–	–	185	Closed	On demand
DIN	DIN 640 – plug	4/0	107.2	–	Closed	168TA4060
DIN	DIN 640 – socket	4/0	107.2	–	Closed	168TA4061
DIN	DIN 640 – plug	3/0	85	–	Closed	On demand
DIN	DIN 640 – socket	3/0	85	–	Closed	On demand
DIN	DIN 640 – plug	2/0	67.43	–	Closed	On demand
DIN	DIN 640 – socket	2/0	67.43	–	Closed	On demand
DIN	DIN 640 – plug	1/0	53.5	–	Closed	On demand
DIN	DIN 640 – socket	1/0	53.5	–	Closed	On demand

ACCESSORIES - DIN SERIES

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
-	16	-	10	168TA4342
-	25	-	10	112TA4815
-	25	-	16	112TA4816
-	35	-	16	168TA4343
-	50	-	16	168TA4344
-	50	-	25	168TA4345
-	50	-	35	168TA4346
6	-	10	-	168TA4347
4	-	8	-	168TA4348
4	-	6	-	168TA4349
2	-	6	-	168TA4343
1/0	-	4	-	168TA4350

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	-	2	-	168TA4351
6	-	-	6	168TA4352
4	-	-	10	168TA4353
2	-	-	16	168TA4354
1/0	-	-	25	168TA4355
1/0	-	-	35	168TA4356
-	16	10	-	168TA6265
-	25	8	-	168TA6266
-	25	6	-	168TA6267
-	35	6	-	168TA6268
-	50	4	-	168TA6269
-	50	2	-	168TA6270

SPECIAL CONNECTORS - DIN 80



DIN 80 A plug, yellow coding, 90° angle contacts

REF [139TA1933](#) - 25 mm²



DIN 80 A plug, grey coding, red housing

REF [112TA4820](#) - 16 mm²
REF [112TA4821](#) - 25 mm²



DIN 80 A socket, grey coding, red housing, fixed handle

REF [112TA4945](#) - 16 mm²
REF [112TA4946](#) - 25 mm²
REF [139TA1947](#) - 35 mm²

SPECIAL HANDLES - DIN 80



REF [168TA8046](#)



REF [116TA5451](#)

SPECIAL HANDLES - DIN 160



Handle

REF [139TA2006](#) - DIN 160 A, red, bended, with 4 screws
REF [139TA2007](#) - DIN 160/320 A, red, bended, with 8 screws



**MRC® POWER SOLUTION SERIES
UNMATCHED DURABILITY AND EFFICIENCY**

The REMA® exclusive MRC® Power Solution Series utilizes an engineered system of components molded into a composite cable and connector assembly with unmatched durability and efficiency. The customer benefit is substantially reduced assembly time and minimizes maintenance costs!

The MRC® Power Solution Series features:

- 75% current overload capability
- Fully compatible and interchangeable with existing cable and connector assemblies according to DIN 43589
- Connector housing and cable insulation material in one molded piece resulting in increased durability and environmental protection

- Acid-resistant housing and cable insulation
- RemaFlex® power cable suitable for applications requiring small bend radius
- Cable insulation and connector housing halogen free
- Operating temperature range: -40 up to 120 °C
- Definition of new amperage classes:
 - MRC 120 → DIN 80
 - MRC 260 → DIN 160
 - MRC 400 → DIN 320

HOW TO ORDER?

Please indicate following specifications:

- Truck details and/or
- Part number mentioned on the wire ending of the battery cable

OVERVIEW RANGE - STANDARD MRC



Plug/socket	Cable size mm ²	Cable length + mm	Cable length - mm	Option	Terminal +	Terminal -	Coding pin	Handle	REF
MRC 80									
Plug	16	550	850		M8 (45°)	M6	Grey	-	163TA8226
	16	2510	2630		M8	M8	Grey	Yes	145TA7552
	25	835	835		M8	M8	Yellow	-	168TA4400
	25	3000	3000		M8	M8	-	Yes	165TA4604
	35	220	440		M8	M8	Yellow	-	168TA4399
Socket	25	570	670		M10	M10	Grey	-	168TA4317
	25	800	800		Flex	Flex	Grey	Yes	165TA4588
	25	830	630		Flex	Flex	Grey	Yes	168TA4397
	25	940	940		Perfect	Perfect	Grey	-	168TA4396
	25	950	950		Flex	Flex	-	Yes	168TA4398
	25	1045	740		M10	M10	Grey	-	168TA4341
	25	1200	1200		Flex	Flex	Grey	Yes	165TA4589
MRC 160									
Plug	25	2510	2860		M8	M6	Grey	Yes	145TA7558
	25	3000	3000		M10	M10	Grey	Yes	165TA4605
	35	850	850		M10	M10	Grey	Yes	145TA7596
	35	2000	2000	Pilot	M10	M10	Grey	-	145TA7566
	35	2510	2860		M8	M6	Grey	Yes	145TA7559
	35	3000	3000		M8	M6	Grey	Yes	165TA4606
	50	1200	600		M8	M8 (90°)	Grey	-	145TA7586
Socket	35	920	920		Flex	Flex	Grey	Yes	168TA4379
	35	1000	1000		Flex	Flex	Grey	Yes	165TA4590
	35	1200	1200		Flex	Flex	Grey	Yes	165TA4591
	35	1500	1500		Flex	Flex	Grey	Yes	165TA4592
	35	1800	1800		Flex	Flex	Grey	Yes	165TA4593
	50	1000	1000		Flex	Flex	Grey	Yes	165TA4594
	50	1200	1200		Flex	Flex	Grey	Yes	168TA4380
	50	1500	1500		Flex	Flex	Grey	Yes	165TA4596
	50	1800	1800		Flex	Flex	Grey	Yes	165TA4597
	50	1830	-		Flex	Flex	Grey	Yes	168TA4381
MRC 250									
Plug	25	-	820		M10 (90°)	M10 (90°)	Red	-	168TA4389
	50	570	730		M8	M8	Red	-	168TA4390
	50	-	????		M8	M10 (90°)	Red	-	168TA4388
Socket	25	1100	1500		M10	M10	Grey	Yes	168TA4330
	35	1060	1060		Flex	Flex	Red	Yes	168TA4386
	50	1070	1470		Perfect	Perfect	Red	Yes	168TA4384
	50	-	1500		M8	M8	Red	Yes	168TA4387
	95	2300	2300		Flex	Flex	Red	Yes	165TA4602
MRC 320									
Plug	25	3000	3000		M10	M10	-	Yes	165TA4607
	50	1180	600		M8 (90°)	-	Grey	-	168TA4333
	50	1600	1600		Flex	-	Grey	Yes	145TA7620
	70	610	610		M8	M8	Grey	-	168TA8047
	70	850	850		M8 (90°)	M8 (90°)	Grey	-	168TA4395
	70	1710	1530		M8	M8	Grey	Yes	168TA8048
	70	1820	1780		M10	M10	Grey	Yes	168TA4340
	95	2000	2000		Flex	Flex	Grey	Yes	145TA7621
	Socket	70	1000	940		M8	M8	Grey	-
70		1200	1200		Flex	Flex	Grey	Yes	165TA4598
70		1500	1500		Flex	Flex	Grey	Yes	165TA4599
70		1800	1800		Flex	Flex	Grey	Yes	165TA4600
95		2000	2000		Flex	Flex	Grey	Yes	165TA4601

OVERVIEW RANGE - STANDARD IRC



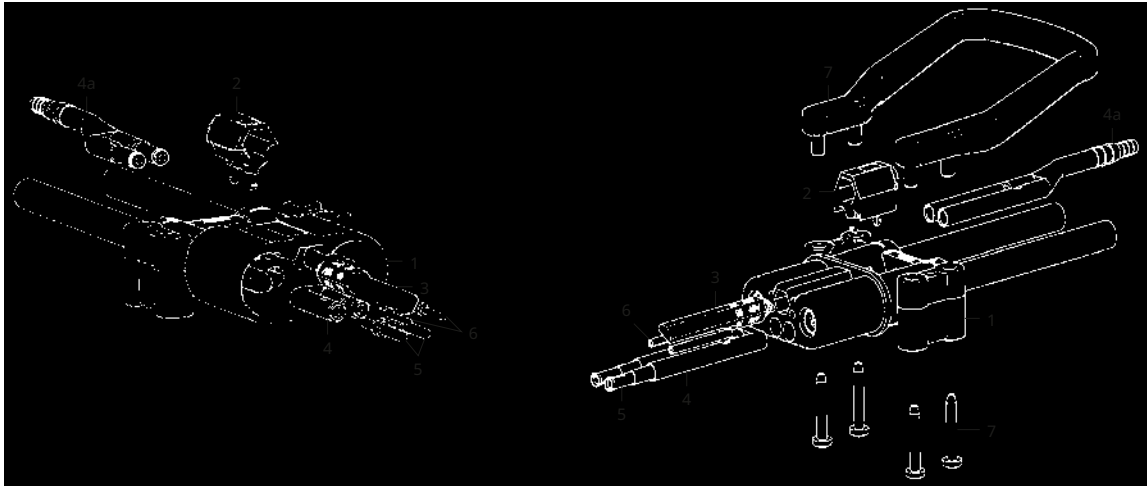
Plug/socket	Cable size mm ²	Cable length + mm	Cable length - mm	Terminal +	Terminal -	Coding pin	Handle	REF
IRC 80								
Plug	25	1280	1280	M8	M8	Yellow	-	168TA4378
	25	1290	1290	M8	M8	Yellow	Yes	168TA4376
	25	-	-	M8	M8	Yellow	-	168TA4377
Socket	25	830	580	M8	M8	Grey	-	168TA4374
	25	830	580	Perfect	Perfect	Grey	Yes	168TA4375
	25	-	880	M10	M8	Green	-	168TA8054
Adapter cable	-	640	640	-	-	-	-	168TA4372
IRC 160								
Plug	-	980	1285	M8	M8	Yellow	-	168TA4371
Socket	50	840	840	-	-	-	-	168TA4370

SPARE PARTS OVERVIEW - MRC 80



Item	Description	REF plug	REF socket	Item	Description	REF plug	REF socket
1	MRC 80 housing 16 mm ²	On demand	On demand	3**	High power coding pin blue (dry)	168TA8060	168TA8061
1	MRC 80 housing 25 mm ²	On demand	On demand	4	Adapter for pilot contacts	168TA6164	168TA6165
2	Locking part current rating I (80 A)	168TA4401	168TA8821	4a	Air adapter	168TA4409	168TA4420
2	Locking part current rating II (120 A)	168TA8820	168TA8822	5	Pilot contact 2.5 mm ²	168TA4410	104TA2204
3*	Coding pin grey (wet)	168TA6163	168TA6163	6	Auxiliary contact 1.5 mm ²	168TA4411	168TA4421
3*	Coding pin green (dry)	168TA4404	168TA4404	7	Handle to snap	168TA4412	168TA4412
3*	Coding pin yellow (wet and dry)	168TA4405	-	7	Handle to screw	168TA4413	168TA4413
3**	High power coding pin red (wet)	168TA8058	168TA8059	7	Handle incl screws (set)	168TA2823	168TA2824

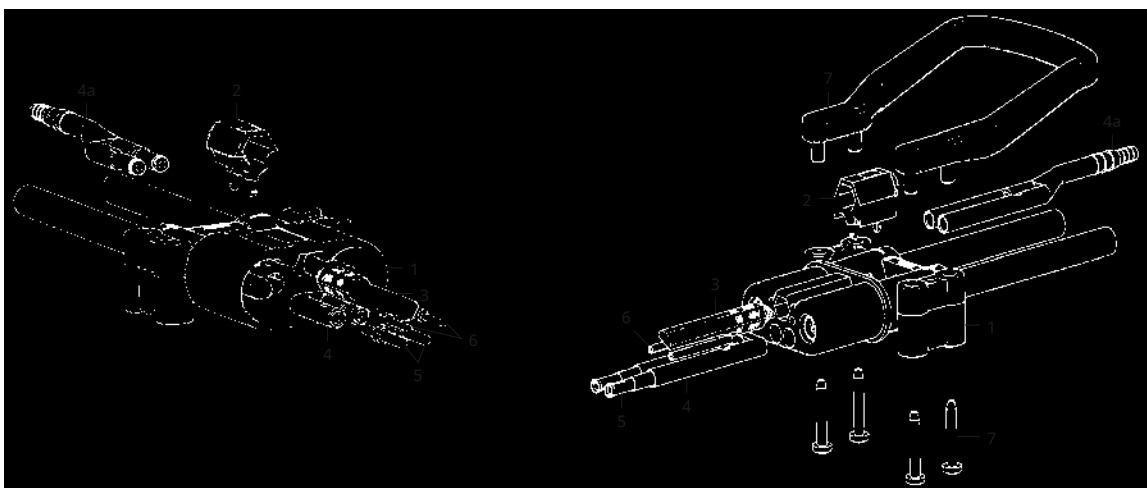
SPARE PARTS OVERVIEW - MRC 160



Item	Description	REF plug	REF socket
1	MRC 160 housing 25 mm ²	On demand	On demand
1	MRC 160 housing 35 mm ²	On demand	On demand
1	MRC 160 housing 50 mm ²	On demand	On demand
2	Locking part current rating I (160 A)	168TA4424	168TA4436
2	Locking part current rating II (250 A)	168TA4425	168TA4437
3*	Coding pin grey (wet)	168TA4426	168TA4426
3*	Coding pin green (dry)	168TA4427	168TA4427
3*	Coding pin yellow (wet and dry)	168TA4428	-

Item	Description	REF plug	REF socket
3**	High power coding pin red (wet)	168TA4429	168TA4438
3**	High power coding pin blue (dry)	168TA4430	168TA4439
4	Adapter for pilot contacts	168TA4431	168TA4440
4a	Air adapter	168TA4432	168TA4441
5	Pilot contact 2.5 mm ²	168TA4433	168TA4442
6	Auxiliary contact 1.5 mm ²	168TA4434	168TA4443
7	Handle incl screws (set)	168TA4435	168TA4435

SPARE PARTS OVERVIEW - MRC 320



Item	Description	REF plug	REF socket
1	MRC 320 Housing 50 mm ²	On demand	On demand
1	MRC 320 Housing 70 mm ²	On demand	On demand
1	MRC 320 Housing 95 mm ²	On demand	On demand
2	Locking part current rating I (320 A)	168TA4444	168TA8450
2	Locking part current rating II (400 A)	168TA4445	168TA8451
3*	Coding pin grey (wet)	168TA4426	168TA4426
3*	Coding pin green (dry)	168TA4427	168TA4427
3*	Coding pin yellow (wet and dry)	168TA4428	-

Item	Description	REF plug	REF socket
3**	High power coding pin red (wet)	168TA4446	168TA4455
3**	High power coding pin blue (dry)	168TA4447	168TA4456
4	Adapter for pilot contacts	168TA4448	168TA4457
4a	Air adapter	168TA4449	168TA4458
5	Pilot contact 2.5 mm ²	168TA4450	168TA4459
6	Auxiliary contact 1.5 mm ²	168TA4451	168TA4460
7	Handle incl. screws (set)	168TA4452	168TA4452

ACCESSORIES - MRC SERIES



HANDLES



Type	Size	Flat/DIN	Housing	Snap-on plug/socket (polycarbonate)	Screw-on plug	Screw-on socket
MRC	80	DIN	Standard	107TA7665	168TA2823	168TA2824
MRC	160	DIN	Standard	-	139TA2003	139TA2003
MRC	320	DIN	Standard	-	139TA2004	139TA2004



SPECIAL HANDLE FOR BT

REF [168TA8062](#) - MRC 80
REF [168TA8063](#) - MRC 160



COVER FOR LINDE APPLICATIONS

REF [168TA8057](#)

CODING PINS - MRC 80



Coding pin	Current rating I	Colour	Voltage range V	REF
Wet batteries	ACC DIN VDE 0623-589	Grey RAL7035	24/96	168TA6163
Dry batteries	ACC DIN VDE 0623-589	Green RAL6005	24/96	168TA4404
Universal (only for plugs, for wet and dry batteries)	ACC DIN VDE 0623-589	Yellow RAL1018	24/96	168TA4405

CODING PINS - MRC 120



High power coding pin	Current rating I	Colour	Voltage range V	REF	
				Plug	Socket
Wet batteries	ACC DIN VDE 0623-589	Red RAL3020	24/96	168TA8058	168TA8059
Dry batteries	ACC DIN VDE 0623-589	Blue RAL5017	24/96	168TA8060	168TA8061

CODING PINS - MRC 160/320



Coding pin	Current rating I	Colour	Voltage range V	REF
Wet batteries	ACC DIN VDE 0623-589	Grey RAL7035	24/96	168TA4426
Dry batteries	ACC DIN VDE 0623-589	Green RAL6005	24/96	168TA4427
Universal (only for plugs, for wet and dry batteries)	ACC DIN VDE 0623-589	Yellow RAL1018	24/96	168TA4428

ACCESSORIES - MRC SERIES

CODING PINS - MRC 250



High power coding pin	Current rating I	Colour	Voltage range	REF	
			V	Plug	Socket
Wet batteries	ACC DIN VDE 0623-589	Red RAL3020	24/96	168TA4429	168TA4438
Dry batteries	ACC DIN VDE 0623-589	Blue RAL5017	24/96	168TA4430	168TA4439

CODING PINS - MRC 400



High power coding pin	Current rating I	Colour	Voltage range	REF	
			V	Plug	Socket
Wet batteries	ACC DIN VDE 0623-589	Red RAL3020	24/96	168TA4446	168TA4455
Dry batteries	ACC DIN VDE 0623-589	Blue RAL5017	24/96	168TA4447	168TA4456

TWIN PLUG AND SOCKET CONNECTORS



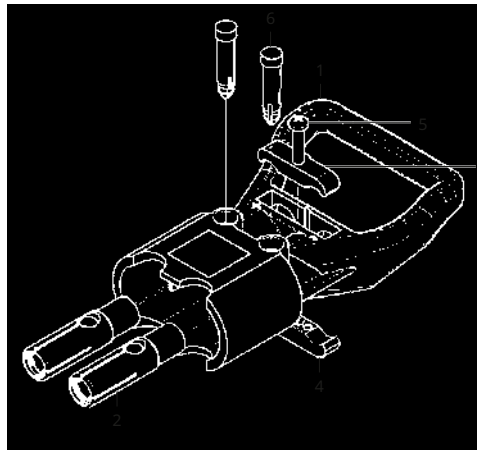
160/200

Features and advantages:

- Simple handling
- Robust design
- High-grade contacts made out of pure high conductive Cu-ETP copper with silver plated surface and anti-friction and tarnish coating ensure
 - Power transmission with minimal losses
 - Long life
- Suitable for cable sizes of 35 mm² and 50 mm²
- Direct crimping without reducing bushing
- Typical applications
 - Forklift trucks
 - Trucks, their trailers and towbars
 - Battery charging system
 - Industrial applications



SPARE PARTS OVERVIEW - 160/200 - FORM A

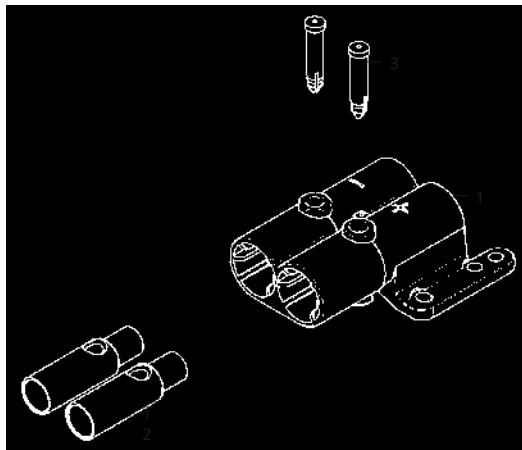


SETS AND PARTS BATTERY PLUG

Item	Description	Cross section	REF
1, 2 (2 x), 3, 4, 5, 6 (2 x)	Battery plug form A	35 mm ²	106TA9988
1, 2 (2 x), 3, 4, 5, 6 (2 x)	Battery plug form A	50 mm ²	168TA4461
1	Housing plug form A	-	168TA6369
2	Pin contact 35 mm ²	-	168TA4069
2	Pin contact 50 mm ³	-	168TA4070

Item	Description	Cross section	REF
3	Cable clamp up	-	168TA6370
4	Cable clamp LP	-	168TA6371
5	Screw	-	168TA6372
6	Locking pin	-	168TA6161

SPARE PARTS OVERVIEW - 160/200 - FORM B

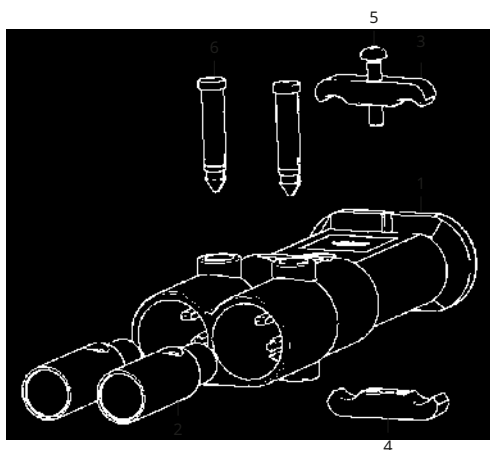


SETS AND PARTS VEHICLE SOCKET

Item	Description	Cross section	REF
1, 2 (2 x), 3 (2 x)	Vehicle socket form B	35 mm ²	168TA4462
1, 2 (2 x), 3 (2 x)	Vehicle socket form B	50 mm ²	168TA4463
1	Housing socket form B	-	168TA6373

Item	Description	Cross section	REF
2	Bushing contact 35 mm ²	-	168TA6372
2	Bushing contact 50 mm ³	-	168TA4072
3	Locking pin	-	168TA6162

SPARE PARTS OVERVIEW - 160/200 - FORM C



SETS AND PARTS CHARGER SOCKET

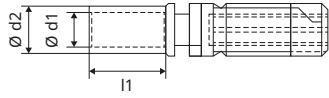
Item	Description	Cross section	REF
1, 2 (2 x), 3 (2 x)	Charger socket form C	35 mm ²	168TA4464
1, 2 (2 x), 3 (2 x)	Charger socket form C	50 mm ²	168TA4465
1	Housing socket form C	-	168TA6374
2	Bushing contact 35 mm ²	-	168TA4071
2	Bushing contact 50 mm ³	-	168TA4072

Item	Description	Cross section	REF
3	Cable clamp up	-	168TA6370
4	Cable clamp LP	-	168TA6371
2	Screw	-	168TA6372
6	Locking pin	-	168TA6162

ACCESSORIES - 160/200





PREPARATION WIRE



Cross section	Dia d2 (-0.1)	Dia d1 (-0.1)	I1
mm ²	mm	mm	mm
35	13	9.1	17
50	15	10.5	20

	Wire size	REF
	European mm ²	
Twin plug		
	35	168TA4069
	50	168TA4070

	Wire size	REF
	European mm ²	
Twin socket		
	35	168TA4071
	50	168TA4072

MOTOR CONNECTORS



FT SERIES

To ensure optimal electrical motor performance it is imperative to use a reliable, high quality connection. The REMA® Motor Connectors guarantee a long lasting connection with low power losses. The design of the motor connectors is extremely compact. That means: high amperage – small dimensions. Each connection fulfills the highest quality standards and shows functionality, easy handling, robust reliability and economy. The type FT 80 is in correspondence with the French industrial standard and the European EN 1175-1 standard.

REMA® motor connectors are suitable for use in the following applications:

- Personnel/burden carriers
- Golf carts
- Sweeper/scrubber floor cleaning equipment
- Boating
- Light on-highway caravans, trailer and mobile homes

OVERVIEW RANGE - FT SERIES



AT THE BATTERY



Section	Without aux contacts	With aux contacts
Socket without handle		
16	105TA4681	139TA2057
25	106TA9906	139TA2058



Section	Without aux contacts	With aux contacts
Socket with handle		
16	139TA2055	139TA2059
25	139TA2056	139TA2060

ON THE VEHICLE/CHARGER



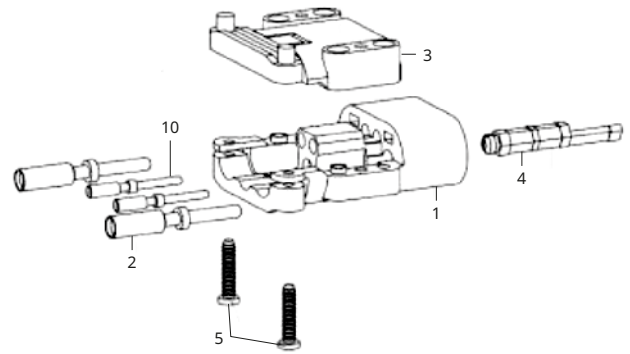
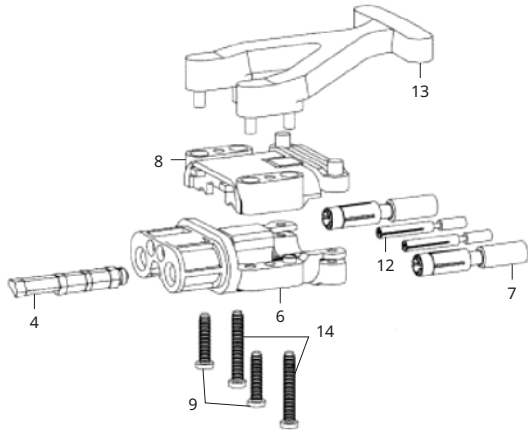
Section	Without aux contacts	With aux contacts
16	105TA4680	139TA2053
25	106TA9905	139TA2054

HOUSINGS



REF [168TA8071](#) – At the battery
 REF [168TA8072](#) – On the vehicle/charger

SPARE PARTS OVERVIEW - FT 80



FEMALE CONNECTOR

Item	Description	Dimensions		REF
		mm ²		
4, 6, 7, 8, 9, 14	FT 80 female	16	105TA4681	
		25	106TA9906	
4, 6, 7, 8, 9, 13, 14	FT 80 female incl handle	16	139TA2055	
		25	139TA2056	
4	Charger key FT80 male/ female		139TA2068	
7	Main contact FT 80	16	139TA2063	
		25	139TA2064	
12	Pilot contact		139TA2066	
13	Handle FT80 – red		139TA2067	

MALE CONNECTOR

Item	Description	Dimensions		REF
		mm ²		
1, 2, 3, 4, 5	FT 80 male	16	105TA4680	
		25	106TA9905	
2	Main contact FT 80	16	139TA2061	
		25	139TA2062	
4	Charger key FT80 male/ female		139TA2068	
10	Pilot contact		139TA2065	

MOTOR CONNECTORS



RA SERIES

To secure optimal output of electrical powered motors not only a powerful battery is needed. Only a reliable and high quality connection guarantees a long lasting connection without power losses. The design of the motor connectors is extremely compact.

That means: high amperage – small dimensions. Each connection fulfills the highest quality standards and shows functionality, easy handling, robust reliability and economy.

Besides applications in material handling vehicles RA connectors are used in:

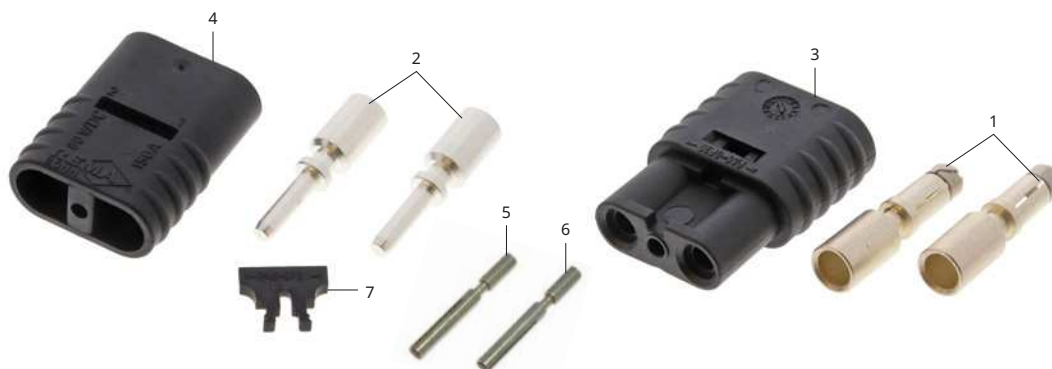
- Small electric cars
- Golf carts
- Cleaning machines
- Electrical motors for boating
- Caravans/trailers/mobile homes

OVERVIEW RANGE - RA SERIES



Type	Type	Size contacts	REF	Plug (male)	Socket (female)
RA150	Standard	25		168TA4490	168TA4491
RA150	With 1 aux contact	25		168TA4492	168TA6107

SPARE PARTS OVERVIEW - RA SERIES



Item	Description	Dimensions mm ²	REF
1	Main contact tube 150 A	25	168TA4090
2	Main contact pin 150 A	25	168TA4089
3	Contact holder socket	-	168TA6108
4	Contact holder plug	-	168TA6109
5	Auxiliary contact 20 A (female)	-	139TA2066

Item	Description	Dimensions mm ²	REF
6	Auxiliary contact 20 A (male)	-	139TA2065
	Reducing bushes	25-16	168TA6110
	Reducing bushes	25-10	168TA6111
7	Locking part	-	168TA6112

FLAT WIPING CONNECTORS



SR SERIES

Features and advantages:

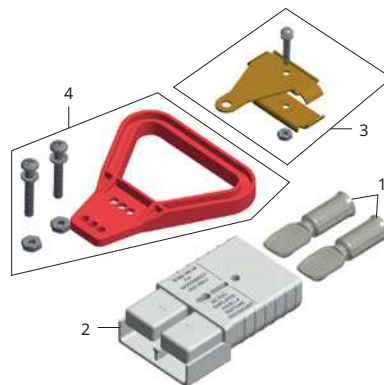
- Reliable power connection solution for:
 - Electric vehicle batteries
 - Battery chargers
 - Forklift trucks
 - Other DC voltage applications
- Operating voltage determined by housing colour
 - Simplifies mating of same voltages
- Plug and socket with identical housing design
 - Reduces quantity of components
 - Reduces purchasing and storage cost
- Acid resistant housing material
- Handles and strain relieves available
- CE marking and UL recognized
- Contacts sized for AWG (American Wire Gauge)
- REMA developed high-grade contacts made out of pure high conductive Cu-ETP copper with silver plated surface and an anti-friction and tarnish coating ensure
 - Power transition with minimal losses
 - Long life
 - Suitable for crimping

OVERVIEW RANGE - SR SERIES



Type	Wire size			REF						
	AWG	Exact mm ²	European mm ²	Yellow 12 V	Orange 18 V	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V
SR50	10/12	5.3/3.3	6/4	-	-	168TA3072	168TA3099	-	-	168TA3170
	8	8.36	10	-	-	168TA3073	168TA3100	-	-	168TA3171
	6	13.3	16	-	-	168TA3074	168TA3101	-	-	168TA3172
SR175	4	21.1	25	168TA3027	168TA3051	168TA3075	168TA3102	168TA3126	-	-
	2	33.6	35	168TA3028	168TA3052	168TA3076	168TA3103	168TA3127	-	-
	1/0	53.5	50	168TA3029	168TA3053	168TA3077	168TA3104	168TA3128	-	-
SR350	1/0	53.5	50	168TA3030	-	168TA3078	168TA3105	168TA3129	168TA3150	-
	2/0	67.43	70	168TA3031	-	168TA3079	168TA3106	168TA3130	168TA3151	-
	3/0	85	95	168TA3032	-	168TA3080	168TA3107	168TA3131	168TA3152	-

SPARE PARTS OVERVIEW - SR SERIES



Item	Description	REF	Item	Description	REF
3	Cable clamp set SR50	168TA8074	4	Handle SR175 red with 2 screws	168TA8077
3	Cable clamp set SR175	168TA8073	4	Handle SR175 grey with 2 screws	168TA8078
3	Cable clamp set SR350	168TA8075	4	Handle SR350 red with 2 screws	168TA8079
4	Handle SR50 red with 2 screws	168TA8076	4	Handle SR50 grey with 2 screws	168TA8080

ACCESSORIES - SR SERIES

HANDLES



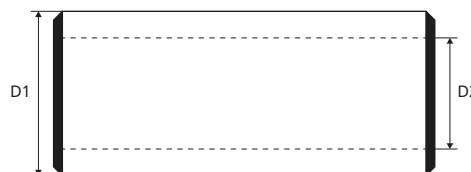
Type	Size	Flat/DIN	Housing	T-handle + HDW (red)	A-frame + HDW (polycarbonate, grey)	A-frame + HDW (polycarbonate, red)
SR	50	Flat	Standard	168TA5776	168TA2828	168TA5777
SR	50	Flat	Standard	168TA2827	-	-
SR	175	Flat	Standard	-	168TA5778	168TA5779
SR	175	Flat	Standard	-	168TA2829	168TA2831
SR	350	Flat	Standard	-	168TA5780	168TA5781
SR	350	Flat	Standard	-	168TA2830	168TA2832

CONTACTS



Type	Wire size		"x"		REF
	AWG or mm ²		mm	In	
SR50	10/12 AWG		13.5	0.53	168TA8081
	8 AWG		12.5	0.49	168TA8082
	6 AWG		12.0	0.47	168TA8083
SR175	4 AWG		26.0	1.02	168TA8084
	2 AWG		26.5	1.02	168TA8085
	1/0 AWG		26.0	1.04	168TA8086
SR350	1/0 AWG		30.5	1.20	168TA8087
	2/0 AWG		30.5	1.20	168TA8088
	3/0 AWG		33.0	1.29	168TA8089
	4/0 AWG		33.0	1.29	168TA8090

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
-	16	-	10	168TA4342
-	25	-	10	112TA4815
-	25	-	16	112TA4816
-	35	-	16	138TA4449
-	50	-	16	168TA4344
-	50	-	25	168TA4345
-	50	-	35	168TA4346
6	-	10	-	168TA4347
4	-	8	-	168TA4348
4	-	6	-	168TA4349
2	-	6	-	168TA4343
1/0	-	4	-	168TA4350

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	-	2	-	168TA4351
6	-	-	6	168TA4352
4	-	-	10	168TA4353
2	-	-	16	168TA4354
1/0	-	-	25	168TA4355
1/0	-	-	35	168TA4356
-	16	10	-	168TA6265
-	25	8	-	168TA6266
-	25	6	-	168TA6267
-	35	6	-	168TA6268
-	50	4	-	168TA6269
-	50	2	-	168TA6270

FLAT WIPING CONNECTORS



SRE/SRX SERIES



Features and advantages:

- Reliable power connection solution for:
 - Electric vehicle batteries
 - Battery chargers
 - Forklift trucks
 - Other DC voltage applications
- Operating voltage determined by housing colour
 - Simplifies mating of same voltages
- Plug and socket with identical housing design
 - Reduces quantity of components
 - Reduces purchasing and storage cost
- Acid resistant housing material
- Handles, strain relieves and auxiliary contacts optional
- CE marking and UL recognized
- Contacts sized for AWG (American Wire Gauge) and metric cross sections
- REMA developed high-grade contacts made out of pure high conductive Cu-ETP copper with silver plated surface and an anti-friction and tarnish coating ensure
 - Power transition with minimal losses
 - Long life
 - Suitable for crimping

OVERVIEW RANGE - SRE/SRX SERIES



Type	Wire size			REF								
	AWG	Exact mm ²	European mm ²	Yellow 12 V	Orange 18 V	Red 24 V	Grey 36 V	Blue 48 V	Green 72 V	Black 80 V	Brown 96 V	Purple 120 V
SRX175 with aux	1/0	53.5	50	168TA3033	168TA3054	168TA3081	168TA3108	168TA3132	168TA3153	-	-	-
				168TA3034	168TA3055	168TA3082	168TA3109	168TA3133	168TA3154	-	-	-
SRX350 with aux	2/0	67.43	70	168TA3035	168TA3056	168TA3083	168TA3110	168TA3134	168TA3155	168TA3173	-	-
	2/0	67.43	70	168TA3036	168TA3057	168TA3084	168TA3111	168TA3135	168TA3156	168TA3174	-	-
SRE160 without aux	4	21.1	25	168TA3037	168TA3058	168TA3085	168TA3112	168TA3136	168TA3157	168TA3175	-	-
	2	33.6	35	168TA3038	168TA3059	168TA3086	168TA3113	168TA3137	168TA3158	168TA3176	-	-
	1/0	53.5	50	168TA3039	168TA3060	168TA3087	168TA3114	168TA3138	168TA3159	168TA3177	-	-
with long contact	1/0	53.5	50	168TA3033	168TA3054	168TA3081	168TA3108	168TA3132	168TA3153	168TA3178	-	-
SRE160 with aux	4	21.1	25	168TA3040	168TA3061	168TA3088	168TA3115	168TA3139	168TA3160	168TA3179	-	-
	2	33.6	35	168TA3041	168TA3062	168TA3089	168TA3116	168TA3140	168TA3161	168TA3180	-	-
	1/0	53.5	50	168TA3042	168TA3063	168TA3090	168TA3117	168TA3141	-	168TA3181	-	-
with long contact	1/0	53.5	50	168TA3034	168TA3055	168TA3082	168TA3109	168TA3133	168TA3154	168TA3182	-	-
SRE320 without aux	1/0	53.5	50	168TA3043	168TA3064	168TA3091	168TA3118	168TA3142	168TA3162	168TA3183	168TA3191	168TA3198
	2/0	67.43	70	168TA3044	168TA3065	168TA3092	168TA3119	168TA3143	168TA3163	168TA3184	168TA3192	168TA3199
	3/0	85	95	168TA3045	168TA3066	168TA3093	168TA3120	168TA3144	168TA3164	168TA3185	168TA3193	168TA3200
with long contact	2/0	67.43	70	168TA3046	168TA3067	168TA3094	168TA3121	168TA3145	168TA3165	168TA3186	168TA3194	168TA3201
SRE320 with aux	1/0	53.5	50	168TA3047	168TA3068	168TA3095	168TA3122	168TA3146	168TA3166	168TA3187	168TA3195	168TA3202
	2/0	67.43	70	168TA3048	168TA3069	168TA3096	168TA3123	168TA3147	168TA3167	168TA3188	168TA3196	168TA3203
	3/0	85	95	168TA3049	168TA3070	168TA3097	168TA3124	168TA3148	168TA3168	168TA3189	168TA3197	168TA3204
with long contact	2/0	67.43	70	168TA3050	168TA3071	168TA3098	168TA3125	168TA3149	168TA3169	168TA3190	168TA3071	168TA3205

SPARE PARTS OVERVIEW - SRE/SRX SERIES



ADDITION PARTS FLAT CONNECTORS SRE160/SRX175

Item	Description	REF
3	Cable clamp set	106TA9867
5	Coding pin (yellow)	106TA9879
6	Aux contact set	168TA8091
7	Air adapter 6/8 mm	168TA8092
8	Aux contact set female (with coding)	168TA8094
9	Aux contact set male (with coding)	168TA8095

ADDITION PARTS FLAT CONNECTORS SRE320/SRX350

Item	Description	REF
3	Cable clamp set	106TA9867
5	Coding pin (yellow)	106TA9879
6	Aux contact set	168TA8091
7	Air adapter 6/8 mm	168TA8093
8	Aux contact set female (with coding)	168TA8094
9	Aux contact set male (with coding)	168TA8095

ACCESSORIES - SRE/SRX SERIES



HANDLES



Type	Size	Flat/DIN	Housing	A-frame + HDW (polycarbonate, grey)	A-frame + HDW (polycarbonate, red)
SRX	175	Flat	Standard	168TA5778	168TA5779
SRX	175	Flat	Standard	168TA2829	168TA2831
SRX	350	Flat	Standard	168TA5780	168TA5781
SRX	350	Flat	Standard	168TA2830	168TA2832
SRE	160	Flat	Standard	168TA5778	168TA5779
SRE	160	Flat	Standard	168TA2829	168TA2831
SRE	320	Flat	Standard	168TA5780	168TA5781
SRE	320	Flat	Standard	168TA2830	168TA2832



SPECIAL HANDLE FOR STILL

REF [168TA8098](#)

ACCESSORIES - SRE/SRX SERIES

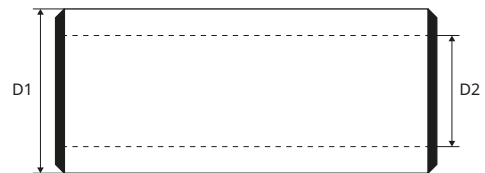


CONTACTS



Type	Wire size	"x"		REF
	AWG or mm ²	mm	In	
SRE160	16	20	0.78	168TA8096
	25			168TA4029
	35			168TA4030
	50			168TA4031
SRX175	1/0 AWG	26	1.02	168TA4028
SRE320	35	20	0.78	168TA8097
	50			168TA4032
	70			168TA4033
	95			24
SRX350	2/0 AWG	31	1.22	168TA4026

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
-	16	-	10	168TA4342
-	25	-	10	112TA4815
-	25	-	16	112TA4816
-	35	-	16	138TA4449
-	50	-	16	168TA4344
-	50	-	25	168TA4345
-	50	-	35	168TA4346
6	-	10	-	168TA4347
4	-	8	-	168TA4348
4	-	6	-	168TA4349
2	-	6	-	168TA4343
1/0	-	4	-	168TA4350

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	-	2	-	168TA4351
6	-	-	6	168TA4352
4	-	-	10	168TA4353
2	-	-	16	168TA4354
1/0	-	-	25	168TA4355
1/0	-	-	35	168TA4356
-	16	10	-	168TA6265
-	25	8	-	168TA6266
-	25	6	-	168TA6267
-	35	6	-	168TA6268
-	50	4	-	168TA6269
-	50	2	-	168TA6270

FLAT WIPING CONNECTORS



MC SERIES

Features and advantages:

- Reliable power connection solution for
 - Electric vehicle batteries
 - Battery chargers
 - Forklift trucks
 - Other DC voltage applications
- Plug and socket with identical housing design
 - Reduces quantity of components
 - Reduces purchasing and storage cost
- Acid resistant housing material
- Strain relief available
- CE marking and UL recognized
- Contacts sized for AWG (American Wire Gauge)
- REMA developed high-grade contacts made out of pure high conductive Cu-ETP copper with silver plated surface and an anti-friction and tarnish coating ensure
 - Power transition with minimal losses
 - Long life
 - Suitable for crimping



OVERVIEW RANGE - MC SERIES



Type	Wire size AWG	REF						
		Yellow	Orange	Red	Blue	Green	Black	White
MC15/30/45	16	168TA2776*	168TA2782*	168TA2788*	168TA2795*	168TA2801*	168TA2807*	168TA2814*
	12	168TA2777*	168TA2783*	168TA2789*	168TA2796*	168TA2802*	168TA2808*	168TA2815*
	10	168TA2778*	168TA2784*	168TA2790*	168TA2797*	168TA2803*	168TA2809*	168TA2816*
	10	168TA5727**	168TA5728**	168TA2791**	168TA5729**	168TA5730**	168TA2810**	168TA5731**
MC75	6	168TA2779*	168TA2785*	168TA2792*	168TA2798*	168TA2804*	168TA2811*	168TA2817*
MC120	2	168TA2780*	168TA2786*	168TA2793*	168TA2799*	168TA2805*	168TA2812*	168TA2818*
MC180	1/0	168TA2781*	168TA2787*	168TA2794*	168TA2800*	168TA2806*	168TA2813*	168TA2819*

* With closed contacts / ** With open contacts

ACCESSORIES - MC SERIES



CONTACTS

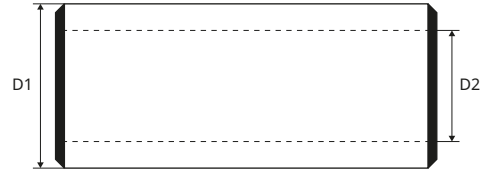


Type	Wire size AWG or mm ²	"x"		REF
		mm	In	
MC15	16	7.4	0.29	168TA8099
MC30	12	7.5	0.29	168TA8100
MC45	10	6.4	0.25	168TA8101
MC75	10	13.5	0.52	168TA8081
	8	12.5	0.49	168TA8082
	6	12	0.47	168TA8083
MC120	2	21	0.81	168TA8102
MC180	4	26	1.01	168TA8084
	2	26.5	1.03	168TA8085
	1/0 AWG	26.4	1.02	168TA8086

ACCESSORIES - MC SERIES



REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
-	16	-	10	168TA4342
-	25	-	10	112TA4815
-	25	-	16	112TA4816
-	35	-	16	138TA4449
-	50	-	16	168TA4344
-	50	-	25	168TA4345
-	50	-	35	168TA4346
6	-	10	-	168TA4347
4	-	8	-	168TA4348
4	-	6	-	168TA4349
2	-	6	-	168TA4343
1/0	-	4	-	168TA4350

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	-	2	-	168TA4351
6	-	-	6	168TA4352
4	-	-	10	168TA4353
2	-	-	16	168TA4354
1/0	-	-	25	168TA4355
1/0	-	-	35	168TA4356
-	16	10	-	168TA6265
-	25	8	-	168TA6266
-	25	6	-	168TA6267
-	35	6	-	168TA6268
-	50	4	-	168TA6269
-	50	2	-	168TA6270

EXPLOSION PROOF CONNECTORS DR E250 EX



Features and advantages:

- Electrical connector especially designed for the use in hazardous areas
- Approved for zone 1 (gas) and zone 21 (dust)
- EX marking
- Compliant with the European directive 2014/34/EU, "equipment and protective systems intended for use in potentially explosive atmospheres" and following standards
 - EN60079-0: general requirements
 - EN60079-1: equipment protection by flameproof enclosures "d"
 - EN60079-7: equipment protection by increased safety "e"
 - EN60079-31: explosive atmospheres. Equipment dust ignition protection by enclosure "t"
- REMA developed contacts made out of pure high conductive Cu-ETP copper with silver plated surface and an anti-friction tarnish coating ensure
 - A power transition with minimal losses
 - Long lifetime
- Polarity and combination protection through contact coding
- Solder joint for gas tight connection between contact and cable
- Screw for connecting socket and cable

OVERVIEW RANGE - DR E250 EX



Type	Coding contacts	Contact size	REF	
			Plug positive	Plug negative
DR E250	Without	25-50	112TA4947	168TA4493
DR E250	Without	70	112TA4948	112TA4840
DR E250	Without	M12	-	168TA4494
DR E250	With	25-50	112TA4949	168TA4495
DR E250	With	70	112TA4950	168TA4496
DR E250	With	M12	-	168TA4497

ACCESSORIES - DR E250 EX



CODING PINS - POLARITY CODING



DR E250 EX plug positive



DR E250 EX plug negative

CODING PINS - CONTACT CODING



With additional coding contacts



Without additional coding contacts

ABOUT RAVIOLI



Born in 1926, after more than 90 years of successful activity, Ravioli S.p.A. is a brilliant, dynamic and worldwide renowned manufacturer of mechanical and electromechanical devices for industry. Founded and based in Milan, Northern Italy, Ravioli S.p.A. is very well known all over the world, thanks to the development of a solid and reliable network of dealers and partners, started more than 30 years ago. Designing, projecting, testing and assembling in-house all the products, Ravioli maintains the production strongly rooted in the territory, guaranteeing the high quality standards of Made in Italy, accordance to EU Norms and Directives, user-friendly design, customer care and technical assistance as well as innovative and updated solutions for each product.

The productive processes, from ideation, design and realization of the product, to quality controls, tests and final approval are all strongly integrated to one another, in order to let all the teams and divisions cooperate perfectly, be informed at any time of the different steps in the production and work efficiently and correctly. The company is constantly improving and enriching its range of products, studying the best solutions to each and every industrial application. Aware of the

cultural and technological differences among the numerous markets in which Ravioli operates worldwide, the Company studies everyday specific approaches and solutions suitable for each country, in the full respect of norms, directives and requirements of end-users in each market. The satisfaction of the customer and the flexibility to provide customized solutions are key factors of the success of the Milanese Company.

All the products are manufactured in-house in the productive site of the company's headquarter in Milan and, according to its strong commitment to respect the environment, to make the world a better place to live in and to protect the artistic and cultural beauties and the treasures of Italy, Ravioli is today one of the 200 Corporate Golden Donors of FAI - Fondo Ambiente Italiano - to contribute to and support their daily activities of safeguard and enhancement of Italy. Ravioli is also a member of Confindustria for Sustainability.

Ravioli believes in a better world, from long lasting traditions, towards the challenge of innovation in the future.

DIN CONNECTORS



EUROPE SERIES 80/160/320 A



Manufactured by Ravioli since 1981, these connectors are suitable for linking motors, batteries, battery chargers for lifting trucks, mobile elevating work platforms, sweepers, scrubbers and other electrical vehicles for industry.

They are in accordance with the current Norms DIN VDE 0623-589, which define unified distances between centers and unified coupling dimensions and which currently represent the evolution of the previous DIN norms 43589 - part 1 and 2 - and FEM 4007a and 4007b. Approval CE EAC.

Each model is made up of a plug and a socket, different from each other, and both prepared for a fitting for a handle.

Thanks to our engineers' expert work, through the years our customers have well accepted the easy assembly and the intuitive use of our connectors, as well as the considerable saving of time for their wiring, since the number of their components is limited.

Thanks to several technical features, our connectors are considerably robust, resistant and suitable for various applications, maintaining the same quality standards through the time.

The range 80/160/320 A includes two versions:

- Shock resistant housing
 - For all applications requiring robustness and high resistance against shocks;
- Innovative, acid-proof polymer housing
 - For all applications requiring high resistance against acid.

All electrical parts are protected against accidental contact. Standard equipment includes a balanced cable clamp, ensuring IP23 to the final coupled connectors.

The main contacts are silver-plated, electrolytic copper against corrosion, ensuring the best crimping with the correct assembly.

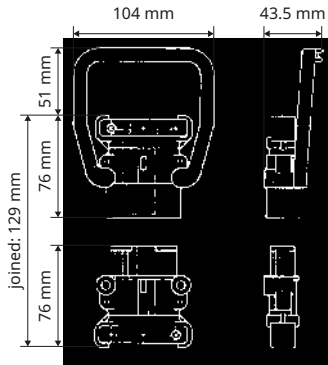
- Maximum operating voltage: 150 VDC
- Temperature range: -20 up to 90 °C
- DIN 80: current capacity 80 A with 25 mm² section cable
- DIN 160: current capacity 160 A with 50 mm² section cable
- DIN 320: current capacity 320 A with 95 mm² section cable

OVERVIEW RANGE - EUROPE SERIES 80/160/320 A

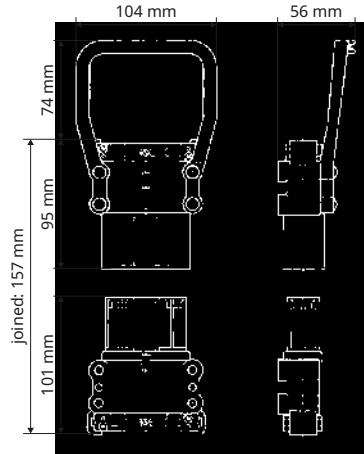


Type	Size contacts	REF			
		Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 80 A					
Standard	16	168TA4245	168TA6292	168TA4289	168TA4292
	25	168TA4245	168TA6292	168TA4289	168TA4292
With auxiliary contacts	16	168TA6272	168TA6293	168TA6317	168TA6337
	25	168TA6272	168TA6293	168TA6317	168TA6337
With air supply	16	168TA6273	168TA6294	168TA6318	168TA6338
	25	168TA6273	168TA6294	168TA6318	168TA6338
With air supply and auxiliary contacts	16	168TA6274	168TA6295	168TA6319	168TA6339
	25	168TA6274	168TA6295	168TA6319	168TA6339
With pilot and auxiliary contacts	16	168TA6275	168TA6296	168TA6320	168TA6340
	25	168TA6275	168TA6296	168TA6320	168TA6340
DIN style: 160 A					
Standard	25	168TA4253	168TA6297	168TA4251	168TA6341
	35	168TA4287	168TA6298	168TA4290	168TA6342
	50	168TA4287	168TA6298	168TA4290	168TA6342
With auxiliary contacts	25	168TA6276	168TA6299	168TA6321	168TA6343
	35	168TA6277	168TA6300	168TA6322	168TA6344
	50	168TA6277	168TA6300	168TA6322	168TA6344
With air supply	25	168TA6278	168TA6301	168TA6323	168TA6345
	35	168TA6279	168TA6302	168TA6324	168TA6346
	50	168TA6279	168TA6302	168TA6324	168TA6346
With air supply and auxiliary contacts	25	168TA6280	168TA6303	168TA6325	168TA6347
	35	168TA6281	168TA6304	168TA6326	168TA6348
	50	168TA6281	168TA6304	168TA6326	168TA6348
With pilot and auxiliary contacts	25	168TA6282	168TA6305	168TA6327	168TA6349
	35	168TA6283	168TA6306	168TA6328	168TA6350
	50	168TA6283	168TA6306	168TA6328	168TA6350
DIN style: 320 A					
Standard	50	168TA4288	168TA6307	168TA4291	168TA6351
	70	168TA4288	168TA6307	168TA4291	168TA6351
	95	168TA4259	168TA6308	168TA4257	168TA6352
With auxiliary contacts	50	168TA6284	168TA6309	168TA6329	168TA6353
	70	168TA6284	168TA6309	168TA6329	168TA6353
	95	168TA6285	168TA6310	168TA6330	168TA6354
With air supply	50	168TA6286	168TA6311	168TA6331	168TA6355
	70	168TA6286	168TA6311	168TA6331	168TA6355
	95	168TA6287	168TA6312	168TA6332	168TA6356
With air supply and auxiliary contacts	50	168TA6288	168TA6313	168TA6333	168TA6357
	70	168TA6288	168TA6313	168TA6333	168TA6357
	95	168TA6289	168TA6314	168TA6334	168TA6358
With pilot and auxiliary contacts	50	168TA6290	168TA6315	168TA6335	168TA6359
	70	168TA6290	168TA6315	168TA6335	168TA6359
	95	168TA6291	168TA6316	168TA6336	168TA6360

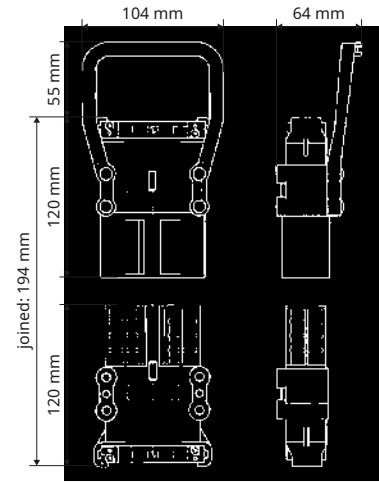
SPARE PARTS OVERVIEW - EUROPE SERIES 80/160/320 A



80 A



160 A



320 A

Description	REF
Accessories	
Shock resistant handle 80 A	168TA5813
Acid-proof handle 80 A	168TA2825
Primary auxiliary contact for plug 80 A	168TA3728
Primary auxiliary contact for socket 80 A	168TA3738
Primary auxiliary contact for acid-proof plug 80 A	168TA3729
Primary auxiliary contact for acid-proof socket 80 A	168TA3739
Secondary auxiliary contact for plug 80 A	168TA3730
Secondary auxiliary contact for socket 80 A	168TA3740
Air tube for plug 80 A	168TA3731
Air tube for socket 80 A	168TA3732
Spare parts	
Main contact for plug 80 A	168TA3733
Main contact for socket 80 A	168TA3737
Grey coding pin 80 A	168TA3734
Yellow coding pin 80 A	168TA3735
Green coding pin 80 A	168TA3736

Description	REF
Accessories	
Shock resistant handle 160/320 A	168TA3741
Acid-proof handle 160/320 A	168TA2826
Shock resistant flat handle 160/320 A	168TA5814
Acid-proof flat handle 160/320 A	168TA5783
Primary auxiliary contact for plug 160/320 A	168TA3742
Primary auxiliary contact for socket 160/320 A	168TA3743
Primary auxiliary contact for acid-proof plug 160/320 A	168TA3744
Primary auxiliary contact for acid-proof socket 160/320 A	168TA3745
Secondary auxiliary contact for plug 160/320 A	168TA3746
Secondary auxiliary contact for plug 160/320 A	168TA3747
Air tube for plug 160/320 A	168TA3748
Air tube for socket 160/320 A	168TA3749
Air tube for plug 160/320 A	168TA3750
Air tube for socket 160/320 A	168TA3751
Reduction bushing 50–25 mm ²	168TA3752
Reduction bushing 0–35 mm ²	168TA3753
Spare parts	
Main contact for plug 160/320 A	168TA3754
Main contact for plug 160/320 A	168TA3755
Main contact for plug 160/320 A – 95	168TA5815
Main contact for socket 160/320 A	168TA3756
Main contact for socket 160/320 A	168TA3757
Main contact for socket 160/320 A – 95	168TA3758
Grey coding pin 160/320 A	168TA3759
Yellow coding pin 160/320 A	168TA3760
Green coding pin 160/320 A	168TA3761

ACCESSORIES - EUROPE SERIES 80/160/320 A

HANDLES



Type	Size	Flat/DIN	Housing	Snap on plug/socket (polycarbonate)	Snap-on (flat)
DIN	80	DIN	Standard	168TA2825	-
DIN	160	DIN	Standard	168TA2826	168TA5783
DIN	320	DIN	Standard	168TA2826	168TA5783

CODING PINS



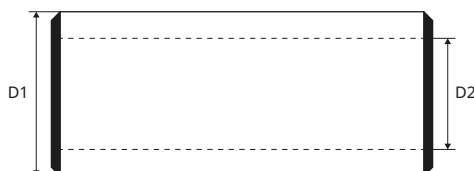
DIN	Colour	REF	DIN	Colour	REF
80	Grey	168TA3734	160	Green	168TA3761
80	Yellow	168TA3735	320	Grey	168TA3759
80	Green	168TA3736	320	Yellow	168TA3760
160	Grey	168TA3759	320	Green	168TA3761
160	Yellow	168TA3760			

CONTACTS



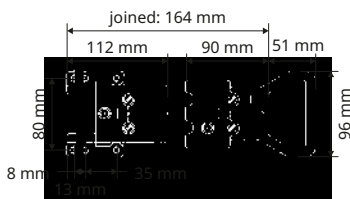
Type	Wire size			REF
	AWG	Exact mm ²	European mm ²	
DIN style: 80 A				
Plug	4	21.1	25	168TA5816
Socket	4	21.1	25	168TA5817
DIN style: 160 A				
Plug	1/0	53.5	50	168TA3754
Socket	1/0	53.5	50	168TA3756
DIN style: 320 A				
Plug	2/0	67.4	70	168TA3755
	3/0	85	95	168TA5815
Socket	2/0	67.4	70	168TA3757
	3/0	85	95	168TA3758

REDUCING BUSHINGS



In (D1)	Out (D2)	REF
mm ²	mm ²	
25	16	168TA6271
50	25	168TA3752
70	35	168TA3753

TWIN CONNECTORS - TYPE BC250 250 A



Main performances

These plugs and sockets complete the range of Ravioli twin connectors. Reliable and robust, they are specifically used in industrial vehicles, for electrical connections between trailer and truck.

The product is composed of a socket and a plug equipped with a handle to make the disconnection easier and more rapid, the main contacts are in copper alloy for soldering. Contacts cables can also be locked through screws for an easier use of the connector.

An auxiliary contact with advanced opening compared to the main contacts can be fitted on the connectors.

Rubber caps are available to protect the contacts from atmospheric agents when the connectors are not coupled.

These connectors have the following advantages:

- Mechanical robustness
- Constant extraction
- Resistance against humidity, acid and UV rays
- Resistance against shocks
- Long life

BC250 connectors are always supplied dismounted.

Accessories on request:

- Auxiliary contacts
- Protecting caps

Technical features:

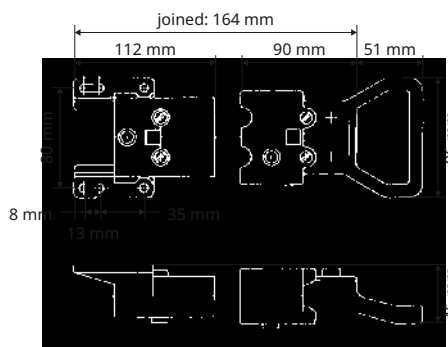
- Maximum operating voltage: 48 VDC
- Temperature range: -20 up to 90 °C
- Nominal current: 250 A
- Maximum section of insulated flexible cable:
 - 50 mm² for main contacts
 - 10 mm² for auxiliary contacts

OVERVIEW RANGE - TYPE BC250 250 A



Type	Size contacts	Form A Battery plug	Form B Vehicle socket
BC250	50	107TA7675	168TA4471

SPARE PARTS OVERVIEW - TYPE BC250 250 A



Description	REF	Description	REF
Plug/sockets		Spare parts	
Plug with handle with contacts for soldering	107TA7675	2 main contacts for soldering for plug	107TA1002
Socket with contacts for soldering	168TA4471	2 main contacts for soldering for socket	107TA1001
Plug with handle with contacts for screw locking	168TA8103	2 main contacts for screwing for plug	168TA8105
Socket with contacts for screw locking	168TA8104	2 main contacts for screwing for socket	168TA8106
Accessories			
Auxiliary contact for plug	107TA1003		
Auxiliary contact for socket	106TA1003		
Protection cap for plug	139TA3246		
Protection cap for socket	139TA3245		

ABOUT SCHALTBAU



CONNECT - CONTACT - CONTROL

Schaltbau GmbH develops and manufactures reliable, durable electromechanical components and customer-specific solutions for railways and industry.

The company was founded in Munich in 1929. Core functions such as sales & marketing, R&D, competence center, HR and administration are located at the Munich site. In addition, the company has two production sites in Bavaria, at Aldersbach in the Passau district, and at Velden in the Landshut district.

The individual components of Schaltbau products are manufactured at Aldersbach. Almost all of Schaltbau's products are assembled at Velden, and other tasks such as logistics, quality assurance, fault analysis and testing, service & repair, and industrial engineering are carried out there.

Schaltbau GmbH: Global Competence Center for Electromechanical Components

Decades of experience in engineering and production

Schaltbau is a brand name for connectors, snap-action switches, contactors, electrics for rolling stock and complete drivers cab equipment that fully conform to the highest safety standards. Thus you will find worldwide in all branches of industry, in which electrical systems have to be connected, switched and controlled reliably

under harsh ambient conditions, electromechanical components and customer specific solutions from Schaltbau.

PRODUCTION KNOW HOW

As a component supplier, we offer a very large range of products. This versatility is also found in our production and logistics processes. We produce snap-action switches that are barely thumb-sized, to high-voltage contactors weighing 35 kg. The high quality of our production processes ensures the outstanding durability of our products.

Highly flexible conveyor assembly systems at the Velden site enable production in high volumes or down to batch sizes as small as 1. This means we can meet all kinds of customer requirements for delivery performance. In addition, our proprietary automation solutions complement the assembly systems to create smart work systems. This ensures high productivity and consistent quality of manufacturing processes.

For a mid-sized company, our value chain has a very high level of vertical integration. At the Aldersbach site, we have plastic injection molding and various machining and sheet metal forming systems, as well as our own tool making processes. This enables us to respond very flexibly to customer requirements, and means our employees have a broad base of technical knowledge.

DIN SERIES



LV80/120

Charging connector for reliable current-carrying capacity up to 160 A. Version dry-cell battery socket with red handle.



LV160/250

Charging connector for reliable current-carrying capacity up to 250 amp. Version battery socket high current wet-cell battery with black handle screwed.



LV320/400

Charging connector for reliable current-carrying capacity up to 450 amp. Version battery socket lithium-ion battery with red handle.



LV500

Charging connector for reliable current-carrying capacity up to 500 amp. Version battery socket with black handle.

LV80/120, LV160/250, LV320/400, LV500

Features:

- High-quality, solid power contacts for a permanently high current carrying capacity
Schaltbau's new optimized main contacts ensure a permanently high current-carrying capacity and minimal contact heating. These properties are achieved through very low contact resistances in the mated contact system over the entire service life. Thanks to reduced contact forces in the main contact system, there is less wear during mating and unmating. This extends the service life and also noticeably improves the ergonomics when mating and unmating.
- Mechanical safety in rough everyday use
Schaltbau charging connectors have durable, robust housing components and reliably withstand rough everyday use.

They also have the following important mechanical properties:

- Integrated locking against shock and vibration: An easy-to-release locking device is integrated into the charging connector, which ensures functional safety in case of shocks and vibrations.
- Integrated strain relief: Keeps the mechanical load of the connecting cables away from the electrically conductive contacts. In addition, the plug-in connection is secured against tensile, pressure and torsional stresses.
- Integrated contact locking: The main contacts are safely aligned and fixed by a locking mechanism in the housing.
- Arc prevention when plugging and unplugging the connector

Avoiding an electric arc when plugging in or disconnecting the connector increases safety, protects the main contacts and increases the service life.

This goal is achieved by:

- Last-mate/first-break signal contacts (LMFB): The signal contacts are designed in order to start the charging process after the main contacts are already plugged in and to end it before the main contacts are disconnected. The signal contacts in the control circuit enable timely disconnection and ensure load-free plugging and unplugging.
- High Voltage Interlock Loop (HVIL): This so-called "power kill" contact, made with two signal contacts, enables timely disconnection in the control circuit and ensures load-free plugging and unplugging.

Modularity, interconnectivity, material properties

The connectors are modular in design and have excellent material properties.

- **Modularity:**
 - The low number of individual components and the usability in several series enable an individual and cost-effective realization of your applications. Unnecessary stock positions are avoided.
- **Interconnectivity:**
 - The LV series is intermateable with commercially available charging connectors according to EN 1175 and DIN VDE 0623-589 with a comparable design. High acid resistance: Resistance of the plastics to sulphuric acid according to EN 1175
- **Flammability:**
 - All plastics meet the glow wire resistance according to IEC 695-2-1 and the fire protection requirements according to UL 94-V0 and to EN 45545
- **Temperature resistance:**
 - The materials used stand for dimensional stability and functionality at temperatures from -30 up to 130 °C.

OVERVIEW RANGE - DIN SERIES



Type	Size contacts	REF			
		Plug (male)	Plug with handle	Socket (female)	Socket with handle
DIN style: 80 A					
Standard	16	168TA4293	168TA5926	168TA4302	168TA5952
	25	168TA4294	168TA5927	168TA4303	168TA5953
With auxiliary contacts	16	168TA5936	168TA5928	168TA5944	168TA5954
	25	168TA5937	168TA5929	168TA5945	168TA5955
With air supply	16	168TA5938	168TA5930	168TA5946	168TA5956
	25	168TA5939	168TA5931	168TA5947	168TA5957
With air supply and auxiliary contacts	16	168TA5940	168TA5932	168TA5948	168TA5958
	25	168TA5941	168TA5933	168TA5949	168TA5959
With pilot and auxiliary contacts	16	168TA5942	168TA5934	168TA5950	168TA5960
	25	168TA5943	168TA5935	168TA5951	168TA5961
DIN style: 160 A					
Standard	25	168TA4295	168TA5976	168TA4304	168TA6007
	35	168TA4296	168TA5978	168TA4305	168TA6008
	50	168TA4297	168TA5980	168TA4306	168TA4311
With auxiliary contacts	25	168TA5962	168TA5981	168TA5996	168TA6009
	35	168TA5963	168TA5982	168TA5997	168TA6010
	50	168TA5964	168TA5983	168TA4307	168TA6011
With air supply	25	168TA5965	168TA5984	168TA5998	168TA6012
	35	168TA5966	168TA5985	168TA5999	168TA6013
	50	168TA4298	168TA5986	168TA6000	168TA4312
With air supply and auxiliary contacts	25	168TA5967	168TA5990	168TA6001	168TA6016
	35	168TA5968	168TA5991	168TA6002	168TA6017
	50	168TA5969	168TA5992	168TA6003	168TA6018
With pilot and auxiliary contacts	25	168TA5970	168TA5993	168TA6004	168TA6019
	35	168TA5971	168TA5994	168TA6005	168TA6020
	50	168TA5972	168TA5995	168TA6006	168TA6021
DIN style: 320 A					
Standard	50	168TA4299	168TA6044	168TA4308	168TA4313
	70	168TA4300	168TA6045	168TA4309	168TA6078
	95	168TA4301	168TA6046	168TA4310	168TA4314
With auxiliary contacts	50	168TA6022	168TA6048	168TA6066	168TA6079
	70	168TA6023	168TA6050	168TA6067	168TA6080
	95	168TA6024	168TA6051	168TA6068	168TA6081
With air supply	50	168TA6025	168TA6052	168TA6069	168TA4315
	70	168TA6026	168TA6053	168TA6070	168TA6082
	95	168TA6027	168TA6054	168TA6071	168TA6083
With air supply and auxiliary contacts	50	168TA6028	168TA6055	168TA6072	168TA6084
	70	168TA6029	168TA6056	168TA6073	168TA6085
	95	168TA6030	168TA6057	168TA6074	168TA6086
With pilot and auxiliary contacts	50	168TA6032	168TA6058	168TA6075	168TA6087
	70	168TA6034	168TA6059	168TA6076	168TA6088
	95	168TA6036	168TA6060	168TA6077	168TA6089
DIN style: 500 A					
Standard	95	168TA6038	168TA6061	168TA6090	168TA6095
With auxiliary contacts	95	168TA6039	168TA6062	168TA6091	168TA6096
With air supply	95	168TA6040	168TA6063	168TA6092	168TA6097
With air supply and auxiliary contacts	95	168TA6041	168TA6064	168TA6093	168TA6098
With pilot and auxiliary contacts	95	168TA6042	168TA6065	168TA6094	168TA6099

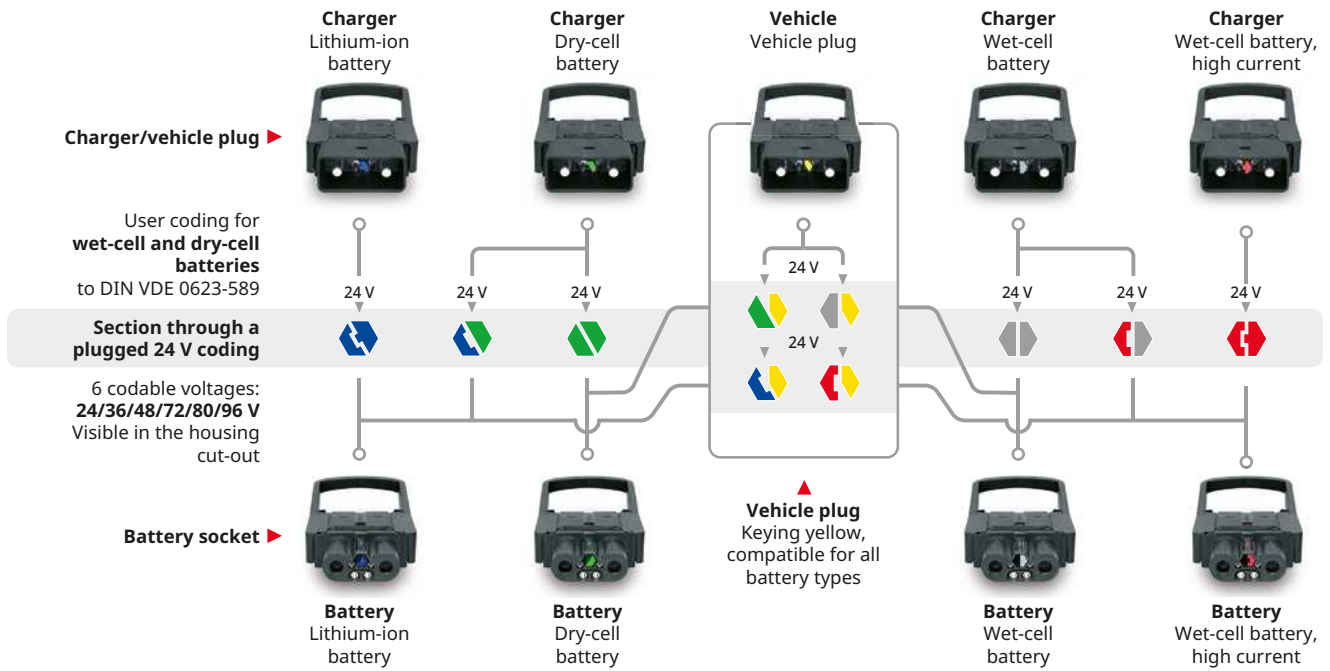
KEYING SYSTEM VOLTAGE AND USER CODING - LV SERIES

KEYING TO DIN VDE 0623-589

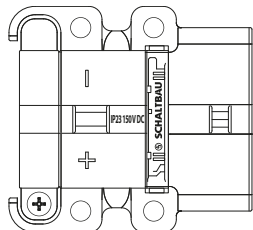
Coding pins ensure clear and reliable coding of battery voltage and battery type. The position of the coloured coding pin is used for correct voltage assignment. A total of 6 voltages can be coded. The colour and shape of the coding pin also enable the battery type to be clearly

assigned. This ensures that only valid combinations can be plugged in. For example, the socket of a lithium-ion battery can only be connected to the plug of a charger station for lithium-ion batteries or dry batteries.

USER CODING: SECTION THROUGH A PLUGGED-IN 24 VOLT CODING



OVERVIEW RANGE - LV80/120 BATTERY SOCKET CONFIGURATION



BATTERY SOCKET

Basic set with main contacts, optional for pilot contacts or with air tube

Contains:

- Main contacts socket
- Slider
- Strain relief







Main contacts with wire cross section: 25 mm²

REF [168TA8118](#) - Battery socket for pilot contacts

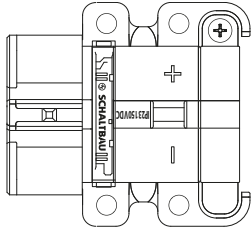
REF [168TA8119](#) - Battery socket with air tube

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts	Battery socket with air tube	REF
	2 x reducing bushing main contacts, wire cross section 25 to 16 mm ²	✓	✓	168TA8108
	2 x reducing bushing main contacts, wire cross section 25 to 10 mm ²	✓	✓	112TA4815
	1 x keying blue for Li-ion batteries	✓	-	168TA8115
	1 x keying red for high-current wet-cell batteries	✓	✓	168TA8116
	1 x keying grey for wet-cell batteries	✓	✓	139TA2743
	1 x keying green for dry-cell batteries	✓	-	139TA2744
	1 x pilot contact adapter with 2 x pin contacts for control signals	✓	-	139TA2742
	1 x air tube for electrolyte circulation wet-cell battery	-	✓	-
	2 x auxiliary contact pin for control signals	✓	✓	168TA8117
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	168TA2841
	1 x screw-on handle red incl mounting screws	✓	✓	168TA2842
	1 x snap-on handle black mountable without tools	✓	✓	168TA2838
	1 x snap-on handle red mountable without tools	✓	✓	168TA2840

OVERVIEW RANGE - LV80/120 CHARGER AND VEHICLE PLUG CONFIGURATION



CHARGER AND VEHICLE PLUG

Basic set with main contacts

Contains:







- Plug housing
- Charger/vehicle connector
- Main contacts, pin
- Slider
- Strain relief

Main contacts with wire cross section: 25 mm²

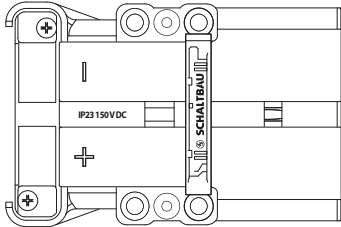
REF [168TA8107](#)

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts	Battery socket with air tube	REF
	2 x reducing bushing main contacts, wire cross section 25 to 16 mm ²	✓	✓	168TA8108
	2 x reducing bushing main contacts, wire cross section 25 to 10 mm ²	✓	✓	112TA4815
	1 x keying blue for Li-ion batteries	✓	-	168TA8109
	1 x keying red for high-current wet-cell batteries	✓	-	168TA8111
	1 x keying grey for wet-cell batteries	✓	-	139TA2743
	1 x keying green for dry-cell batteries	✓	-	139TA2744
	1 x keying yellow Universal, for vehicle plug	-	✓	139TA2745
	1 x pilot contact adapter with 2 x pin contacts for control signals	✓ (optionally)	✓	139TA2739
	1 x air tube for electrolyte circulation wet-cell battery	✓ (optionally)	-	139TA2746
	2 x auxiliary contact pin for control signals	✓	✓	139TA2741
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	168TA2841
	1 x screw-on handle red incl mounting screws	✓	✓	168TA2842
	1 x snap-on handle black mountable without tools	✓	✓	168TA2838
	1 x snap-on handle red mountable without tools	✓	✓	168TA2840

OVERVIEW RANGE - LV160/250 BATTERY SOCKET CONFIGURATION



BATTERY SOCKET

Basic set with main contacts, optional for pilot contacts or with air tube

Contains:

- Main contacts socket
- Slider
- Strain relief









Main contacts with wire cross section: 50 mm²

REF [168TA8120](#) - Battery socket for pilot contacts

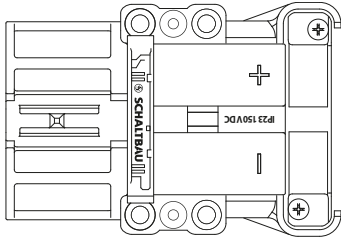
REF [168TA8121](#) - Battery socket with air tube

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts	Battery socket with air tube	REF
	2 x reducing bushing main contacts, wire cross section 50 to 35 mm ²	✓	✓	168TA4357
	2 x reducing bushing main contacts, wire cross section 50 to 35 mm ²	✓	✓	168TA4358
	1 x keying blue for Li-ion batteries	✓	-	168TA8122
	1 x keying red for high-current wet-cell batteries	✓	✓	168TA3720
	1 x keying grey for wet-cell batteries	✓	✓	139TA2783
	1 x keying green for dry-cell batteries	✓	-	139TA2784
	2 x pilot socket contacts for control signals	✓	✓	168TA8123
	1 x air adapter and 1 x spacer, already included in the basic set	-	✓	-
	2 x auxiliary contact pin for control signals	✓	✓	168TA8124
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	139TA2777
	1 x screw-on handle red incl mounting screws	✓	✓	139TA2778
	1 x snap-on handle black mountable without tools	✓	✓	139TA2779
	1 x snap-on handle red mountable without tools	✓	✓	168TA2839

OVERVIEW RANGE - LV160/250 CHARGER AND VEHICLE PLUG CONFIGURATION



CHARGER AND VEHICLE PLUG

Basic set with main contacts

Contains:







- Plug housing
- Charger/vehicle connector
- Main contacts, pin
- Slider
- Strain relief

Main contacts with wire cross section: 50 mm²

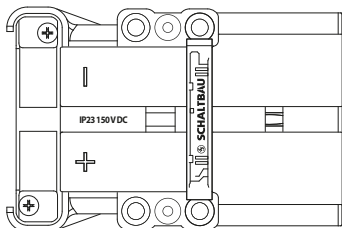
REF [168TA8129](#)

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts	Battery socket with air tube	REF
	2 x reducing bushing main contacts, wire cross section 50 to 35 mm ²	✓	✓	168TA4357
	2 x reducing bushing main contacts, wire cross section 50 to 35 mm ²	✓	✓	168TA4358
	1 x keying blue for Li-ion batteries	✓	-	168TA8125
	1 x keying red for high-current wet-cell batteries	✓	-	168TA8126
	1 x keying grey for wet-cell batteries	✓	-	139TA2783
	1 x keying green for dry-cell batteries	✓	-	139TA2784
	1 x keying yellow Universal, for vehicle plug	-	✓	139TA2785
	2 x pilot socket contacts for control signals	✓ (optionally)	✓	168TA8127
	1 x air adapter and 1 x spacer, already included in the basic set	✓ (optionally)	-	168TA8128
	2 x auxiliary contact pin for control signals	✓	✓	168TA8124
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	139TA2777
	1 x screw-on handle red incl mounting screws	✓	✓	139TA2778
	1 x snap-on handle black mountable without tools	✓	✓	139TA2779
	1 x snap-on handle red mountable without tools	✓	✓	168TA2839

OVERVIEW RANGE - LV320/400 BATTERY SOCKET CONFIGURATION



BATTERY SOCKET FOR PILOT CONTACTS - BASIC SET

Contains:

- Main contacts socket
- Slider
- Strain relief

- REF [168TA8130](#) - Wire cross section: 4/0 AWG
 REF [168TA8131](#) - Wire cross section: 95 mm²
 REF [168TA8132](#) - Wire cross section: 70 mm²
 REF [168TA8133](#) - Wire cross section: 50 mm²

BATTERY SOCKET WITH AIR TUBE - BASIC SET







Contains:

- Main contacts socket
- Slider
- Strain relief

- REF [168TA8134](#) - Wire cross section: 4/0 AWG
 REF [168TA8135](#) - Wire cross section: 95 mm²
 REF [168TA8136](#) - Wire cross section: 70 mm²
 REF [168TA8137](#) - Wire cross section: 50 mm²

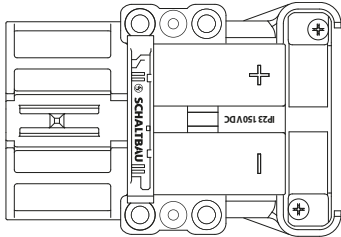
ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts				Battery socket with air tube				REF
		4/0 AWG	95 mm ²	70 mm ²	50 mm ²	4/0 AWG	95 mm ²	70 mm ²	50 mm ²	
	2 x reducing bushing main contacts, wire cross section 50 to 35 mm ²	-	-	-	✓	-	-	-	✓	168TA4357
	1 x keying blue for Li-ion batteries	✓	✓	✓	✓	-	-	-	-	168TA8122
	1 x keying red for high-current wet-cell batteries	✓	✓	✓	✓	✓	✓	✓	✓	168TA3720
	1 x keying grey for wet-cell batteries	✓	✓	✓	✓	✓	✓	✓	✓	139TA2783
	1 x keying green for dry-cell batteries	✓	✓	✓	✓	-	-	-	-	139TA2784
	2 x pilot socket contacts for control signals	✓	✓	✓	✓	-	-	-	-	168TA8123
	1 x air adapter and 1 x spacer, already included in the basic set	-	-	-	-	✓	✓	✓	✓	-
	2 x auxiliary contact pin for control signals	✓	✓	✓	✓	✓	✓	✓	✓	168TA8124
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	✓	✓	✓	✓	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	✓	✓	✓	✓	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	✓	✓	✓	✓	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	✓	✓	✓	✓	✓	✓	139TA2777
	1 x screw-on handle red incl mounting screws	✓	✓	✓	✓	✓	✓	✓	✓	139TA2778
	1 x snap-on handle black mountable without tools	✓	✓	✓	✓	✓	✓	✓	✓	139TA2779
	1 x snap-on handle red mountable without tools	✓	✓	✓	✓	✓	✓	✓	✓	168TA2839

OVERVIEW RANGE - LV320/400 CHARGER AND VEHICLE PLUG CONFIGURATION

CHARGER AND VEHICLE PLUG - BASIC SET



Contains:

- Plug housing
- Charger/vehicle connector
- Main contacts socket
- Slider
- Strain relief

REF 168TA8138 - Wire cross section: 4/0 AWG












REF [168TA8139](#) - Wire cross section: 95 mm²

REF 168TA8140 - Wire cross section: 70 mm²

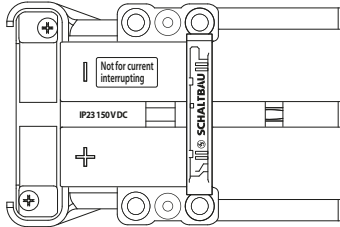
REF [168TA8141](#) - Wire cross section: 50 mm²

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts				Battery socket with air tube				REF
		4/0 AWG	95 mm ²	70 mm ²	50 mm ²	4/0 AWG	95 mm ²	70 mm ²	50 mm ²	
	2 x reducing bushing main contacts, wire cross section 50 to 35 mm ²	-	-	-	✓	-	-	-	✓	168TA4357
	1 x keying blue for Li-ion batteries	✓	✓	✓	✓	-	-	-	-	168TA8125
	1 x keying red for high-current wet-cell batteries	✓	✓	✓	✓	-	-	-	-	168TA8126
	1 x keying grey for wet-cell batteries	✓	✓	✓	✓	-	-	-	-	139TA2783
	1 x keying green for dry-cell batteries	✓	✓	✓	✓	-	-	-	-	139TA2784
	1 x keying yellow Universal, for vehicle plug	-	-	-	-	✓	✓	✓	✓	139TA2785
	2 x pilot socket contacts for control signals	✓	✓	✓	✓	✓	✓	✓	✓	168TA8127
	1 x air adapter and 1 x spacer, already included in the basic set	✓	✓	✓	✓	-	-	-	-	168TA8128
	2 x auxiliary contact pin for control signals	✓	✓	✓	✓	✓	✓	✓	✓	139TA2773
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	✓	✓	✓	✓	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	✓	✓	✓	✓	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	✓	✓	✓	✓	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	✓	✓	✓	✓	✓	✓	139TA2777
	1 x screw-on handle red incl mounting screws	✓	✓	✓	✓	✓	✓	✓	✓	139TA2778
	1 x snap-on handle black mountable without tools	✓	✓	✓	✓	✓	✓	✓	✓	139TA2779
	1 x snap-on handle red mountable without tools	✓	✓	✓	✓	✓	✓	✓	✓	168TA2839

OVERVIEW RANGE - LV500 BATTERY SOCKET CONFIGURATION



BATTERY SOCKET - BASIC SET

Contains:










- Main contacts socket
- Slider
- Strain relief
- Wire cross section: 4/0 AWG

REF [168TA8722](#) - Battery socket for pilot contacts

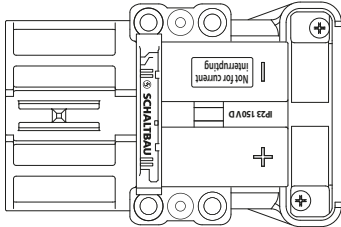
REF [168TA8142](#) - Battery socket with air tube

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts	Battery socket with air tube	REF
	1 x keying blue for Li-ion batteries	✓	-	168TA8122
	1 x keying red for high-current wet-cell batteries	✓	✓	168TA3720
	1 x keying grey for wet-cell batteries	✓	✓	139TA2783
	1 x keying green for dry-cell batteries	✓	-	139TA2784
	2 x pilot socket contacts for control signals	✓	✓	168TA8123
	1 x air adapter and 1 x spacer, already included in the basic set	-	✓	-
	2 x auxiliary contact pin for control signals	✓	✓	139TA2774
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	139TA2777
	1 x screw-on handle red incl mounting screws	✓	✓	139TA2778
	1 x snap-on handle black mountable without tools	✓	✓	139TA2779
	1 x snap-on handle red mountable without tools	✓	✓	168TA2839

OVERVIEW RANGE - LV500 CHARGER AND VEHICLE PLUG CONFIGURATION



CHARGER AND VEHICLE PLUG - BASIC SET

Contains:
















- Plug housing
- Charger/vehicle connector
- Main contacts socket
- Slider
- Strain relief

Wire cross section: 4/0 AWG

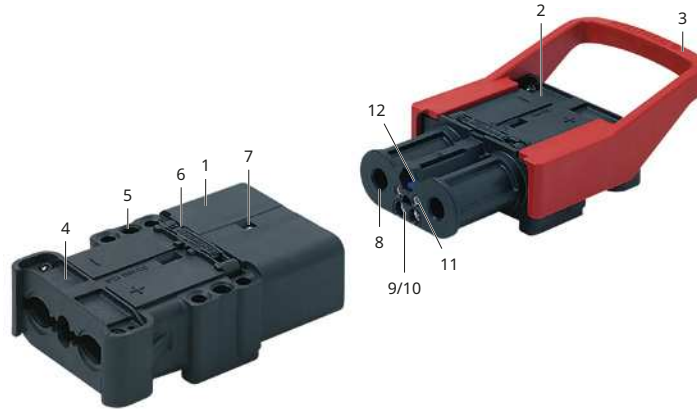
REF [168TA8143](#)

ADDITIONAL COMPONENTS

Reducing bushings, voltage coding, pilot contacts or air tube, auxiliary contacts, handles

	Description	Battery socket for pilot contacts	Battery socket with air tube	REF
	1 x keying blue for Li-ion batteries	✓	-	168TA8125
	1 x keying red for high-current wet-cell batteries	✓	-	168TA8126
	1 x keying grey for wet-cell batteries	✓	-	139TA2783
	1 x keying green for dry-cell batteries	✓	-	139TA2784
	1 x keying yellow Universal, for vehicle plug	-	✓	139TA2785
	2 x pilot socket contacts for control signals	✓ (optionally)	✓	168TA8127
	1 x air adapter and 1 x spacer, already included in the basic set	✓ (optionally)	-	168TA8128
	2 x auxiliary contact pin for control signals	✓	✓	139TA2773
	2 x/4 x reducing bushing pilot/aux. contact wire cross section from 2.5 to 1.5 mm ²	✓	✓	168TA8112
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 1.0 mm ²	✓	✓	168TA8113
	2 x/4 x reducing bushing pilot/aux contact wire cross section from 2.5 to 0.5 mm ²	✓	✓	168TA8114
	1 x screw-on handle black incl mounting screws	✓	✓	139TA2777
	1 x screw-on handle red incl mounting screws	✓	✓	139TA2778
	1 x snap-on handle black mountable without tools	✓	✓	139TA2779
	1 x snap-on handle red mountable without tools	✓	✓	168TA2839

SPARE PARTS OVERVIEW - LV SERIES



MULTIFUNCTIONAL ADAPTERS INDIVIDUAL COMPONENTS AND SPARE PARTS - LV160/LV320

Item	Description
1	Plug housing with pin/male contacts and optional handle
2	Socket housing with socket/female contacts and optional handle
3	Handle snap-on or screw mounting on plug and socket housings
4	Strain relief reliable hold of the connecting cables
5	Mounting holes for mounting in the vehicle or the handle
6	Locking slider positions and fixes the main contacts in the housing

Item	Description
7	Interlock secure hold of the plug-in connection due to integrated locking device
8	Main contacts high quality, solid power contacts
9	Pilot contact adapter with 2 contacts for control signals
10	Air tube adapter for wet-cell battery systems with electrolyte circulation
11	2 aux. contacts for control signals
12	Coloured coding pins unique coding of common battery voltages and types

ACCESSORIES - LV SERIES



HANDLES



Type	Size	Flat/DIN	Housing	Snap-on plug/socket (polycarbonate, black)	Snap-on plug/socket (red)	Screw-on plug/socket (black)	Screw-on plug/socket (red)
LV	320	DIN	Standard	163TA7872	168TA2839	139TA2777	139TA2778
LV	400	DIN	Standard	163TA7872	168TA2839	139TA2777	139TA2778
LV	160	DIN	Standard	163TA7872	168TA2839	139TA2777	139TA2778
LV	250	DIN	Standard	163TA7872	168TA2839	139TA2777	139TA2778
LV	80	DIN	Standard	168TA2838	168TA2840	168TA2841	168TA2842
LV	120	DIN	Standard	168TA2838	168TA2840	168TA2841	168TA2842

ACCESSORIES - LV SERIES

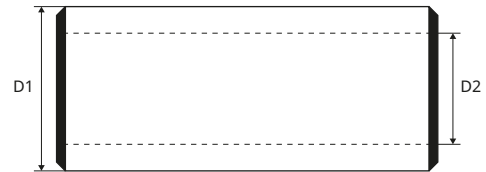
CONTACTS



Type	Wire size		REF
	European mm ²		
DIN style: LV80/120			
Socket	25		168TA3705
Plug	25		139TA2737
DIN style: LV160/250			
Socket	50		168TA4091
Plug	50		168TA3721

Type	Wire size		REF
	European mm ²		
DIN style: LV320/400			
Socket	120		168TA5808
	95		139TA2772
	70		139TA2771
Plug	50		139TA2770
	120		168TA5810
	95		139TA2769
	70		139TA2768
		50	168TA3726

REDUCING BUSHINGS



In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
3/0	70	1/0	50	168TA3727
1/0	50	1	35	168TA4357

In (D1)		Out (D2)		REF
AWG	mm ²	AWG	mm ²	
1/0	50	3	25	168TA4358
4	25	5	16	168TA3706

ABOUT PROCONNECT



PROCONNECT is a French company which designs, manufactures and markets low and medium voltage industrial connectors.

Founded in 1981, PROCONNECT operates in the power socket market. Industrial current for over 40 years. It is this experience that allows us to offer you products adapted to each of your projects and needs. Our sockets are suitable for complex environments and severe (heavy industry) but also for other types of applications such as shore power supply for boats.

We offer you connectors adapted to standards and current regulations such as IEC 80005-1, IEC 62613, IEC, 60309-1...

Also the human size of the company allows us to do proof of adaptability and responsiveness to best support you in your projects thanks to tailor-made solutions.

EURO CONNECTORS



NF SERIES

This range is available in 4 different sizes:

- NF 80 (80 A)
- NF 100 (100 A)
- NF 160 (160 A)
- NF 320 (320 A)

Standards: NF EN 1175-1, DIN VDE 0623-589

Electrical characteristics:

- Voltage: 150 VDC max
- Amperage: 80/320 A
- Polarity: 2 contacts (\pm)
- Cable section: 95 mm² max
- Option: 2 or 4 auxiliary contacts (2.5 or 4) to crimp

Mechanical characteristics:

- Watertightness: IP23
- Housing: acid proof plastic
- Contacts: copper alloy, silver plated (to crimp or to solder)
- Temperature range: -20 up to 90 °C

OVERVIEW RANGE - NF SERIES



Type	Size contacts	REF		
		Plug (male)	Plug with handle	Socket (female)
NF80				
Standard	16	168TA8144	168TA8144 168TA8147	168TA8148
	25	168TA8145	168TA8145 168TA8147	168TA8149
NF100 (DIN80)				
Standard	16	168TA8151	168TA8151 168TA8153	168TA8156
	25	168TA8152	168TA8152 168TA8153	168TA8157
	35	168TA8155	168TA8155 168TA8153	168TA8158
NF160 (DIN160)				
Standard	35	168TA8163	168TA8163 168TA8165	168TA8166
	50	168TA8164	168TA8164 168TA8165	168TA8167
NF320 (DIN320)				
Standard	50	168TA8154	168TA8154 168TA8165	168TA8170
	70	168TA8168	168TA8168 168TA8165	168TA8171
	95	168TA8169	168TA8169 168TA8165	168TA8172

CONNECTORS COMPLETE - NF SERIES



NF80

Description	Section		REF
	mm ²	AWG	
Contacts auxiliary male	2.5	14	168TA8159*
Contacts auxiliary female	2.5	14	168TA8160*
pneumatic contacts male/air contacts	-	-	168TA8161*
pneumatic contacts female/air contacts	-	-	168TA8162*
Red handle	-	-	168TA8153
Contacts male	16	6	168TA8173*
	25	4	168TA8174*
Contacts female	16	6	168TA8175*
	25	4	168TA8176*
Housing male	-	-	168TA8177
Housing female	-	-	168TA8178
Black coding pin for wet battery	-	-	168TA8179
Grey coding pin for gel battery	-	-	168TA8181

NF100 (DIN80)

Description	Section		REF
	mm ²	AWG	
Contacts auxiliary male	2.5	14	168TA8159
Contacts auxiliary female	2.5	14	168TA8160
pneumatic contacts male/air contacts	-	-	168TA8161*
pneumatic contacts female/air contacts	-	-	168TA8162*
Red handle	-	-	168TA8153
Contacts male	16	6	168TA8182*
	25	4	168TA8183*
	35	2	168TA8184*
Contacts female	16	6	168TA8185*
	25	4	168TA8186*
	35	2	168TA8187*
Housing male	-	-	168TA8224
Housing female	-	-	168TA8225
Black coding pin for wet battery	-	-	168TA8226
Grey coding pin for gel battery	-	-	168TA8227

* Sold by set of 2

CONNECTORS COMPLETE - NF SERIES



NF160 (DIN160)

Description	Section		REF
	mm ²	AWG	
Contacts auxiliary male	2.5	14	168TA8228*
	4	12	168TA8188*
	2.5	14	168TA8229*
Contacts auxiliary female	2.5	14	168TA8230*
	4	12	168TA8189*
	2.5	14	168TA8231*
Black handle	-	-	168TA8165
Red handle	-	-	168TA8190
Reinforced red handle	-	-	168TA8191
Air contact	-	-	168TA8232
Dust cap (male and female)	-	-	168TA8192
Contacts male	50	1/0	168TA8193
	35	2	168TA8194
Contacts female	50	1/0	168TA8195
	35	2	168TA8196
Housing male	-	-	168TA8197
Housing female	-	-	168TA8198
Reducers	-	-	168TA8199
	-	-	168TA8233
	-	-	168TA8200
Black coding pin for wet battery	-	-	168TA8234
Grey coding pin for gel battery	-	-	168TA8235

NF320 (DIN320)

Description	Section		REF
	mm ²	AWG	
Contacts auxiliary male	4	12	168TA8201*
Contacts auxiliary female	4	12	168TA8202*
pneumatic contacts male/air contacts	-	-	168TA8203*
pneumatic contacts female/air contacts	-	-	168TA8204*
Black handle	-	-	168TA8165
Red handle	-	-	168TA8190
Reinforced red handle	-	-	168TA8191
Dust cap for socket	-	-	168TA8192
Dust cap for plug	-	-	168TA8241
Contacts male	50	1/0	168TA8205*
	70	2/0	168TA8206*
	95	3/0	168TA8207*
Contacts female	95/70	2/0	168TA8236*
	50	1/0	168TA8170*
	70	2/0	168TA8208*
Reducers 70/50	95	3/0	168TA8209*
	95/70	2/0	168TA8237
Reducers 95/70	-	-	168TA8238
Housing male	-	-	168TA8210
Housing female	-	-	168TA8211
Black coding pin for wet battery	-	-	168TA8213
Grey coding pin for gel battery	-	-	168TA8240

ACCESSORIES - NF SERIES



HANDLES



NF80	NF100	NF160	NF320
168TA8147	168TA8153	168TA8165	168TA8191
		168TA8190	168TA8165
			168TA8190
			168TA8191

CONTACTS

Description	REF
NF100	
Contact male	168TA8161
Contact female	168TA8162
NF160	
Air contact	168TA8232

Description	REF
NF 320	
Contact male	168TA8203
Contact female	168TA8204

REDUCERS

Section	A	B	C	REF
mm ²	mm	mm	mm	
NF160				
35/16	20	6.3	8.8	168TA8200
50/25	20	8.2	10.5	168TA8233
50/35	22	9	10.5	168TA8199**

Section	A	B	C	REF
mm ²	mm	mm	mm	
NF 320				
70/50	20	11	13	168TA8238**
95/70	23	13	13	168TA8240**

* Sold by set of 2 / ** model with flange

CONNECTORS



Y SERIES

Standards: ADR2013 & 2015

Electrical characteristics:

- Voltage: 150 V max
- Amperage: 250 A
- Polarity: 2 contacts (±)
- Cable section: 50 mm²
- Option: 1 pilot pin, 2.5 mm², 20 A max
- To crimp or solder

Mechanical characteristics:

- Watertightness: IP54 (with accessories)
- Housing: polyamide, acids proof
- Contacts: copper alloy (to crimp or to solder)
- Temperature range: -40 up to 125 °C
- Fastenings: stainless steel

Watertightness accessories in option:

- Teat: polyurethane
- Seal: neoprene foam
- Lid: polyamide

CONNECTORS COMPLETE - Y SERIES



Description	Section		REF
	mm ²	AWG	
Socket	50	1/0	168TA8214
socket + 1 aux	50	1/0	168TA8215
Socket IP54	50	1/0	168TA8216*
Socket IP54 + 1 aux	50	1/0	168TA8257*
Plug	50	1/0	168TA8243
Plug + 1 aux	50	1/0	168TA8258
Plug IP54	50	1/0	168TA8244**
Plug IP54 + 1 aux	50	1/0	168TA8259**
Auxiliary contact male	2.5	14	168TA8260

Description	Section		REF
	mm ²	AWG	
Auxiliary contact female	2.5	14	168TA8245
Self closing cover	-	-	168TA8219
Teat	-	-	168TA8220
Plug seal	-	-	168TA8221
Set of 2 contacts male	50	1/0	168TA8222
Set of 2 contacts female	50	1/0	168TA8223
Male housing	-	-	168TA8261
Female housing	-	-	168TA8262

ACCESSORIES - Y SERIES



CONTACTS

Description	REF
Contacts	
Male	168TA8222
Female	168TA8223

Description	REF
Contacts auxiliary	
Male	168TA8260
Female	168TA8245

* With self closing cover and teat / ** With teat and plug seal

CONNECTORS - P SERIES



Electrical characteristics:

- Amperage: 250 A
- Polarity: 2 contacts (±)
- Cable section: 50 mm²
- Option: 1 pilot pin, 2.5 mm², 20 A max

Mechanical characteristics:

- Housing: thermoplastic
- Contacts: copper alloy to solder
- Temperature range: -40 up to 125 °C

CONNECTORS COMPLETE - P SERIES



Description	Section		REF
	mm ²	AWG	
Connect male	50	1/0	168TA8246
Connect female	50	1/0	168TA8247
Contact auxiliary male	2.5	14	168TA8263
Contact auxiliary female	2.5	14	168TA8264

Description	Section		REF
	mm ²	AWG	
Dust cap for socket	-	-	168TA8192
Set of 2 contacts female	50	1/0	168TA8265
Set of 2 contacts male	50	1/0	168TA8266

ACCESSORIES - P SERIES



CONTACTS

Description	REF
Contacts	
Male	168TA8265
Female	168TA8266

Description	REF
Contacts auxiliary	
Male	168TA8263
Female	168TA8264

CONNECTORS - E SERIES





Electrical characteristics:


- Voltage: 250 V
- Amperage: 250 A
- Cable section: 70 mm²

Mechanical characteristics:

- Housing: stamped steel, painted
- Insulators: DMC moulding
- Contacts: copper alloy, brazed solid silver tip (to solder)

CONNECTORS COMPLETE - E SERIES

	Description	Section		REF
		mm ²	AWG	
	Locking half	70	2/0	168TA8248
	Mounting half	70	2/0	168TA8249

	Description	Section		REF
		mm ²	AWG	
	Charging half	70	2/0	168TA8250

CONNECTORS JAPANESE MAKES



Picture (plug)	Picture (socket)	Shape	Type	Amperage	Plug (male)	Socket (female)
1	A	Rectangular	5-pole	30 A	112TA4833	106TA1047
2	B	Rectangular	4-pole	30 A	106TA1048	112TA4832
3	-	Round	4-pole	30 A	106TA1049	-
4	-	Round	4-pole	20 A	107TA1016	-

CONNECTORS



	REF		
	35 mm ²	50 mm ²	70 mm ²
Battery side	168TA4498	168TA4504	168TA4507
Machine side	168TA4499	168TA4505	168TA4508
Charger side	168TA4500	168TA4506	168TA4509
Unlock tool	168TA4501	-	-
Battery connector female pin 35 mm ²	168TA4502	-	-
Charger connector male pin 35 mm ²	168TA4503	-	-

CONNECTORS



Type	Contact	REF red	REF blue
SAE-2160	50	168TA5675	-
SAE-2160	1/0 AWG	-	168TA5676
SAE-3160	50	168TA4510	-
SAE-3160	1/0 AWG	-	168TA4511

ACCESSORIES

HANDLES



Type	REF	REF	REF
SAE-2160	168TA4512	168TA5677	168TA4513
SAE-3160	168TA4512	168TA5677	168TA4513

CONTACTS

Dimension	REF
mm ²	
50	168TA8267

CONNECTORS - COMPLETE SETS



REF [147TA6131](#)



REF [147TA6132](#)



REF [147TA6133](#)



REF [147TA6134](#)



REF [147TA6135](#)














REF [147TA6136](#)



REF [147TA6137](#)

Vehicle	36 V E-Z-GO	48 V E-Z-GO	48 V E-Z-GO TXT	36 V Club Car/ Yamaha G9, G14, G16	48 V Club Car	Yamaha G19, G22	TDRE Yamaha
Set of 3 connection cables REF 147TA6151	-	✓	-	✓	✓	-	-
Set of the 7 connection cables REF 147TA6152	✓	✓	✓	✓	✓	✓	✓
REF connection cable	147TA6131	147TA6132	147TA6133	147TA6134	147TA6135	147TA6136	147TA6137

SPARE PARTS OVERVIEW

	Description	Used for type	REF
	DC plug for Powerwise and Powerwise Plus chargers	EZGO 36 V	168TA8268
	Powerwise Notch chargers plug	E-Z-GO 48 V	168TA8269
	Charger plug	EZGO RXV 48 V	168TA8459
	Connector handle kit	E-Z-GO electric 1983-95	168TA8270
			168TA8271
			168TA8272
			168TA8273
	DC charger plug	Club car 48 V CC 1995-up	168TA8460
	48 Volt DC charger plug	Yamaha Electric G19, G22	168TA8274
	3-pin plug	Yamaha	
	3-pin plug with the molded finger grips	Yamaha	
	DC receptacle for Powerwise charging systems with harness	E-Z-GO electric 1996 - Medalist and TXT with DCS/PDS	168TA8275
		Club car electric 36 V all years For E-A-GO electric prior to 1983	168TA8276
		For Yamaha electric G14 and G16	168TA8277
	DC charger receptacle	E-Z-GO RXV charger receptacle (years 2008-up)	168TA8278
		Club Car electric 2008-up precedent	168TA8279
	Receptacle and fuse kit	48 V Club car (years 1995-up)	165TA2185
			168TA8280
	DC receptacle for 48 V MAC charger	Yamaha electric G19	168TA8281
	DC receptacle	Electric Yamaha G29/drive 2011-up	168TA8282

FLAT STYLE

SB® TOOLING INFORMATION

Wire size		REF loose piece	REF loose piece contact crimp tools							
AWG	mm ²	Silver plating	Hand tool	or	Pneumatic tool	+	Die	+	Locator	Number of crimps
SB® 50										
6	13.3	168TA4063								
		138TA8197					168TA6379		168TA6386	
8	8.4	138TA8200	168TA6375		168TA6377					Single
10 to 12	5.3 to 3.3	168TA4064					168TA6380		168TA6387	
		138TA8199								
SB® 120										
1	42.4	168TA3992					168TA6381			
2	33.6	138TA8204								
4	21.2	106TA9898	168TA6376		168TA6377		168TA6382		168TA6388	Single
6	13.3	106TA9899								
SB® 175										
1/10	53.5	138TA8215								
1	42.4	168TA4067								
2	33.6	106TA9903	168TA6376		168TA6378		168TA6383		168TA6389	Double
4	21.1	106TA9904								
6	13.3	168TA4068			168TA6377		168TA6382		168TA6390	Single
SB® 350										
350 mcm	185	138TA4425			N/A					
300 mcm	152	138TA4425								
4/0	107.2	138TA4424					168TA6384			
3/0	85	138TA4423	168TA6376							Double
2/0	67.4	138TA4422			168TA6378		168TA6385		168TA6391	
1/0	53.5	138TA4421								

SB® 2/0 TOOLING INFORMATION

Wire size		REF loose piece	REF loose piece contact crimp tools							
AWG	mm ²	Silver plating	Hand tool	or	Pneumatic tool	+	Die	+	Locator	Number of crimps
2/0	53.5	167TA9524	168TA6376		168TA6378		168TA6385		168TA6389	Double

SBO®/SBE®/SBX® - TOOLING INFORMATION

Wire size		REF loose piece	REF loose piece contact crimp tools							
AWG	mm ²	Contacts	Pneumatic bench tool	or	Die	+	Locator	Number of crimps	+	Hand tools
SBE® 320/SBX® 350										
300 mcm	152	168TA6392	N/A		N/A		N/A	N/A		
4/0	107.2	106TA9848								
3/0	85	138TA4497			168TA6385		-			
2/0	67.4	138TA4496								
2	N/A	168TA6393	168TA6378		168TA6395		168TA6398	Double		168TA6376
N/A	95	168TA6394			168TA6396		168TA6399			
N/A	70	138TA4496			168TA6385		168TA6400			
N/A	50	138TA4498			168TA6397		168TA6401			
SBE® 160/SBX® 175										
1/0	5.5	138TA4513	168TA6378		168TA6383		168TA6389	Double		
2	25	106TA9841	168TA6378		168TA6383		168TA6389	Double		
1/0 & #2	53.5 to 5	138TA4513 and 106TA9841	168TA6377		168TA6381		168TA6390	Single		168TA6376

FLAT STYLE

Wire size		REF loose piece	REF loose piece contact crimp tools							
AWG	mm ²	Contacts	Pneumatic bench tool	or	Die	+	Locator	Number of crimps	+	Hand tools
SBO® 60/SBE® 80										
4	25	168TA4007			168TA6380		168TA6403	Single		N/A
6	16	168TA6402	168TA6377		168TA6379					168TA6375
Powerpole® 15/45 auxiliary contacts**										
16 to 20	1.3 to .52	168TA4062						Single		168TA6404
12 to 16	3.3 to 1.3	106TA9890	N/A		N/A		N/A			or 168TA6405
PowerMod® 1 x 4 auxiliary contacts										
12 to 24	2.5 to 0.25	All crimp pins					168TA6411	Single		168TA6406*
		All crimp sockets	168TA6408*		N/A		168TA6412			168TA6407
PPMX auxiliary contacts										
20 to 24	0.50 to 0.25	168TA6409					168TA8283	Single		168TA6406*
		168TA6410	168TA6408*		N/A					168TA6407

Tools

- REF [168TA6440](#) – 1 x 4 auxiliary contact insertion tool – for use with PM contacts and 1 x 4 auxiliary housing (REF 168TA6442 housings and REF 168TA8284 kits)
- REF [168TA6441](#) – 1 x 4 auxiliary contact insertion tool – for use with PM contacts and 1 x 4 auxiliary housing (REF 168TA6442 housings and REF 168TA8284 kits)
- REF [107TA8407](#) – SBE® 160/SBX® 175 power contact extraction tool
- REF [107TA8408](#) – SBE® 320/SBX® 350 power contact extraction tool



* REF 168TA6408 and REF 168TA6406 tools require locators to properly position contacts.

TOOLS

	PP15/455	SB® 50 & PP75	SBS® Mini	SBS®	PP120, PP180, SB®, SBE®, SBX® and SBO®
Press and applicators	✓	✓	✓	-	✓
Series hand tools	✓	✓	✓	✓	✓
168TA6407	-	-	-	✓	✓
168TA6406	-	-	-	✓	✓
168TA6408	-	-	-	✓	✓
168TA6377	-	✓	-	✓	✓
168TA6378	-				
168TA6376	-	-	-	-	✓
168TA6413	-	-	-	-	

PRESS & APPLICATOR TOOLS

Press and applicator tooling is available for high volume automated or semi-automated crimp termination of our reeled contacts for up to 10 AWG or 6 mm². All applicators have been designed to meet or exceed UL requirements. See connector family tooling charts at the end of each section for the specific press, air feed kit, and applicator recommended for crimping each contact.

	Description	REF		Description	REF
	Applicator for PP15/45 10 to 20 AWG contacts	168TA8461		Press for mini-style applicators 230 V	168TA8463
	Applicator for PP15/45 10 to 14 AWG Super Flex contacts	168TA8462		Press for mini-style applicators 115 V	168TA8464

TOOLS








SERIES HAND TOOLS

High quality hand tools are designed for crimping 6 to 20 AWG (13.3 to 0.52 mm²) wires for Powerpole®, SB®, SBS®, and SBE®/SBO® connectors. The extra long bright yellow handles provide significant crimping force while minimizing operator fatigue. Full cycle ratchet mechanism makes sure every crimp is fully completed. All tools except REF 168TA6375 include a plastic locator piece that ensures proper positioning of the contacts for crimping.

Description	REF
For crimping PP15/45 loose piece strip contacts and individual contacts. 16 to 20 AWG (1.3 to 0.5 mm ²) 12 to 20 AWG (3.3 to 1.3 mm ²)	168TA6404
Kit	168TA6415
For crimping PP15/45 loose piece strip contacts from 10 to 16 AWG (5.3 to 1.3 mm ²)	168TA6414
Includes 1 tool frame with the appropriate dies and locators to make the REF 168TA6404, REF 168TA6414, and REF 168TA6414 tools. Dies and locators are colour-coded for easy identification and pairing. This combination allows the entire PP15/45 contact range to be crimped with one tool kit	168TA6405
For crimping PP75, SB® 50, SBE® 80, SBO® 60, and SBS® 50 and 75 power contacts. No locator included, follow crimp positioning specifications in assembly instructions. Tool is also used for crimping EBC auxiliary contacts	168TA6375
Kit	168TA6416

SERIES HAND AND BENCH TOOLS




Manual hand tools and pneumatic bench tools are available in this tool series. The hand and pneumatic tools both use the same turret locators designed specifically for APP® contacts. The interchangeable nature of the turret locators allow easy upgrades from prototyping to production volumes. All tools feature adjustable indenter depths to cover 12 to 26 AWG (3.3 to 0.25 mm²) capability. Full cycle mechanism makes sure every crimp is fully completed. See tooling charts at the end of each connector section for the appropriate turret locator part numbers.

Description	REF
 <ul style="list-style-type: none"> Rugged hand tool DMC Model AF8. Accessories shown are purchased separately 	168TA6406
 <p>Pneumatic full cycle bench tool operates on clean and dry shop air pressures of 5–8.3 bar (80–120 psi) This DMC model WA27F is compatible with optional bench mount and foot pedal control to increase operator speed and efficiency</p>	168TA6408
 <p>Foot pedal control for REF 168TA6408</p>	168TA8465
 <p>Air regulator/filter for pneumatic tools. Keeps air clean and dry for long lasting tool performance. Dial knob adjusts air pressure going to the tool</p>	168TA8466
 <p>Adjustable bench mount for REF 168TA6408</p>	168TA8467

TOOLS



PNEUMATIC BENCH TOOLS

Tools Versatile and heavy-duty tools manufactured by Pico Tools, use fixed depth dies and spring bottom locators designed specifically to crimp our contacts. Dies and locators are not interchangeable between the REF 168TA6377 and the REF 168TA6378. These pneumatic full cycle tools operate on clean and dry shop air pressures of 5–8.6 bar (80–125 psi). See connector family tooling charts at the end of each section for the specific dies and locators recommended for crimping each contact. Dies and locators are available from Pico Tools for a variety of other terminal types including lugs, insulated terminals, and a variety of turned pin and socket contacts.

	Description	REF
	12 to 2/0 AWG (4 to 70 mm ²) Pico Tools Model 400-BHD Compatible with REF 168TA8468 dies and locators	168TA6377
	12 AWG to 250 mcm (4 to 120 mm ²) Pico Tools Model: 500-D	168TA6378
	Foot pedal control	168TA6417
	Air regulator/filter for pneumatic tools. Keeps air clean and dry for long lasting tool performance. Dial knob adjusts air pressure going to the tool.	168TA8466

HYDRAULIC TOOLS

The dieless 4 indent head crimps full cycle until a minimum hydraulic pressure is reached. Good for crimping nearly all our contacts for wire sizes 4 AWG to 4/0, 300 mcm. The dieless system offers a highly flexible crimping system that does not require the purchase of separate dies and locators. Pressure based crimp depth allows these tools to be adapted to a broad range of large wire crimping needs including lugs, ring terminals, and splices.

	Description	REF
	Hubbell VC7-SP dieless 4 indent tool with attached manual hydraulic pump. Tool includes a custom turret locator for positioning the PP120, PP180, SB [®] 120, SB [®] 175, SB [®] 350 contacts. The innovative design provides two separate crimp positions for the PP180, SB [®] 175 and SB [®] 350 contacts. Both the tool and locator ship in black plastic carrying cases.	168TA6376
	Manufactured by DMC to our specifications, this 4 indent head with attached manual hydraulic pump offers the same crimping performance as the REF 168TA6376, but with the cost savings of not having a custom turret locator. Includes black plastic carrying case.	168TA6413

TOOLS

MECHANICAL CRIMPING TOOLS



Manual mechanical press type A

- Supplied without dies
- Swivelling head to 360°
- Force: 60 kN
- Interchangeable dies
- Length: 600/850 mm
- Two telescopic handles

REF [106TA9501](#)
REF [131TA7033](#) - Case



Manual mechanical press type A

- Supplied without dies
- Swivelling head to 180°
- Force: 60 kN
- Double piston for fast crimping
- Pressure relief valve
- Length: 490 mm

REF [106TA9502](#)
REF [131TA7033](#) - Case



Electro-hydraulic press type A - RAP 60R

- Compression head 180° rotating
- Quick stop
- Up to 170 compressions
- Electronic speed control button
- Short operating time working time in case of high speed pump
- 12 V
- Compression force 60 kN
- Compression range: 10-95

REF [168TA6421](#)
REF [131TA7035](#) - Replacement battery 2000 mAh



Electro-hydraulic press type A - RAP 60C

- Supplied without dies
- Swivelling head to 180°
- Force: 60 kN
- 170 compression with battery
- Quick stop
- Speed control button

REF [131TA7034](#)
REF [131TA7035](#) - Replacement battery 2000 mAh

Mechanical hand-operated tool MPD RMC 15/75

- With installed hexagon dies DIN 48083 BI.44-KZ 5/6/7
- Ratched type for continuous pressing
- Length: 225 mm
- Compression range: AWG 16 (1.5 mm²) - AWG 6 (16 mm²)

REF [168TA6418](#)

Mechanical cable cutter

- ACC to DIN 57295 multiwire
- Material: CU + AL
- Cutting range: up to max 20 mm

REF [168TA6420](#)

Mechanical hand-operated tool

- Material: CU
- Compression range: 0.5-16 mm²
- Length: 230 mm

REF [168TA6422](#)

Mechanical hand-operated tool

- Material: CU
- Compression range: 0.75-16 mm²
- Length: 325 mm

REF [168TA6423](#)

POWERPOLE

TOOLING INFORMATION - APP® APPLICATORS ARE MECHANICAL FEED STYLE AND DO NOT REQUIRE AN AIR FEED KIT.

Wire size		REF loose piece		REF loose piece contact crimp tools							
AWG	mm ²	Tin plating	Silver plating	Hand tool	or	Pneumatic bench tool	+	Die	+	Locator	Number of crimps
PP15/45 flat wiping power and ground											
16 to 20	1.3 to 0.52	N/A	103TA7259								
12 to 16	3.3 to 1.3	N/A	106TA9890	168TA6404							
16 to 20	1.3 to 0.52	168TA4080	168TA4083	168TA6405							
16 to 20	1.3 to 0.52	168TA4079	N/A								
12 to 16	3.3 to 1.3	168TA4078	N/A								
10 to 14	5.3 to 2.1	168TA4074	168TA4081	168TA6414		N/A		N/A		N/A	Single
12 to 16	3.3 to 1.3	168TA4077	N/A	168TA6405							
10 to 14	5.3 to 2.1	168TA4073	N/A								
10 to 14	5.3 to 2.1	168TA4076	168TA4082	168TA6414							
10 to 14	5.3 to 2.1	168TA4075	N/A	168TA6405							
310 to 14	5.3 to 2.1	168TA6424	168TA6425	168TA6405							
PP75											
6	13.3		168TA4063							168TA6386	
			138TA8197								
8	8.4		168TA6426					168TA6379		168TA8452	
		N/A	138TA8200	168TA6375		168TA6377				168TA6386	Single
			168TA8469							168TA8452	
10 to 12	5.3 to 3.3		168TA4064							168TA6386	
			138TA8199					168TA6380			
			168TA8470							168TA8452	
PP120											
1/0	53.5		168TA4065					168TA6381			
1	42.4		168TA3992								
2	33.6	N/A	138TA8204	168TA6376		168TA6377				168TA6388	Single
4	21.2		106TA9898					168TA6382			
6	13.3		106TA9899								
PP180											
3/0	85		168TA4066								
2/0	53.5		167TA9524								
1/0	53.5		138TA8215								
1	42.4	N/A	168TA4067	168TA6376		168TA6378		168TA6378		168TA6389	Double
2	33.6		106TA9903								
4	21.1		106TA9904								
6	13.3		168TA4068			168TA6377		168TA6377		168TA6390	Single

INSERTION/EXTRACTION TOOL FOR PP15/45 CONTACTS = 111038G2

Wire size		REF loose piece		REF reeled contact crimp tools		
AWG	mm ²	Tin plating	Silver plating	APP® applicator	+	APP® press
PP15/45 flat wiping power and ground						
16 to 20	1.3 to 0.52	168TA6427	168TA6436			
16 to 20	1.3 to 0.52	168TA6428	N/A			
12 to 16	3.3 to 1.3	168TA6429	N/A			
10 to 14	5.3 to 2.1	168TA6430	168TA6437	168TA8461		115 V 168TA8463
12 to 16	3.3 to 1.3	168TA6431	N/A			
10 to 14	5.3 to 2.1	168TA6432	N/A			230 V 168TA8464
10 to 14	5.3 to 2.1	168TA6433	168TA6438			
10 to 14	5.3 to 2.1	168TA6434	N/A	168TA8462		
10 to 14	5.3 to 2.1	168TA6435	168TA6439			

SB SMART

Wire size		REF loose piece		REF loose piece contact crimp tools							
AWG	mm ²	Tin plating	Silver plating	Hand tool	or	Pneumatic bench tool	+	Die	+	Locator	Number of crimps
SMART connector											
1/0	53.5		168TA4065					168TA6381			
1	42.4		168TA3992								
2	33.6	N/A	138TA8204	168TA6376		168TA6377				168TA6388	Single
4	21.2		106TA9898					168TA6382			
6	13.3		106TA9899								

Wire size		REF loose piece		REF loose piece contact crimp tools							
AWG	mm ²	Auxiliary contact part number	APP [®] hand tool with integral locator	or	Mid std hand tool * REF 168TA8453	or	Pneumatic tool*	Number of crimps	+	Locator for REF 168TA6406 and REF 168TA6408	
SMART connector											
12 to 25	2.5 to 0.25	All crimp pins All crimp sockets	168TA6407		168TA6406		168TA6408	Single		168TA6411 168TA6412	

REF [168TA6440](#) – 1 x 4 auxiliary contact insertion tool – for use with PM contacts and 1 x 4 auxiliary housing (REF 168TA6442 housing and REF 168TA8284 kits)

REF [168TA6441](#) – 1 x 4 auxiliary contact insertion tool – for use with PM contacts and 1 x 4 auxiliary housing (REF 168TA6442 housing and REF 168TA8284 kits)

REF [107TA8407](#) – SBE[®] 160/SBX[®] 175 power contact extraction tool

REF [107TA8408](#) – SBE[®] 320/SBX[®] 350 power contact extraction tool

* REF 168TA6408 and REF 168TA6406 tools require locators REF 168TA6411 for pins and REF 168TA6412 for sockets

DIN TOOLS

Wire size		REF loose piece	REF loose piece contact crimp tools				
AWG	mm ²	Power contact	Pneumatic bench tool	+	Die	+	Locator (single crimp)
EBC 80 A, 160 A, and 320 A (DIN) pneumatic tooling							
#8 to #6	10	168TA3624 168TA3640					
#6 to #4	16	116TA6050 116TA6052	TBD		TBD		TBD
#4 to #2	25	116TA6051 116TA6053					
#2 to #1	35	168TA3625 168TA3641					
#6 to #4	16	168TA3655 168TA3665			168TA8471		
#4 to #2	25	116TA6061 116TA6064	168TA6378		168TA6383		Socket 168TA8472
#2 to #1	35	116TA6062 116TA6065					Pin 168TA8473
#1 to #1/0	50	116TA6063 116TA6066			168TA6397		
#1 to #1/0	50	116TA6072 116TA6074			168TA6397		Pin 168TA6444
2/0 3/0	70	116TA6073 116TA6075	168TA6378		168TA6443		
3/0 4/0	95	168TA3671 168TA3675			168TA6384		Socket 168TA6445
Pilot/auxiliary contacts							
All		All crimp pins All crimp sockets	Solder only				

DIN TOOLS

Wire size		REF loose piece	REF loose piece contact crimp tools				
AWG	mm ²	Power contact	Pneumatic bench tool	+	Die	+	Locator (single crimp)
EBC 80 A, 160 A, & 320 A (DIN) hydraulic tooling							
#8 to #6	10	168TA3624			168TA6447		N/A
		168TA3640					
#6	16	116TA6050		168TA6446	168TA6448		
		116TA6052					
#4 to #2	25	116TA6050			-		
		116TA6052					
#4 to #2	25	116TA6051			168TA6449		
		116TA6053					
#2 to #1	35	168TA3625		N/A	-		
		168TA3641					
#6 to #4	16	168TA3655			168TA6448		
		168TA3665					
#4 to #2	25	116TA6061		168TA6446	168TA6450		168TA6376
		116TA6064					
#2 to #1	35	116TA6062			168TA6451		
		116TA6065					
#1 to #1/0	50	116TA6063			168TA6452		
		116TA6066					
#1 to #1/0	50	116TA6072			168TA6452		
		116TA6074					
2/0 3/0	70	116TA6073		168TA6446	168TA6453 (K)*		
		116TA6075			168TA6454		
3/0 4/0	95	168TA3671			168TA6455		
		168TA3675					
Pilot/auxiliary contacts							
All		All crimp pins All crimp sockets		Solder only			

HYDRAULIC TOOL PLIERS SET HP 60 - DIE SETS

Description	REF
Indent crimping press area 6-70 mm ²	168TA8454
Double indent crimping press area 16-70 mm ²	168TA8455

DIE SETS

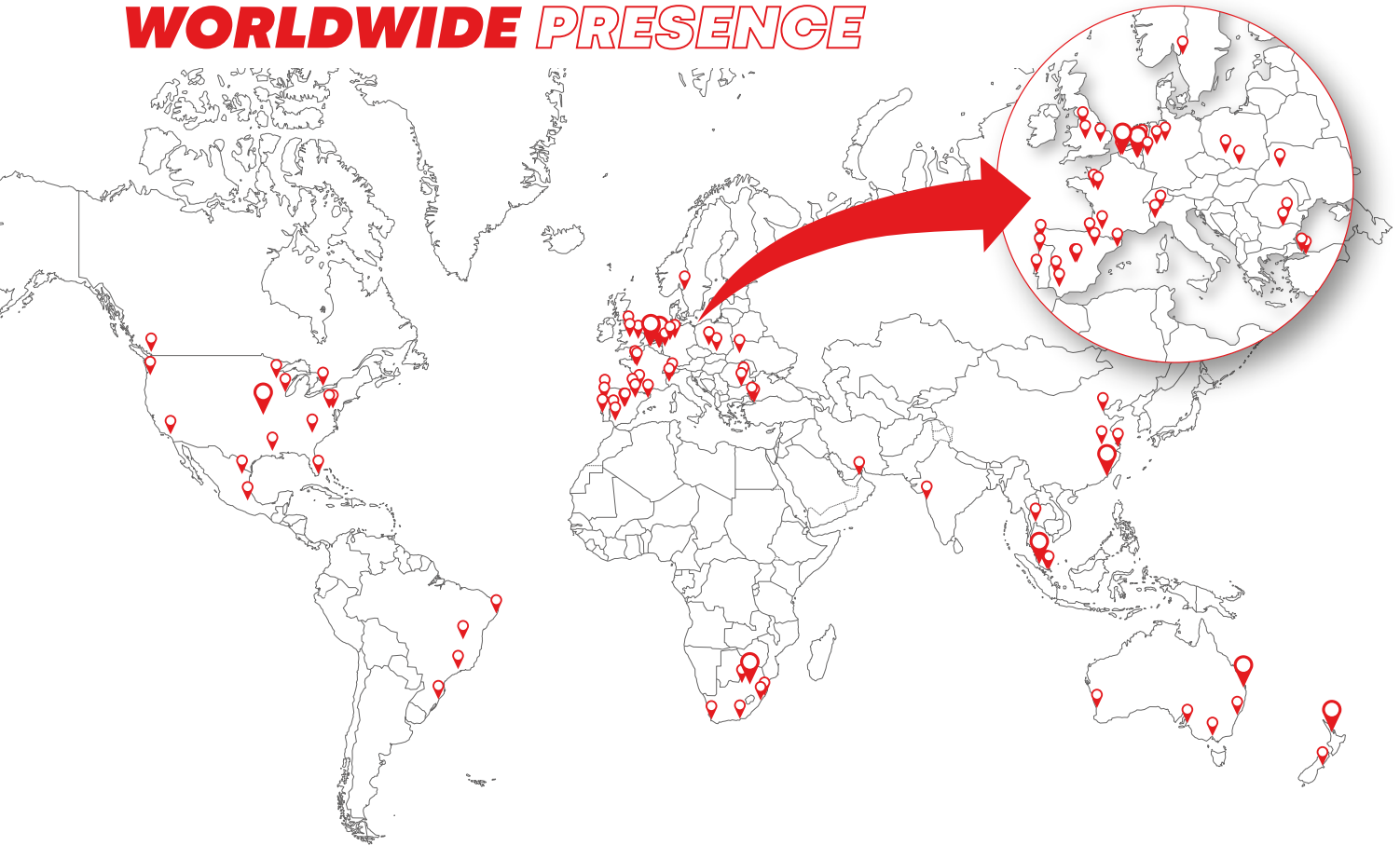
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50 mm ²	Double indent	168TA6457



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TVH PARTS NV

Brabantstraat 15 • 8790 Waregem • Belgium
T +32 56 43 42 11 • F +32 56 43 44 88 • info@tvh.com • www.tvh.com