

# Batteries, chargers & accessories

REF 25564923






**TVH PARTS NV • PARTS & ACCESSORIES DIVISION**  
Brabantstraat 15 • BE-8790 Waregem  
T +32 56 43 42 11 • F +32 56 43 44 88 • parts@tvh.com • www.tvh.com





# BATTERIES, CHARGERS & ACCESSORIES


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Dear customer,

More than 45 years ago, in 1969, the success story of TVH began. Mr Paul Vanhalst and Mr Paul Thermote, neighbours and school friends, joined forces and started with the purchase and repair of agricultural machines and used lift trucks.

Increasing industrialisation led to a growing need for lift trucks and lift truck parts. Slowly but surely, TVH was growing into a global player, thanks to the success of the product and customer service, but also thanks to acquisitions. TVH turned into an all-round supplier, a real one-stop shop, by adding hand pallet trucks, hand trolleys, lifting cranes ... to its range and by setting up a domestic rental division.

TVH Group is organized in 2 important activities: Parts & Accessories and Rental & Equipment. This last activity has 3 divisions, namely Equipment Division (sales of second-hand lift trucks and aerial work platforms), Rental Division (short- and long-term renting of lift trucks and aerial work platforms) and Service & Repair Division. The Rental Division is active in Belgium, the Netherlands, Luxemburg, Czech Republic, Germany, Poland, Slovakia, Hungary, Romania and Serbia. The Service & Repair Division is a service we only offer in Belgium. The Parts & Accessories and the Equipment Division are active in more than 170 countries worldwide.

After all these years, the business is still in family hands and has grown from 2 founders, to a workforce of almost 4000 employees worldwide, in 5 continents. The day-to-day management has now been handed over to the second generation.

The Thermote & Vanhalst families





**PARTS & ACCESSORIES DIVISION** *Parts & Accessories Division*



TVH is your all-round supplier of quality parts and accessories for material handling, industrial vehicles and agricultural equipment. You get fast answers on any offer, order or technical question from our dedicated sales and technical departments. We continually expand our product range by following new trends and looking for new partnerships, to make sure you will find absolutely everything you need right here at TVH.

- More than 100 000 m<sup>2</sup> of warehousing
- Computer-controlled stock management
- More than 600 000 stock items
- More than 21 000 000 known references
- Technically-skilled employees
- Assistance in 32 languages
- Same-day shipment, next-day delivery
- One-stop shop
- Webshop & online support



PARTS & ACCESSORIES

*Strong brands, guaranteed quality*

We understand that the success of our company only exists if we are a trusted source of products and services that contribute to your success. That is why TVH's product assortment consists of top quality brands.

Read all about this under 'Product range' on [www.tvh.com](http://www.tvh.com)



This is only a selection of brands we can offer. Exceptions apply to certain products/countries.



# Parts & Accessories Division

PARTS & ACCESSORIES DIVISION

## Hydraulic and mechanical attachments

With CAM System® you benefit from over 50 years of experience in design and production of lift truck attachments. The full range of mechanical and hydraulic attachments is recognized for its high qualitative standards and reliability.



Order your catalogue with prices to see an overview of this product range. Find our product leaflets and product movies on [www.camattachments.com](http://www.camattachments.com)



## Sweepers

Sweep your way through dust and dirt! We offer a complete range of mechanical and hydraulic sweeper attachments.

Hydro Sweep<sup>er</sup>

Maxi Sweep<sup>er</sup>

Magnetic Sweep<sup>er</sup>

Lazy Sweep<sup>er</sup>

SmartSweep<sup>®</sup>



## Handling equipment

Complete range of internal transport equipment as well as warehouse and workshop accessories.

**TOTALLIFTER**<sup>®</sup>

**TOTALSOURCE**<sup>®</sup>

**Climax**





## A global view on parts & accessories



**REF 21910709**

This brochure gives you an overview of the products, parts and services TVH offers.

## Consumables & accessories catalogue



**REF 21713862**

In the Consumables & accessories catalogue you get an overview of our range of maintenance and repair products for use in your workshop: personal safety products, repair & maintenance products, workshop consumables, warehouse accessories ...

## Attachments & handling equipment

Product selection 2015-2016



**REF 24010820**

The Attachments & handling equipment product selection 2015-2016 shows a selection of what TVH can offer in the following ranges:

- Hand pallet trucks
- Scissor hand pallet trucks
- Warehouse equipment
- Trolleys
- Mechanical & hydraulic attachments
- Lift tables
- Stackers ...

## Catalogues

Our catalogues give you information about the product groups, brands and makes in our range. The extensive and detailed information contains general product info, pictures, dimensions ... Go to downloads on [www.tvh.com](http://www.tvh.com) to find all catalogues and brochures.



- **REF 25564923** Batteries, chargers & accessories
- **REF 20177702** Brushes
- **REF 21497415** Bulbs
- **REF 15282597** Chains & accessories
- **REF 21713862** Consumables & accessories
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- **REF 20777844** Energic Plus® battery chargers
- **REF 20177485** Engine parts
- **REF 10727802** Exhaust systems
- **REF 24277157** Fluke
- **REF 20177906** Fuses & fuse holders
- **REF 20447667** Grammer seats
- **REF 10550844** Hand pallet truck parts
- **REF 14702080** Hydraulic system parts
- **REF 19949421** Key switches
- **REF 12594102** Labels & decals
- **REF 22802499** LPG system parts
- **REF 7872482** Mast rollers
- **REF 26501928** Paint & accessories
- **REF 7835233** Potentiometers & encoders
- **REF 7083552** Relays
- **REF 12726578** Replacement parts for Genie
- **REF 15069637** Replacement parts for Haulotte
- **REF 12613028** Replacement parts for JLG
- **REF 20769251** Replacement parts for scrubbers & sweepers
- **REF 13991397** Seats & accessories
- **REF 6252659** Starters & alternators
- **REF 24154086** Tail lift parts
- **REF 22657942** Track & undercarriage parts
- **REF 24337660** Tyres, rims & accessories
- **REF 7072186** Wheel brake & master cylinders
- **REF 6781097** Wheels, rollers & castors

## Discover our website!

On our website [www.tvh.com](http://www.tvh.com), you can discover a lot of information on our product range. To show you more about our products and services, we create movies, catalogues and brochures. Go to downloads on [www.tvh.com](http://www.tvh.com) to view all movies about our new products, ecommerce tools, company movie ...





## Webshop & online support

### Visit our webshop where and when you want

Forwarding price inquiries and orders is fast, easy and only one click away. 24/7 available.



### Receive your complete offer immediately

Use a TVH or OEM number to get price and availability. Even the reference on the part itself is often recognized in MyTotalSource.

### Search online

- You have **machine or equipment details**? Use **MyPartsFinder** to find the spare part you need.
- You have the **technical details or specifications** of a part? Use **MyProductSearch** to find the spare part you need.



- Use our online **catalogues**.
- Haven't found the reference you were looking for? Fill out the technical sheet you can find in MyTotalSource ('Info & Promotions') or in this catalogue.

### Place your order in just a few clicks

4 easy steps to send your order:

1. Create your order basket
2. Change your order
3. View your order
4. Confirm your order

### [mytotalsource.tvh.com](http://mytotalsource.tvh.com)

- **MyTotalSource app!** Use MyTotalSource on your smartphone or tablet.
- **"Scan to order" system.** Just scan the bar code with your smartphone or bluetooth scanner and get a price and availability to complete your offer/order.

Request your login details now and benefit from the many advantages offered in MyTotalSource!

For any questions, call or mail our help desk for free support:  
T +32 56 43 48 66 • [ecommerce@tvh.com](mailto:ecommerce@tvh.com)





## Electronic parts

Our range includes printed circuit boards, electronic speed controllers, displays, chargers, contactors, joysticks, accelerators and directional switches.

Our electronics department is Europe's largest, best equipped and most diverse service centre for the repair of electronic parts for forklifts, aerial work platforms and industrial vehicles.

Find out more about our electronics department in our brochure (REF 20207048) or go to downloads on [www.tvh.com](http://www.tvh.com) to watch the movie.



Watch the movie about our Electronics department



## Reconditioned parts

We offer you a unique range of reconditioned parts, at the best price. Reconditioned parts are sold with the same warranty as for a new part, at a price that can be up to 50% cheaper!

Electric motors, internal combustion engines, printboards, hydraulic pumps, transmissions, torque converters, radiators, steering axles, starters, alternators ... everything is in stock! TVH has invested in a wide range of test devices which allow us to pass stringent quality controls on various spare parts. The tests are designed in such a manner that a realistic work situation is generated during the tests.

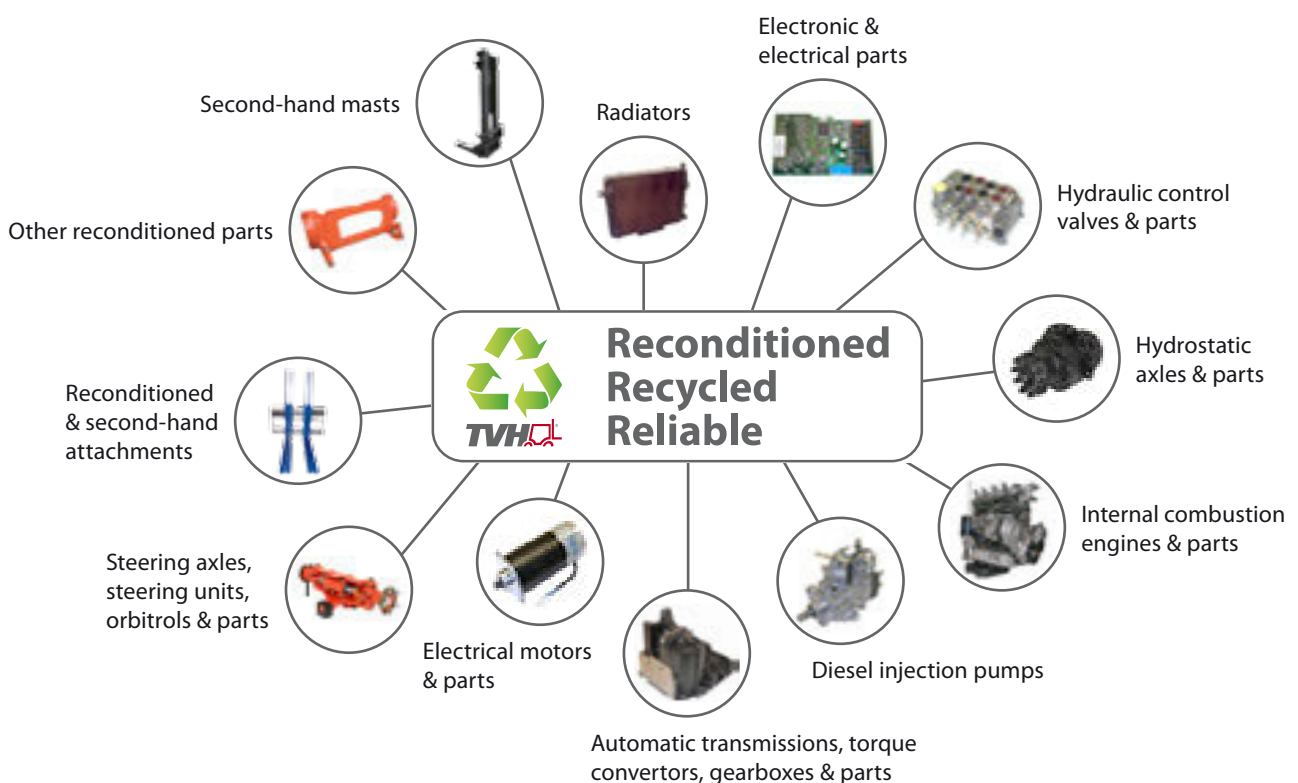
Buying one of our reconditioned parts is the perfect alternative to buying a new spare part. Ask for the availability and the conditions! You can buy a reconditioned part with or without the return of an old unit (service exchange parts).



Reconditioned  
Recycled  
Reliable



Watch the movie about our reconditioned parts







## TVH-bay

TVH's online shop with more than 1000 new and second-hand products at rock-bottom prices! Available in different languages.

### The online shop to pick up real bargains

- Rock-bottom prices for a limited offer of hard-to-find parts and accessories
- A list of products per brand or product category
- A wide range of parts and accessories for lift trucks, handling equipment and related products
- All parts are available off the shelf, and can therefore be delivered quickly
- Frequently updated with new references

[www.tvh.com/tvhbay](http://www.tvh.com/tvhbay)

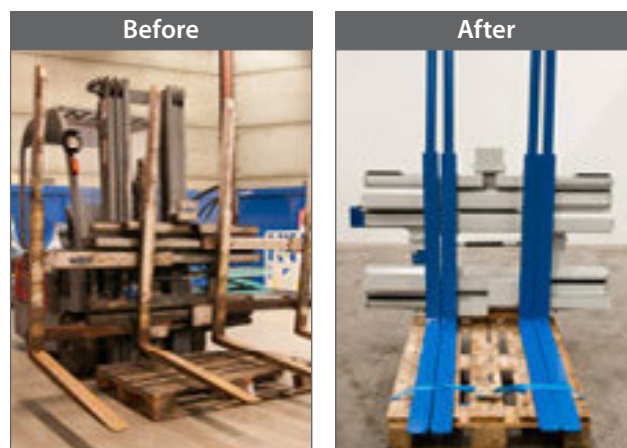
## Second-hand attachments

### More than 500 pieces in stock

TVH aims to invest in durability and pursues this as much as possible in its products. The range of second-hand attachments in original or completely revised condition is very extensive and varied: rotators, fork positioners, carpet booms, bale clamps, paper roll clamps ... All attachments are reconditioned by our dedicated in-house team.

We have second-hand attachments in our range for Bolzoni, CAM System, Cascade, Kaup, Kooi, Meyer ...

Discover our full range on [www.tvh.com/tvhbay](http://www.tvh.com/tvhbay)





## EQUIPMENT DIVISION *Second-hand equipment*

- Specialist in lift trucks and aerial work platforms with a permanent stock of 1500 lift trucks and 250 aerial work platforms
- Telehandlers and all-terrain lift trucks
- Masts and attachments

Find a daily updated stock list on our search engine  
[myequipmentfinder.tvh.com](http://myequipmentfinder.tvh.com)



## *Electric warehousing*

Electric hand pallet trucks (from 1,5–2 T) and stackers (from 1–1,6 T)



# Climax

[www.climaxhandling.com](http://www.climaxhandling.com)

info@climaxhandling.com • T +32 56 43 41 19





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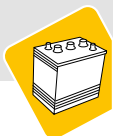
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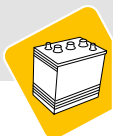
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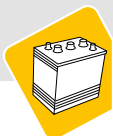
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1

# NICE TO KNOW



## BATTERIES

### 1. How do I order a battery?

#### Send us the details:

- Type & reference of the battery
- Voltage & AH of the battery
- External dimensions of the battery
- Lead-acid / AGM or gel

If these details are not available, we will require the following battery characteristics:

1. Capacity in KW or constant current
2. Nominal voltage of the battery (12 V, 24 V...)
3. Autonomy
4. Minimum cut-off voltage
5. If necessary, use the ambient temperature discharge tables (constant capacity per cell, or constant current) per cut-off voltage per autonomy.

E.g.: 12 V, 240 W, 1 hour:

Capacity per cell =  $240/6 = 40$  A

Let's assume 1,75 V/cell cut-off voltage: on 60 minutes:

Choice: DAS12-33: 40,3 W or DAS12-44: 53,3 W.

### 2. AGM <-> GEL

Each type of battery has its specific (dis)advantages, that is why it is so important to select the correct battery type for each application!

#### Advantages of the AGM-battery

- Cheaper than a gel battery
- Ideal for starting & stationary use
- Better performance over a shorter period / higher current discharge
- A smaller battery can be used for a higher discharge

#### Advantages of the gel battery

- Longer lifespan
- Full recovery of deep discharges, even when the battery is not immediately recharged
- Ideal for cyclical use with daily charges/discharges
- Perfect performances during long-term discharges
- More resistant to higher-temperature applications
- No equalization charge required
- Limited self-discharge
- Accepts the charge better thanks to the lower internal resistance
- Less risk of short-circuits thanks to the reinforced separator
- More resistant to bad charge characteristics
- Can be discharged, even if not fully charged, and this without capacity loss
- Polymer separator with glass mat for an increased performance
- Applicable where mains voltage is unstable

### 3. Deep-cycle batteries

#### 1 Z3 grid construction: 3 integrated features that result in better performances and durability

- The specially designed structure of the grid "DIAMOND Z-GRID"
- Position of the connection bridge
- Revolutionary Active Life Plus paste
- Heavy-duty construction: more lead > more power

#### 2 Posi Wrap envelope separators

These separators reduce the maintenance, prevent short-circuits and, in this way, result in an increased lifespan.

#### 3 Robust connectors & terminals

Heavy-duty TTP, COS connectors and battery terminals provide a maximum electrical efficiency and durability.

#### 4 Pro-eye level indicator

Simple, safe and reliable system for the inspection of the electrolyte level.

#### 5 X-tend container design

These containers allow more electrolyte above the plates, so that it is possible to work longer without having to refill the batteries.

#### 6 Good handles

All our deep-cycle batteries have been equipped with handles or hoisting hooks which facilitate the lifting of the batteries.

### 4. How do I order a traction battery?

#### Send us the details:

- Brand and type of the lift truck
- Type of the battery and reference of the elements
- Voltage & AH of the battery
- External dimensions of the battery box or of the elements
- How long does the battery have to remain operational: 1 shift, ...
- Options: automatic filling system, acid circulation
- Type of battery connector

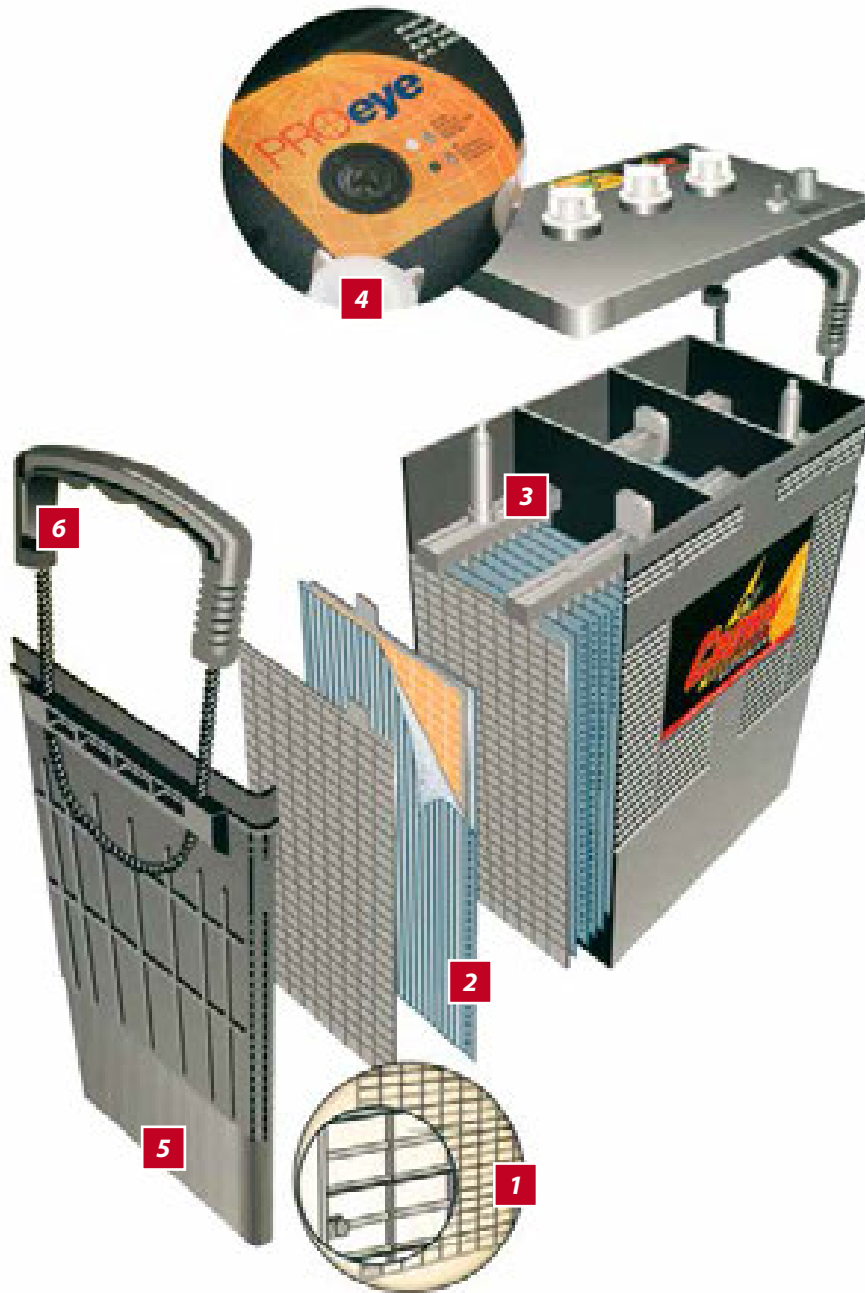
#### Attention:

- Is my battery charger suitable for my battery?
- How much time do I have to recharge the battery:
  - 12 hours = Wa-charger
  - 8 hours = WoWa-charger
  - < 8 hours = IUla-charger

#### Some tips for an increased life span:

- Only refill using demineralized water
- Refill after charging
- Fill up to the bottom of the baskets: not higher!
- Keep the top of the battery dry and clean
- Use a charger corresponding to the battery & capacity
- Avoid intermediate charges

## BATTERIES





## INSTRUCTIONS FOR USING NEW BATTERIES

**DO NOT ADD WATER UNTIL 10 NORMAL CYCLES OF CHARGE AND DISCHARGE HAVE BEEN COMPLETED (= APPROXIMATELY 2 WEEKS)**

**ONLY ADD DEMINERALIZED WATER AFTER CHARGING UNTIL 39 MM FROM THE TOP OF THE COVER.**

### 1. Start-up of wet charged batteries

Check the correct polarity of the power supply cables. The connecting bolts must be firmly tightened. Torque settings of the connectors:

- Vertical screw terminals 10 Nm
- Conic screw terminals 1,0 Nm
- Power supply cables "CT" 25 Nm
- Connectors "CT" 25 Nm

### 2. Operation

During the operation of the battery the surrounding area must be ventilated.

Never open and close electrical contacts such as plugs and sockets if current is flowing.

Avoid deep discharges, lower than 80% of the nominal capacity. The limit of the suggested maximum discharge (80%) corresponds to an electrolyte density of about 1,13 kg/l (30 °C).

Deep discharges can adversely affect the performance and shorten the life expectancy of the battery. The battery should always be recharged after any discharge.

### 3. Charge

The battery has to be charged as follows upon completion of a working cycle and when the electrolyte density is lower than 1,13 kg/l:

- Charge only in suitable ventilated areas
- Open the cover of the battery container
- The cell plugs shall remain closed
- Charge only with the correct battery charger, otherwise the battery may be damaged and its performance compromised
- Prior to starting the charge, ensure that the polarity connections are correct
- The temperature of the electrolyte should not be lower than 10° C
- During the charge the temperature of the electrolyte should not exceed 50 °C
- Once the charging has been terminated, measure the electrolyte temperature at 30 °C. The following value should be recorded: 1,285 kg/l +/- 0,005

*NB: The density of the electrolyte decreases at temperatures below 30° C and increases at higher temperatures. The correction factor is 0,0007 kg/l for 1 °C.*

Example: A density of 1,26 kg/l, measured at 45 °C corresponds to 1,27 kg/l at 30 °C.

- Check the level of the electrolyte which should be approximately 20 mm above the top of the separators; fill up with distilled water if required  
*NB: Distilled water should only be added after charging.*
- To check the electrolyte level of batteries with an automatic water filling device (RC), observe the level gauges of each cell plug

- Batteries with acid circulation device (Air tech): place the air pump at a higher level than the battery

### Equalizing charge

An equalizing charge should always be performed at the end of a normal charge since it ensures an optimum performance of the battery. An equalizing charge is particularly recommended where batteries are subjected to repeated deep discharges or insufficient charges.

### 4. Temperatures

The nominal temperature of the electrolyte is 30 °C and should, during the battery operation, never exceed 55 °C.

*NB: High temperatures shorten the lifespan of the battery and low temperatures reduce its capacity.*

### 5. Maintenance

#### 5.1 Daily

After any discharge cycle the battery must first be charged and then topped up with distilled water.

#### 5.2 Weekly

Check that the cables are tightly connected and make good contact with the battery terminal. Perform an equalizing charge.

#### 5.3 Monthly

At the end of the charge, measure and register the density and voltage values of each cell.

If there are significant differences between the values measured previously, contact the after-sales service department immediately. The electrolyte on batteries with automatic waterfilling device RC must be checked on all cells by means of a hydrometer through the proper diagnostic hole on each cup. Clean the battery thoroughly.

### 6. Cleaning

It is very important to clean the battery to maintain optimum performance. Following recommendations should be observed:

- At the end of each charge, clean and dry the cell covers as well as the external container surfaces
- Exhaust liquid from the container through the plastic pipes on the battery
- Check the internal insulation of the container
- Check the external painting on the container

### 7. Storage of batteries

When not in use, batteries must be stored in a protected, clean, dry and frostproof area. Inspections and monthly charges are required. Discharged batteries with a density lower than 1,20 kg/l (2,05 V) must not be stored in this state for longer than 2 years.

### 8. Poor operation and malfunction

In case of poor operation or malfunction of the battery, inform the after-sales department immediately.

The recorded values of voltage and density facilitate and shorten the search for any defect.



## FAQ'S ABOUT BATTERY CHARGERS

### Why should you follow safety precautions when charging batteries?

Lead-acid batteries contain sulphuric acid and only trained and authorized personnel should handle them. When talking about lead-acid batteries, people usually call sulphuric acid "battery acid" or the "electrolyte". Electrolyte is a general term used to describe a non-metallic substance like acids (e.g. sulphuric acid) or salts that can conduct electricity when dissolved in water. Lead-acid batteries can produce explosive mixtures of hydrogen and oxygen gas when they are being charged. Charge batteries only in approved, ventilated battery-charging areas. Install a safety shower and an eyewash station in a battery-charging area.

### What precautions should you take when handling battery acid?

Wear splash-proof goggles and protective clothing (gloves and aprons). A face shield may also be necessary when handling sulphuric acid in an open system. Do not store acid in hot locations or in direct sunlight. Pour concentrated acid slowly into water: do not add water to acid! Use non-metallic containers and funnels. Use extreme care to avoid spilling or splashing of the sulphuric acid solution. It can destroy clothing and burn the eyes and skin. Use an eyewash station if the sulphuric acid solution is splashed into the eyes. Neutralize spilled or splashed sulphuric acid solution with a baking soda solution, and rinse the spill area with clean water.

### What do I do if someone gets sulphuric acid on their skin?

Avoid direct contact. Wear chemical-resistant protective clothing. As quickly as possible, rinse the contaminated area with lukewarm, gently flowing water for at least 20-30 minutes. If irritation persists, repeat rinsing. **DO NOT INTERRUPT RINSING.** If necessary, keep emergency vehicle waiting. Under running water, remove contaminated clothing, shoes and other leather goods (e.g. watchbands, belts). Transport the victim to an emergency care facility immediately. Discard contaminated clothing, shoes and leather goods.

### What do I do if someone gets sulphuric acid in their eyes?

Avoid direct contact. Wear chemical-resistant gloves. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. **DO NOT INTERRUPT RINSING.** If necessary, keep the emergency vehicle waiting. Take care not to rinse contaminated water into the unaffected eye or onto the face. If irritation persists, repeat rinsing. Transport the victim to an emergency care facility immediately.

### Why is there a danger of exploding batteries?

The charging of lead-acid batteries can be hazardous. When batteries are being recharged, they generate hydrogen gas that is explosive in certain concentrations in air (the flammability or explosive limits are 4,1% to 72% hydrogen in air). The spark-retarding vents help slow the rate of release of hydrogen, but the escaping hydrogen may form an explosive atmosphere around the battery if ventilation is poor. The ventilation system should be designed to provide an adequate amount of fresh air for the number of batteries being charged. This is essential to prevent an explosion. Always keep sparks,

flames, burning cigarettes and other sources of ignition away from the battery recharging area. Wear protective eyewear when working near batteries. Do not break "live" circuits at the terminals of batteries.

### What should I do when charging batteries?

Check the electrolyte level before recharging. If the battery has been outside in cold weather, make sure that the battery is not frozen before recharging it. If the electrolyte is covering the top of the plates, do not add more water. Recheck the fluid level after the battery has been recharged. If water must be added, use distilled water, not tap water. When vent plugs may need adjustment, follow manufacturer's instructions carefully. If the battery has sealed vents, do not recharge the battery with a current greater than 25 A. To reduce the possibility of explosions, follow the recommendations of the charger manufacturer for attaching and removing cables and for operating the equipment properly. Generally, this includes unplugging or turning off the charger before connecting or disconnecting the clamp connections. Carefully attach the clamps to the battery with the proper polarity (positive [+] clamp, usually red, to the positive terminal and negative (-) clamp, usually black, to the negative terminal). Ensure that the area is ventilated when the batteries are being charged. If the battery becomes hot or if the electrolyte spits out from the vent, turn off the charger temporarily. Resume charging using a lower current or charging rate.

### What should I do when servicing batteries?

Keep metal tools and jewelry away from the battery. Inspect for defective cables, loose connections, corroded cable connectors or battery terminals, cracked cases or covers, loose hold-down clamps and deformed or loose terminal posts. Replace worn or unserviceable parts. Check the state of charge of non-sealed and sealed batteries with an accurate digital voltmeter while the engine is not running and lights and other electrically-powered equipment are turned off. Also check the electrolyte levels and specific gravity in each cell of non-sealed batteries. Follow the battery manufacturer's recommendations about when to recharge or replace batteries. Tighten cable clamp nuts with the proper size wrench. Avoid subjecting battery terminals to excessive twisting forces. Use a cable puller to remove a cable clamp from the battery terminal. Remove corrosion on the terminal posts, hold-down tray and hold-down parts. Use a tapered brush to clean battery terminals and the cable clamps. Wash and clean the battery, battery terminals, and case or tray with water. The corrosive acid can be neutralized by brushing on some baking soda (sodium bicarbonate) solution. If the solution does not bubble, the acid is probably neutralized. Rinse the battery with water to remove the baking soda solution. To prevent electric shocks, never touch or come in contact with both terminals at the same time. If baking soda solution is applied with a cloth, remember that these solutions can conduct electricity. When battery cables are removed, ensure that they are clearly marked "positive" and "negative" so that they are reconnected with the correct polarity. Use a battery carrier to lift a battery, or place hands at opposite corners. Remember, battery cells can weigh 14 to 27 kg (about 30 to 60 lb) so practice safe lifting and carrying procedures to prevent back injuries. Use a self-levelling filler that automatically fills the battery to a predetermined level. Never fill battery cells above the level indicator. Do not squeeze the syringe so hard that the water splashes acid from the cell opening.



## HYDROPURE

### “MAKE BUYING DISTILLED WATER A THING OF THE PAST”

#### THE HYDROPURE IS A LOW-COST DEIONIZER SYSTEM THAT MAKES PURE WATER STRAIGHT FROM THE TAP!

Most industrial batteries need to be topped up with water regularly. Tap water is rarely suitable as it often contains a large amount of dissolved solids that can be damaging to your battery. Purchasing bottled water can be costly and inconvenient.

Our **HydroPure** deioniser turns ordinary tap water into deionized water that is perfect for watering batteries. The low cost deionizer system is not just a filter, which only removes particles, but a real ion-exchange medium which electrostatically removes dissolved impurities. The purity of the water from the **HydroPure** is comparable with distilled water and each cartridge can produce approx 2400 litres (depending on the quality of the input water).

The wall mounted system is easy to install. Simply bolt to the wall and connect to the mains water supply. Featuring a battery powered “magic eye”, that constantly monitors the conductivity of the output water and clearly signals when it is time to change the cartridge. The cartridge snaps in place in seconds and is non-toxic so it can be disposed of easily. This system provides pure water on demand and eliminates the need for purchasing battery water in bulky storage containers.

Using deionized water will protect the life of a battery. The **HydroPure** is the most cost effective and simple way to make sure the water used to fill batteries is as pure as it needs to be.

**HydroPure** comes in Single or Dual cartridge units.

New improved battery powered purity light removes necessity for mains connection.

Hose connects to water tap.

Connect hose to watering gun to top up battery



## HYDROPURE

### Cartridge capacity table

TDS of customer incoming water		Capacity of HydroPure 300		
Conductivity $\mu\text{S/cm}$	Mg/litre	Maximum litres to process	Average litres to process	Minimum litres to process
750	500	590	542	494
675	450	655	602	549
600	400	737	677	617
525	350	842	774	706
450	300	983	903	823
375	250	1179	1084	988
300	200	1474	1354	1235
225	150	1966	1806	1646
150	100	2948	2709	2469
135	90	3276	3010	2742
120	80	3685	3386	3087
105	70	4212	3870	3248
90	60	4914	4515	4116
75	50	5896	5418	4939
60	40	7371	6772	6173
45	30	9828	9029	8231
30	20	14741	13544	12346

### Impurities reduce battery life

Battery water should be free from metallic impurities such as platinum, manganese, nickel, copper, iron and chloride salts because they can affect cell voltages and self discharge. Also to be limited are calcium and magnesium compounds found in hard water because these may cause mossing and dendrite growth through separators. Note that these impurities are dissolved in the water and cannot be removed by conventional filters.

### Removes harmful impurities

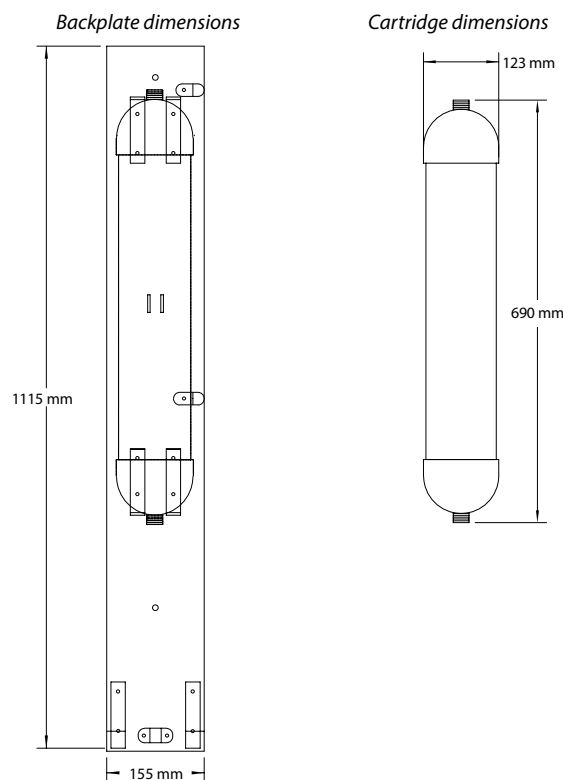
Tap water is passed through a cartridge containing beds of cationic and anionic resins which electrostatically remove impurities. The result is very pure water. When the cartridge becomes exhausted it is simply replaced with a fresh one in seconds using "quick-connects".

### Monitors water purity

Testing tap water chemically is too complicated. A more practical measure for water purity is resistivity because the electrical resistance of water is very sensitive to the amount of dissolved solids it contains. The **HydroPure** includes a sophisticated resistivity indicator that can detect when a cartridge needs replacing. The purity light is battery powered so does not need to be connected to the main electrical supply. The battery lasts for a minimum of 1 year.

### Simple installation

Installation is completed by attaching the mounting plate to the wall with two bolts and then connecting the input water supply. The **HydroPure** operates at full mains pressure which makes it possible to dispense pressurized pure water directly from the deionizer.



### Specification

Flow Rates	
Maximum intermittent flow	8 litres/min (1,75 imp galls/min)
Maximum continuous flow	2 litres/min (0,44 imp galls/min)
Output	
Maximum output (input purity 50 ppm)	5760 litres (1280 imp gallons)
Typical output (input purity 120 ppm)	2400 litres (530 imp gallons)
Poor water output (input purity 250 ppm)	1150 litres (250 imp gallons)
Maximum input pressure	80 psi
Cartridge resin volume	4,5 litres (275 Cu. in.)
Dimensions	
Mounting plate dimensions	1118 x 152 mm
Cartridge dimensions	685 x 115 mm
Indication	
Purity light indication water OK	Steady green flash
Purity light indication water BAD	Double red flash
Purity light OK max threshold	50 ppm
Electrical	
Battery life expected	Min 12 months
Battery type	2 x LR20 (D size) 3 V
Hose	
Input	Bore: 9,5 mm length: 3 meters
Output	Bore: 9,5 mm length: 6 meters
Intended use	
	PS watering guns (directly)
	filling watering carts
	(with supplied flow restrictor)



## TRAILER CHARGE TC2020

**THE TRAILER CHARGE TC2020 IS A UNIQUE PRODUCT. IT MAKES SURE THAT YOUR EXTRA BATTERY PACKS ON THE LORRY OR TRAILER ARE ALWAYS OPTIMALLY CHARGED, REGARDLESS OF THE GENERATOR VOLTAGE! IN OTHER WORDS: THE SUPPLIED GENERATOR VOLTAGE IS CONVERTED INTO A USABLE VOLTAGE FOR THE REQUIRED, BUILT-IN, CHARGE PROGRAMME.**



### Situation:

The average generator on a lorry generates insufficient voltage to be able to properly charge a discharged battery pack within a reasonable time.

More over this system often uses diode bridges. This causes an extra voltage drop of at least 0,2 V. All too often insufficiently thick cables are used here as well. All this results in a voltage at the batteries of not even 28 V in some cases. This is far too little to properly charge a battery pack within an acceptable time limit. The result is that tremendous losses are suffered each year, both due to standstill and to batteries that are replaced prematurely.

Problems can e.g. be observed with (double decker) trailers with heavy tail lifts, who also carry along electric hand pallet trucks. So these trailers have two totally different battery packs (traction and semi-traction) on board that must be charged by the generator while driving.

**The Trailer Charge TC2020 does many things. Here you can find a short summary:**

- The TC2020 can easily be set to provide an optimal charge voltage, current and curve for each battery pack. By default a charge voltage of 28,8; 29,4 and 30 V and a charge current of 5, 10, 15 or 20 A can be set.
- The setting is performed by an 'administrator' by means of an electronic 'key'. As soon as the key has been removed, the settings can no longer be modified.
- The supplied voltage of the generator is brought to the correct level and stabilized. The condition of the battery

is continuously monitored and the charge curve adapted accordingly.

- The charge curves are adjusted to the outside temperature and are compensated. This is necessary in case the lorry drives from a cold environment into a warm environment or the other way round. A cold environment requires a higher voltage than a warm environment, otherwise the battery could boil dry.
- Thanks to the use of the best components, the TC2020 has a very high efficiency of up to 96%. This results in a very low development of heat.
- The TC2020 has been designed to be moisture- and vibration-resistant.

### Points of interest:

An optimization of the charge circuit on the lorry can yield a lot of profit. Extra attention to the wiring such as good quality, the correct thickness and good contacts can make a huge difference. The smaller the voltage drop, the better everything will work. Using good batteries will finally pay off. If you often drive short distances, we recommend you to use special batteries that can very quickly absorb high currents.

Our expectation is that, when using the Trailer Charge, smaller generators and smaller battery packs can be used, as less overcapacity is required!

The Trailer Charge is a unique device that can save you a lot of money and that can make sure that you can stick to your agreements.

## ON-BOARD HF CHARGER



### REF 138TA4269

- CHARIS + HF 24 V 35 A, relay
- Input 230 V/16 A

### Installation and use precautions

**The CHARIS HF 2+ on-board charger can be plugged into every 2P+E 230 V 16 A outlet, and therefore ends the need for a charge room. Before charging, the user will have to make sure that the chosen place for charging complies with required safety standards.**

- Electric wiring must be conforming to NF C 15100 standards, or must comply with standard regulation in activity inside the country to power mains supply. Presence of grounding (earth) wire and frame with proper ground-fault protection breaker is mandatory.
- The electric socket must be of type every 2P+E 16 A outlet (230 V), correctly connected and protected by proper current-fault circuit breaker. Installation must comply with standard regulation in activity inside the country to power mains supply.
- Before charging, the state of connections and cables must be checked, and tightened if necessary.
- Charge has to proceed in a room without condensation or pollution and with sufficient ventilation.
- The casing temperature is max. 10° C higher than the ambient temperature, the expelled air temperature max. 25° C higher. The manufacturer of electric vehicle will take all necessary precautions regarding the charger installation so as to prevent overheating, damage to surrounding parts and all risks to employees. Wait 10 minutes once charger has stopped before touching the casing.
- The charger is fan-cooled. Do not obstruct air input and output. A sufficient air circulation to the outside of the charger must be ensured.
- Charger must not be exposed to oils or similar products.
- Charge to be made when truck is off.

### The CHARIS + HF charger is designed:

- to be integrated into a battery powered vehicle (the charger cannot be outside of the truck).
- to be connected permanently to the battery.
- to function in all positions.
- to be connected to mains when the battery powered vehicle is not being used so as to always have fully charged batteries (see "other charge parameters").
- to allow partial recharging.

### Standards

#### PRODUCT WITH CE MARKING

When IES specifications mention one or several standards, they exclusively refer to the product and do not take into account the influence of its integration into other systems. It is the manufacturer's responsibility to make sure the complete system conforms to standards. ELIPS HF chargers comply with following standards:

- Safety
  - EN1175-1
  - EN60335-2-29
  - EN60950
- Electromagnetic compatibility
  - EN61000-6-2 and EN61000-6-4
  - EN61000-3-2 and EN61000-3-3

### Electric safety

- Reverse polarity protection: charger is protected with a relay. After a reverse polarity connection, the user shall connect the battery again in the right way, a new cycle will start.
- Mains protection: with 1 time-lag fuse 250 V 10 A 5x20. The mains fuse is directly mounted on the PC Board. The user is not authorized to change this fuse. In case of a defect of this fuse, charger must be returned to after-sales service.

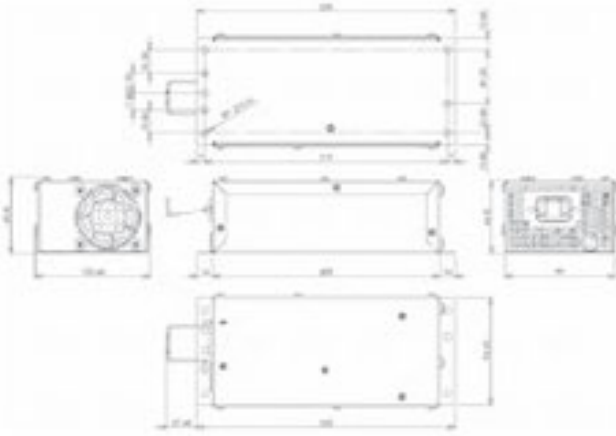


## ON-BOARD HF CHARGER

### Mechanical characteristics

Protection index : IP 20 (CEI 529)

All dimensions are in millimeters



### Charger connection

- Mains supply connection: mains cable to be ordered separately. 2,5 m mains lead with IEC 320 connector (female) and European molded plug. Mains cable connected to charger by means of IEC C13 connector (male). Cable maintained by fixation clips
- Wire + to battery: 6 mm<sup>2</sup> red cable with ring diameter 8 mm, length 1120 mm +/-30 mm
- Wire - to battery: 6 mm<sup>2</sup> black cable with ring diameter 6 mm, length 1120 mm +/-30 mm
- Relay: cable 2 x 1 mm<sup>2</sup> with Minifit Junior 2Pts, length 220 mm +/- 30 mm.

### LED Indicator



#### Normal Functionality

A charger is delivered with a tricolor bright indicator (LED) located at the back.

Functionality LEDs :

Phase	LED
Mains supply disconnected	OFF
Phases I1, P, U1, I2, U2	YELLOW BLINKING
Equalization phase	GREEN BLINKING
Stop	GREEN ON
Floating phase	GREEN ON
Charging time too long or defect	RED BLINKING
Reverse polarity battery	OFF

GREEN or GREEN BLINKING means the battery is charged.

### Security relay

The charger is delivered with a security relay in order to prevent any utilization of the vehicle when the charger is connected to mains supply. Contact position is:

Contacts	Battery connected (YES / NO)	Mains connected (YES / NO)
OPEN	NO	NO
OPEN	NO	YES
CLOSE	YES	NO
OPEN	YES	YES

The relay has a breaking capacity of 10 A maximum.

### Charge activation

Charging is activated simply by connecting the charger to mains supply. Start-up is not guaranteed if the battery voltage is below 10 V.

### Curve selector



The choice of the curve is carried out by a selector four positions accessible on front face of the charger:

- Position 0 = open lead battery, 210 Ah < capacity < 380 Ah,
- Position 1 = open lead battery, 140 Ah < capacity < 210 Ah, eg T105 Trojan
- Position 2 = gel lead-acid battery, 140 Ah < capacity < 380 Ah,
- Position 3 = open lead battery with permanent floating, 140 Ah < capacity < 380 Ah.

CAUTION: Position 0 & 1 are restricted to open lead-acid battery.

DO NOT use gel battery with selector in position 0 or 1.

The charger is delivered in position 2 (gel) by default.

Serial connection to PC

### Serial communication:



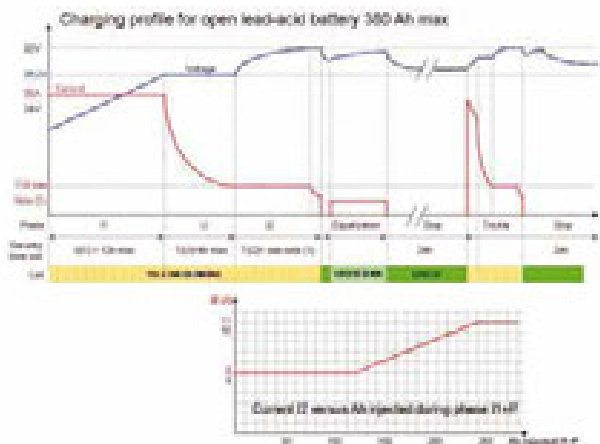
A specific jack connector allows to link the charger to PC. Then, by using the software PROVISTA (IES proprietary) and a specific cable (not provided in standard with charger), it is possible to control, monitor and get the history of the charger.



NICE TO KNOW

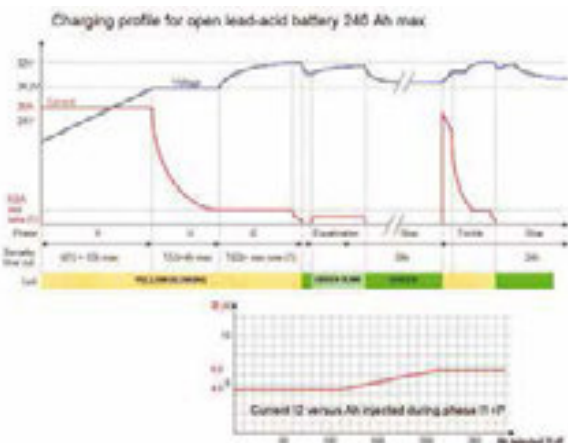
## ON-BOARD HF CHARGER

### Selector in position 0:



- Phase I1: maximum rated current 35 A is maintained as long as battery voltage is less than 29,2 V. This phase ends when battery voltage has reached 29,2 V (2,43 V/cell).
- Phase U: voltage is stable at 29,2 V. The current accepted by the battery decreases progressively. Note: Voltage will increase slightly up to + 0,3 V at the end of this phase due to influence of voltage drop into cables.
- Phase I2: constant current phase that provides the necessary boost of charging with agitation of the electrolyte. The current I2 is depending to the injected Ah during phases I1 + P. See graph. In addition, the voltage is limited to 32 V maximum (2,67 V/cell). Then the current may decrease accordingly. The Phase I2 ends either when 13% of the Ah.
- Injected during I1-P-U periods is provided to battery (means boost coefficient is 1,13) or it 4 hour timeout is reached.
- Equalization is performed only at every 7 completed cycles.
- Trickle charge: when the charger remains connected to mains, a new charge cycle is triggered every 24 hours after the end of the last charge cycle in order to compensate the auto-discharge.

### Selector in position 1:



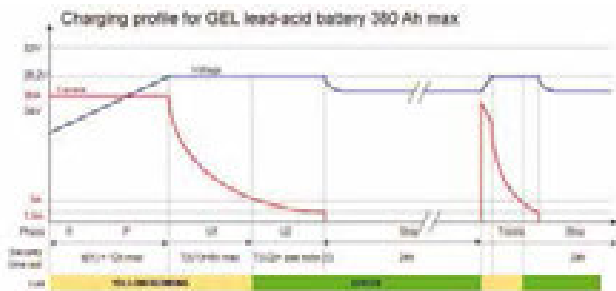
- Phase I1: maximum rated current 35 A is maintained as long as battery voltage is less than 29,2 V. This phase ends when battery voltage has reached 29,2 V (2,43 V/cell).
- Phase U: voltage is stable at 29,2 V. The current accepted by the battery decreases progressively. Note: Voltage will increase slightly up to + 0,3 V at the end of this phase due to influence of voltage drop into cables.
- Phase I2: constant current phase that provides the necessary boost of charging with agitation of the electrolyte. The current I2 is depending to the injected Ah during phases I1 + P. See graph. In addition, the voltage is limited to 32 V maximum (2,67 V/cell). Then the current may decrease accordingly. The Phase I2 ends either when 10% of the Ah injected during I1-P-U periods is provided to battery (means boost coefficient is 1,10) or is 4 hour timeout is reached.
- Equalization is performed only at every 7 completed cycles.
- Trickle charge: when the charger remains connected to mains, a new charge cycle is triggered every 24 hours after the end of the last charge cycle in order to compensate the auto-discharge.



NICE TO KNOW

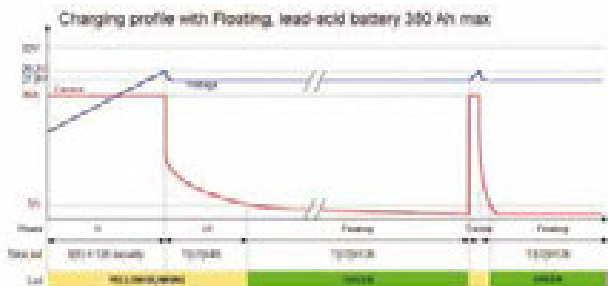
## ON-BOARD HF CHARGER

### Selector in position 2:



- Phase I1: maximum rated current 35 A is maintained as long as battery voltage is less than 28,2 V. This phase ends when battery voltage has reached 28,2 V (2,35 V/cell).
- Phase U1: voltage is stable at 28,2 V. The current accepted by the battery decreases progressively down to 3 A. Note: Voltage will increase slightly up to + 0,3 V at the end of this phase due to influence of voltage drop into cables.
- Phase U2: it provides the finishing of the battery. Voltage remains stable at 28,2 V. The current continues to decrease down to 1,5 A. In any case the phase U2 is time-limited to 4 hours. During phase U2, the LED turns green indicating that the battery can be used normally.
- Trickle charge: when the charger remains connected to mains, a new charge cycle is triggered every 24 hours after the end of the last charge cycle in order to compensate the auto-discharge.

### Selector in position 3:



- Phase I1: maximum rated current 35 A is maintained as long as battery voltage is less than 29,2 V. This phase ends when battery voltage has reached 29,2 V (2,43 V/cell).
- Phase U1: voltage is stable at 27,8 V (2,43 V/cell). The current accepted by the battery decreases progressively down to 3 A.
- Phase floating (U2): voltage remains stable at 27,8 V (2,43 V/cell). The current continues to decrease down to a level, which compensates the self-discharge of the battery at least. For safety reason the current is not authorized to increase during this phase.
- Trickle charge: After 12 h running in floating phase U2, the charger will restart automatically a new charging cycle (I1-P-U1-U2).
- This feature is called Trickle charge. It compensates either the self-discharge of the battery or the consumption of the application during the floating.





## ON-BOARD HF CHARGER

### Other charge characteristics

#### Equalization (only for open lead- acid profile)

To eliminate the phenomenon of sulphatation of cells of the battery, this stage starts automatically 15 minutes after the end of a complete charge only if seven complete charges have been made. The equalizing current is equal to half of the I2 boost current level. The equalization stops either when battery voltage becomes stable (variation of voltage less than 120 mV/h) or when 4 hours timeout is reached.

#### Mains power interruption

In case of temporary power cuts, all parameters of charge in progress are stored in memory for a period of 13 minutes. As soon as power is back, the charge cycle continues from the point (I, U) attained just before power cut. The number of Ah already charged are stored into the memory of the microcontroller.

If the power cut lasts more than 13 minutes, the charger assumes that the vehicle has been used and parameters are reset.

Charger is ready for a new charging cycle.

### Protections during charge

#### Temperature safety facility

A self-protection facility ensures that the charger decreases output current when charger's internal temperature exceeds a nominal value. The charger continues automatically the charge cycle when temperature has decreased. If a temperature default is detected, the charger automatically stops. Then the LED turns to red blinking.

#### Security timeout & fault indication

If the security timeout is reached during cycle (see indication into respective profile above), then the charging cycle will be interrupted and the LED will turn to red blinking. This problem may occur if one or several battery elements would fail (eg: shortcircuit) or if ambient temperature would be too high. It is recommended to check the battery state before restarting the charger.

The charger returns to normal state by simple disconnection/reconnection of the mains. The LED stops blinking at the next connection of the mains.

#### If the charger doesn't start, please check if:

- the black cable is correctly connected to the negative pole of the battery and the red cable to the positive pole of the battery.
- the battery voltage is over 10 V.
- there isn't any corrosion or oxidation on the two battery terminals.
- the position of the curve selector is correct.
- the battery type complies with the ones listed into technical specification.
- the level mains voltage is in the range specified.

## TERMINAL LOCATIONS

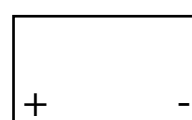
Type A



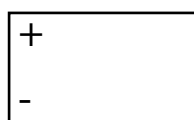
Type B



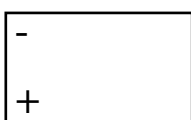
Type C



Type D



Type E



Type F





NICE TO KNOW

## NICE TO KNOW

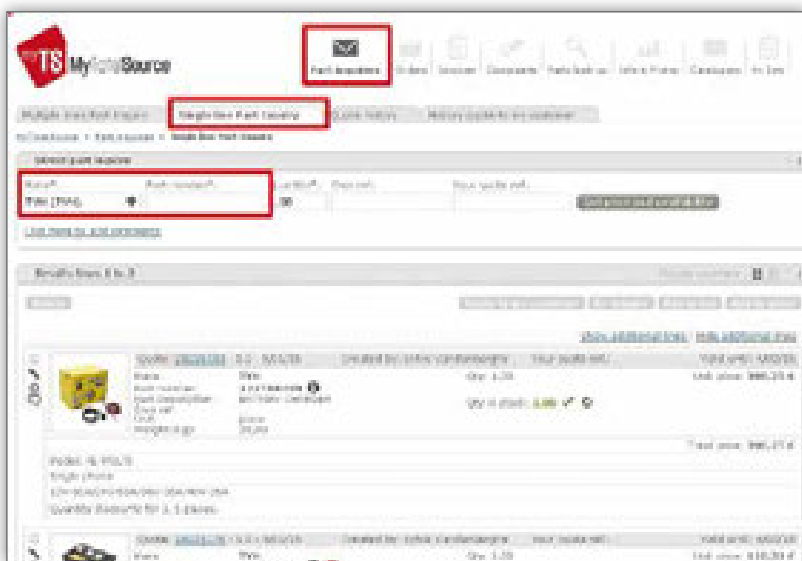
### MyTotalSource

Your interactive online webshop for spare parts

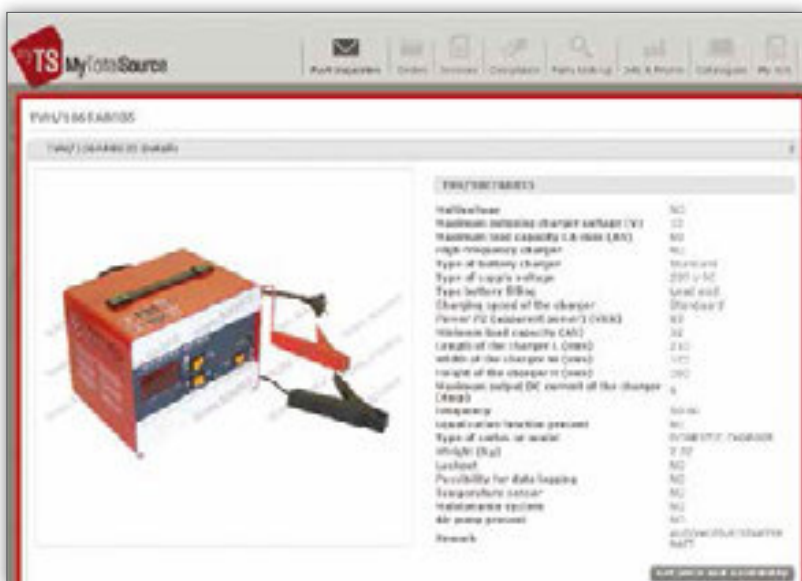


The user-friendly search modules **MyPartsFinder** (search by brand and truck type) and **MyProductSearch** (search by specifications/technical info) allow you to always find the correct part!

**Dimensions shown in this catalogue are standard dimensions. Measured dimensions may vary slightly.**



- **Multiple line part inquiry:** for price and lead time of several parts
- **Single line part inquiry:** for a quick price and lead time of only 1 item
- Instant price, availability and picture



The references in the catalogue only contain the most important info, but once the ref is entered via MTS, then extra info can be consulted such as:

- Extra technical info
- Larger (and more specific) photographs

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## NICE TO KNOW

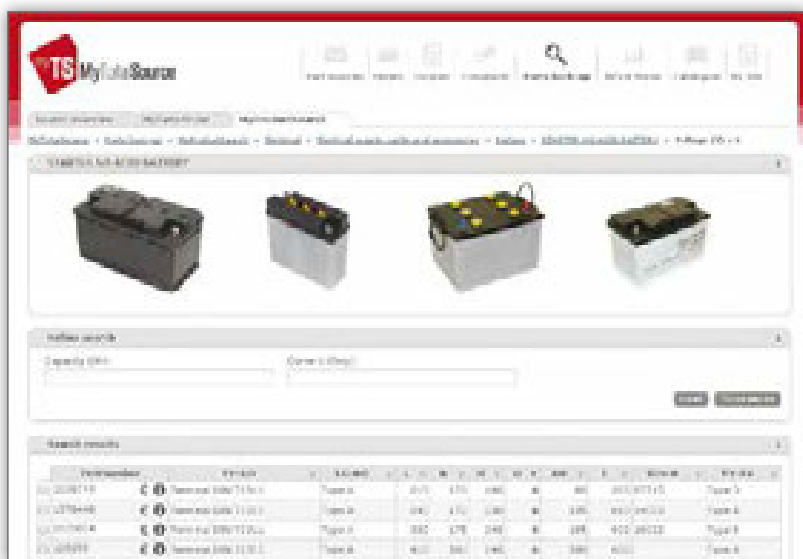
### MyTotalSource

Your interactive online webshop for spare parts

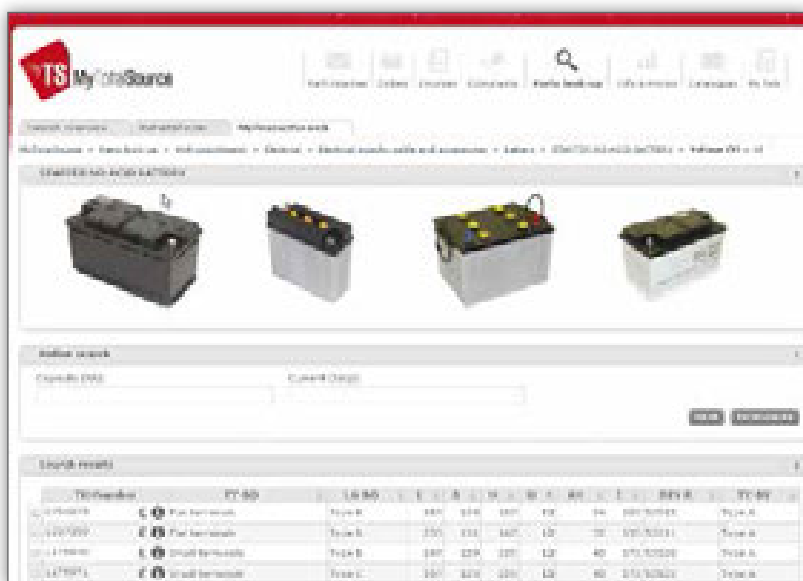


The user-friendly search modules **MyPartsFinder** (search by brand and truck type) and **MyProductSearch** (search by specifications/technical info) allow you to always find the correct part!

**Dimensions shown in this catalogue are standard dimensions. Measured dimensions may vary slightly.**



**MyProductSearch**  
Find your consumables group



It is also possible to search further via **MPS (MyProductSearch)** for a similar part with other characteristics if necessary, or the parts can also be compared to each other.

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# BATTERIES, CHARGERS & ACCESSORIES

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NOTES

A large area of the page is filled with horizontal dotted lines, providing space for handwritten notes.



2

# BATTERIES



## ALKALINE BATTERIES

Type	Voltage	Units	REF	
AAAA	3LR12	4,5 V	1	<a href="#">106TA9003</a>
AAA	LR3	1,5 V	4	<a href="#">106TA9000</a>
AA	LR6	1,5 V	4	<a href="#">106TA9001</a>
C	LR14	1,5 V	2	<a href="#">106TA9002</a>
D	LR20	1,5 V	2	<a href="#">106TA8998</a>
E	6LR22	9 V	1	<a href="#">106TA8999</a>



## RECHARGEABLE BATTERIES NI-MH

Type	Capacity	Voltage	Units	REF
AA	2100 mAh	1,2 V	4	<a href="#">145TA1812</a>
AAA	900 mAh	1,2 V	4	<a href="#">145TA1813</a>
C	3000 mAh	1,2 V	2	<a href="#">141TA6697</a>
D	2600 mAh	1,2 V	2	<a href="#">141TA6698</a>
E	200 mAh	9 V	1	<a href="#">141TA6699</a>



## BUTTON CELL BATTERIES

Type	Voltage	Units	REF
SR44W	1,55 V	1	<a href="#">141TA6700</a>
LR44	1,5 V	1	<a href="#">141TA6701</a>
CR1620	3 V	1	<a href="#">141TA6702</a>
CR2016	3 V	1	<a href="#">141TA6703</a>
CR2025	3 V	1	<a href="#">141TA6704</a>
CR2032	3 V	1	<a href="#">141TA6705</a>
CR2430	3 V	1	<a href="#">141TA6706</a>
CR2450	3 V	1	<a href="#">141TA6707</a>



## CHARGER



REF [144TA7070](#)

Charger for 2 or 4 AA/AAA NiMH-NiCd batteries

## MULTI-CHARGER NI-MH



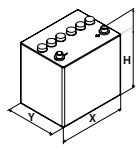
REF [139TA3248](#)

- For batteries AA, AAA, C, D, 9 V
- Possibility to charge 8 batteries at once
- (8 x AA, 8 x AAA, 4 x C, 4 x D, 1 x 9 V)




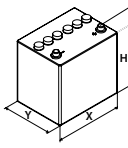
## HEAVY-DUTY STARTER BATTERIES

STARTER BATTERIES

12 V	REF	Cap Ah	CCA (EN)		Dimensions (mm)			Born
	Type	Wet	(20 h)		Length X	Width Y	Height H	Layout
535.020.024	<a href="#">134TA8425</a>	35	240	197	126	220	B	
535.022.024	<a href="#">134TA8426</a>	35	240	197	126	220	C	
545.023.033	<a href="#">134TA8427</a>	45	330	237	128	225	B	
545.024.033	<a href="#">134TA8428</a>	45	330	237	128	225	C	
545.077.033	<a href="#">134TA8429</a>	45	330	226	134	225	B	
545.079.033	<a href="#">134TA8430</a>	45	330	226	134	225	C	
545.019.033	<a href="#">134TA8431</a>	45	330	242	175	175	B	
550.041.036	<a href="#">134TA8432</a>	50	360	200	170	223	B	
550.042.036	<a href="#">134TA8433</a>	50	360	200	170	223	C	
555.059.042	<a href="#">134TA8434</a>	55	420	242	175	175	B	
555.065.042	<a href="#">134TA8435</a>	55	420	242	175	190	C	
560.068.045	<a href="#">134TA8436</a>	60	450	230	170	223	B	
560.069.045	<a href="#">134TA8437</a>	60	450	230	170	223	C	
562.019.045	<a href="#">134TA8438</a>	62	450	246	175	190	B	
564.020.060	<a href="#">134TA8440</a>	64	600	278	175	175	B	
570.024.054	<a href="#">134TA8442</a>	70	540	270	175	225	C	
570.029.054	<a href="#">134TA8443</a>	70	540	270	175	225	B	
570.034.064	<a href="#">134TA8444</a>	70	640	278	175	175	B	



## HEAVY-DUTY STARTER BATTERIES

	REF	Cap Ah	CCA (EN)		Dimensions (mm)		Born
	Type	Wet	(20 h)		Length X	Width Y	Height H
570.016.054	<a href="#">138TA7524</a>	70	540	489	114	227	C
572.020.054	<a href="#">134TA8445</a>	72	540	278	175	190	B
572.026.054	<a href="#">134TA8446</a>	72	540	278	175	190	C
580.035.068	<a href="#">134TA8447</a>	80	680	310	175	190	B
585.015.060	<a href="#">134TA8448</a>	85	600	353	175	175	B
588.015.064	<a href="#">134TA8449</a>	88	640	353	175	190	B
588.021.064	<a href="#">134TA8450</a>	88	640	353	175	190	C
595.017.068	<a href="#">134TA8451</a>	95	680	353	175	190	B
600.032.072	<a href="#">134TA8452</a>	100	720	308	175	223	B
600.033.072	<a href="#">134TA8453</a>	100	720	308	175	223	C
605.027.076	<a href="#">134TA8454</a>	105	760	344	175	223	C
605.028.076	<a href="#">134TA8455</a>	105	760	344	175	223	B
610.028.077	<a href="#">134TA8456</a>	110	750	343	172	230	B
610.013.080	<a href="#">134TA8458</a>	110	800	513	175	220	D
620.034.076	<a href="#">134TA8459</a>	120	760	513	189	223	D
625.023.080	<a href="#">134TA8460</a>	125	800	280	266	227	A
628.011.070	<a href="#">134TA8461</a>	128	700	353	175	285	B
635.039.095	<a href="#">134TA8462</a>	135	950	513	175	210	D





## HEAVY-DUTY STARTER BATTERIES

STARTER BATTERIES

	REF	Cap Ah	CCA (EN)		Dimensions (mm)			Born
					Type	Wet	(20 h)	Length X
635.042.076	<a href="#">138TA7525</a>	135	760	360	253	240	B	
640.020.090	<a href="#">134TA8463</a>	140	900	513	189	223	D	
650.020.100	<a href="#">134TA8465</a>	150	1000	513	189	223	D	
650.089.100	<a href="#">134TA8466</a>	150	1000	513	223	216	D	
660.038.100	<a href="#">134TA8467</a>	160	1000	510	189	223	D	
680.045.115	<a href="#">134TA8468</a>	180	1150	513	223	216	D	
700.088.125	<a href="#">134TA8469</a>	200	1250	513	223	223	D	
700.027.125	<a href="#">134TA8470</a>	200	1250	517	275	239	D	
730.027.135	<a href="#">134TA8471</a>	230	1350	517	275	239	D	



## MAINTENANCE-FREE HEAVY-DUTY STARTER BATTERIES



- Higher start capacity
- State-of-charge indicator
- Magic eye
- 100% maintenance free

REF	Cap (Ah)	CCA	Length (mm)	Width (mm)	Height (mm)	Layout
<a href="#">141TA7636</a>	40	360	187	127	220	B
<a href="#">141TA7637</a>	40	360	187	127	220	C
<a href="#">141TA7638</a>	45	360	234	127	220	B
<a href="#">141TA7639</a>	45	360	234	127	220	C
<a href="#">141TA7640</a>	54	480	242	174	175	B
<a href="#">141TA7641</a>	54	480	242	174	175	C
<a href="#">141TA7642</a>	60	480	230	172	220	B
<a href="#">141TA7643</a>	60	480	230	172	220	C
<a href="#">141TA7644</a>	70	540	266	172	220	B
<a href="#">141TA7645</a>	70	540	266	172	220	C
<a href="#">141TA7646</a>	74	680	277	174	190	B
<a href="#">141TA7647</a>	74	680	277	174	190	C
<a href="#">141TA7648</a>	88	680	354	174	190	B
<a href="#">141TA7649</a>	88	680	354	174	190	C
<a href="#">141TA7650</a>	100	760	302	172	220	B
<a href="#">141TA7651</a>	100	760	302	172	220	C
<a href="#">141TA7652</a>	105	680	342	172	236	B
<a href="#">141TA7653</a>	105	680	342	172	236	C
<a href="#">141TA7654</a>	145	800	511	188	217	D



## MAINTENANCE-FREE AGM STARTER BATTERIES



### Technical specs

- Sealed (closed-type) construction with bound electrolyte in glass mat
- Shock-resistant
- Electrolyte absorbed in glass mat
- Internal oxygen and hydrogen recombination
- Use of special (high-grade) alloys with high corrosion resistance
- Recyclable batteries and parts
- Ecological manufacturing methods

### Typical uses


- Cleaning machines
- Electrical vehicles
- Electrical hand pallet trucks
- Wheelchairs
- Boats
- Campers and caravans
- Golf carts
- Alarm & security systems
- Recharging systems
- Solar power systems

### Maintenance-free battery advantages

- Closed-type battery requiring no maintenance
- Multi-purpose use
- Safe handling due to leak-proof construction
- Safe to use in closed spaces and in systems for generating energy from alternative sources
- Longer lifespan due to a higher recharge cycle capacity

### Charging

- Cyclical operation IU, WUU = 14,40 V/bat
- Constant filling IU, WUU = 13,80 V/bat

Type 	REF	Cap Ah (20 h)	CCA (EN)	Dimensions (mm)			Layout Born
				Length X	Width Y	Height H	
560.901.056	<a href="#">123TA7161</a>	60	560	242	175	190	B
570.901.076	<a href="#">123TA7162</a>	70	760	278	175	190	B
580.901.079	<a href="#">140TA7517</a>	80	790	310	175	190	B
590.901.085	<a href="#">123TA7163</a>	90	850	353	175	190	B
640.901.095	<a href="#">140TA7518</a>	140	950	513	189	223	D
670.901.105	<a href="#">140TA7519</a>	170	1050	513	276	242	D
685.901.120	<a href="#">140TA7520</a>	185	1200	513	276	242	D
720.901.140	<a href="#">140TA7521</a>	220	1400	513	276	242	D



## MAINTENANCE FREE CALCIUM BATTERIES

**heavy-duty**

- State-of-charge indicator
- Increased performances +30%
- Calcium technology
- 4 models for over 80% of all applications

**E5**

REF [134TA8573](#)



**E3**

REF [134TA8571](#)



**E2**

REF [134TA8570](#)



**E1**

REF [134TA8569](#)



Type	REF	Cap Ah (20 h)	CCA (EN)	Dimensions (mm)			Layout Born
				Length X	Width Y	Height H	
<b>12 V</b>							
E1	<a href="#">134TA8569</a>	50	480	207	175	175	B
E2	<a href="#">134TA8570</a>	65	580	242	175	175	B
E3	<a href="#">134TA8571</a>	75	730	278	175	175	B
E4	<a href="#">134TA8572</a>	80	750	310	175	175	B
E5	<a href="#">134TA8573</a>	100	850	353	175	175	B
E5H	<a href="#">144TA1468</a>	100	860	353	175	190	B

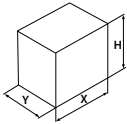
REF [115TA4706](#) – Kit Ford-adaptors



## AMERICAN STYLE BATTERIES



+LK = positive left at the short side, +RK = positive right at the short side,  
 +LL = positive left at the long side, +RL = positive right at the long side  
 \* With Ford adaptor

REF	Type V Ah A (EN)		Poles	Fixation
		X x Y x H (mm)		
<a href="#">144TA1915</a>	6 V 66 Ah	178 x 175 x 188	cross	B3
<a href="#">144TA1472</a>	6 V 90 Ah 450 A	230 x 171 x 225	cross	B0
<a href="#">144TA1473</a>	6 V 135 Ah 600 A	264 x 178 x 229	cross	B0
<a href="#">144TA1474</a>	6 V 150 Ah 950 A	318 x 171 x 235	cross	B0
<a href="#">144TA1469</a>	6 V 112 Ah 520 A	489 x 114 x 251	center	B0
<a href="#">138TA7524</a>	12 V 70 Ah 540 A	489 x 114 x 227	center	B0
<a href="#">144TA1916</a>	12 V 75 Ah 630 A	489 x 114 x 251	center	B0
<a href="#">144TA1475</a>	12 V 70 Ah 690 A M.F.	232 x 178 x 184	side	B0
<a href="#">144TA1917</a>	12 V 70 Ah 800 A M.F.	260 x 179 x 188	side	B0
<a href="#">138TA7527</a>	12 V 105 Ah 660 A	329 x 171 x 240	center	B0
<a href="#">144TA1918</a>	12 V 135 Ah 760 A	360 x 253 x 240	+ RL	B0
<a href="#">144TA1919</a>	12 V 110 Ah 800 A	413 x 175 x 220	+ RL	B0
<a href="#">144TA1442</a>	12 V 125 Ah 800 A	280 x 266 x 227	cross	B0
<a href="#">142TA2997</a>	12 V 120 Ah 660 A	330 x 171 x 238	UT	
<a href="#">142TA2998</a>	12 V 75 Ah 660 A	276 x 271 x 238	UT	



## AMERICAN STYLE BATTERIES

REF: 31DP800 ([142TA2997](#))

- CA-CA
- Maintenance free

TYPE: MF12 V – 120 Ah – 600 A

- X x Y x H: 350 x 171 x 238 mm
- POLES: UT

---

REF: 24DP550 ([142TA2998](#))

- CA-CA
- Maintenance free

TYPE: MF12V – 75 Ah – 660 A

- X x Y x H: 276 x 171 x 238 mm
- POLES: UT

SPECIAL TYPES





## VALVE-REGULATED LEAD-ACID BATTERIES

Sealed lead acid batteries are available in two types: one for standby applications such as an emergency power source for safety lights, security and burglar alarm systems, computer peripheral terminals, etc., and the other for cyclic applications such as a portable power source for tape recorders, VTRs, toys, etc. In both types, assorted capacities from 1 Ah to 10 Ah are available and the scope of applications is getting wider and wider.

- Leakproof construction
- Absolute maintenance-free operation
- Long shelf life
- Usable and rechargeable in any position
- Wide operating temperature range
- Long service life
- High discharge rate capacity
- Absolutely safe



Valve-regulated lead-acid batteries with a lifespan of 5 years (in floating use)

Voltage	Type	REF	Cap Ah (20 h)	Cap Ah (5 h)	Dimensions (mm)			Layout Born
					Length X	Width Y	Height H	
6 V	DAS6-1	<a href="#">134TA8647</a>	1	0,8	51	42	56	C
6 V	DAS6-1.3	<a href="#">134TA8648</a>	1,3	1,1	98	25	56	C
6 V	DAS6-3.2	<a href="#">134TA8649</a>	3,2	2,7	134	34	66	C
6 V	DAS6-4.5	<a href="#">134TA8650</a>	4,5	3,4	70	48	106	F
6 V	DAS6-7.2	<a href="#">134TA8651</a>	7,2	5,8	150	34	100	C
6 V	DAS6-10	<a href="#">115TA5417</a>	10	8,5	151	50	101	C
6 V	DAS6-12	<a href="#">134TA8652</a>	12	9,8	151	50	101	C
6 V	DAS6-14	<a href="#">134TA8653</a>	14	11,6	108	68,5	140	C
12 V	DAS12-0.8	<a href="#">134TA8654</a>	0,8	0,6	96	25	62	
12 V	DAS12-1.3	<a href="#">115TA5420</a>	1,3	1,1	96,5	45	59	E
12 V	DAS12-2	<a href="#">115TA5421</a>	2	1,6	150	20	89	
12 V	DAS12-2.2	<a href="#">115TA5422</a>	2,2	1,8	177,5	34	66	C
12 V	DAS12-2.9	<a href="#">134TA8655</a>	2,9	2,3	79	56	105	B
12 V	DAS12-3.3	<a href="#">115TA5425</a>	3,3	2,8	133,5	67	67	B
12 V	DAS12-4	<a href="#">134TA8656</a>	4	3,4	90	70	107	C
12 V	DAS12-5	<a href="#">134TA8657</a>	5	3,9	90	70	107	D
12 V	DAS12-7.5	<a href="#">134TA8658</a>	7,5	6	151	65	99	D
12 V	DAS12-9	<a href="#">134TA8659</a>	9	6,8	151	65	99	D
12 V	DAS12-12	<a href="#">134TA8660</a>	12	9,8	150	97	99	D
12 V	DAS12-15	<a href="#">134TA8661</a>	15	12,3	150	97	99	B
12 V	DAS12-18	<a href="#">115TA5429</a>	18	14,8	180	76	167	B
12 V	DAS12-26	<a href="#">115TA5430</a>	26	22,3	165	174,5	125	B
12 V	DAS12-44	<a href="#">115TA5431</a>	44	33,2	196	164	170,5	B
12 V	DAS12-70	<a href="#">115TA5432</a>	70	61,4	350	167	174	B
12 V	DAS12-100	<a href="#">134TA8662</a>	100	78,1	305	168	210	C



## SPIRALCELL TECHNOLOGY BATTERIES



### Maximum power for professionals!

- Impressive cranking characteristics in a small battery!
- Higher charge acceptance during recharges!
- Sealed maintenance-free spiralcell technology
- No leaking even if case is broken!
- Shock- and vibration-resistant!
- Light weight!
- Long service life!
- Approved for air-shipment!



#### Starter battery

REF [123TA9058](#)  
Red Top 4,2 l S

- Voltage: 12 V
- 815 CCA (EN)
- 50Ah/20h
- RC: 110 min
- Dimensions (L x W x H): 254 x 175 x 200 mm



#### Deep cycle battery

REF [123TA9059](#)  
Yellow Top 4,2 l Dual power

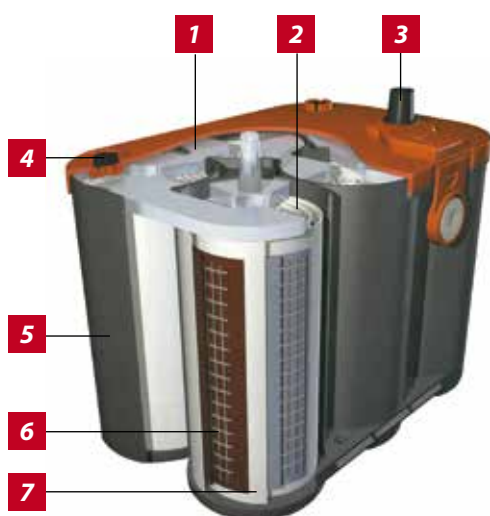
- Voltage: 12 V
- 765 CCA (EN)
- 55Ah/20h
- RC: 120 min
- Dimensions (L x W x H): 254 x 175 x 200 mm



#### Marine battery

REF [123TA9060](#)  
Blue Top 4,2 l Dual power

- Voltage: 12 V
- 765 CCA (EN)
- 55Ah/20h
- RC: 120 min
- Dimensions (L x W x H): 254 x 175 x 200 mm



#### Specifications:

- 1 Heavy-duty cast-on straps
- 2 Rugged spiral-wound construction & close plate spacing, vibration resistant
- 3 Corrosion-free terminals
- 4 Resealable pressure relief valve
- 5 Strong polypropylene housing
- 6 High-purity lead grids
- 7 Absorbant glass-mat separators hold electrolyte like a sponge to eliminate acid spilling

**THIS IS JUST A SMALL SELECTION OF THE AVAILABLE OPTIMA BATTERIES.  
FOR OTHER MODELS, GIVE US THE FULL BATTERY DETAILS**





## RED TOP



The **RED TOP** high-performance AGM battery is the ultimate starting battery designed to deliver a powerful burst of ignition power for a reliable start-up every time, whether it's used as a truck battery, automotive battery, or for other applications. The REDTOP will outperform and outlast traditional batteries in demanding cranking/starting applications. With impressive high-power delivery and extreme resistance to the most common causes of battery failure, the REDTOP is ideal for trucks, SUVs, hot rods, street cars and other applications that require a spill proof starting battery. Its reputation as a truck battery or automotive battery is unsurpassed.

### Benefits:

- Strong starting burst
- Up to two times longer life
- More than 15 times the vibration resistance
- Spill proof, mountable in virtually any position
- Maintenance-free
- Faster recharging
- Optimal starting power
- Works well as a motorcycle battery or truck battery

## YELLOW TOP



The **YELLOW TOP** high-performance AGM battery has everything you need. It's one of the few true dual-purpose automotive batteries available, and performs above expectations as a tractor battery, forklift battery, or for other applications. With premium cranking power and impressive cycling capability, this heavy duty battery is also perfect for modern accessory-loaded vehicles. The YELLOWTOP can repeatedly be brought back from deep power drains to full charge, so it can power plenty of electronics and still start you up time after time. Low internal resistance also provides more consistent power output and faster recharges.

Trucks with winches, vehicles with high-demand electronics and audio systems, commercial vehicles and heavy equipment can all rely on this battery to provide ultimate starting and deep-cycle power. It also functions well as a forklift battery, tractor battery, or for other applications.

### Benefits:

- Deep-cycle and cranking power
- Up to 3 times longer life
- More than 15 times the vibration resistance
- Spill proof, mountable in virtually any position
- Maintenance-free
- Faster recharging
- Optimal starting power
- 300+ discharge/recharge cycles
- Heavy duty battery that functions well as a tractor battery or forklift battery



## OPTIMA STARTER BATTERIES (RED TOP)



REF	Type	L x B x h/H	Volt	Capacity (EN) Ah	CCA (EN)
<a href="#">142TA3187</a>	RT S-3.7	229 x 172 x 169/190	12	44	730
<a href="#">123TA9058</a>	RT S-4.2	245 x 172 x 173/200	12	50	815
<a href="#">142TA3188</a>	RT U-4.2	245 x 172 x 173/200	12	50	815
<a href="#">142TA3190</a>	RT R - 4.2	245 x 172 x 173/200	12	50	815
<a href="#">142TA3192</a>	RT S - 2.1	253 x 83 x 176/200	6	50	815
<a href="#">142TA3193</a>	RT U - 3.7	229 x 172 x 169/194	12	44	730
<a href="#">142TA3194</a>	RT C - 4.2	245 x 172 x 183/200	12	50	815
<a href="#">142TA3198</a>	RT R - 3.7	229 x 172 x 169/190	12	44	730

## OPTIMA DEEP CYCLE BATTERIES (YELLOW TOP)



REF	Type	L x B x h/H	Volt	Capacity (EN) Ah	CCA (EN)
<a href="#">123TA9059</a>	YT S 4.2	245 x 172 x 173/200	12	55	765
<a href="#">142TA3189</a>	YT U -4.2	245 x 172 x 173/200	12	55	765
<a href="#">142TA3197</a>	YT S -5.5	317 x 158 x 218/238	12	75	975
<a href="#">142TA3199</a>	YT S - 2.7 J	228 x 121 x 200/227	12	41	460
<a href="#">142TA3200</a>	YT S - 2.7	228 x 121 x 200/227	12	41	460
<a href="#">142TA3201</a>	YT R - 2.7 J	228 x 121 x 200/227	12	41	460
<a href="#">142TA3202</a>	YT R - 2.7	228 x 121 x 200/227	12	41	460
<a href="#">142TA3203</a>	YT R 3.7	229 x 172 x 169/190	12	48	660



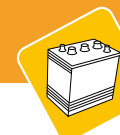
## SEMI-TRACTION BATTERIES: OPEN-LEAD ACID

REF	Voltage	Type	Cap Ah (20 h)	Cap Ah (5 h)	Dimensions (mm)			Layout Born
					Length X	Width Y	Height H	
<b>Plate - semi traction</b>								
<a href="#">134TA8591</a>	6 V	9.080.1	100	80	225	175	235	A
<a href="#">134TA8592</a>	6 V	9.095.2	120	96	260	175	235	A
<a href="#">134TA8593</a>	6 V	9.180.1	240	185	244	190	275	A
<a href="#">134TA8597</a>	12 V	9.540.1	50	36	205	175	190	B
<a href="#">134TA8599</a>	12 V	9.550.2	60	50	242	175	190	B
<a href="#">134TA8601</a>	12 V	9.560.2	75	60	275	175	190	B
<a href="#">129TA8534</a>	12 V	9.555.1	80	65	270	175	225	B
<a href="#">134TA8604</a>	12 V	9.575.1	90	75	353	175	190	B
<a href="#">134TA8605</a>	12 V	9.580.3	100	80	305	175	227	B
<a href="#">134TA8606</a>	12 V	9.580.2	110	95	415	175	215	B
<a href="#">134TA8607</a>	12 V	9.580.4	115	98	348	175	230	B
<a href="#">134TA8608</a>	12 V	9.590.3	120	90	308	174	225	B
<a href="#">134TA8610</a>	12 V	9.820.0	125	100	360	253	235	B
<a href="#">129TA8810</a>	12 V	9.600.2	130	106	345	175	283	B
<a href="#">134TA8611</a>	12 V	9.605.1	140	115	510	189	223	D
<a href="#">134TA8613</a>	12 V	4DCS118	165	118	346	171	290	B
<a href="#">134TA8615</a>	12 V	9.635.1	180	145	513	223	223	D
<a href="#">134TA8617</a>	12 V	9.680.1	230	185	518	273	240	D
<b>Tubular - full traction</b>								
<a href="#">134TA8594</a>	6 V	6PzS195	240	195	244	190	275	A
<a href="#">115TA6852</a>	6 V	6PzS205	270	205	244	190	275	A
<a href="#">134TA8595</a>	6 V	6PzS180	240	180	260	180	275	A
<a href="#">134TA8596</a>	6 V	PzS320	425	320	311	185	360	A
<a href="#">134TA8598</a>	12 V	2PzS38	50	38	205	175	190	B
<a href="#">134TA8600</a>	12 V	2PzS56	75	56	268	175	210	B
<a href="#">134TA8602</a>	12 V	3PzS57	72	57	278	175	190	B
<a href="#">134TA8603</a>	12 V	3PzS75	90	75	302	175	230	B
<a href="#">134TA8609</a>	12 V	4PzS90	120	90	344	172	238	B
<a href="#">134TA8612</a>	12 V	4PzS118	157	118	345	170	285	B
<a href="#">134TA8614</a>	12 V	PzS126	167	126	510	175	225	E
<a href="#">134TA8616</a>	12 V	PzS150	200	150	510	222	225	E



## SEMI-TRACTION BATTERIES: GEL

REF	Voltage	Type	Cap Ah (20 h)	Cap Ah (5 h)	Dimensions (mm)			Layout Born	Terminals
					Length X	Width Y	Height H		
<a href="#">134TA8618</a>	6 V	DGY6-7.5EV	8	5,6	150	34	101	C	T2
<a href="#">134TA8619</a>	6 V	DGY6-10EV	10	8	151	50	101	C	T2
<a href="#">134TA8620</a>	6 V	DGY6-12EV	12	10	151	50	101	C	T2
<a href="#">134TA8621</a>	6 V	DGY6-110EV	110	85	193	168	205	F	M8
<a href="#">134TA8622</a>	6 V	DGY6-160EV	165	134	298	171	226	F	M8
<a href="#">134TA8623</a>	6 V	DGY6-180DEV	180	160	244	190	275	F	A
<a href="#">115TA5456</a>	6 V	DGY6-180EV	180	142	260	179	275	F	A
<a href="#">134TA8624</a>	6 V	DGY6-200EV	200	155	318	170	225	F	M8
<a href="#">134TA8625</a>	8 V	DGY8-180EV	172	140	260	182	298		-
<a href="#">115TA5443</a>	12 V	DGY12-18EV	16	13	181	76	167	B	M5
<a href="#">134TA8626</a>	12 V	DGY12-26EV	26	20,7	165	174,5	125	B	M5
<a href="#">134TA8627</a>	12 V	DGY12-30DEV	30	24	197	132	184	C	F
<a href="#">134TA8628</a>	12 V	DGY12-33EV	33	25,5	193,5	130	166,5	C	M6
<a href="#">115TA5445</a>	12 V	DGY12-40DEV	40	32	210	175	175	B	F
<a href="#">134TA8629</a>	12 V	DGY12-44EV	44	32,9	196	164	170,5	B	M6
<a href="#">134TA8630</a>	12 V	DGY12-55EV	55	44	228	137	207	C	M6
<a href="#">115TA5448</a>	12 V	DGY12-60DEV	60	48	278	175	190	B	A
<a href="#">134TA8631</a>	12 V	DGY12-65EV	65	42,4	263	165	190	B	M6
<a href="#">134TA8632</a>	12 V	DGY12-70JEV	70	55	350	167	179	C	M6
<a href="#">134TA8633</a>	12 V	DGY12-75EV	75	60	259	168	208	C	M8
<a href="#">115TA5449</a>	12 V	DGY12-80DEV	80	64	353	175	190	B	A
<a href="#">115TA5450</a>	12 V	DGY12-85DEV	85	68	330	171	236	C	A
<a href="#">134TA8634</a>	12 V	DGY12-100EV	100	75	305	168	208	C	M8
<a href="#">134TA8635</a>	12 V	DGY12-110EV	110	85	332	174	213	C	M8
<a href="#">134TA8636</a>	12 V	DGY12-110DEV	110	88	286	269	230	F	A
<a href="#">115TA5452</a>	12 V	DGY12-120DEV	120	96	513	189	223	D	A
<a href="#">134TA8637</a>	12 V	DGY12-135EV	120	96	340	173	280	C	A
<a href="#">134TA8638</a>	12 V	DGY12-140DEV	143	115	513	223	225	D	A
<a href="#">134TA8639</a>	12 V	DGY12-150EV	150	117	482	170	242	C	M8
<a href="#">134TA8640</a>	12 V	DGY12-160EV	160	140	530	209	214	E	M6
<a href="#">134TA8641</a>	12 V	DGY12-200EV	200	155	520	240	220	E	M8
<a href="#">115TA5455</a>	12 V	DGY12-210DEV	210	160	518	291	242	E	A
<a href="#">134TA8642</a>	12 V	DGY12-225EV	225	165	521	269	203	D	M8



## AGM-BATTERY: HEAVY CYCLIC APPLIANCES

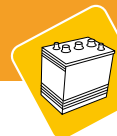
REF	Voltage	Type	Cap Ah (20 h)	Cap Ah (5 h)	CCA (DIN)	Dimensions (mm)			Layout Born	Terminals
						Length X	Width Y	Height H		
<a href="#">134TA8663</a>	6 V	DAB6-110EV	112	87	1010	193	168	205	F	M8
<a href="#">134TA8664</a>	6 V	DAB6-160EV	172	142	1290	298	171	226	F	M8
<a href="#">134TA8665</a>	6 V	DAB6-180EV	180	142		260	179	275	F	M8
<a href="#">134TA8666</a>	6 V	DAB6-200EV	199	161	1600	318	170	225	F	M8
<a href="#">134TA8667</a>	6 V	DAB6-225EV	240	209		243	188	276	F	M8
<a href="#">134TA8668</a>	8 V	DAB8-160EV	179	146	1003	260	182	298	C	M8
<a href="#">134TA8669</a>	12 V	DAB12-14EV	14,1	13,75		150	97	99	B	T2
<a href="#">134TA8670</a>	12 V	DAB12-15EV	17,8	14,6	265	200	76	123	B	M5
<a href="#">134TA8671</a>	12 V	DAB12-18EV	18	14,8	270	181	76	167	B	M5
<a href="#">134TA8672</a>	12 V	DAB12-26EV	26	21,8	300	166	176	126	B	M5
<a href="#">134TA8673</a>	12 V	DAB12-28EV	28	23,5	305	166	125	175	B	M5
<a href="#">134TA8674</a>	12 V	DAB12-33EV	33	25,7	320	195	130	160	C	M6
<a href="#">134TA8675</a>	12 V	DAB12-44EV	44	33	350	197	165	170	B	M6
<a href="#">142TA3204</a>	12 V	DAB12-55EV	55	42,8	380	228	137	207	C	M6
<a href="#">134TA8677</a>	12 V	DAB12-70JEV	70	52,4	550	350	167	179	B	M6
<a href="#">134TA8678</a>	12 V	DAB12-70EV	70	53,5	550	259	168	208	C	M6
<a href="#">129TA8400</a>	12 V	DAB12-80EV	80	62	620	259	168	208	C	M6
<a href="#">134TA8679</a>	12 V	DAB12-90EV	90	71,8	680	305	168	208	C	M6
<a href="#">134TA8680</a>	12 V	DAB12-100EV	100	78,1	780	305	168	208	C	M6
<a href="#">134TA8681</a>	12 V	DAB12-110EV	110	85,7	960	332	174	213	C	M6
<a href="#">134TA8682</a>	12 V	DAB12-120EV	120	95,1	1020	408	176	227	C	M6
<a href="#">134TA8683</a>	12 V	DAB12-135EV	135	108	1160	340	173	280	B	M6
<a href="#">134TA8684</a>	12 V	DAB12-150EV	150	118	1300	482	170	242	C	M6
<a href="#">134TA8685</a>	12 V	DAB12-160EV	160	136	1440	530	209	214	E	M8
<a href="#">134TA8686</a>	12 V	DAB12-200EV	200	161	1670	520	240	220	E	M8
<a href="#">134TA8687</a>	12 V	DAB12-230EV	230	182	1870	521	269	203	E	M8



## DEEP-CYCLE BATTERIES FOR ACCESS EQUIPMENT



REF wet battery	Dyno Europe	Cap Ah (20 h)	Cap Ah (5 h)	Weight (kg)	RC min/A				Indicator	Alternative REF	QTY/pall
						X (mm)	Y (mm)	H (mm)			
<b>6 volt deep-cycle batteries</b>											
<a href="#">141TA6672</a>	GC2E-HD	205	170	25,4	105	260	181	275	no	T605	48
<a href="#">134TA8574</a>	GC2-HD	220	180	27,2	110	260	181	275	no	T105	48
<a href="#">134TA8575</a>	GC2C-HD	235	190	28,6	125	260	181	275	no	T125	42
<a href="#">134TA8576</a>	GC2B-HD	240	195	30,8	135	260	181	275	no	T125	42
<a href="#">138TA7526</a>	6DCS195	240	195	29	135	245	191	273	no	TE35	42
<a href="#">134TA8577</a>	GC2H-HD	260	215	34	150	260	183	295	no	T145	42
<a href="#">134TA8578</a>	S3H	250	215	33,1	140	298	183	286	no	J250P	36
<a href="#">141TA6673</a>	S3HH	275	225	34,5	155	298	183	283	no	J250P	36
<a href="#">141TA6674</a>	S4-HD	305	255	40,8	175	310	183	359	yes	J305G	24
<a href="#">134TA8579</a>	S4H-HD	330	270	42,2	190	310	183	359	yes	J305P	24
<a href="#">134TA8580</a>	S4HH-HD	350	290	45,8	210	310	183	359	yes	J305H	24
<a href="#">134TA8581</a>	L16-HD	370	295	49	195	314	183	410	yes	L16G	24
<a href="#">134TA8582</a>	L16H-HD	390	310	52,2	215	314	183	410	yes	L16P	24
<a href="#">141TA6676</a>	L16HH-HD	430	340	55,3	240	314	183	410	yes	L16H	24
<b>8 volt deep-cycle batteries</b>											
<a href="#">134TA8583</a>	8VGC	165	140	29	82	262	179	275	no	T875	42
<a href="#">134TA8587</a>	8VGH	190	155	31,3	95	262	179	275	no	T890	42
<b>12 volt deep-cycle batteries</b>											
<a href="#">134TA8585</a>	M24DH	95	75	22,7	33	276	171	238	no	24TMX	48
<a href="#">134TA8586</a>	M27D	105	85	23,6	40	321	171	238	yes	27TMX	48
<a href="#">134TA8587</a>	M27DH	115	95	26,3	43	321	171	238	yes	27TMH	48
<a href="#">134TA8588</a>	31H	130	105	30,4	46	330	171	238	yes	31XHS	42
<a href="#">141TA6683</a>	12VGC	150	123	36,7	61	328	179	267	no	T1275	32
<a href="#">141TA6684</a>	12VGC	155	125	39,9	75	328	179	267	no	T1275	36
<a href="#">134TA8589</a>	SSW-HD	185	150	48,5	85	394	178	372	yes	J185E	24
<a href="#">141TA7297</a>	SSWM-HD	195	160	49,9	100	394	178	372	yes	J185G	24
<a href="#">134TA8590</a>	SSWH-HD	215	180	54,4	118	394	178	372	yes	J185P	24



## AANVRAAGFORMULIER BATTERIJEN • FORMULAIRE DE DEMANDE BATTERIES BATTERY REQUEST • ANFRAGEFORMULAR BATTERIEN

<b>KLANTNR / NO CLIENT</b> <b>CUSTOMER N° / KUNDENNR</b>	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<b>FIRMA / SOCIÉTÉ</b> <b>COMPANY</b>	.....
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<b>TYPE</b> <input type="checkbox"/> STARTBATTERIJ <input type="checkbox"/> BATTERIE DE DÉMARRAGE <input type="checkbox"/> STARTERBATTERY <input type="checkbox"/> STARTERBATTERIE	<input type="checkbox"/> SEMI-TRACTIEBATTERIJ <input type="checkbox"/> BATTERIE SEMI-TRACTION <input type="checkbox"/> SEMI TRACTION BATTERY <input type="checkbox"/> SEMI-TRAKTIONSBATTERIE	<input type="checkbox"/> TRACTIEBATTERIJ MET KOFFER <input type="checkbox"/> BATTERIE TRACTION AVEC COFFRE <input type="checkbox"/> TRACTION BATTERY WITH TRUNK <input type="checkbox"/> TRAKTIONSBATTERIE MIT KOFFER	<input type="checkbox"/> TRACTIECELLEN APART <input type="checkbox"/> ÉLÉMENTS DE TRACTION <input type="checkbox"/> SEPERATE TRACTION CELLS <input type="checkbox"/> TRAKTIONSZELLEN SEPARAT
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<b>AANTAL CELLEN / NOMBRE DE CELLULES</b> <b>NUMBER OF CELLS/ ANZAHL ZELLEN</b>	<input type="text"/> <input type="text"/>	<input type="checkbox"/> <b>LOODZUUR / ACIDE / ACID / BLEISÄURE</b> <input type="checkbox"/> <b>GEL</b>	<input type="checkbox"/> <b>GEVULD / REMPLI / WET / GEFULLT</b> <input type="checkbox"/> <b>DROOG / SEC / DRY / TROCKEN</b>
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<b>VOLTAGE</b> <b>SPANNUNG</b>	<input type="text"/> <input type="text"/> <input type="text"/> <b>v</b>	<b>AMPÈRE</b> <b>AMPERE</b>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <b>Ah / C5</b>
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<b>CEL AFMETINGEN</b> <b>DIMENSIONS DE LA CELLULE</b> <b>CELL DIMENSIONS</b> <b>ZELLENMASSE</b>	<b>L</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mm <b>B</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mm <b>H</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mm	<b>KOFFER AFMETINGEN</b> <b>DIMENSIONS DE LA BOÎTE</b> <b>BOX DIMENSIONS</b> <b>GEHÄUSEABMESSUNGEN</b>	<b>L</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mm <b>B</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mm <b>H</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mm
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<b>HEFTRUCK MERK</b> <b>MARQUE CHARIOT</b> <b>FORKLIFT MAKE</b> <b>GABELSTAPLERMARKE</b>	.....	<b>HEFTRUCK TYPE</b> <b>TYPE CHARIOT</b> <b>FORKLIFT TYPE</b> <b>GABELSTAPLERTYP</b>	.....
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**OPMERKING / NOTE** .....

<b>OPTIES</b> <b>OPTIONS</b> <b>OPTIONEN</b>	<input type="checkbox"/> AUTOMATISCH VULSYSTEEM <input type="checkbox"/> AUTOMATIC FILLING	<input type="checkbox"/> ZUURCIRCULATIE <input type="checkbox"/> TRANSFERT D'ACIDE <input type="checkbox"/> ACID CIRCULATION <input type="checkbox"/> SÄUREZIRKULATION	<input type="checkbox"/> BIDON 20L <input type="checkbox"/> RÉSERVOIR DE 20L <input type="checkbox"/> 20L TANK <input type="checkbox"/> LABEFLASCHE 20L	<input type="checkbox"/> BIDON 60L <input type="checkbox"/> RÉSERVOIR DE 60L <input type="checkbox"/> 60L TANK <input type="checkbox"/> LABEFLASCHE 60L
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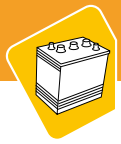
**SCHETS • SCHÉMA • SKETCH • SKIZZE**

<b>VOOR TVH • POUR TVH • FOR TVH • FÜR TVH</b>		
<b>GEVULD, REMPLI, WET, GEFULLT</b>	<b>DROOG, SEC, DRY, TROCKEN</b>	
<b>TVH/</b> ..... <b>GEWICHT</b> ..... <b>kg</b> <b>LT</b> .....	<b>TVH/</b> ..... <b>GEWICHT</b> ..... <b>kg</b> <b>LT</b> .....	<b>OFF</b> ..... <b>TYP</b> ..... <b>PR</b> .....



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 Brabantstraat 15 • BE-8790 Waregem  
 T +32 56 43 42 11 • F +32 56 43 44 88 • [parts@tvh.com](mailto:parts@tvh.com) • [www.tvh.com](http://www.tvh.com)

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**BATTERIES**

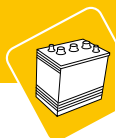
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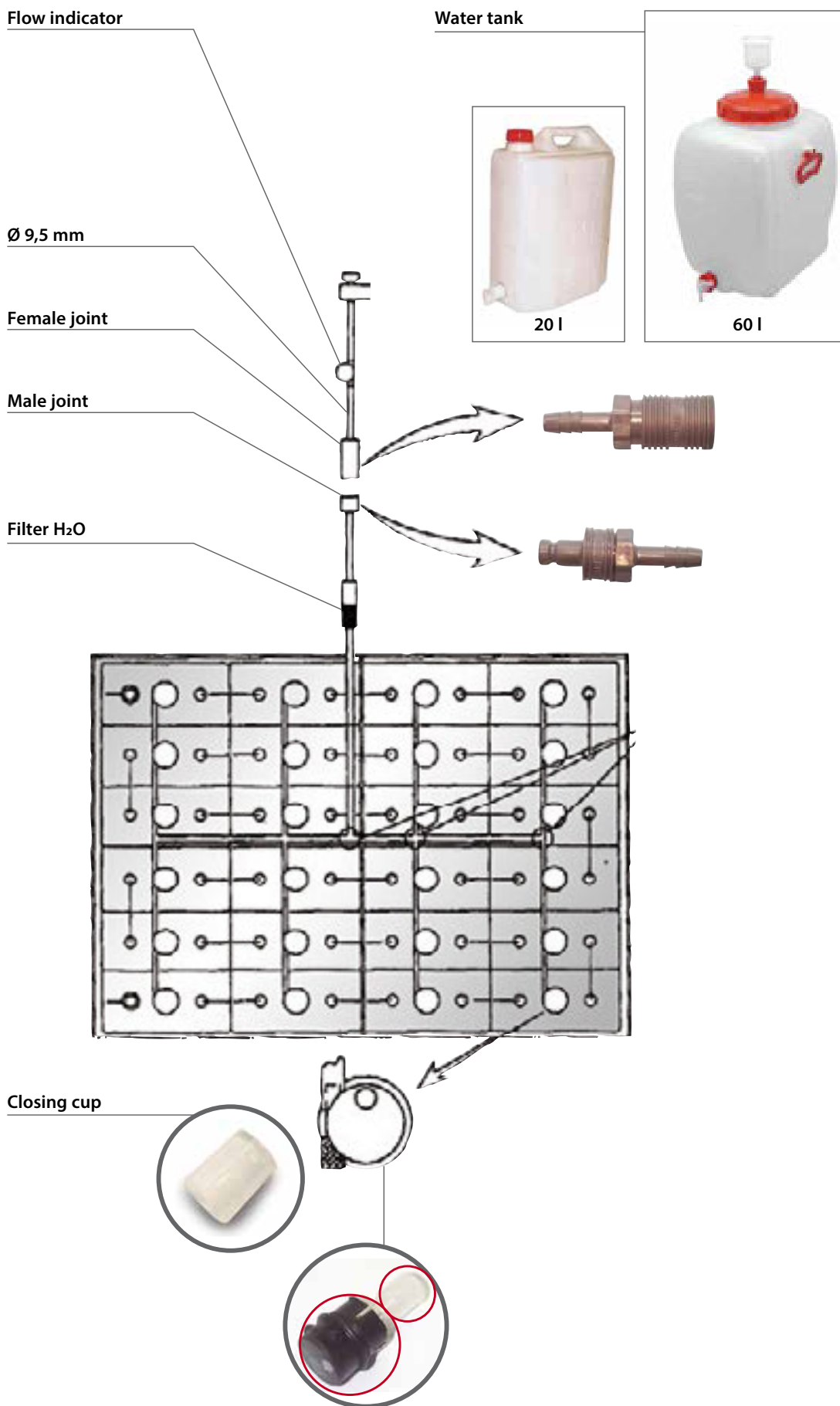


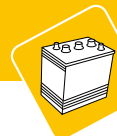
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# ACCESSORIES



## BATTERY FILLING SYSTEM





## MANUAL PUSH-IN PLUG



REF [144TA1733](#) – 35 mm

## MANUAL THREADED PLUG



REF [137TA1839](#) – 27 mm  
REF [137TA1840](#) – 30 mm

## AUTOMATIC PUSH-IN PLUG



REF [111TA3477](#) – 35 mm

## AUTOMATIC THREADED PLUG



REF [137TA1841](#) – M27  
REF [137TA1842](#) – M30

## AUTOMATIC BAYONET PLUG



REF [137TA1843](#) – Bayonet 2-nok  
REF [137TA1844](#) – Seal (3,0 mm)

## AUTOMATIC BAYONET PLUG



REF [137TA1845](#) – Bayonet 4-nok  
REF [145TA2581](#) – Seal (4,5 mm)

## END STOP

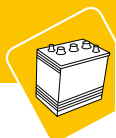


REF [106TA8940](#)

## PLUG ASSEMBLY TOOL



REF [145TA2017](#)



## FLOATS



1



2



3



4



5



6



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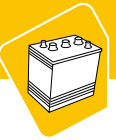


8



9

- 1 [REF 137TA1846](#) – Size 14
- 2 [REF 137TA1847](#) – Size 20
- 3 [REF 137TA1848](#) – Size 24
- 4 [REF 137TA1849](#) – Size 29
- 5 [REF 111TA3478](#) – Size 34
- 6 [REF 137TA1850](#) – Size 39
- 7 [REF 137TA1851](#) – Size 49
- 8 [REF 137TA1852](#) – Size 59
- 9 [REF 145TA2019](#) – Tool



## AUTOMATIC PUSH-IN PLUG



REF [145TA2027](#) – 19 mm  
REF [145TA2028](#) – 35 mm

## PLUG ASSEMBLY TOOL



REF [145TA2035](#)

## END STOP



REF [145TA2034](#)

## FLOATS

No picture

1

No picture

2

3



4



5



6

- 1 REF [145TA2036](#) – Red float, size 23/44
- 2 REF [145TA2037](#) – Green float, size 23/48
- 3 REF [145TA2038](#) – Grey float, size 23/52
- 4 REF [145TA2039](#) – White float, size 23/56
- 5 REF [145TA2040](#) – Yellow float, size 23/60
- 6 REF [145TA2041](#) – Blue float, size 23/66
- 7 REF [145TA2042](#) – Orange float, size 23/71
- 8 REF [145TA2043](#) – Purple float, size 23/75
- 9 REF [145TA2044](#) – Tool for float sizes

7

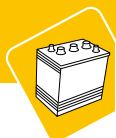


8



9





## FLOAT VALVES

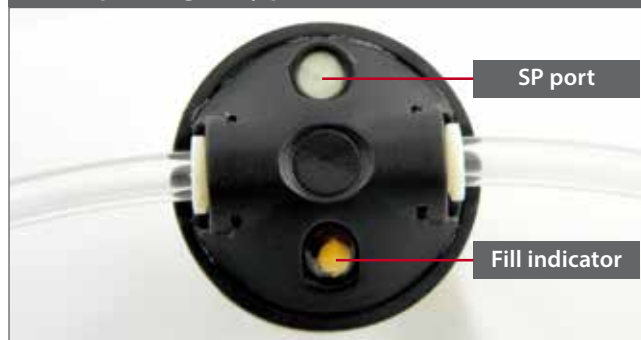
### New and unique float valves suitable for all batteries

- One size fits all: adjustable float heights
- Instant tubing installation: unique push-fit tubing ports make tubing installation fast, easy and secure
- Lowest profile on the market: 15 mm high
- Wide range of operating pressure: from 3 to 45 psi
- Abuse-resistant tubing: with a small bend radius it fits even the smallest cells easily
- Highly visible fill level indicator: visible from the top and side
- No barbed fittings to break

Low profile



Specific gravity port and fill level indicator



Adjustable float



Quick fit tubing



### Complete kit references

Part numbers	Description	Technical information	REF
FLT-KE6A	Float kit 12 V	Float valve kit for 6 cell DIN battery	<a href="#">137TA1862</a>
FLT-KE9A	Float kit 18 V	Float valve kit for 9 cell DIN battery	<a href="#">137TA1863</a>
FLT-KE12A	Float kit 24 V	Float valve kit for 12 cell DIN battery	<a href="#">136TA3178</a>
FLT-KE18A	Float kit 36 V	Float valve kit for 18 cell DIN battery	<a href="#">137TA1864</a>
FLT-KE20A	Float kit 40 V	Float valve kit for 20 cell DIN battery	<a href="#">137TA1865</a>
FLT-KE24A	Float kit 48 V	Float valve kit for 24 cell DIN battery	<a href="#">136TA3179</a>
FLT-KE36A	Float kit 72 V	Float valve kit for 36 cell DIN battery	<a href="#">137TA1866</a>
FLT-KE40A	Float kit 80 V	Float valve kit for 40 cell DIN battery	<a href="#">136TA3180</a>
FLT-KE48A	Float kit 96 V	Float valve kit for 48 cell DIN battery	<a href="#">137TA1867</a>

The above float kits include floats, tubing, input coupling and filter assembly, cable ties and instructions for installation and operating.



## FEMALE JOINT



- REF [137TA1853](#) – 7 mm
- REF [137TA1854](#) – 9 mm
- REF [106TA8953](#) – 11 mm
- REF [137TA1855](#) – 13 mm

## MALE JOINT



- REF [137TA1856](#) – 7 mm
- REF [137TA1857](#) – 9 mm
- REF [106TA8952](#) – 11 mm
- REF [137TA1858](#) – 13 mm

## FEMALE JOINT



- REF [145TA2091](#) – 6 mm
- REF [145TA2092](#) – 10 mm

## MALE JOINT



- REF [145TA2093](#) – 6 mm
- REF [145TA2094](#) – 11 mm

## FLOW INDICATOR MALE CONNECTOR WITH FILTER



- REF [142TA3205](#) – 1 x NW 6
- REF [142TA3206](#) – 1 x NW 10

## FLOW INDICATOR MALE CONNECTOR WITH FILTER



- REF [142TA3207](#) – 2 x NW 6
- REF [142TA3210](#) – 2 x NW 10

## FEMALE CONNECTOR FILTER

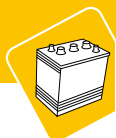


- REF [142TA3208](#) – 1 x NW 6
- REF [142TA3209](#) – 1 x NW 10

## WATERFILTER WITH FLOW INDICATOR



- REF [142TA3218](#) – NW 6
- REF [142TA3217](#) – NW 10



## JOINT WITH FILTER



REF [142TA3211](#)  
1 x M16 x 1,5 mm

## FLOW INDICATOR



REF [106TA8956](#)  
Connection: 10 mm

## FLOW INDICATOR



REF [145TA2096](#)

## WATER FILTER



REF [106TA8951](#)  
Connection: 10 mm

## HOSE CLAMP



REF [137TA1860](#) – 9 mm  
REF [137TA1859](#) – 14 mm

## PLASTIC HOSE



REF [107TA1688](#) – 6 x 9 mm (per meter)  
REF [106TA8942](#) – 10 x 14 mm (per meter)  
REF [106TA8943](#) – 12 x 16 mm (per meter)





## L-CONNECTION



- REF [137TA1835](#) - 6-6
- REF [106TA8944](#) - 10-6
- REF [137TA1834](#) - 6-10
- REF [106TA8945](#) - 10-10

## T-CONNECTION



- REF [137TA1836](#) - 6-6-6
- REF [106TA8946](#) - 6-10-6
- REF [106TA8947](#) - 10-6-10
- REF [106TA8948](#) - 10-10-10

## X-CONNECTION



- REF [137TA1837](#) - 6-6-6-6
- REF [106TA8949](#) - 6-10-6-10
- REF [106TA8950](#) - 10-10-10-10

## REDUCTION



- REF [142TA7718](#) - 10-6

## WATER TANK 20L



- REF [106TA8955](#)

## WATER TANK 20L WITH OPTIONAL KIT



- REF [106TA8937](#)

## WATER TANK 60L



- REF [116TA6228](#)

## WATER TANK 60L WITH OPTIONAL KIT



- REF [106TA8938](#)

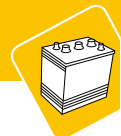


## BATTERY SERVICE BOX



REF [139TA3242](#)

Quantity	Description	REF
12 pieces	Automatic euro push, diameter: 35 mm BFS	<a href="#">111TA3477</a>
6 pieces	Float size 14	<a href="#">137TA1846</a>
6 pieces	Float size 20	<a href="#">137TA1847</a>
6 pieces	Float size 24	<a href="#">137TA1848</a>
6 pieces	Float size 29	<a href="#">137TA1849</a>
6 pieces	Float size 34	<a href="#">111TA3478</a>
6 pieces	Float size 39	<a href="#">137TA1850</a>
6 pieces	Float size 49	<a href="#">137TA1851</a>
6 pieces	Float size 59	<a href="#">137TA1852</a>
4 pieces	Water filter – connection 10 mm	<a href="#">106TA8951</a>
4 pieces	Flow indicator – connection 10 mm	<a href="#">106TA8956</a>
4 pieces	Male joint 7 mm	<a href="#">137TA1856</a>
4 pieces	Male joint 11 mm	<a href="#">106TA8952</a>
4 pieces	Female joint 7 mm	<a href="#">137TA1853</a>
4 pieces	Female joint 11 mm	<a href="#">106TA8953</a>
4 pieces	X-connection 10/10/10/10	<a href="#">106TA8950</a>
4 pieces	X-connection 6/10/6/10	<a href="#">106TA8949</a>
4 pieces	X-connection 6/6/6/6	<a href="#">137TA1837</a>
4 pieces	T-connection 10/10/10	<a href="#">106TA8948</a>
4 pieces	T-connection 10/6/10	<a href="#">106TA8947</a>
4 pieces	T-connection 6/10/6	<a href="#">106TA8946</a>
4 pieces	T-connection 6/6/6	<a href="#">137TA1836</a>
4 pieces	L-connection 10/10	<a href="#">106TA8945</a>
4 pieces	L-connection 10/6	<a href="#">106TA8944</a>
4 pieces	L-connection 6/6	<a href="#">137TA1835</a>
5 pieces	Hose clamp 9 mm	<a href="#">137TA1860</a>
5 pieces	Hose clamp 14 mm	<a href="#">137TA1859</a>
20 pieces	End stop	<a href="#">106TA8940</a>
5 meter	Water hose 6 x 9 mm	<a href="#">107TA1688</a>
5 meter	Water hose 10 x 14 mm	<a href="#">106TA8942</a>
5 pieces	Flexible screw-on connector 35 mm <sup>2</sup> , length: 110 mm	<a href="#">106TA8896</a>
5 pieces	Flexible screw-on connector 35 mm <sup>2</sup> , length: 130 mm	<a href="#">106TA8897</a>
5 pieces	Flexible screw-on connector 35 mm <sup>2</sup> , length: 150 mm	<a href="#">106TA8898</a>
5 pieces	Flexible screw-on connector 35 mm <sup>2</sup> , length: 170 mm	<a href="#">106TA8899</a>
5 pieces	Flexible screw-on connector 50 mm <sup>2</sup> , length: 110 mm	<a href="#">106TA8907</a>
5 pieces	Flexible screw-on connector 50 mm <sup>2</sup> , length: 130 mm	<a href="#">106TA8908</a>
5 pieces	Flexible screw-on connector 50 mm <sup>2</sup> , length: 150 mm	<a href="#">106TA8909</a>
5 pieces	Flexible screw-on connector 50 mm <sup>2</sup> , length: 170 mm	<a href="#">106TA8910</a>
50 pieces	Isolated screw M10 x 1,5 x 23 mm	<a href="#">134TA8566</a>
1 piece	Battery grease anti-corrosion	<a href="#">106TA8991</a>
1 piece	Battery protection spray 400 ml	<a href="#">107TA7662</a>
1 piece	Hydrometer	<a href="#">138TA3957</a>
1 piece	Box	<a href="#">125TA6353</a>



## FEMALE COUPLING FOR AIR



REF [143TA4893](#) – K6  
REF [143TA4892](#) – K10

## MALE COUPLING FOR AIR



REF [143TA4895](#) – S6  
REF [143TA4894](#) – S10

## VALVE FOR ELECTROLYTE CIRCULATION



REF [143TA4896](#)

## L-CONNECTOR FOR ELECTROLYTE CIRCULATION



REF [143TA4903](#)

## T-CONNECTOR FOR ELECTROLYTE CIRCULATION



REF [143TA4904](#)

## T-CONNECTOR FOR ELECTROLYTE CIRCULATION 90°

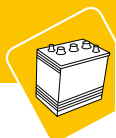


REF [143TA4905](#)

## WATER EVACUATION PIPE



REF [143TA4906](#)

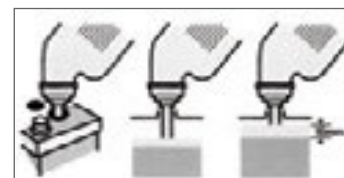


## FILLING PUMP



REF [106TA8986](#)  
Manual battery filling pump

## WATER TOPPING-UP BOTTLE



REF [106TA8983](#) – 1 l  
REF [131TA6367](#) – 2 l  
• Specially for battery fill  
• Automatic stop

## FOOT PUMP



REF [116TA5779](#)  
Foot pump suitable for barrels up to 120 l

## HAND PUMP



REF [116TA5780](#)  
Hand pump suitable for barrels up to 60 l



## HYDROPURE

### Make buying distilled water a thing of the past

1 **REF 127TA3874**

The HydroPure is a low-cost deionizer 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.

**REF 127TA3874**

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

**REF 127TA3875**

Replacement deioniser cartridge for 300/400

### Specifications

- **Professional quality deionizers:** Not just a filter, which only removes particles, but a real ion-exchange medium which electrostatically removes dissolved impurities. Purity is comparable with 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
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
Indication	
Purity light indication water OK	Steady green flash
Purity light indication water BAD	Double red flash
Purity light OK max threshold	50 ppm

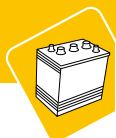
2 **REF 140TA8949**

Model PS-400, with double PS600 cartridge



1

2



## HYDROFILL

No matter where your battery is, you can fill it!

### REF [127TA3873](#)

Most industrial batteries need regular watering but it is often difficult to bring the battery to an adequate water supply for refilling. Batteries and trucks can often be located in separate areas on site and this often leads to wasted time and improper watering.

With the HydroFill water can be transported to the battery wherever required. The HydroFill is a battery powered cart that is used with our WateringGuns or float filling system to top up batteries. The operation is simple, you just top up the cart with a deioniser unit, bottled water, from the tap (if suitable for topping up batteries), attach to topping system, turn on the cart and you're ready to go.

- Easy transportation of water to the battery
- Inbuilt pump and battery
- No long wires or hoses
- Perfect for small fleets

- 1 Easy to manoeuvre: handles like a hand truck
- 2 Easy to use: instructions on unit
- 3 Easy to fill: large opening
- 4 Sturdy 30 l tank
- 5 ON/OFF switch located on the rear of the unit
- 6 3 m hose attaches to all our water filling pistols
- 7 Sealed rechargeable battery is included. Charge the unit from any 230 V AC outlet with the provided charger.



## PRESSURE REGULATOR

Quick connect male to BFS female includes filter and flow indicator. Includes pressure regulator to 15 psi.

### REF [145TA2097](#)

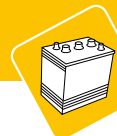


## PRESSURE REGULATOR

Filling adapter for use with Hydrofill Watering Cart and stealth floats, pressure reducer for correct pressure for floats.

### REF [145TA2098](#)





## BATTERY FILLER UNIT



### REF [106TA8976](#)

- Mobile water filling system with 60 l barrel + gun
- Battery of 12 V 6,5 Ah

## QUICK-FILL

### REF [115TA4702](#)

Vacuum filling system for batteries: fills vehicle batteries in 30 seconds! "Quick-fill" is a pneumatic vacuum filler pump. This compact device is made entirely out of corrosion-proof PVC & steel. The filler pump is used to fill starter and traction batteries with acid.

It is easy to use and completely splatter-free! An extremely reliable device with only 2 moving valves, which require virtually no maintenance.

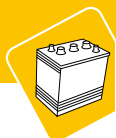
All this confirms the "Quick-fill" reputation as one of the world's most reliable and fastest filling systems in the battery field.

#### Features:

- Does not fill damaged or leaking batteries
- User-friendly, simple, safe & splatter-free
- Reliable & virtually maintenance-free: only 2 moving parts
- Manufactured from corrosion-proof PVC & steel
- With overflow inhibitor
- Filler head + adaptors included

- Dimensions: 355 x 190 x 480 mm
- Weight: 8 kg
- Air pressure: 1,4–2,8 bar





## MANUAL SUCTION PUMP



**REF 105TA4900**

Hand pump with 9 l reservoir for emptying water/acid from battery and boxes

## BATTERY SUCTION PUMPS



**REF 106TA8974**

- Fixed unit on stand
- 12 V suction pump for emptying water/acid from battery and boxes

## TROLLEY ACTIVATOR 220 V



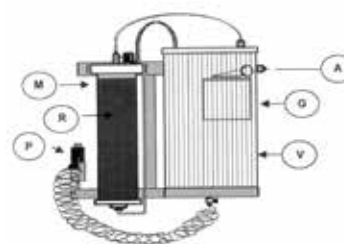
**REF 106TA8978**

- Model indicated for middle work loads
- Fills and levels all the types of batteries
- Fills and levels batteries with degassing holes
- 2 electrical pumps: one for putting acid into the element, the other for taking away the acid to level the element





## WATER DEMINERALIZER COMPLETE WITH RESERVOIR



### REF [103TA1549](#) – Complete system

- 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 reservoir of 15 l

Face 1: general drawing of the system of Vinky balance

Code	Description	REF
P	Gun	<a href="#">103TA1551</a>
M	Demineralizer (= resin + tube)	<a href="#">103TA1552</a>
R	Synthetic demineralizing resin (no tube)	<a href="#">103TA1553</a>
G	Sender unit to stop water from overflowing	<a href="#">103TA1554</a>
V	Tank for demineralized water Capacity: 15 l Dimensions: 206 x 166 x 461 mm	<a href="#">103TA1555</a>

## DEMINERALIZED WATER UNIT

### 1 REF [105TA4903](#)

Can produce 150 l demineralized water

### REF [105TA4902](#)

Replacement cartridge

### 2 REF [111TA3846](#)

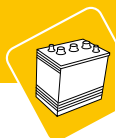
Coupling



1



2



## DISTILLED WATER STATION

Time and space are very expensive. Every year, large sums of money are spent on the maintenance of batteries with old and non-adapted equipment. To help you find a solution for this problem, we are now distributing battery water dispensing stations. These stations produce and distribute pure distilled water.

Fixed stations: (up to 20 forklifts)

This kind of station can be wall-mounted and operated directly from a pressurized drinking water supply. They are supplied with two deionization cartridges (capacity: 2 x 500 l), 5 m of flexible cable and a dispensing gun.

The deionization cartridges include a colour change exhaustion indicator window, which indicates the degree of consumption.

REF [134TA8694](#) – Complete station with standard gun – 240 l at 200 ppm

REF [138TA3951](#) – 120 l at 200 ppm



REF [106TA8971](#)

Replacement cartridge  
Dimensions (L x H x W):  
865 x 305 x 115 mm



REF [106TA8972](#)

Standard dispensing gun (without level sensor)

## DE-IONIZER UNIT WITH TANK

REF [138TA7533](#)

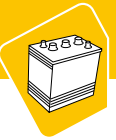
### Advantages:

- Mobile and convenient
- Protection of battery from addition of tap water
- Important reduction of maintenance cost
- Refill with tap water and get top quality DI water
- Suitable for single-point filling

Suitable for batteries, electrical stackers, electrical forklifts, golf carts and various battery-powered machines.

- Tank: 25 l
- Battery: 12 V / 12 Ah (Fuse: 6 A) maintenance-free power battery
- Flow: 4 l/min
- Pressure switch cut off at 70 PSI
- 12 meter output pressure hose with brass nut connector
- Weight: 11 kg
- Dimensions: 420 x 290 x 600 mm
- Duty cycle: single block rate of flow adjustment
- Tyre: inflatable tyre, dimension – 8" pressure – 3,0 bar





## WATER FILLING PISTOL



REF [124TA1727](#)

- Automatic shut-off
- Extra narrow 12 mm nozzle

## WATER FILLING PISTOL



REF [124TA1729](#)

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

## WATER FILLING PISTOL



REF [139TA3244](#)

- Integrated flow indicator
- Pressure regulator incorporated in nozzle
- 45° bend nozzle
- Secure level control
- 6,4 l per minute
- With flow diffuser

## WATER FILLING PISTOL



REF [138TA3952](#)

## WATER FILLING PISTOL



REF [138TA3953](#)

## WATER FILLING PISTOL



REF [138TA3954](#)

## WATER FILLING PISTOL



REF [106TA8973](#)

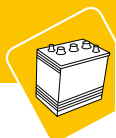
Dispensing gun with level sensor

## WATER FILLING PISTOL



REF [103TA1551](#)

Water-filling pistol complete with automatic level detector



## AQ-STEAM

### REF 115TA4701

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 neutralize excess battery acid.

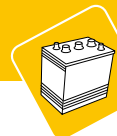


#### Advantages:

- Environment-friendly: no contaminated waste water & no cleaning rags
- Battery does not have to leave the lift truck
- Time-saving: battery boxes no longer need to be pumped out
- Cost-saving: prolongs the lifespan of your battery - prevents leakage currents
- Protected against overpressure, overheating, low-water
- Indications ...

#### Technical features:

- Stainless steel version
- Input voltage: 230 V
- Max steam: 160 °C
- Vacuum motor: 1000 W
- Pressure: 6,5 bar
- Dimensions: 600 x 550 x 330 mm
- Weight: 24 kg



## BATTERY MAINTENANCE FLUID

Revive your batteries!

Energic Plus® preventive liquid

The ideal tool to maximize the lifespan, reliability and performances of traction batteries, stationary (emergency) batteries, back-up sources and starter batteries. This battery cleaner acts preventively by counteracting sulphation of the battery. You can use this liquid either separately or in combination with the Energic Replus battery regenerator. The Energic Plus® preventive liquid is most efficient when it is added to the battery on a yearly basis from the moment of purchase. (60 ml per 100 Ah per element).

### Advantages

- Limits the water consumption of your batteries
- Preserves the battery capacity longer and boosts the operational capacity
- Increases the efficiency, functionality and reliability of batteries
- Prolongs the lifespan by up to 80% and increases both the capacity and performance (of sulphated batteries)
- Reduces costs related to the use of lead batteries
- Saves energy
- Increases the operational efficiency

### Functioning

- Removes hard sulphate
- Extends the active surface
- Eliminates and deactivates the brown deposit
- Converts the lead sulphate crystals back into active material

REF [138TA3949](#)

Energic Plus® preventive liquid 20 l



**ENERGIC Plus®**

## DEIONISED WATER

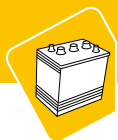


Deionised water

REF 139TA3477 – 2 l

REF 139TA3478 – 5 l

REF 106TA8676 – 25 l



## BATTERY ACID



Battery acid 37,5% (32% BE)  
REF [124TA2887](#) – 1 l  
REF [106TA8674](#) – 20 l

## ACID FILLING PISTOL



REF [106TA8988](#)  
Acid filling pistol

## MANUAL SUCTION PUMP OIL & FLUID-ACID



REF [145TA2100](#)

## PUMP



REF [106TA8996](#)  
Semi-automatic acid pump



## WATER PROTECTOR

**REF 115TA6865**

Aerosol: 400 ml

**REF 115TA6864**

Can: 1 l

Water Protector is an electrotechnical acid-free preserving agent. Eliminates moisture, corrosion and grease; lubricates and protects.



BATTERY FILLING

## PAINT FOR BATTERY BOX

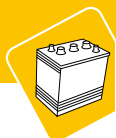
**REF 106TA8933**

- Black battery paint
- 0,5 l

**REF 106TA8932**

- Black battery paint
- 5 l





## FLEXIBLE SCREW-ON CONNECTORS

Cross section	Length	Max Ah	REF
25 mm <sup>2</sup>	75 mm	250	<a href="#">134TA8514</a>
25 mm <sup>2</sup>	95 mm	250	<a href="#">106TA8878</a>
25 mm <sup>2</sup>	110 mm	250	<a href="#">106TA8879</a>
25 mm <sup>2</sup>	130 mm	250	<a href="#">106TA8880</a>
25 mm <sup>2</sup>	150 mm	250	<a href="#">106TA8881</a>
35 mm <sup>2</sup>	75 mm	500	<a href="#">134TA8517</a>
35 mm <sup>2</sup>	85 mm	500	<a href="#">106TA8894</a>
35 mm <sup>2</sup>	95 mm	500	<a href="#">106TA8895</a>
35 mm <sup>2</sup>	110 mm	500	<a href="#">106TA8896</a>
35 mm <sup>2</sup>	130 mm	500	<a href="#">106TA8897</a>
35 mm <sup>2</sup>	150 mm	500	<a href="#">106TA8898</a>
35 mm <sup>2</sup>	170 mm	500	<a href="#">106TA8899</a>
35 mm <sup>2</sup>	190 mm	500	<a href="#">106TA8900</a>
35 mm <sup>2</sup>	210 mm	500	<a href="#">106TA8901</a>
35 mm <sup>2</sup>	300 mm	500	<a href="#">106TA8903</a>
35 mm <sup>2</sup>	350 mm	500	<a href="#">106TA8904</a>
50 mm <sup>2</sup>	75 mm	700	<a href="#">134TA8520</a>
50 mm <sup>2</sup>	95 mm	700	<a href="#">106TA8905</a>
50 mm <sup>2</sup>	110 mm	700	<a href="#">106TA8907</a>
50 mm <sup>2</sup>	130 mm	700	<a href="#">106TA8908</a>
50 mm <sup>2</sup>	150 mm	700	<a href="#">106TA8909</a>
50 mm <sup>2</sup>	170 mm	700	<a href="#">106TA8910</a>
50 mm <sup>2</sup>	190 mm	700	<a href="#">106TA8911</a>
50 mm <sup>2</sup>	210 mm	700	<a href="#">106TA8912</a>
50 mm <sup>2</sup>	250 mm	700	<a href="#">106TA8913</a>
50 mm <sup>2</sup>	300 mm	700	<a href="#">106TA8914</a>
50 mm <sup>2</sup>	350 mm	700	<a href="#">106TA8915</a>
70 mm <sup>2</sup>	95 mm	>700	<a href="#">134TA8524</a>
70 mm <sup>2</sup>	150 mm	>700	<a href="#">134TA8528</a>
70 mm <sup>2</sup>	170 mm	>700	<a href="#">134TA8529</a>
70 mm <sup>2</sup>	190 mm	>700	<a href="#">134TA8530</a>
70 mm <sup>2</sup>	210 mm	>700	<a href="#">134TA8531</a>



REF [134TA8566](#) – Screw M10x23  
 REF [144TA1732](#) – Screw M10x18  
 REF [134TA8567](#) – Screw M10x23 with aux. contact



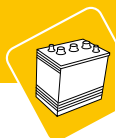


## PERFECT FLEXIBLES SCREW-ON CONNECTORS

Cross section	Length	Max Ah	REF
25 mm <sup>2</sup>	80 mm	250	<a href="#">145TA2101</a>
25 mm <sup>2</sup>	92 mm	250	<a href="#">145TA2102</a>
25 mm <sup>2</sup>	105 mm	250	<a href="#">145TA2103</a>
25 mm <sup>2</sup>	125 mm	250	<a href="#">145TA2104</a>
25 mm <sup>2</sup>	145 mm	250	<a href="#">145TA2105</a>
25 mm <sup>2</sup>	165 mm	250	<a href="#">145TA2106</a>
25 mm <sup>2</sup>	215 mm	250	<a href="#">145TA2107</a>
25 mm <sup>2</sup>	255 mm	250	<a href="#">145TA2108</a>
35 mm <sup>2</sup>	80 mm	500	<a href="#">145TA2109</a>
35 mm <sup>2</sup>	92 mm	500	<a href="#">145TA2110</a>
35 mm <sup>2</sup>	105 mm	500	<a href="#">145TA2111</a>
35 mm <sup>2</sup>	125 mm	500	<a href="#">145TA2112</a>
35 mm <sup>2</sup>	145 mm	500	<a href="#">145TA2113</a>
35 mm <sup>2</sup>	165 mm	500	<a href="#">145TA2114</a>
35 mm <sup>2</sup>	230 mm	500	<a href="#">145TA2115</a>
35 mm <sup>2</sup>	300 mm	500	<a href="#">145TA2116</a>
35 mm <sup>2</sup>	340 mm	500	<a href="#">145TA2117</a>
35 mm <sup>2</sup>	430 mm	500	<a href="#">145TA2118</a>
35 mm <sup>2</sup>	800 mm	500	<a href="#">145TA2119</a>
50 mm <sup>2</sup>	85 mm	700	<a href="#">145TA2120</a>
50 mm <sup>2</sup>	92 mm	700	<a href="#">145TA2121</a>
50 mm <sup>2</sup>	105 mm	700	<a href="#">145TA2122</a>
50 mm <sup>2</sup>	125 mm	700	<a href="#">145TA2123</a>
50 mm <sup>2</sup>	145 mm	700	<a href="#">145TA2124</a>
50 mm <sup>2</sup>	165 mm	700	<a href="#">145TA2125</a>
50 mm <sup>2</sup>	180 mm	700	<a href="#">145TA2126</a>
50 mm <sup>2</sup>	200 mm	700	<a href="#">145TA2127</a>
50 mm <sup>2</sup>	230 mm	700	<a href="#">145TA2128</a>
50 mm <sup>2</sup>	260 mm	700	<a href="#">145TA2129</a>
50 mm <sup>2</sup>	300 mm	700	<a href="#">145TA2130</a>
50 mm <sup>2</sup>	340 mm	700	<a href="#">145TA2131</a>
50 mm <sup>2</sup>	430 mm	700	<a href="#">145TA2132</a>
50 mm <sup>2</sup>	850 mm	700	<a href="#">145TA2133</a>
70 mm <sup>2</sup>	92 mm	>700	<a href="#">145TA2134</a>
70 mm <sup>2</sup>	105 mm	>700	<a href="#">145TA2135</a>
70 mm <sup>2</sup>	125 mm	>700	<a href="#">145TA2136</a>
70 mm <sup>2</sup>	145 mm	>700	<a href="#">145TA2137</a>
70 mm <sup>2</sup>	165 mm	>700	<a href="#">145TA2138</a>
70 mm <sup>2</sup>	180 mm	>700	<a href="#">145TA2139</a>
70 mm <sup>2</sup>	200 mm	>700	<a href="#">145TA2140</a>
70 mm <sup>2</sup>	230 mm	>700	<a href="#">145TA2141</a>
70 mm <sup>2</sup>	260 mm	>700	<a href="#">145TA2142</a>
70 mm <sup>2</sup>	300 mm	>700	<a href="#">145TA2143</a>



REF 145TA2144 – Cap for negative pole  
 REF 145TA2145 – Cap for positive pole  
 REF 145TA2146 – Screw M10x20



## SOLDER/SCREW-ON CONNECTORS

Cross section	Length	REF
35 mm <sup>2</sup>	93 mm	<a href="#">134TA8552</a>
35 mm <sup>2</sup>	113 mm	<a href="#">134TA8554</a>
35 mm <sup>2</sup>	129 mm	<a href="#">134TA8555</a>
35 mm <sup>2</sup>	160 mm	<a href="#">134TA8556</a>
50 mm <sup>2</sup>	93 mm	<a href="#">134TA8557</a>
50 mm <sup>2</sup>	104 mm	<a href="#">134TA8558</a>
50 mm <sup>2</sup>	122 mm	<a href="#">134TA8559</a>

Cross section	Length	REF
50 mm <sup>2</sup>	141 mm	<a href="#">134TA8560</a>
50 mm <sup>2</sup>	160 mm	<a href="#">134TA8561</a>
70 mm <sup>2</sup>	93 mm	<a href="#">134TA8562</a>
70 mm <sup>2</sup>	104 mm	<a href="#">134TA8563</a>
70 mm <sup>2</sup>	113 mm	<a href="#">134TA8564</a>
70 mm <sup>2</sup>	160 mm	<a href="#">134TA8565</a>

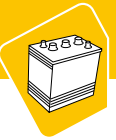


## SOLDER CONNECTORS

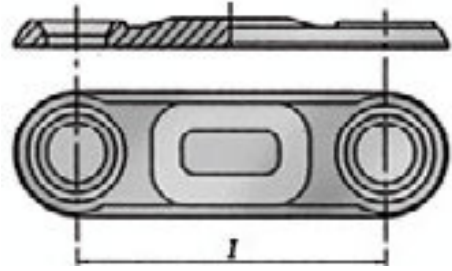
Cross section	Length	REF
35 mm <sup>2</sup>	93 mm	<a href="#">134TA8538</a>
35 mm <sup>2</sup>	104 mm	<a href="#">134TA8539</a>
35 mm <sup>2</sup>	113 mm	<a href="#">134TA8540</a>
35 mm <sup>2</sup>	129 mm	<a href="#">134TA8541</a>
35 mm <sup>2</sup>	160 mm	<a href="#">134TA8542</a>
50 mm <sup>2</sup>	93 mm	<a href="#">134TA8543</a>
50 mm <sup>2</sup>	104 mm	<a href="#">134TA8544</a>

Cross section	Length	REF
50 mm <sup>2</sup>	122 mm	<a href="#">134TA8545</a>
50 mm <sup>2</sup>	141 mm	<a href="#">134TA8546</a>
50 mm <sup>2</sup>	160 mm	<a href="#">134TA8547</a>
70 mm <sup>2</sup>	93 mm	<a href="#">134TA8548</a>
70 mm <sup>2</sup>	104 mm	<a href="#">134TA8549</a>
70 mm <sup>2</sup>	113 mm	<a href="#">134TA8550</a>
70 mm <sup>2</sup>	160 mm	<a href="#">134TA8551</a>



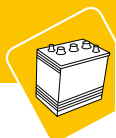


## LEAD CONNECTORS

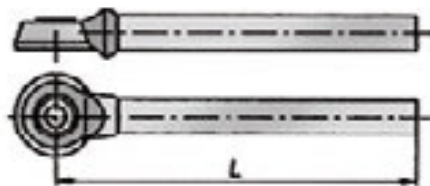


Length	REF	Protection cap	REF
46 mm	<a href="#">134TA8492</a>	1	<a href="#">106TA8884</a>
52 mm	<a href="#">134TA8493</a>	1,5	<a href="#">106TA8885</a>
54 mm	<a href="#">134TA8494</a>	1,5	<a href="#">106TA8885</a>
65 mm	<a href="#">134TA8495</a>	2	<a href="#">106TA8886</a>
68 mm	<a href="#">134TA8496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

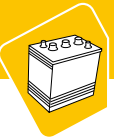




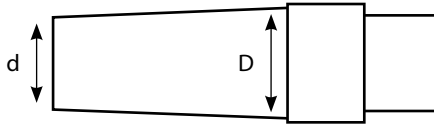
## SET OF END CABLES (RED & BLUE)



Cross section	Length	Single cable		REF Set
		REF Red	REF Blue	
25 mm <sup>2</sup>	1500 mm	<a href="#">145TA2147</a>	<a href="#">145TA2155</a>	<a href="#">106TA8845</a>
25 mm <sup>2</sup>	2000 mm	<a href="#">145TA2148</a>	<a href="#">145TA2156</a>	<a href="#">106TA8846</a>
35 mm <sup>2</sup>	1500 mm	<a href="#">145TA2149</a>	<a href="#">145TA2157</a>	<a href="#">106TA8847</a>
35 mm <sup>2</sup>	2000 mm	<a href="#">145TA2150</a>	<a href="#">145TA2158</a>	<a href="#">106TA8848</a>
50 mm <sup>2</sup>	1500 mm	<a href="#">145TA2151</a>	<a href="#">145TA2159</a>	<a href="#">106TA8849</a>
50 mm <sup>2</sup>	2000 mm	<a href="#">145TA2152</a>	<a href="#">145TA2160</a>	<a href="#">106TA8850</a>
70 mm <sup>2</sup>	1500 mm	<a href="#">145TA2153</a>	<a href="#">145TA2161</a>	<a href="#">106TA8851</a>
70 mm <sup>2</sup>	2000 mm	<a href="#">145TA2154</a>	<a href="#">145TA2162</a>	<a href="#">106TA8852</a>



## CONIC TERMINAL



Type	d	D	REF/piece
Positive: 35-50 mm <sup>2</sup>	16 mm	18,5 mm	<a href="#">107TA9074</a>
Negative: 35-50 mm <sup>2</sup>	14 mm	16,5 mm	<a href="#">107TA9075</a>
Positive: 70-95 mm <sup>2</sup>	16 mm	18,5 mm	<a href="#">123TA6763</a>
Negative: 70-95 mm <sup>2</sup>	14 mm	16,5 mm	<a href="#">123TA6764</a>



## CONIC TERMINAL

Type	Cable	REF
Positive left	35-50 mm <sup>2</sup>	<a href="#">131TA7043</a>
Positive right	35-50 mm <sup>2</sup>	<a href="#">131TA7044</a>
Negative left	35-50 mm <sup>2</sup>	<a href="#">131TA7045</a>
Negative right	35-50 mm <sup>2</sup>	<a href="#">131TA7046</a>
Positive left	70-95 mm <sup>2</sup>	<a href="#">131TA7047</a>
Positive right	70-95 mm <sup>2</sup>	<a href="#">131TA7048</a>
Negative left	70-95 mm <sup>2</sup>	<a href="#">131TA7049</a>
Negative right	70-95 mm <sup>2</sup>	<a href="#">131TA7050</a>



Type	Cable	REF	
		For 7 SH	For 8-9-10 SH
Positive left	35-50 mm <sup>2</sup>	<a href="#">131TA7051</a>	<a href="#">131TA7059</a>
Positive right	35-50 mm <sup>2</sup>	<a href="#">131TA7052</a>	<a href="#">131TA7060</a>
Negative left	35-50 mm <sup>2</sup>	<a href="#">131TA7053</a>	<a href="#">131TA7061</a>
Negative right	35-50 mm <sup>2</sup>	<a href="#">131TA7054</a>	<a href="#">131TA7062</a>
Positive left	70-95 mm <sup>2</sup>	<a href="#">131TA7055</a>	<a href="#">131TA7063</a>
Positive right	70-95 mm <sup>2</sup>	<a href="#">131TA7056</a>	<a href="#">131TA7064</a>
Negative left	70-95 mm <sup>2</sup>	<a href="#">131TA7057</a>	<a href="#">131TA7065</a>
Negative right	70-95 mm <sup>2</sup>	<a href="#">131TA7058</a>	<a href="#">131TA7066</a>



### End terminal

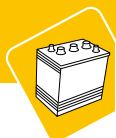


REF [131TA7067](#)  
01093 for CT

### End terminal



REF [131TA7068](#) – Negative  
REF [131TA7069](#) – Positive  
01094 for CT



## FIXING CABLE BY CRIMP

+ /-	REF	Terminal
Positive	<a href="#">145TA2163</a>	16 mm <sup>2</sup>
	<a href="#">145TA2165</a>	25 mm <sup>2</sup>
	<a href="#">145TA2167</a>	35 mm <sup>2</sup>
	<a href="#">145TA2169</a>	50 mm <sup>2</sup>
	<a href="#">145TA2171</a>	70 mm <sup>2</sup>
Negative	<a href="#">145TA2164</a>	16 mm <sup>2</sup>
	<a href="#">145TA2166</a>	25 mm <sup>2</sup>
	<a href="#">145TA2168</a>	35 mm <sup>2</sup>
	<a href="#">145TA2170</a>	50 mm <sup>2</sup>
	<a href="#">145TA2172</a>	70 mm <sup>2</sup>



## FIXING CABLE BY PLATE

+ /-	REF	Terminal
Positive	<a href="#">145TA2173</a>	16-35 mm <sup>2</sup>
	<a href="#">145TA2174</a>	50-70 mm <sup>2</sup>
Negative	<a href="#">106TA9404</a>	16-35 mm <sup>2</sup>
	<a href="#">145TA2175</a>	50-70 mm <sup>2</sup>



## FIXING CABLE BY PLATE

+ /-	REF	Terminal
Positive	<a href="#">145TA2176</a>	16-35 mm <sup>2</sup>
	<a href="#">145TA2178</a>	50-70 mm <sup>2</sup>
Negative	<a href="#">145TA2177</a>	16-35 mm <sup>2</sup>
	<a href="#">145TA2179</a>	50-70 mm <sup>2</sup>

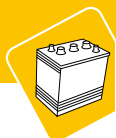




## FIXING CABLE BY PLATE

+ /-	REF	Terminal
Positive	<a href="#">145TA2180</a>	16-35 mm <sup>2</sup>
	<a href="#">145TA2182</a>	50-70 mm <sup>2</sup>
Negative	<a href="#">145TA2181</a>	16-35 mm <sup>2</sup>
	<a href="#">145TA2183</a>	50-70 mm <sup>2</sup>





## BOLT-ON BATTERY TERMINALS



+



Type	Screw	REF/piece
Positive	M8	<a href="#">106TA9408</a>
	M10	<a href="#">106TA9409</a>



-



Type	Screw	REF/piece
Negative	M8	<a href="#">106TA9406</a>
	M10	<a href="#">106TA9407</a>

Ø 17,5 mm



+

Type	Screw	REF/piece
Positive	M8	<a href="#">111TA3847</a>
	M10	<a href="#">134TA9541</a>

Ø 15,9 mm



-

Type	Screw	REF/piece
Negative	M8	<a href="#">111TA3848</a>
	M10	<a href="#">134TA9542</a>



+

Type Tourism	Section	REF/piece
Positive	35 mm <sup>2</sup>	<a href="#">106TA9411</a>



-

Type Tourism	Section	REF/piece
Negative	35 mm <sup>2</sup>	<a href="#">145TA2184</a>



+

Type Diesel	Section	REF/piece
Positive	50 mm <sup>2</sup>	<a href="#">106TA9413</a>

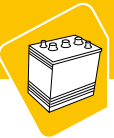


-

Type Diesel	Section	REF/piece
Negative	50 mm <sup>2</sup>	<a href="#">106TA9412</a>

Please call us for further details!





## BOLT-ON BATTERY TERMINALS



+

Type		REF/piece
Positive		<a href="#">145TA2185</a>



-

Type		REF/piece
Negative		<a href="#">145TA2186</a>



+

Type	Screw	REF/piece
Positive	M8	<a href="#">145TA2187</a>



-

Type	Screw	REF/piece
Negative	M8	<a href="#">145TA2188</a>



+

Type		REF/piece
Positive		<a href="#">145TA2189</a>
Positive		<a href="#">145TA2191</a>



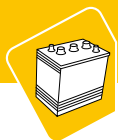
-

Type		REF/piece
Negative		<a href="#">145TA2190</a>
Negative		<a href="#">145TA2192</a>

## BATTERY TERMINALS



REF [106TA9425](#)  
Quickfit type (sold in pairs)



## TERMINAL



REF [145TA2193](#)  
2-pole terminal

## TERMINAL



REF [145TA2194](#)  
1-pole terminal

## SCREW



REF [145TA2195](#)  
Screw M8

## FUSES

REF	FUSE
<a href="#">145TA2197</a>	50A
<a href="#">145TA2198</a>	75A
<a href="#">111TA4011</a>	100A
<a href="#">123TA8382</a>	125A
<a href="#">123TA8383</a>	150A
<a href="#">123TA8384</a>	175A
<a href="#">123TA8385</a>	200A
<a href="#">123TA8386</a>	250A
<a href="#">123TA8387</a>	300A



## CONIC POLES TO FORD POST ENDS $\oplus / \ominus$

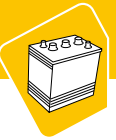


REF [145TA2205](#)

## REDUCING COUPLING



REF [131TA7071](#)



## STANDARD TO SMALL POLES



REF [145TA2207](#)

## FROM SCREW POLE END TO CONIC POLE

\* Sold per pair

REF	Screw
<a href="#">145TA2208</a>	M6
<a href="#">145TA2209</a>	M8
<a href="#">145TA2210</a>	3/8"
<a href="#">144TA1868</a>	M6
<a href="#">144TA1869</a>	M8



## COVERS



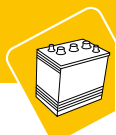
Cable size	REF/piece
10-70 mm <sup>2</sup>	<a href="#">145TA2199</a>
10-70 mm <sup>2</sup>	<a href="#">145TA2200</a>



Cable size	REF/piece
10-70 mm <sup>2</sup>	<a href="#">145TA2201</a>
10-70 mm <sup>2</sup>	<a href="#">145TA2202</a>



Cable size	REF/piece
10-70 mm <sup>2</sup>	<a href="#">145TA2203</a>
10-70 mm <sup>2</sup>	<a href="#">145TA2204</a>



TERMINAL PROTECTION

## TOP TERMINAL (-)



REF [106TA6823](#)

Cable size: 6 AWG (13,3 mm<sup>2</sup>)

REF [111TA3822](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

## TOP TERMINAL (+)



REF [111TA3827](#)

Cable size: 6 AWG (13,3 mm<sup>2</sup>)

REF [111TA3823](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

## LEFT ELBOW TERMINAL (-)



REF [106TA6824](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

REF [111TA3824](#)

Cable size: 1/0 - 3/0 AWG (53,5 - 85 mm<sup>2</sup>)

## LEFT ELBOW TERMINAL (+)



REF [106TA6825](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

REF [111TA3826](#)

Cable size: 1/0 - 3/0 AWG (53,5 - 85 mm<sup>2</sup>)

## RIGHT ELBOW (-)



REF [111TA3828](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

REF [111TA3825](#)

Cable size: 1/0 - 3/0 AWG (53,5 - 85 mm<sup>2</sup>)

## RIGHT ELBOW (+)



REF [111TA3829](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

REF [111TA3830](#)

Cable size: 1/0 - 3/0 AWG (53,5 - 85 mm<sup>2</sup>)

## FLAG TERMINAL (-)



REF [111TA3831](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

REF [111TA3832](#)

Cable size: 1/0 - 3/0 AWG (53,5 - 85 mm<sup>2</sup>)

## FLAG TERMINAL (+)

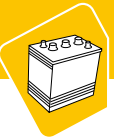


REF [111TA3833](#)

Cable size: 1 - 2 AWG (33,7 - 42,4 mm<sup>2</sup>)

REF [111TA3834](#)

Cable size: 1/0 - 3/0 AWG (53,5 - 85 mm<sup>2</sup>)

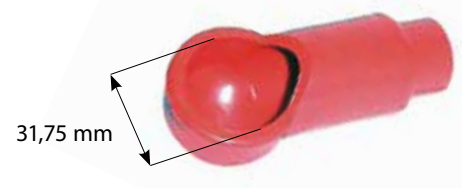


## SIDE TERMINAL (-)



**REF [111TA3835](#)**  
Cable size: 2 AWG (33,7 mm<sup>2</sup>)  
**REF [111TA3836](#)**  
Cable size: 1/0 AWG (53,5 mm<sup>2</sup>)  
**REF [112TA4799](#)**  
Cable size: 2/0 AWG (67,4 mm<sup>2</sup>)

## SIDE TERMINAL (+)



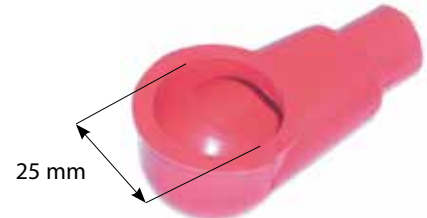
**REF [111TA3838](#)**  
Cable size: 2 AWG (33,7 mm<sup>2</sup>)  
**REF [111TA3839](#)**  
Cable size: 1/0 AWG (53,5 mm<sup>2</sup>)  
**REF [111TA3840](#)**  
Cable size: 2/0 AWG (67,4 mm<sup>2</sup>)

## SIDE TERMINAL (-)



**REF [111TA3841](#)**  
Cable size: 1 AWG (42,4 mm<sup>2</sup>)

## SIDE TERMINAL (+)



**REF [112TA4800](#)**  
Cable size: 1 AWG (42,4 mm<sup>2</sup>)

## SIDE TERMINAL (-)



**REF [111TA3842](#)**  
Cable size: 50 mm<sup>2</sup>

## TERMINAL FOR DISTRIBUTOR CAPS (-)



**REF [111TA3844](#)**  
Cable size: 6 mm<sup>2</sup>

## SIDE TERMINAL FOR IGNITION COILS (-)

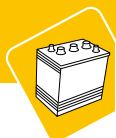


**REF [111TA3843](#)**  
Cable size: 6 - 8 mm<sup>2</sup>

## SIDE TERMINAL (-)



**REF [131TA7017](#)**  
Cable size: 25 mm<sup>2</sup>



## PROTECTIVE TERMINALS $\oplus$ / $\ominus$



REF [131TA7018](#)

D: 32 mm, red,  $\oplus$

REF [131TA7019](#)

D: 32 mm, black,  $\ominus$

## PROTECTIVE TERMINALS $\oplus$ / $\ominus$



REF [131TA7020](#)

D: 30 mm, red,  $\oplus$

REF [131TA7021](#)

D: 30 mm, black,  $\ominus$

## PROTECTIVE TERMINALS $\oplus$ / $\ominus$



REF [131TA7022](#)

D: 26 mm, red,  $\oplus$

REF [131TA7023](#)

D: 26 mm, black,  $\ominus$

## PROTECTIVE TERMINALS $\oplus$ / $\ominus$



REF [131TA7024](#)

D: 24 mm, red,  $\oplus$

REF [131TA7025](#)

D: 24 mm, black,  $\ominus$

## PROTECTIVE TERMINALS $\oplus$ / $\ominus$



REF [131TA7026](#)

D: 20 mm, red,  $\oplus$

REF [131TA7027](#)

D: 20 mm, black,  $\ominus$



## BRUSH CLEANING SET



REF [106TA8985](#)

## BATTERY TERMINAL CLEANER



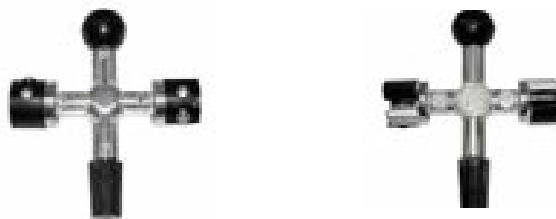
REF [137TA1861](#)

## CLEANING BRUSH FOR BATTERY POLE

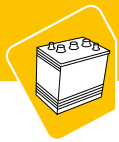


REF [142TA8273](#)

## POLE AND TERMINAL REAMER



REF [145TA2211](#)



## SIDE TERMINAL RACHET WRENCHES



**REF 145TA2216**

- Reversible
- For 5/16" and 10 mm

## SIDE TERMINAL BATTERY WRENCH – 10 MM



**REF 145TA2219**

- 6-point metric wrench services many imports and domestic (except GM) vehicles
- Vinyl grip protects against electrical shock
- OAL: 5-1/2" (140 mm)

## EXTRA LONG BATTERY WRENCH -5/16"



**REF 145TA2217**

9-1/2" (24 cm) long wrench offers extra reach for hard-to-access applications California Proposition 65

**WARNING:** This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

## BATTERY TERMINAL PULLER

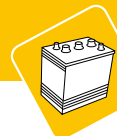


**REF 145TA8756**

- Max width: 60 mm
- Max height: 40 mm
- Weight: 225 g







## HEAVY-DUTY BATTERY TERMINAL PULLER

**REF [145TA2213](#)**

- Jaws are thickgauge steel with sharp ends and center screw to handle high torque requirements
- Battery terminal puller

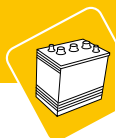


## BATTERY TERMINAL SPREADER & CLEANER

**REF [145TA2215](#)**

- Sharp milled teeth for effective cleaning
- Die-cast construction with vinyl grips
- OAL: 7" (178 mm)





## BATTERY TERMINAL ANTI-CORROSION GEL



**REF [115TA4697](#)**

- Provides corrosion inhibitor protection
- Easy-application brush is included and comes attached to the lid
- Can: 227 g

## BATTERY CLEANER AND ACID INDICATOR



**REF [107TA7662](#)**

- With acid indicator
- Eliminates and prevents corrosion
- Turns pink in the presence of acid
- 400 ml

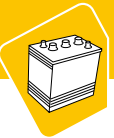
Curious about more products for battery maintenance?  
Contact your sales advisor.

## BATTERY GREASE



**REF [106TA8991](#)**

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



## BOOSTER CABLES WITH INSULATED TERMINALS

Amp	Diameter	Length	REF
150 A	10 mm <sup>2</sup>	2,5 m	<a href="#">131TA8484</a>
200 A	10 mm <sup>2</sup>	2,8 m	<a href="#">143TA4866</a>
220 A	16 mm <sup>2</sup>	3 m	<a href="#">131TA8485</a>
400 A	16 mm <sup>2</sup>	3 m	<a href="#">143TA4867</a>
400 A	25 mm <sup>2</sup>	3,5 m	<a href="#">143TA4868</a>
400 A	35 mm <sup>2</sup>	4,5 m	<a href="#">143TA4863</a>



## JUMP LEADS

Amp	Diameter	Length	REF
120 A	16 mm <sup>2</sup>	2500 mm	<a href="#">143TA4869</a>
250 A	10 mm <sup>2</sup>	2500 mm	<a href="#">112TA4803</a>
350 A	16 mm <sup>2</sup>	3000 mm	<a href="#">106TA9424</a>
700 A	35 mm <sup>2</sup>	3500 mm	<a href="#">144TA1771</a>
1000 A	50 mm <sup>2</sup>	5000 mm	<a href="#">145TA2226</a>



## NON-ISOLATED BATTERY CLAMPS

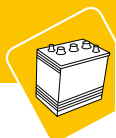
Amp	Colour	REF	Colour	REF
40 A	Red	<a href="#">106TA6827</a>	Black	<a href="#">106TA6826</a>
60A	Red	<a href="#">131TA8472</a>	Black	<a href="#">131TA8478</a>
120A	Red	<a href="#">131TA8473</a>	Black	<a href="#">131TA8479</a>
250A	Red	<a href="#">112TA4801</a>	Black	<a href="#">112TA4802</a>
350A	Red	<a href="#">106TA9422</a>	Black	<a href="#">106TA9423</a>
600A	Red	<a href="#">131TA8476</a>	Black	<a href="#">131TA8482</a>



## ISOLATED BATTERY CLAMPS

Amp	Colour	REF	Colour	REF
350A	Red	<a href="#">131TA8474</a>	Black	<a href="#">131TA8480</a>
500A	Red	<a href="#">131TA8475</a>	Black	<a href="#">131TA8481</a>
600A	Red	<a href="#">131TA8477</a>	Black	<a href="#">131TA8483</a>





## TYPE EUROPE - CABLE

### Straight



- REF [131TA7007](#)**
- Type: 3G0,75
  - Length: 2500 mm



- REF [131TA7008](#)**
- Type: 3G1
  - Length: 2500 mm

### Spiral



- REF [131TA7009](#)**
- Type: 3G1
  - Spiral length: 530 mm



- REF [106TA6338](#)**
- Type: 3G1
  - Spiral length: 500 mm
  - Only with one plug (male)



- REF [111TA3845](#)**
- Type: 3G1
  - Spiral length: 520 mm

## TYPE UK - CABLE

### Straight



- REF [131TA7010](#)**
- Type: 3G1
  - Length: 2500 mm
  - Fused: 13 A

### Spiral



- REF [131TA7011](#)**
- Type: 3G1
  - Spiral length: 550 mm
  - Fused: 13 A

## ACCESSORIES



- REF [116TA5179](#)**  
Plug EUR



- REF [131TA7012](#)**
- Plug UK
  - Fused: 13 A



- REF [131TA7013](#)**
- Male plug
  - 10 A – 250 VAC
  - 2p + pin earth



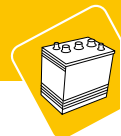
- REF [131TA7014](#)**
- Female plug
  - 10 A – 250 VAC
  - 2p + pin earth



- REF [115TA6975](#)**
- Travel adapter
  - Output EUR




- REF [145TA9279](#)**
- Travel adapter
  - Input EUR



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

### Female wall plug

	Amp	REF	
2P + $\perp$	16A	<a href="#">131TA7072</a>	
	32A	<a href="#">131TA7073</a>	
3P + $\perp$	16A	<a href="#">131TA7074</a>	
	32A	<a href="#">131TA7075</a>	
3P + N + $\perp$	16A	<a href="#">131TA7076</a>	
	32A	<a href="#">131TA7077</a>	

### Female plug

	Amp	REF	
2P + $\perp$	16A	<a href="#">131TA7015</a>	
	32A	<a href="#">131TA7078</a>	
3P + $\perp$	16A	<a href="#">131TA7079</a>	
	32A	<a href="#">131TA7080</a>	
3P + N + $\perp$	16A	<a href="#">131TA7081</a>	
	32A	<a href="#">131TA7082</a>	

### Male wall plug


	Amp	REF	
2P + $\perp$	16A	<a href="#">131TA7083</a>	
	32A	<a href="#">131TA7084</a>	
3P + $\perp$	16A	<a href="#">131TA7085</a>	
	32A	<a href="#">131TA7086</a>	
3P + N + $\perp$	16A	<a href="#">131TA7087</a>	
	32A	<a href="#">131TA7088</a>	

### Male plug

	Amp	REF	
2P + $\perp$	16A	<a href="#">131TA7089</a>	
	32A	<a href="#">131TA7016</a>	
3P + $\perp$	16A	<a href="#">131TA7090</a>	
	32A	<a href="#">131TA7091</a>	
3P + N + $\perp$	16A	<a href="#">131TA7092</a>	
	32A	<a href="#">131TA7093</a>	

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


### Female wall plug

	Amp	REF	
3P + $\perp$	16A	<a href="#">106TA6750</a>	
	32A	<a href="#">106TA6751</a>	
3P + N + $\perp$	16A	<a href="#">106TA6752</a>	
	32A	<a href="#">106TA6753</a>	

### Female plug

	Amp	REF	
3P + $\perp$	16A	<a href="#">106TA6762</a>	
	32A	<a href="#">106TA6763</a>	
3P + N + $\perp$	16A	<a href="#">106TA6764</a>	
	32A	<a href="#">106TA6765</a>	

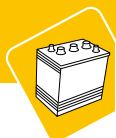
### Male wall plug

	Amp	REF	
3P + $\perp$	16A	<a href="#">106TA6758</a>	
	32A	<a href="#">106TA6759</a>	
3P + N + $\perp$	16A	<a href="#">106TA6760</a>	
	32A	<a href="#">106TA6761</a>	

### Male plug

	Amp	REF	
3P + $\perp$	16A	<a href="#">106TA6754</a>	
	32A	<a href="#">106TA6755</a>	
3P + N + $\perp$	16A	<a href="#">106TA6756</a>	
	32A	<a href="#">106TA6757</a>	

Also IP67 available. Contact us for more details.



TOOLS

## ASSEMBLY HEAVY CABLE LUGS



Section	Ø	Quantity	Section	Ø	Quantity
10 mm <sup>2</sup>	6 mm	10	35 mm <sup>2</sup>	8 mm	10
	8 mm	10		10 mm	10
	10 mm	10		12 mm	10
	12 mm	10		14 mm	10
16 mm <sup>2</sup>	6 mm	10	50 mm <sup>2</sup>	6 mm	10
	8 mm	10		8 mm	10
	10 mm	10		10 mm	10
	12 mm	10		12 mm	10
25 mm <sup>2</sup>	6 mm	10	70 mm <sup>2</sup>	8 mm	10
	8 mm	10		10 mm	10
	10 mm	10		14 mm	10
	12 mm	10	95 mm <sup>2</sup>	10 mm	10
35 mm <sup>2</sup>	6 mm	10			



REF [129TA9961](#)

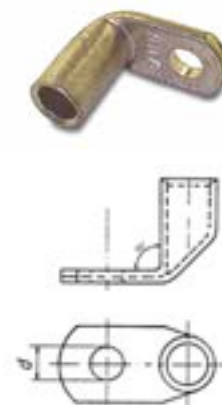
## TONGUE TERMINALS

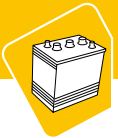
Section	Ø d	REF/piece	Section	Ø d	REF/piece	Section	Ø d	REF/piece
6 mm <sup>2</sup>	4 mm	<a href="#">106TA9301</a>	25 mm <sup>2</sup>	8 mm	<a href="#">106TA9312</a>	70 mm <sup>2</sup>	10 mm	<a href="#">106TA9329</a>
	5 mm	<a href="#">106TA9302</a>		10 mm	<a href="#">106TA9313</a>		12 mm	<a href="#">131TA7031</a>
	6 mm	<a href="#">131TA7028</a>		12 mm	<a href="#">106TA9314</a>		14 mm	<a href="#">106TA9330</a>
	8 mm	<a href="#">131TA7029</a>	35 mm <sup>2</sup>	6 mm	<a href="#">106TA9315</a>		16 mm	<a href="#">106TA9331</a>
10 mm <sup>2</sup>	5 mm	<a href="#">131TA7030</a>		8 mm	<a href="#">106TA9316</a>	95 mm <sup>2</sup>	10 mm	<a href="#">106TA9332</a>
	6 mm	<a href="#">106TA9303</a>		10 mm	<a href="#">106TA9317</a>		12 mm	<a href="#">106TA9333</a>
	8 mm	<a href="#">106TA9304</a>		12 mm	<a href="#">106TA9318</a>		14 mm	<a href="#">106TA9334</a>
	10 mm	<a href="#">106TA9305</a>	14 mm	<a href="#">106TA9319</a>	16 mm		<a href="#">131TA7032</a>	
	12 mm	<a href="#">106TA9306</a>	50 mm <sup>2</sup>	6 mm	<a href="#">106TA9320</a>	120 mm <sup>2</sup>	10 mm	<a href="#">106TA9335</a>
16 mm <sup>2</sup>	5 mm	<a href="#">123TA5450</a>		8 mm	<a href="#">106TA9321</a>		12 mm	<a href="#">106TA9336</a>
	6 mm	<a href="#">106TA9307</a>		10 mm	<a href="#">106TA9322</a>		14 mm	<a href="#">106TA9337</a>
	8 mm	<a href="#">106TA9308</a>		12 mm	<a href="#">106TA9323</a>		16 mm	<a href="#">106TA9338</a>
	10 mm	<a href="#">106TA9309</a>		14 mm	<a href="#">106TA9324</a>			
	12 mm	<a href="#">106TA9310</a>		16 mm	<a href="#">106TA9325</a>			
25 mm <sup>2</sup>	5 mm	<a href="#">123TA5451</a>	70 mm <sup>2</sup>	6 mm	<a href="#">106TA9327</a>			
	6 mm	<a href="#">106TA9311</a>		8 mm	<a href="#">106TA9328</a>			



## 90° BENT TERMINALS

Section	Ø d	REF/piece	Section	Ø d	REF/piece	Section	Ø d	REF/piece
10 mm <sup>2</sup>	6 mm	<a href="#">106TA9357</a>	25 mm <sup>2</sup>	10 mm	<a href="#">106TA9367</a>	50 mm <sup>2</sup>	14 mm	<a href="#">106TA9377</a>
	8 mm	<a href="#">106TA9358</a>		12 mm	<a href="#">106TA9368</a>		16 mm	<a href="#">106TA9378</a>
	10 mm	<a href="#">106TA9359</a>	35 mm <sup>2</sup>	8 mm	<a href="#">106TA9369</a>	70 mm <sup>2</sup>	6 mm	<a href="#">106TA9379</a>
	12 mm	<a href="#">106TA9360</a>		10 mm	<a href="#">106TA9370</a>		8 mm	<a href="#">106TA9380</a>
16 mm <sup>2</sup>	6 mm	<a href="#">106TA9361</a>		12 mm	<a href="#">106TA9371</a>		10 mm	<a href="#">106TA9381</a>
	8 mm	<a href="#">106TA9362</a>	14 mm	<a href="#">106TA9372</a>	12 mm		<a href="#">106TA9382</a>	
	10 mm	<a href="#">106TA9363</a>	50 mm <sup>2</sup>	6 mm	<a href="#">106TA9373</a>		14 mm	<a href="#">106TA9383</a>
12 mm	<a href="#">106TA9364</a>	8 mm		<a href="#">106TA9374</a>	16 mm	<a href="#">106TA9384</a>		
25 mm <sup>2</sup>	6 mm	<a href="#">106TA9365</a>		10 mm	<a href="#">106TA9375</a>			
	8 mm	<a href="#">106TA9366</a>	12 mm	<a href="#">106TA9376</a>				

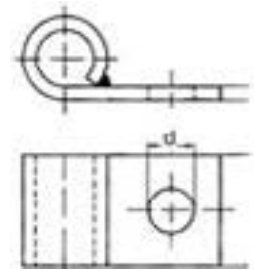




## FLAG TERMINALS

Section	Ø d	REF/piece
25 mm <sup>2</sup>	6 mm	<a href="#">106TA9345</a>
	8 mm	<a href="#">106TA9346</a>
	12 mm	<a href="#">106TA9347</a>
35 mm <sup>2</sup>	8 mm	<a href="#">106TA9348</a>
	10 mm	<a href="#">106TA9349</a>
	12 mm	<a href="#">106TA9350</a>

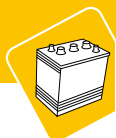
Section	Ø d	REF/piece
50 mm <sup>2</sup>	8 mm	<a href="#">106TA9351</a>
	10 mm	<a href="#">116TA4347</a>
	12 mm	<a href="#">106TA9353</a>
70 mm <sup>2</sup>	8 mm	<a href="#">106TA9354</a>
	10 mm	<a href="#">106TA9352</a>
	12 mm	<a href="#">106TA9355</a>



## BUTT SPLICES

Section	REF/piece
10 mm <sup>2</sup>	<a href="#">106TA9389</a>
16 mm <sup>2</sup>	<a href="#">106TA9390</a>
25 mm <sup>2</sup>	<a href="#">106TA9391</a>
35 mm <sup>2</sup>	<a href="#">106TA9386</a>
50 mm <sup>2</sup>	<a href="#">106TA9387</a>
70 mm <sup>2</sup>	<a href="#">106TA9388</a>
95 mm <sup>2</sup>	<a href="#">106TA9385</a>





TOOLS

## MANUAL MECHANICAL PRESS WITH DIE SETS



### REF [111TA3852](#)

- Wire size: 6 to 50 mm<sup>2</sup>
- Length: ca. 390 mm

### REF [111TA3853](#)

- Wire size: 10 to 120 mm<sup>2</sup>
- Length: ca. 650 mm

## MANUAL MECHANICAL PRESS TYPE A



### REF [106TA9501](#)

- Supplied without dies
- Swivelling head to 360°
  - Force: 60 kN
  - Interchangeable dies
  - Length: 600/850 mm
  - Two telescopic handles



### REF [131TA7033](#)

## MANUAL HYDRAULIC PRESS TYPE A



### REF [106TA9502](#)

- Supplied without dies
- Swivelling head to 180°
  - Force: 60 kN
  - Double piston for fast crimping
  - Pressure relief valve
  - Length: 490 mm



### REF [131TA7033](#)

## ELECTRO-HYDRAULIC PRESS TYPE A



### REF [131TA7034](#)

- Supplied without dies
- Swivelling head to 180°
  - Force: 60 kN
  - 170 compression with battery
  - Quick stop
  - Speed control button



### REF [131TA7035](#) Replacement battery 2000 mA/h

## DOUBLE-DEEP INDENT AND WMS DIE SETS FOR PRESS TYPE A AND WMS

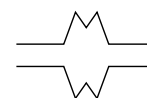
For use with cable terminals

Wire size	REF
10 mm <sup>2</sup>	<a href="#">131TA7036</a>
16 mm <sup>2</sup>	<a href="#">131TA7037</a>
25 mm <sup>2</sup>	<a href="#">131TA7038</a>
35 mm <sup>2</sup>	<a href="#">131TA7039</a>
50 mm <sup>2</sup>	<a href="#">131TA7040</a>
70 mm <sup>2</sup>	<a href="#">131TA7041</a>
95 mm <sup>2</sup>	<a href="#">131TA7042</a>



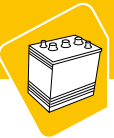
For use with battery connector contacts

Wire size	REF
10 mm <sup>2</sup>	<a href="#">131TA8498</a>
16 mm <sup>2</sup>	<a href="#">107TA8385</a>
25 mm <sup>2</sup>	<a href="#">107TA8386</a>
35 mm <sup>2</sup>	<a href="#">107TA8381</a>
50 mm <sup>2</sup>	<a href="#">107TA8388</a>
70 mm <sup>2</sup>	<a href="#">107TA8390</a>



Wire size	REF
95 mm <sup>2</sup>	<a href="#">107TA8396</a>
AWG 6	<a href="#">107TA8380</a>
AWG 1/0	<a href="#">107TA8381</a>
AWG 2/0	<a href="#">107TA8382</a>
AWG 3/0	<a href="#">107TA8397</a>





## BATTERY CABLES



- Rated voltage  $U_0/U$  100/100 V
- Tested in conformity with DIN VDE0472
- Extra flexible



Sold per metre			
Black	REF	Orange	REF
10 mm <sup>2</sup>	<a href="#">106TA9586</a>	10 mm <sup>2</sup>	<a href="#">106TA9579</a>
16 mm <sup>2</sup>	<a href="#">106TA9587</a>	16 mm <sup>2</sup>	<a href="#">106TA9580</a>
25 mm <sup>2</sup>	<a href="#">106TA6745</a>	25 mm <sup>2</sup>	<a href="#">106TA9581</a>
35 mm <sup>2</sup>	<a href="#">106TA9588</a>	35 mm <sup>2</sup>	<a href="#">106TA9582</a>
50 mm <sup>2</sup>	<a href="#">106TA9589</a>	50 mm <sup>2</sup>	<a href="#">106TA9583</a>
70 mm <sup>2</sup>	<a href="#">106TA9590</a>	70 mm <sup>2</sup>	<a href="#">106TA9584</a>
95 mm <sup>2</sup>	<a href="#">106TA9591</a>	95 mm <sup>2</sup>	<a href="#">106TA9585</a>

Sold per 25 metre			
Black	REF	Orange	REF
10 mm <sup>2</sup>	<a href="#">123TA7647</a>	10 mm <sup>2</sup>	<a href="#">123TA7653</a>
16 mm <sup>2</sup>	<a href="#">123TA7648</a>	16 mm <sup>2</sup>	<a href="#">123TA7654</a>
25 mm <sup>2</sup>	<a href="#">123TA7649</a>	25 mm <sup>2</sup>	<a href="#">123TA7655</a>
35 mm <sup>2</sup>	<a href="#">123TA7650</a>	35 mm <sup>2</sup>	<a href="#">123TA7656</a>
50 mm <sup>2</sup>	<a href="#">123TA7651</a>	50 mm <sup>2</sup>	<a href="#">123TA7657</a>
70 mm <sup>2</sup>	<a href="#">123TA7652</a>	70 mm <sup>2</sup>	<a href="#">123TA7658</a>

Number of cores cross-sectional	Overall diameter	
	min	max
10 mm <sup>2</sup>	7,7 mm	9,7 mm
16 mm <sup>2</sup>	8,8 mm	11,0 mm
25 mm <sup>2</sup>	10,1 mm	12,7 mm
35 mm <sup>2</sup>	11,4 mm	14,2 mm
50 mm <sup>2</sup>	13,2 mm	16,5 mm
70 mm <sup>2</sup>	15,3 mm	19,2 mm
95 mm <sup>2</sup>	17,1 mm	21,4 mm

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

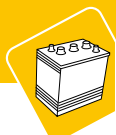
## TWINFLEX CABLE RED AND BLACK



Extra flexible

Width	REF per metre	REF per 25 metre
2 x 6 mm <sup>2</sup>	<a href="#">106TA9592</a>	<a href="#">131TA8492</a>
2 x 10 mm <sup>2</sup>	<a href="#">112TA4812</a>	<a href="#">131TA8493</a>
2 x 16 mm <sup>2</sup>	<a href="#">106TA9593</a>	<a href="#">131TA8494</a>
2 x 25 mm <sup>2</sup>	<a href="#">106TA9594</a>	<a href="#">131TA8495</a>
2 x 35 mm <sup>2</sup>	<a href="#">106TA9595</a>	<a href="#">131TA8496</a>
2 x 50 mm <sup>2</sup>	<a href="#">106TA9596</a>	<a href="#">131TA8497</a>

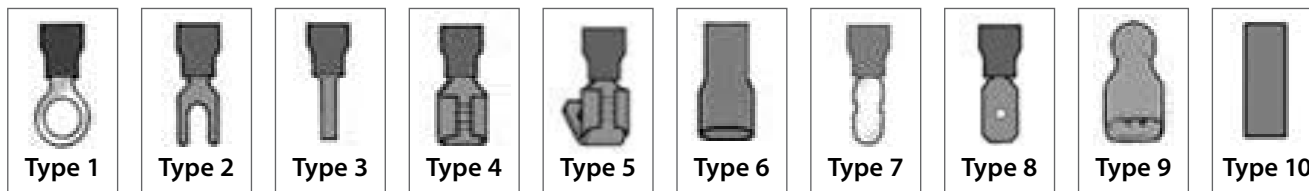




## CRIMPING TERMINALS

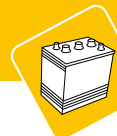
All cable terminals are supplied in bags of 100 pieces.

For example: if you order 3 times REF [106TA9428](#), you will receive 300 pieces.



Type	Colour	Section mm <sup>2</sup>	Dimensions	REF / 100 pieces	
1	Red	0,5 – 1	M 2,6	<a href="#">106TA9426</a>	
			M 3	<a href="#">106TA9427</a>	
			M 4	<a href="#">106TA9428</a>	
			M 5	<a href="#">106TA9429</a>	
			M 6	<a href="#">106TA9430</a>	
			M 8	<a href="#">106TA9431</a>	
			M 10	<a href="#">106TA9432</a>	
	Blue	1-2,5	M 3	<a href="#">106TA9433</a>	
			M 4	<a href="#">106TA9434</a>	
			M 5	<a href="#">106TA9435</a>	
			M 6	<a href="#">106TA9436</a>	
			M 8	<a href="#">106TA9437</a>	
	Yellow	4-6	M 10	<a href="#">106TA9438</a>	
			M 4	<a href="#">106TA9439</a>	
			M 5	<a href="#">106TA9440</a>	
			M 6	<a href="#">106TA9441</a>	
	2	Red	0,5 – 1	M 3	<a href="#">106TA9444</a>
				M 3,5	<a href="#">106TA9445</a>
M 4				<a href="#">106TA9446</a>	
M 5				<a href="#">106TA9447</a>	
Blue		1-2,5	M 6	<a href="#">106TA9448</a>	
			M 3	<a href="#">106TA9449</a>	
			M 3,5	<a href="#">106TA9450</a>	
			M 4	<a href="#">106TA9451</a>	
			M 5	<a href="#">106TA9452</a>	
			M 6	<a href="#">106TA9453</a>	
Yellow		4-6	M 4	<a href="#">106TA9454</a>	
			M 5	<a href="#">106TA9455</a>	
	M 6		<a href="#">106TA9456</a>		
	M 8		<a href="#">106TA9457</a>		
	M 10		<a href="#">106TA9458</a>		
3	Red	0,5-1		<a href="#">106TA9459</a>	
	Blue	1-2,5		<a href="#">106TA9460</a>	
	Yellow	4-6		<a href="#">106TA9461</a>	

Type	Colour	Section mm <sup>2</sup>	Dimensions	REF / 100 pieces
4	Red	0,5-1	2,8 x 0,5	<a href="#">106TA9462</a>
			2,8 x 0,8	<a href="#">106TA9463</a>
			4,8 x 0,5	<a href="#">106TA9464</a>
			4,8 x 0,8	<a href="#">106TA9465</a>
			6,3 x 0,8	<a href="#">106TA9466</a>
			7,7 x 0,8	<a href="#">106TA9467</a>
	Blue	1-2,5	4,8 x 0,5	<a href="#">106TA9468</a>
			4,8 x 0,8	<a href="#">106TA9469</a>
			6,3 x 0,8	<a href="#">106TA9470</a>
	Yellow	4-6	7,7 x 0,8	<a href="#">106TA9471</a>
			6,3 x 0,8	<a href="#">106TA9472</a>
			9,5 x 1,2	<a href="#">106TA9473</a>
5	Red	0,5-1	6,3 x 0,8	<a href="#">106TA9474</a>
	Blue	1-2,5	6,3 x 0,8	<a href="#">106TA9475</a>
6	Red	0,5-1	Ø 4	<a href="#">106TA9476</a>
	Black	0,5-1	Ø 5	<a href="#">106TA9478</a>
	Blue	1-2,5	Ø 4	<a href="#">106TA9479</a>
	Yellow	4-6	Ø 5	<a href="#">106TA9481</a>
7	Red	0,5-1	Ø 5	<a href="#">106TA9482</a>
	Red	0,5-1	Ø 4	<a href="#">106TA9483</a>
	Blue	1-2,5	Ø 4	<a href="#">123TA5434</a>
	Yellow	4-6	Ø 5	<a href="#">106TA9485</a>
8	Red	0,5-1	Ø 5	<a href="#">106TA9486</a>
	Red	0,5-1	6,3 x 0,8	<a href="#">106TA9487</a>
	Blue	1-2,5	6,3 x 0,8	<a href="#">106TA9488</a>
9	Yellow	4-6	6,3 x 0,8	<a href="#">106TA9489</a>
	Red	0,5-1	6,3 x 0,8	<a href="#">106TA9490</a>
10	Red	0,5-1,0	L = 17 mm	<a href="#">106TA9491</a>
			L = 25 mm	<a href="#">106TA9492</a>
	Blue	1-2,5	L = 17 mm	<a href="#">106TA9493</a>
			L = 25 mm	<a href="#">106TA9494</a>
	Yellow	4-6	L = 21 mm	<a href="#">106TA9495</a>
			L = 27 mm	<a href="#">106TA9496</a>
				<a href="#">106TA9497</a>



## CONNECTOR CABLE



REF [112TA4804](#)

## CONNECTOR CABLE



REF [131TA8491](#)

## STANDARD CRIMPING TOOL



REF [106TA9500](#)

Able to:

- Cut
- Crimping terminals for cable sizes from 1,5 to 6 mm<sup>2</sup>

## PROFESSIONAL CRIMPING TOOL



REF [106TA9498](#)

Ratchet crimping tool suitable for cable sizes from 0,75 to 6 mm<sup>2</sup>

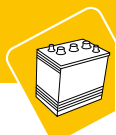
## ASSEMBLY INSULATED CABLE LUGS



Description	Quantity
Red spade male 6,3 x 0,8 mm	20
Red spade female 6,3 x 0,8 mm	20
Red spade female full sealed 6,3 x 0,8 mm	20
Red spade female + male 6,3 x 0,8 mm	20
Red butt male dia 4	20
Red butt female dia 4	20
Red ring M4	20
Red ring M6	20
Red ring M8	20
Red ring M10	20
Red cable connect long	20
Yellow spade male 6,3 x 0,8 mm	20
Yellow spade female 6,3 x 0,8 mm	20
Yellow butt male dia 5	20
Yellow butt female dia 5	20
Yellow ring M4	20
Yellow ring M6	20
Yellow ring M8	20
Yellow ring M10	20
Yellow cable connect long	20
Yellow cable connect short	20
Blue spade male 6,3 x 0,8 mm	20
Blue spade female 6,3 x 0,8 mm	20
Blue spade female full sealed 6,3 x 0,8 mm	20
Blue spade female + male 6,3 x 0,8 mm	20
Blue spade female 7,7 x 0,8	20
Blue butt male dia 5	20
Blue butt female dia 5	20
Blue ring M4	20
Blue ring M6	20
Blue ring M8	20
Blue ring M10	20
Blue cable connect long	20
Blue cable connect short	20
Blue quick splice	20



REF [129TA9960](#)



TOOLS

## RUBBER-INSULATED MULTIPOLE ROUND CABLE



H05RR-F			
Number of cores	x	Section mm <sup>2</sup>	REF/metre
2	x	0,75	<a href="#">107TA8400</a>
3	G x	0,75	<a href="#">107TA8401</a>
4	G x	0,75	<a href="#">107TA8402</a>

'G' indicates with Ground (green/yellow) cable



H07RN-F			
Number of cores	x	Section mm <sup>2</sup>	REF/metre
2	x	1,5	<a href="#">106TA9608</a>
2	x	2,5	<a href="#">106TA9609</a>
2	x	6	<a href="#">106TA9610</a>
3	G x	1,5	<a href="#">106TA9612</a>
3	G x	2,5	<a href="#">106TA9613</a>
3	G x	10	<a href="#">106TA9614</a>
4	G x	1,5	<a href="#">106TA9616</a>
4	G x	2,5	<a href="#">106TA9617</a>
4	G x	6	<a href="#">106TA9618</a>
4	G x	10	<a href="#">106TA9619</a>
4	G x	16	<a href="#">106TA9620</a>
5	G x	1,5	<a href="#">106TA9621</a>
5	G x	2,5	<a href="#">106TA9622</a>
5	G x	4	<a href="#">106TA9623</a>
5	G x	6	<a href="#">106TA9624</a>
7	G x	1,5	<a href="#">106TA9626</a>
7	G x	2,5	<a href="#">106TA9627</a>

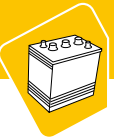
'G' indicates with Ground (green/yellow) cable

## PVC-INSULATED SINGLE-CORE CABLES



Sold in boxes per 100 metre

VTB-S / VOB-S						
Section mm <sup>2</sup>	Colour	REF/box (100 m)	Section mm <sup>2</sup>	Colour	REF/box (100 m)	
0,34	Yellow	<a href="#">111TA3936</a>	1,5	Blue	<a href="#">111TA3965</a>	
	Red	<a href="#">111TA3937</a>		Brown	<a href="#">111TA3966</a>	
	Blue	<a href="#">111TA3938</a>		Yellow	<a href="#">111TA3967</a>	
	Brown	<a href="#">111TA3939</a>		Green/Yellow	<a href="#">111TA3968</a>	
	Grey	<a href="#">111TA3940</a>		Grey	<a href="#">111TA3969</a>	
	Pink	<a href="#">111TA3941</a>		Green	<a href="#">111TA3970</a>	
	Violet	<a href="#">111TA3942</a>		Orange	<a href="#">111TA3971</a>	
	White	<a href="#">111TA3943</a>		Violet	<a href="#">111TA3972</a>	
	Green	<a href="#">134TA8157</a>		Red	<a href="#">111TA3973</a>	
	Black	<a href="#">111TA3944</a>		White	<a href="#">111TA3974</a>	
0,5	Grey	<a href="#">111TA3945</a>	Black	<a href="#">111TA3975</a>		
	Green/Yellow	<a href="#">134TA8158</a>	2,5	Blue	<a href="#">111TA3976</a>	
	Red	<a href="#">111TA3946</a>		Orange	<a href="#">134TA8162</a>	
	Green	<a href="#">134TA8159</a>		Brown	<a href="#">111TA3977</a>	
	White	<a href="#">111TA3947</a>		Green/Yellow	<a href="#">111TA3978</a>	
	Yellow	<a href="#">134TA8160</a>		Yellow	<a href="#">111TA3979</a>	
	Blue	<a href="#">111TA3948</a>		Grey	<a href="#">111TA3980</a>	
	Orange	<a href="#">134TA8161</a>		Green	<a href="#">111TA3981</a>	
	Brown	<a href="#">111TA3949</a>		Red	<a href="#">111TA3982</a>	
	Violet	<a href="#">111TA3950</a>		Violet	<a href="#">111TA3983</a>	
Black	<a href="#">123TA5449</a>	White		<a href="#">111TA3984</a>		
0,75	Blue	<a href="#">111TA3951</a>	Black	<a href="#">111TA3985</a>		
	Brown	<a href="#">111TA3952</a>	4	Brown	<a href="#">111TA3986</a>	
	Yellow	<a href="#">111TA3953</a>		Grey	<a href="#">111TA3987</a>	
	Green/Yellow	<a href="#">111TA3954</a>		Red	<a href="#">111TA3988</a>	
	Grey	<a href="#">111TA3956</a>		White	<a href="#">111TA3989</a>	
	Green	<a href="#">111TA3955</a>		Black	<a href="#">111TA3990</a>	
	Orange	<a href="#">111TA3957</a>		6	Blue	<a href="#">111TA3991</a>
	Red	<a href="#">111TA3958</a>			Brown	<a href="#">111TA3992</a>
	Violet	<a href="#">111TA3959</a>			Grey	<a href="#">111TA3993</a>
	White	<a href="#">111TA3960</a>			Red	<a href="#">111TA3994</a>
Black	<a href="#">111TA3961</a>	Black			<a href="#">111TA3995</a>	
Black	<a href="#">111TA3962</a>					
1	Brown	<a href="#">111TA3964</a>				















## WIRE TERMINAL KIT



### REF 116TA9279

With professional ratchet crimping tool











- |  |  |
|--|--|
| 50 x  l = 6,3 x 0,8 | 50 x  M8          |
| 50 x  l = 25 mm     | 50 x  l = 25 mm   |
| 50 x  6,3 x 0,8    | 50 x  Ø 4        |
| 50 x  M4          | 50 x  6,3 x 0,8 |
| 50 x  M5          | 50 x  Ø 4       |
| 50 x  M6          | 50 x  6,3 x 0,8 |

## WIRE TERMINAL KIT











### REF 116TA7803

With standard crimping tool

- |  |  |
|--|--|
| 10 x  M4          | 10 x  l = 25 mm   |
| 10 x  M4          | 10 x  6,3 x 0,8   |
| 10 x  M5         | 10 x  6,3 x 0,8  |
| 10 x  l = 25 mm | 10 x  6,3 x 0,8 |
| 10 x  M4        |  |
| 10 x  M5        |  |

## WIRE TERMINAL KIT (WIRE END SLEEVES)

- |   |                       |
|---|-----------------------|
| 100 x  | 0,50 mm <sup>2</sup>  |
| 400 x  | 0,75 mm <sup>2</sup>  |
| 400 x  | 1,00 mm <sup>2</sup>  |
| 400 x  | 1,50 mm <sup>2</sup>  |
| 200 x  | 2,50 mm <sup>2</sup>  |
| 100 x  | 4,00 mm <sup>2</sup>  |
| 60 x   | 6,00 mm <sup>2</sup>  |
| 40 x   | 10,00 mm <sup>2</sup> |

### REF 111TA3851

With crimping tool

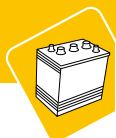


## TERMINAL BLOCKS

Wire size	REF
4 mm <sup>2</sup>	<a href="#">112TA4807</a>
6 mm <sup>2</sup>	<a href="#">112TA4808</a>
10 mm <sup>2</sup>	<a href="#">112TA4809</a>
16 mm <sup>2</sup>	<a href="#">112TA4810</a>

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





## HAND MEASURING DEVICE FOR CABLE



REF [123TA7642](#)

- Cable diameter: 4 - 35 mm
- Measure range: 0 - 9999,9 m
- Tolerance:  $\pm 1\%$

## CABLE CUTTER



REF [106TA9499](#)

Sizes:

- Solid cable:  $\varnothing 25$  mm
- Multistrand cable:  $\varnothing 32$  mm

## INSULATION STRIPPER



REF [141TA9970](#)

- For single, multiple and fine stranded conductors with plastic or rubber insulation max. 5 mm dia or resp. 10 mm<sup>2</sup> cable cross section
- Special tool steel, forged, oil-hardened
- Length: 160 mm



## AUTOMATIC WIRE STRIPPER



REF [123TA5435](#)

- Wire size: 0,2 to 6 mm<sup>2</sup>
- Automatic wire stripper for flexible and solid cables
- Weight: 0,130 kg

## WIRE CUTTER



REF [107TA7566](#)



## CABLE STRIPPER



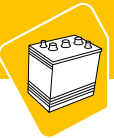
REF [111TA3850](#)

- For insulated cables from  $\varnothing 4,5$  to 25 mm
- Wire stripper with integrated cutter.

Accessory:

REF [111TA3854](#)

Replacement knife



## CABLE CUTTER (RATCHET ACTION)



REF [142TA3337](#)

- Tool black lacquered, handles with multi-component grips
- Length: 250 mm



## 17 PIECE 1/2" SOCKET AND ACCESSORIES SET – METRIC

REF [142TA5913](#)

Contents:

- 13 surface drive sockets: 8 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 19 – 21 – 23 – 26 mm
- 1 spark plug socket: 20,6 mm
- 1 x 24-teeth ratchet
- 1 sliding T-handle
- 1 extension: 125 mm



## 17 PIECE 1/2" HEXAGON COMBINATION SET

REF [143TA3776](#)

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



## 3 PIECE PLIERS SET

REF [127TA8106](#)

1169BM/D3

Contents:

- Long needle nose pliers: 160 mm
- Combination pliers: 180 mm
- Diagonal cutter: 160 mm





TOOLS

## CABLE TIE BASES (WITHOUT CABLE TIE)

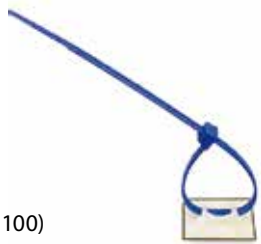
Dimensions: 28 x 28 mm

REF [106TA9776](#)

Cable tie bases: white (box of 100)

REF [106TA9777](#)

Cable tie bases: black (box of 100)



## REUSABLE CABLE TIE

Packaging quantity: 100 pieces



Width	Length	REF white	REF black
9 mm	187 mm	<a href="#">123TA5445</a>	<a href="#">123TA5447</a>
9 mm	344 mm	<a href="#">123TA5446</a>	<a href="#">123TA5448</a>

## CABLE TIES

Width	Length	Packaging quantity	REF white	REF black
2,5 mm	98 mm	100 pieces	<a href="#">111TA3872</a>	<a href="#">111TA3884</a>
3,6 mm	140 mm	100 pieces	<a href="#">111TA3873</a>	<a href="#">111TA3885</a>
4,5 mm	160 mm	100 pieces	<a href="#">111TA3874</a>	<a href="#">111TA3886</a>
4,8 mm	200 mm	100 pieces	<a href="#">111TA3875</a>	<a href="#">111TA3887</a>
4,8 mm	295 mm	100 pieces	<a href="#">111TA3876</a>	<a href="#">111TA3888</a>
4,8 mm	370 mm	100 pieces	<a href="#">111TA3877</a>	<a href="#">111TA3889</a>
4,8 mm	178 mm	100 pieces	<a href="#">111TA3878</a>	<a href="#">111TA3890</a>
7,8 mm	360 mm	100 pieces	<a href="#">111TA3879</a>	<a href="#">111TA3891</a>
7,8 mm	540 mm	100 pieces	<a href="#">111TA3880</a>	<a href="#">111TA3892</a>
12,6 mm	500 mm	50 pieces	<a href="#">111TA3881</a>	<a href="#">111TA3893</a>
12,6 mm	730 mm	50 pieces	<a href="#">111TA3882</a>	<a href="#">111TA3894</a>
12,6 mm	1000 mm	50 pieces	<a href="#">111TA3883</a>	<a href="#">111TA3895</a>



- Temperature resistant: -40 °C 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

## CABLE TIE CUTTING TOOL

REF [111TA3896](#)

2,5 - 4,8 mm

REF [111TA3897](#)

4,8 - 7,6 mm



## INSULATING TAPE

REF [106TA9753](#)

- Red insulating tape
- 25 m x 15 mm x 0,15 mm thick

REF [106TA9754](#)

- Black insulating tape
- 25 m x 15 mm x 0,15 mm thick



## INSULATION TAPE

REF [107TA7668](#)

Black

REF [106TA9772](#)

Red

REF [106TA9773](#)

Blue

REF [106TA9768](#)

Yellow

REF [106TA9769](#)

White



Each ref contains 10 rolls of tape of 10 m each.

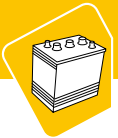
## INSULATION TAPE



REF [106TA9775](#)

Set of 10 insulation sealing tape rolls in different colours.

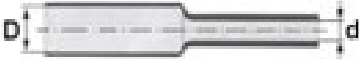




## HEAT-SHRINK TUBING 3/1



D	D	d	Colour	REF/metre
1,6 mm	1/16"	0,5 mm	Black	<a href="#">106TA9697</a>
3,2 mm	1/8"	1 mm	Black	<a href="#">106TA9698</a>
6,4 mm	1/4"	2 mm	Transparent	<a href="#">106TA9699</a>
			Black	<a href="#">106TA9700</a>
			Red	<a href="#">106TA9701</a>
			Blue	<a href="#">106TA9702</a>
9,5 mm	3/8"	3 mm	Transparent	<a href="#">106TA9703</a>
			Black	<a href="#">106TA9704</a>
12,7 mm	1/2"	4 mm	Red	<a href="#">106TA9705</a>
			Blue	<a href="#">106TA9706</a>
			Transparent	<a href="#">106TA9707</a>
			Black	<a href="#">106TA9708</a>
			Green	<a href="#">106TA9709</a>
19,0 mm	3/4"	6 mm	Red	<a href="#">106TA9710</a>
			Blue	<a href="#">106TA9711</a>
			Black	<a href="#">106TA9712</a>
			Yellow	<a href="#">106TA9713</a>
			Green	<a href="#">106TA9714</a>
			Transparent	<a href="#">106TA9715</a>
25,4 mm	1"	8 mm	Black	<a href="#">106TA9716</a>
			Transparent	<a href="#">106TA9717</a>
39,0 mm	1" 1/2	13 mm	Black	<a href="#">106TA9718</a>

before crimping  after crimping

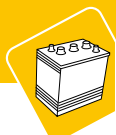


## BLOWTORCH

**REF [123TA7641](#)**

- Heat setting: +100 °C to +600 °C
- Airflow rate: 350-550 l/min
- Power input: 240 V - 2000 W
- Weight: 0,7 kg





TOOLS

## HEAT-SHRINK TUBING KIT 2/1

Size		Colour	Length	Pieces
D	d			
3,2 mm	1,6 mm	Black	50 mm	15
3,2 mm	1,6 mm	Blue	50 mm	15
3,2 mm	1,6 mm	Yellow	50 mm	15
3,2 mm	1,6 mm	Red	50 mm	15
3,2 mm	1,6 mm	White	50 mm	15
4,8 mm	2,4 mm	Black	50 mm	6
4,8 mm	2,4 mm	Blue	50 mm	6
4,8 mm	2,4 mm	Yellow	50 mm	6
4,8 mm	2,4 mm	Red	50 mm	6
4,8 mm	2,4 mm	White	50 mm	6
9,5 mm	4,8 mm	Black	50 mm	10
9,5 mm	4,8 mm	Blue	50 mm	10
9,5 mm	4,8 mm	Yellow	50 mm	10
9,5 mm	4,8 mm	Red	50 mm	10
9,5 mm	4,8 mm	White	50 mm	10
12,7 mm	6,4 mm	Black	70 mm	5
12,7 mm	6,4 mm	Blue	70 mm	5
12,7 mm	6,4 mm	Yellow	70 mm	5
12,7 mm	6,4 mm	Red	70 mm	5
12,7 mm	6,4 mm	White	70 mm	5

before crimping after crimping



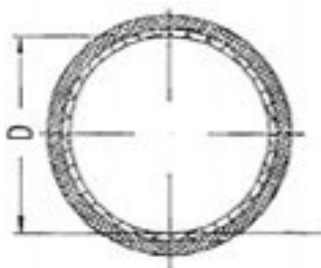
REF 111TA4116  
Heat-shrink tubing kit

## HEAT-SHRINK TUBING WITH THERMOPLASTIC ADHESIVE

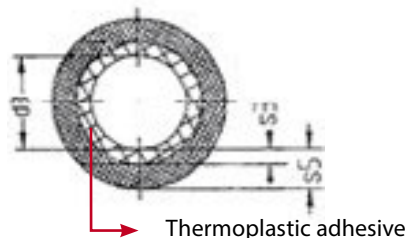


This flexible heat-shrink tubing is ideal for effective moisture-resistant insulation of electric connections.

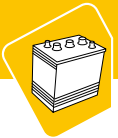
Before crimping



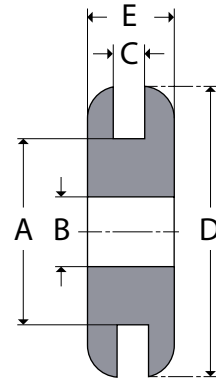
After crimping



Before crimping		After crimping		Colour	REF/metre
D	d3	s3	s5		
19 mm	6 mm	0,60 mm	2,10 mm	Black	<a href="#">106TA9732</a>
24 mm	6 mm	0,70 mm	2,40 mm	Black	<a href="#">106TA9733</a>
32 mm	8 mm	0,70 mm	2,40 mm	Black	<a href="#">106TA9734</a>
40 mm	13 mm	0,70 mm	2,40 mm	Black	<a href="#">106TA9735</a>
52 mm	13 mm	0,70 mm	2,40 mm	Black	<a href="#">106TA9736</a>



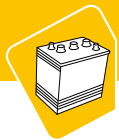
## GROMMETS



### Specifications:

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

Hole diameter	Cable diameter	Max plate thickness	Other dimensions		REF
A	B	C	D	E	
9,0 mm	4,0 mm	1,0 mm	11,0 mm	6,0 mm	<a href="#">106TA9778</a>
6,5 mm	4,5 mm	1,2 mm	9,5 mm	6,0 mm	<a href="#">106TA9779</a>
8,0 mm	4,8 mm	1,5 mm	14,0 mm	6,0 mm	<a href="#">106TA9780</a>
8,0 mm	5,0 mm	1,0 mm	12,0 mm	7,5 mm	<a href="#">106TA9781</a>
8,0 mm	5,0 mm	1,5 mm	11,0 mm	6,0 mm	<a href="#">106TA9782</a>
8,0 mm	6,0 mm	1,0 mm	11,5 mm	6,0 mm	<a href="#">106TA9783</a>
10,0 mm	6,0 mm	1,0 mm	13,0 mm	7,0 mm	<a href="#">106TA9784</a>
9,0 mm	6,0 mm	1,5 mm	11,5 mm	6,0 mm	<a href="#">106TA9785</a>
9,8 mm	6,0 mm	2,0 mm	12,7 mm	8,0 mm	<a href="#">106TA9786</a>
14,0 mm	8,0 mm	1,0 mm	18,0 mm	6,0 mm	<a href="#">106TA9787</a>
10,0 mm	8,0 mm	1,5 mm	14,0 mm	5,5 mm	<a href="#">106TA9788</a>
10,0 mm	8,0 mm	1,5 mm	14,0 mm	8,0 mm	<a href="#">106TA9789</a>
11,0 mm	9,0 mm	1,0 mm	16,0 mm	6,5 mm	<a href="#">106TA9790</a>
12,0 mm	9,0 mm	1,0 mm	16,0 mm	6,5 mm	<a href="#">106TA9791</a>
12,0 mm	9,0 mm	1,5 mm	16,0 mm	6,5 mm	<a href="#">106TA9792</a>
13,0 mm	10,0 mm	1,0 mm	18,0 mm	6,0 mm	<a href="#">106TA9793</a>
12,0 mm	10,0 mm	1,2 mm	18,0 mm	8,0 mm	<a href="#">106TA9794</a>
13,0 mm	10,0 mm	1,5 mm	18,0 mm	6,0 mm	<a href="#">106TA9795</a>
12,0 mm	10,0 mm	2,0 mm	17,5 mm	7,0 mm	<a href="#">106TA9796</a>
13,0 mm	10,0 mm	3,0 mm	18,0 mm	8,0 mm	<a href="#">106TA9797</a>
12,0 mm	10,0 mm	4,0 mm	18,0 mm	11,0 mm	<a href="#">106TA9798</a>
15,0 mm	12,0 mm	1,5 mm	20,0 mm	7,0 mm	<a href="#">106TA9799</a>
15,0 mm	12,0 mm	2,0 mm	20,0 mm	7,0 mm	<a href="#">106TA9800</a>



## CABLE GLANDS AND NUTS

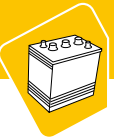


Metric cable gland and nut									
Size	Standard			With extra reducing seal*			Nut		
	Black	Silver grey	Light grey	Black	Silver grey	Light grey	Black	Silver grey	Light grey
M12 x 1,5 mm	<a href="#">131TA8739</a>	<a href="#">131TA8743</a>	<a href="#">131TA8748</a>	<a href="#">131TA8753</a>	<a href="#">131TA8758</a>	<a href="#">131TA8763</a>	<a href="#">131TA8768</a>	<a href="#">131TA8773</a>	<a href="#">131TA8778</a>
M16 x 1,5 mm	<a href="#">134TA8172</a>	<a href="#">131TA8744</a>	<a href="#">131TA8749</a>	<a href="#">131TA8754</a>	<a href="#">131TA8759</a>	<a href="#">131TA8764</a>	<a href="#">131TA8769</a>	<a href="#">131TA8774</a>	<a href="#">131TA8779</a>
M20 x 1,5 mm	<a href="#">131TA8740</a>	<a href="#">131TA8745</a>	<a href="#">131TA8750</a>	<a href="#">131TA8755</a>	<a href="#">131TA8760</a>	<a href="#">131TA8765</a>	<a href="#">131TA8770</a>	<a href="#">131TA8775</a>	<a href="#">131TA8780</a>
M25 x 1,5 mm	<a href="#">131TA8741</a>	<a href="#">131TA8746</a>	<a href="#">131TA8751</a>	<a href="#">131TA8756</a>	<a href="#">131TA8761</a>	<a href="#">131TA8766</a>	<a href="#">131TA8771</a>	<a href="#">131TA8776</a>	<a href="#">131TA8781</a>
M32 x 1,5 mm	<a href="#">131TA8742</a>	<a href="#">131TA8747</a>	<a href="#">131TA8752</a>	<a href="#">131TA8757</a>	<a href="#">131TA8762</a>	<a href="#">131TA8767</a>	<a href="#">131TA8772</a>	<a href="#">131TA8777</a>	<a href="#">131TA8782</a>

\* Used for cables with smaller outer diameter

PG cable gland and nut									
Size	Standard			With extra reducing seal*			Nut		
	Black	Silver grey	Light grey	Black	Silver grey	Light grey	Black	Silver grey	Light grey
PG 7	<a href="#">131TA8783</a>	<a href="#">131TA8790</a>	<a href="#">131TA8797</a>	<a href="#">131TA8804</a>	<a href="#">131TA8811</a>	<a href="#">131TA8818</a>	<a href="#">131TA8825</a>	<a href="#">131TA8832</a>	<a href="#">131TA8839</a>
PG 9	<a href="#">131TA8784</a>	<a href="#">131TA8791</a>	<a href="#">131TA8798</a>	<a href="#">131TA8805</a>	<a href="#">131TA8812</a>	<a href="#">131TA8819</a>	<a href="#">131TA8826</a>	<a href="#">131TA8833</a>	<a href="#">131TA8840</a>
PG 11	<a href="#">131TA8785</a>	<a href="#">131TA8792</a>	<a href="#">131TA8799</a>	<a href="#">131TA8806</a>	<a href="#">131TA8813</a>	<a href="#">131TA8820</a>	<a href="#">131TA8827</a>	<a href="#">131TA8834</a>	<a href="#">131TA8841</a>
PG 13,5	<a href="#">131TA8786</a>	<a href="#">131TA8793</a>	<a href="#">131TA8800</a>	<a href="#">131TA8807</a>	<a href="#">131TA8814</a>	<a href="#">131TA8821</a>	<a href="#">131TA8828</a>	<a href="#">131TA8835</a>	<a href="#">131TA8842</a>
PG 16	<a href="#">131TA8787</a>	<a href="#">131TA8794</a>	<a href="#">131TA8801</a>	<a href="#">131TA8808</a>	<a href="#">131TA8815</a>	<a href="#">131TA8822</a>	<a href="#">131TA8829</a>	<a href="#">131TA8836</a>	<a href="#">131TA8843</a>
PG 21	<a href="#">131TA8788</a>	<a href="#">131TA8795</a>	<a href="#">131TA8802</a>	<a href="#">131TA8809</a>	<a href="#">131TA8816</a>	<a href="#">131TA8823</a>	<a href="#">131TA8830</a>	<a href="#">131TA8837</a>	<a href="#">131TA8844</a>
PG 29	<a href="#">131TA8789</a>	<a href="#">131TA8796</a>	<a href="#">131TA8803</a>	<a href="#">131TA8810</a>	<a href="#">131TA8817</a>	<a href="#">131TA8824</a>	<a href="#">131TA8831</a>	<a href="#">131TA8838</a>	<a href="#">131TA8845</a>

\* Used for cables with smaller outer diameter



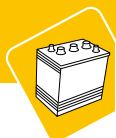
## UNIVERSAL PLUG AND SOCKET TRAILER

### Universal plug trailer

	5P 12 V DIN 72576 ISO 1724 N-type	7P 12 V DIN 72577 ISO 1724 N-type	7P 24 V DIN 72579 ISO 1185 N-type	7P 24 V ISO 3731 S-type
Synthetic	 <a href="#">REF 106TA6330</a>	 <a href="#">REF 106TA6331</a>	 <a href="#">REF 131TA8846</a>	 <a href="#">REF 131TA8847</a>
Metal	 <a href="#">REF 106TA6332</a>	 <a href="#">REF 106TA6333</a>	 <a href="#">REF 131TA8848</a>	 <a href="#">REF 131TA8849</a>

### Universal socket trailer

	5P 12 V DIN 72576 ISO 1724 N-type	7P 12 V DIN 72577 ISO 1724 N-type	7P 12 V DIN 72577 ISO 1724 N-type with rear-fog light cut-off	7P 12 V ISO 1724 Coupling socket	7P 24 V DIN 72579 ISO 1185 N-type	7P 24 V ISO 3731 S-type
Synthetic	 <a href="#">REF 106TA6334</a>	 <a href="#">REF 106TA6335</a>	 <a href="#">REF 131TA8850</a>	 <a href="#">REF 131TA8851</a>	 <a href="#">REF 131TA8852</a>	 <a href="#">REF 131TA8853</a>
Metal	 <a href="#">REF 106TA6336</a>	 <a href="#">REF 106TA6337</a>	 <a href="#">REF 131TA8854</a>	-	 <a href="#">REF 131TA8855</a>	 <a href="#">REF 131TA8856</a>



TOOLS

## UNIVERSAL TEST KIT FOR TRAILER SOCKET

### REF [124TA2765](#)

- 12 V
- 7-pole

### REF [134TA9204](#)

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



## MICRO-ADAPTER PLUG



### REF [134TA8173](#)

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

## TRAILER CABLES



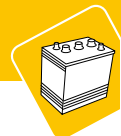
REF [131TA8857](#) – per metre  
7 x 1,5 mm<sup>2</sup>

REF [131TA8858](#) – per metre  
6 x 1 mm<sup>2</sup> + 1 x 2 mm<sup>2</sup>

## SPIRAL TRAILER CABLES

Cores	Diameter cable	Diameter spiral	Length	REF
6 x 1 + 1 x 2,5 mm	10,5 mm	60 mm	3500 mm	<a href="#">131TA8859</a>
6 x 1 + 1 x 2,5 mm	10,5 mm	60 mm	4500 mm	<a href="#">131TA8860</a>
6 x 1 + 1 x 2,5 mm	10,5 mm	40 mm	3500 mm	<a href="#">131TA8861</a>
6 x 1 + 1 x 2,5 mm	10,5 mm	40 mm	4500 mm	<a href="#">131TA8862</a>
7 x 1,5 mm	10,5 mm	60 mm	3500 mm	<a href="#">131TA8863</a>
6 x 1 + 1 x 1,5 mm	10,3 mm	20 mm	3000 mm	<a href="#">131TA8864</a>
6 x 1 + 1 x 1,5 mm	10,3 mm	20 mm	3500 mm	<a href="#">131TA8865</a>
6 x 1 + 1 x 1,5 mm	10,3 mm	20 mm	4000 mm	<a href="#">131TA8866</a>
6 x 1 + 1 x 1,5 mm	10,3 mm	20 mm	4500 mm	<a href="#">131TA8867</a>





## BATTERY SWITCH



REF [134TA8696](#)

2-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 thickness of 5 mm

## BATTERY SWITCH



REF [106TA1190](#)

2-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 thickness of 23 mm

## BATTERY SWITCH



REF [134TA8697](#)

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

## KEY BATTERY SWITCH



REF [112TA4853](#)

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

## KEY BATTERY SWITCH



REF [134TA8704](#)

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

## BATTERY SWITCH



REF [134TA8698](#)

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

## KEY BATTERY SWITCH



REF [134TA8716](#)

Key for Cobo

REF [134TA8715](#)

Key for Hella

REF [134TA8710](#)

Key for Bosch & other brands

## KEY BATTERY SWITCH

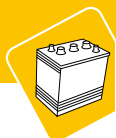


REF [123TA7672](#)

75 A – 200 A (5 sec)

Plastic switch (with key)

- Switch with 2 keys
- Separate keys are available, please specify your keynumber



## KEY BATTERY SWITCH



REF [134TA8699](#)

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

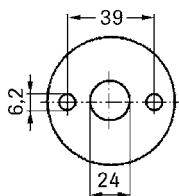
## KEY BATTERY SWITCH



REF [134TA8713](#)

Key for [134TA8699](#)

## BATTERY SWITCH



REF [106TA1189](#)

- Metal switch (with key)
- 100 A – 500 A (5 sec) 1-pole (2 connections)

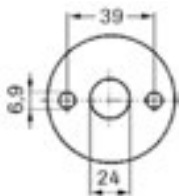
## KEY BATTERY SWITCH



REF [106TA1188](#)

Metal key

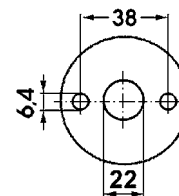
## BATTERY SWITCH



REF [106TA1187](#)

- Plastic switch (with key)
- 100 A – 500 A (5 sec) 1-pole (2 connections)

## BATTERY SWITCH



REF [106TA1184](#)

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

## KEY BATTERY SWITCH



REF [107TA1095](#)

- Plastic key – 1-side pin
- For [106TA1187](#) & [106TA1184](#)

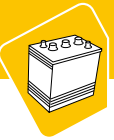
## KEY BATTERY SWITCH



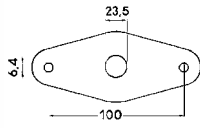
REF [134TA8711](#)

- Plastic key – 2-side pin
- For [106TA1187](#) & [106TA1184](#)





## BATTERY SWITCH



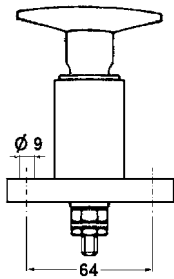
REF [111TA3918](#)  
300 A – 2500 A (5 sec) 1-pole (2 connections)

## KEY BATTERY SWITCH



REF [134TA8714](#)  
Key for [111TA3918](#)

## BATTERY SWITCH



REF [107TA1096](#)  
600 A – 4500 A (5 sec) 1-pole (2 connections)

## BATTERY SWITCH



REF [134TA8702](#)  
Used for Manitou/Moffet

## BATTERY SWITCH



REF [134TA8700](#)  
Used for Hyster

## KEY BATTERY SWITCH



REF [134TA8707](#)  
Used for Still

## BATTERY SWITCH

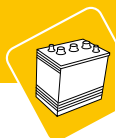


REF [134TA8701](#)  
Used for Toyota

## BATTERY SWITCH



REF [134TA8703](#)  
Used for Skyjack



## BATTERY SWITCH



REF [134TA8709](#)  
Used for Hyster

## BATTERY SWITCH



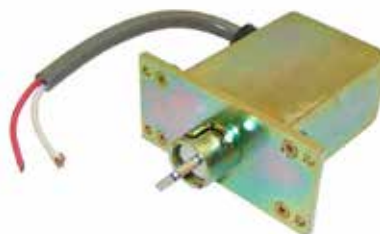
REF [110TA8155](#)  
Used for Caterpillar

## BATTERY SWITCH

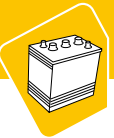


REF [134TA8708](#)  
Used for Hyundai

## BATTERY SWITCH



REF [144TA1914](#)  
Used for Nichiyu-Nyk



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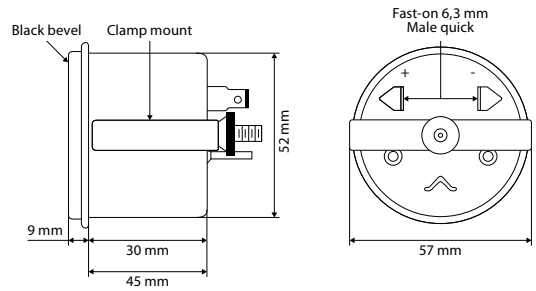
BATTERY DISCHARGE INDICATORS

## BATTERY DISCHARGE CONTROLLER – TYPE 900



- REF [107TA1063](#) – 12 V
- REF [106TA1135](#) – 24 V
- REF [106TA1136](#) – 36 V
- REF [106TA1137](#) – 48 V
- REF [106TA1138](#) – 72 V
- REF [106TA1139](#) – 80 V

- Diameter: 52 mm
- Without lock-out

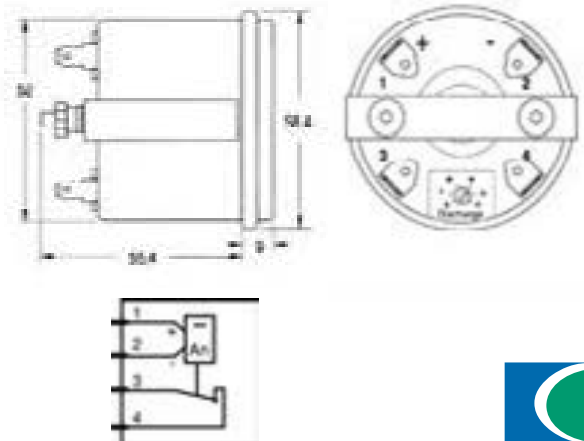


## BATTERY DISCHARGE CONTROLLER – TYPE 901



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

- Diameter: 52 mm
- With lock-out

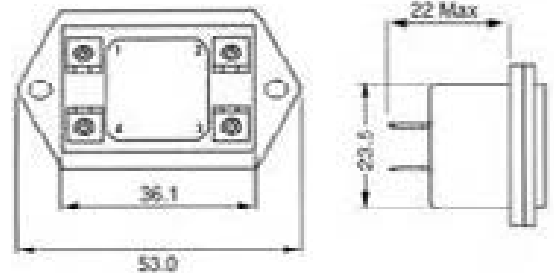


## BATTERY DISCHARGE CONTROLLER



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

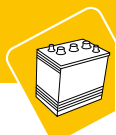
- Outer diameter: 52 mm
- With lock-out



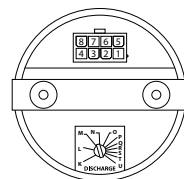
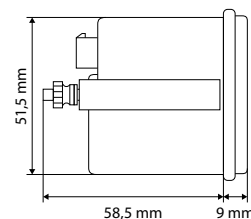
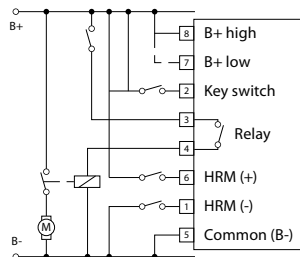
### Terminals:

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





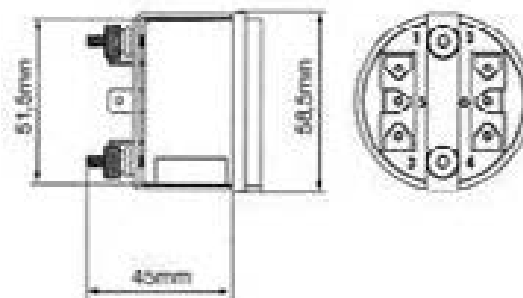
## BATTERY DISCHARGE CONTROLLER AND HOUR METER



CURTIS

- REF [107TA1064](#) – 12 V
- REF [106TA1141](#) – 24 V and 48 V
- REF [107TA1065](#) – 72 V and 80 V
- Diameter: 52 mm
- With lock-out
- Curtis 803 series

## BATTERY CHARGE METER (NO BDI)



- Terminals:**
1. Not connected
  2. Battery +
  3. Battery ground
  4. Not connected
  5. Higher output
  6. Lower output



CURTIS

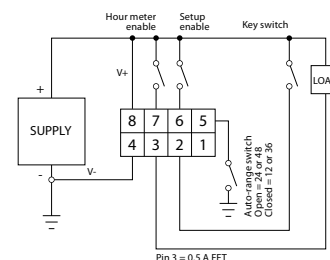
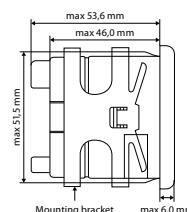
- REF [123TA7792](#) – 12 V
- REF [123TA7961](#) – 24 V
- Diameter: 52 mm
- Not intended for use with battery-powered vehicles!

## MAINTENANCE MONITOR WITH ADJUSTABLE HOUR METER

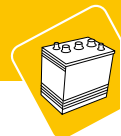
REF [123TA7755](#)

**enGage II**

- 12–48 V DC
- 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



CURTIS



## BATTERY DISCHARGE CONTROLLER AND HOUR METER



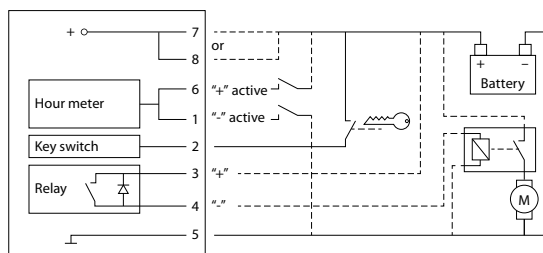
8 LED



- 1 hour meter input "-"
- 2 from key switch "+"
- 3 relay contact "+"
- 4 relay contact "-"
- 5 battery "-" (GND)
- 6 hour meter input "+"
- 7 battery permanent "+"
- 8 battery permanent "+"
- M discharge settings adjustable potentiometer

- 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
- Diameter: 52 mm
- With lock-out

10 LED

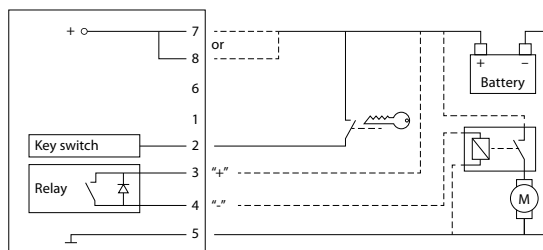


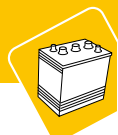
## BATTERY DISCHARGE CONTROLLER



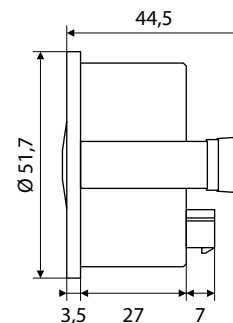
- 1 no use
- 2 from key switch "+"
- 3 relay contact "+"
- 4 relay contact "-"
- 5 battery "-" (GND)
- 6 no use
- 7 battery permanent "+"
- 8 battery permanent "+"
- M discharge settings adjustable potentiometer

- REF [134TA2825](#) – 12 V
- REF [134TA2826](#) – 24 V
- REF [134TA2827](#) – 36 V
- REF [134TA2828](#) – 48 V
- Diameter: 52 mm
- With lock-out





## BATTERY DISCHARGE INDICATOR



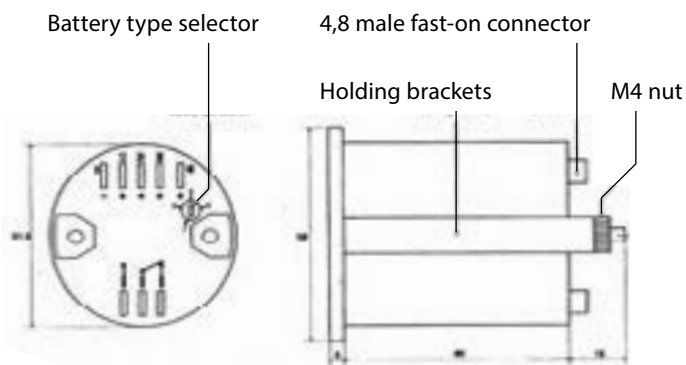
- REF [129TA8811](#) – 12 V
- REF [129TA8812](#) – 24 V
- REF [129TA8813](#) – 36 V
- REF [129TA8814](#) – 48 V
- Diameter: 52 mm
- With lock-out
- 4 wires, ±, relay

## BATTERY DISCHARGE INDICATOR



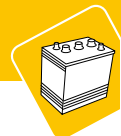
- REF [145TA2230](#) – 12 V
- REF [145TA2231](#) – 24 V
- REF [145TA2232](#) – 36 V
- REF [145TA2233](#) – 48 V
- REF [145TA2234](#) – 72 V
- REF [145TA2235](#) – 80 V
- REF [145TA2236](#) – 96 V
- Diameter: 52 mm
- With lock-out

## BATTERY DISCHARGE CONTROLLER AND HOUR METER



- REF [106TA1131](#)
- Multivoltage:
- 12 – 24 – 36 – 48 V

- Diameter: 52 mm
- With lock-out



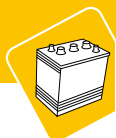
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## BATTERY DISCHARGE INDICATOR AND HOUR METER

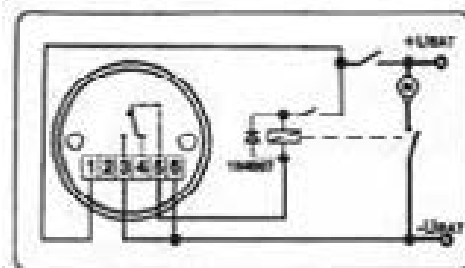


- REF [145TA2237](#) – 24 V
- REF [139TA7703](#) – 36 V
- REF [145TA2238](#) – 48 V
- REF [145TA2239](#) – 72 V
- REF [145TA2240](#) – 80 V
- REF [145TA2241](#) – 96 V

- Diameter: 52 mm
- 3 wires standard version



## BATTERY DISCHARGE INDICATOR/CONTROLLER



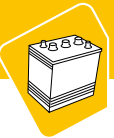
- REF [123TA7754](#) – 12 V
- REF [107TA1046](#) – 24 V
- REF [107TA1047](#) – 36 V
- REF [107TA1048](#) – 40 V
- REF [107TA1049](#) – 48 V
- REF [107TA1050](#) – 72 V
- REF [107TA1051](#) – 80 V
- Diameter: 52 mm
- With lock-out

## BATTERY DISCHARGE INDICATOR AND HOUR METER



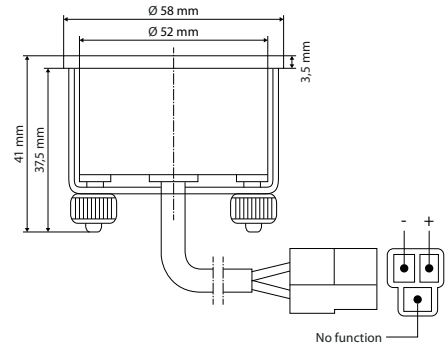
- REF [145TA2242](#) – 12 V
- REF [145TA2243](#) – 24 V
- REF [145TA2244](#) – 36 V
- REF [145TA2245](#) – 40 V
- REF [145TA2246](#) – 48 V
- REF [145TA2247](#) – 72 V
- REF [145TA2248](#) – 80 V
- Diameter: 52 mm





## BATTERY DISCHARGE INDICATOR

- REF [106TA6742](#) – 12 V
- REF [106TA1101](#) – 24 V
- REF [106TA1102](#) – 36 V
- REF [105TA4584](#) – 48 V
- REF [106TA1103](#) – 72 V
- REF [106TA1104](#) – 80 V
- Diameter: 52 mm
- Without lock-out



## BATTERY DISCHARGE INDICATOR/CONTROLLER

- REF [107TA1062](#)
- Multivoltage:  
without lock-out  
12 – 24 – 36 – 48 V

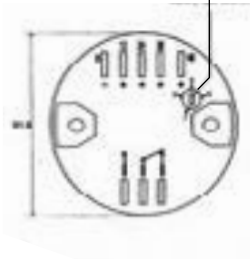
- REF [107TA1061](#)
- Multivoltage:  
with lock-out  
12 – 24 – 36 – 48 V

Diameter: 52 mm



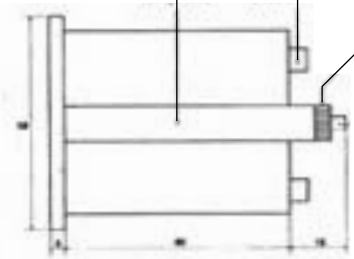
Battery type selector

4,8 male fast-on connector



Holding brackets

M4 nut



## BATTERY DISCHARGE INDICATOR

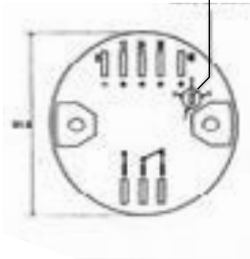
- REF [106TA1131](#)
- Multivoltage:  
12 – 24 – 36 – 48 V

- Diameter: 52 mm
- With lock-out



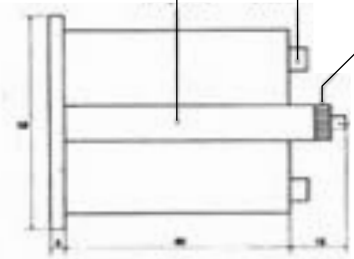
Battery type selector

4,8 male fast-on connector



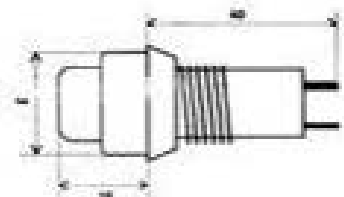
Holding brackets

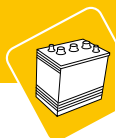
M4 nut



## BATTERY DISCHARGE INDICATOR

- REF [107TA1057](#) – 12 V
- REF [107TA1058](#) – 24 V
- REF [107TA1059](#) – 36 V
- REF [107TA1060](#) – 48 V
- Diameter: 18 mm
- Used for sweepers



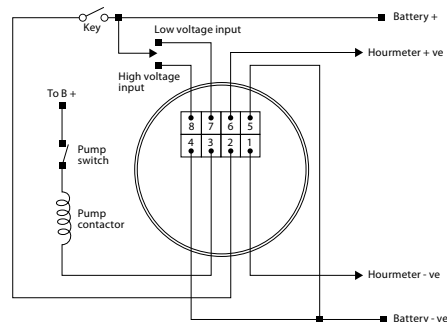


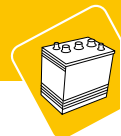
## BATTERY DISCHARGE INDICATOR/HOUR METER



**REF 134TA8373**

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





## BATTERY MONITORING DEVICE - SMART.UP

**Useful to understand that the batteries are being charged correctly and discharged to the optimum level**



Voltage	Ah battery	REF
24 V – 96 V	100 ÷ 340	<a href="#">141TA7878</a>
24 V – 96 V	350 ÷ 740	<a href="#">141TA7879</a>
24 V – 96 V	750 ÷ 1500	<a href="#">141TA7880</a>

### Monitoring battery data

- Measured instantaneous data: V, I, T and Ah
- Storage and analysis of history data
- Statistic analysis
- Data download on USB to the PC

### Sending battery data to a PC

Through the USB all data are sent to the SMARTVIEW Program, which makes it possible to display the data in form of working cycles and diagrams.

### Sending battery data to the web

Data stored on a flash USB driver can be uploaded to the SmartService WEB application for:

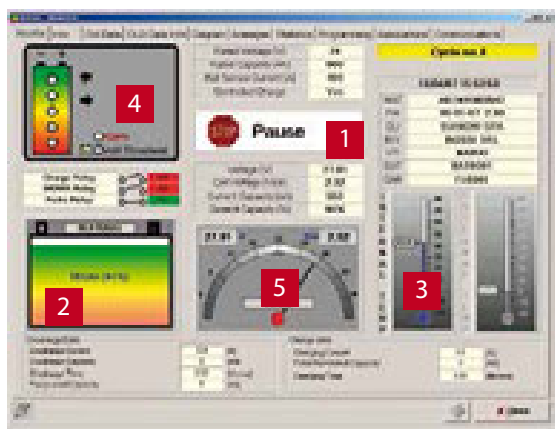
- automatic analysis and reports
- integrated "SmartIC-like" management fleet

### Features

- Data memory 400 working cycles
- For batteries 24/36/48/72/80/96 V (12 V available on request)
- Hall effect sensor
- Discharge time and capacity
- Battery faults and failures occurring during the charging process
- Temperature indication (when sensor is fitted)
- Low electrolyte level (when electrolyte level probe is fitted)
- Possibility of serial connection RS 485 and CAN bus
- Protection IP54
- Working temperature from -20 °C to 50 °C
- USB flash memory
- USB cable

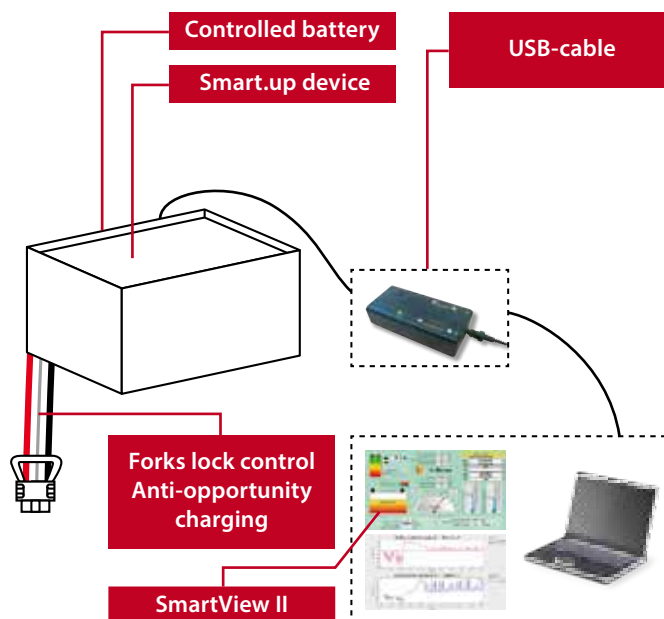
For the entire lifespan of battery Smart.up monitors the following data:

- Voltage
- Current
- Capacity
- Temperature

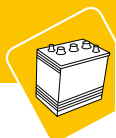


### Software SmartView II

1. System status
2. Battery level indicator
3. Smart.up inside temperature
4. Smart.up panel
5. Battery voltage



- Measured instantaneous data: V, I, T, and A
- Storage and analysis of history data
- Statistics analyses
- Data download onto a PC
- Graphic display of voltage and current
- Programming of charging and discharging parameters



## LEVEL INDICATOR

### REF 127TA3877

The biggest problem in battery maintenance is knowing when to fill batteries with water.

Without indication, operators must devise watering schedules or carry out weekly inspections to maintain the batteries.

Time is often wasted when inspecting and watering batteries that do not require filling, while batteries left under watered can suffer costly permanent damage.

- **Saves Money**

- Allows you to water only those batteries that need water
- Prolongs battery life — never lets a battery dry out
- Monitors add minimal cost to batteries

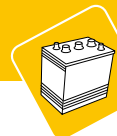
- **Saves Time**

- Eliminates labour time wasted checking battery levels
- Advanced technology eliminates false indication, maximizes watering intervals

- **Easy to use**

- Bright LED is easy to see
- Variety of options to suit your requirements





## SMARTBLINKY – CYCLOPS

### The clever way to manage battery watering

#### REF 128TA3443

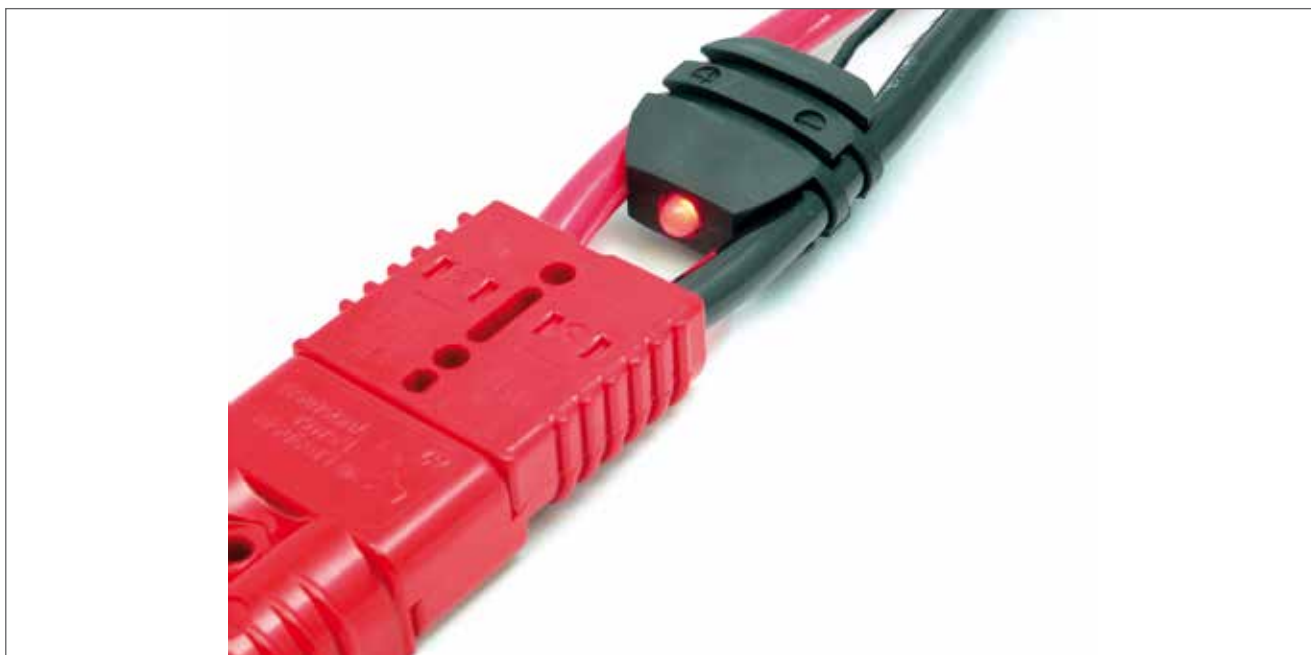
The biggest problem in battery maintenance is knowing when to fill the batteries with water. Time is often wasted when inspecting and topping up batteries that do not require filling, while batteries left under-filled can suffer costly permanent damage.

The SmartBlinky – Cyclops is the new revolution in advanced technology battery watering!



“The SmartBlinky – Cyclops has a LED mounted in a housing that is located behind the battery plug. This will allow the operator to visually check the electrolyte level, every time the battery is disconnected from the charger.”

- **Safest electrolyte level monitor on the market:** Low voltage (4 V nominal) – fuse protected – low current draw – internationally certified
- **Easy to see and to use:** A green light means the electrolyte level is OK; a red light means it is time to water the cells.
- **Protects your battery investment:** The SmartBlinky – Cyclops helps protect against battery dry-out.
- **Gives bright, unambiguous signals**
- **Engineered to be durable:** The SmartBlinky – Cyclops is built to withstand the harsh environment of industrial battery applications.
- **Inexpensive and cost effective:** Over a battery lifetime, the SmartBlinky – Cyclops saves a surprising amount of time – or labor cost – and delivers a rapid return on investment.

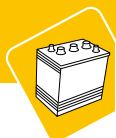


## DRILL BIT FOR SMARTBLINKY – CYCLOPS



#### REF 128TA3444

- Installation tool
- Diameter: 11,7 mm



## DIGITAL HYDROMETER

### REF [138TA7531](#)

#### 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 TVH 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 g/cm<sup>3</sup> to 3 g/cm<sup>3</sup>
  - Temperature: 0 °C to 40 °C
  - Viscosity: 0 mPa-s to 1000 mPa-s
- Sample volume: 2 ml
- Dimensions (L x W x H): 140 x 138 x 27 mm
- Data memory: 1024 measured results
- Power supply: two 1,5 V alkaline batteries



## HIGH-PRECISION DENSIMETER



With a hydrometer you can measure the weight of the acid in the battery

#### 1 REF [138TA3950](#)

Hydrometer in complete plastic housing

#### 2 REF [138TA3957](#)

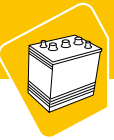
Glass hydrometer in plastic housing

#### 3 REF [142TA8267](#)

- Robust hydrometer
- Baumé scale division and specific gravity
- Acidity indication by means of colours

#### 4 REF [106TA8987](#)

Glass hydrometer in glass housing



## BATTERY ACID TESTER

**REF 145TA2252**

The HYDROVOLT battery tester is a heavy-duty, chemical-resistant hydrometer which is direct reading and accurate at all electrolyte temperatures. Its advanced design incorporates important practical features which simplify battery service as never before:

- Handy compact size for use with hard-to-get-at batteries
- Large, easy-to-read scale with quick-check colored sectors
- Readings independent of vertical positioning of instrument
- Fast, bubble-free intake of fluid sample
- Automatic air-lock prevents fluid loss and air bleed
- Unexcelled temperature compensation and measuring accuracy
- Sturdy, shock-resistant materials, noncorrosive throughout



## CONDUCTIVITY TESTER

**REF 116TA5778**

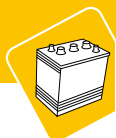
Checks the conductivity (microSiemensvalue) of your demineralized water



## IMPEDANCE TESTER

**REF 145TA2251**





## HAND-HELD REFRACTOMETER FOR ANTIFREEZE AND BATTERY FLUID



### Top quality

REF [107TA8513](#) – Japanese cooling liquids

REF [127TA9679](#) – European cooling liquids

- Instantaneous measurement of the battery density or the freezing point of the coolant
- Automatic compensation of the measurement depending on the temperature
- Measuring range:
  - Coolant 0 °C to -48 °C (graduation: 3 °C, precision:  $\pm 0,55$  °C)
  - Density of the battery liquid 1100 to 1400 (precision:  $\pm 10$ )
- Delivered with spatula to collect the battery liquid and a tube for the antifreeze
- Weight: 230 g

## REFRACTION METER

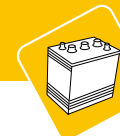


REF [142TA8272](#)

### Application:

- Universal device for the control of anti-freezing agent for:
  - Ethylene glycol and propylene glycol: 0–50 °C
  - Acid: 1,15–1,30 g/ml
- Optical device of high quality
- For a quick and accurate measurement
- A drop of liquid is sufficient for control
- Independent of temperature of the liquid
- Individual adjustment of sharpness
- Packaging: plastic case





## FLUKE BT521 // BATTERY ANALYZER



More battery tests. Less time. Results you can trust.

The new Fluke BT521 Battery Analyzer is an 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.

Covering a broad range of battery test functions, ranging from DC voltage and resistance tests to full condition testing using an automated string function testing and the test probe integrated infrared temperature measurement system.

The Fluke BT521 Battery Analyzer is designed for measurements on stationary batteries including GEL, AGM (Absorbed Glass MAT) and float open cells.

# FLUKE®

REF [144TA7196](#)

- **Size (HxLxW):** 220 mm x 103 mm x 58 mm
- **Weight:** 0,85 kg
- **Warranty:** Three years

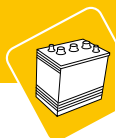
### Included Accessories

Zero Ohm calibration resistor, 4-wire test pin (set), TL175 TwistGuard test leads with adapter, L300 attachable LED flashlight (2pcs.), BTL10 basic test lead (set), BTL21 intelligent test probe set and extender with temperature sensor, BTL-A voltage/current probe adapter, I410 AC/DC current clamp, BP500 7.4V 3000mAh Lithium-ion battery, BC500 AC charger, standard mini-b USB cable, shoulder strap, belt strap, magnetic hanging strap, FlukeView Battery Analyzer (CD) containing USB driver and manuals in all languages, soft carrying case, spare fuse (2 pcs.), paper battery tags (100 pcs.).



### Features

Key measurements: Battery resistance, DC and AC voltage, DC and AC current, ripple voltage, frequency and battery temperature.
Sequence measurement mode: automatic or manual sequence testing of battery strings with automatic measurement storage including voltage, resistance and temperature (with Intelligent Probe).
Comprehensive logging: all measured values are automatically captured during testing and can be reviewed on the instrument before downloading for on-the-go analysis.
Optimized user interface: quick, guided setup ensures you're capturing the right data every time, and the combined visual and audio feedback cues reduce the risk of measurement confusion.
Advanced analytical PC software: Battery Management Software delivers professional results through a straightforward Windows® interface, check the health of the system at a glance using set limits, maintain your library of battery test studies.
Ergonomic Test leads: rugged coaxial two pole kelvin test pins with remote SAVE button reduce test time and increase efficiency.
Test Probe extenders: Long reach probes for double stacked cells.
Intelligent Test Probe Set – includes integrated LCD display, verbal audio feedback, infrared temperature measurement, and captures voltage readings and temperature logging.
Multiple-functionality: covers all IEEE recommended battery test measurements, includes automated discharge testing function.
Wireless communication: for data download and remote display while measuring (Apple app).
Battery Life: 7.4V 3000mAh Lithium-ion battery for more than eight hours continuous operation.
Easy storage and carrying: convenient magnetic hanging strap with shoulder strap for simple daily use and innovative 'hands-free' carrying harness enables complete portability to reduce fatigue when measuring and maintaining long battery strings.
USB Port: for fast data download to supplied Data Analysis and Report Management application software.
Highest safety rating in the industry: 600 VAC CAT III, 1,000 VDC CAT II rated for safe measurements all around the battery power supply equipment.

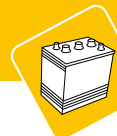


## FLUKE BT521 // BATTERY ANALYZER

Specifications			
Functions	Range	Resolution	Accuracy
Battery resistance	3 mΩ	0.001 mΩ	1 % + 8
	30 mΩ	0.01 mΩ	0.8 % + 6
	300 mΩ	0.1 mΩ	0.8 % + 6
	3000 mΩ	1 mΩ	0.8 % + 6
Vdc	6 V	0.001 V	0.09 % + 5
	60 V	0.01 V	0.09 % + 5
	600 V	0.1 V	0.09 % + 5
	1000 V	1 V	0.09 % + 5
Vac (45 Hz to 500 Hz with 800 Hz filter)	600 V	0.1 V	2 % + 10
Frequency (displayed with Vac and Aac)	500 Hz	0.1 Hz	0.5 % + 8
AC voltage ripple (20 KHz Max)	600 mV	0.1 mV	3 % + 20
	6000 mV	1 mV	3 % + 10
Adc/Aac (with accessory Fluke i410)	400 A	1 A	3,5 % + 2
Temperature	0 °C to 60 °C	1 °C	2 °C
Meter mode	999 records for each measurement position with time stamp		
Sequence mode	Up to 100 profiles and 100 profile templates with time stamp		

Environment	
Operating temperature	0 °C to 40 °C
Storage temperature	-20 °C to 50 °C
Lithium-ion battery charging temperature	0 °C to 40 °C
Operating humidity	Non-condensing (10 °C)
	<=80 % RH (at 10 °C to 30 °C)
	<=75 % RH (at 30 °C to 40 °C)
Operating altitude	Sea level to 2000 meters
Storage altitude	Sea level to 12 000 meters
Drop test requirements	1 meter
IP rating	IP40
Radio	FCC Class A
Vibration requirements	MIL-PRF-28800F: Class 2





## BATTERY CELL TESTER



REF [106TA8967](#)

2 V 250 A

REF [106TA8968](#)

2 V 375 A

## ANALOG BATTERY TESTER



REF [134TA8692](#)

- Battery tester 6 V - 12 V 100 A 1000 CCA
- 3 functions
- Starter capacity
- Voltmeter DC 0 to 16 V
- Charging system (alternator)



## DIGITAL BATTERY TESTER



### REF 145TA2254

- Battery tester 12 V
- Suitable for batteries up to 100 amp
- (1000 cca) test by means of TAX expires automatically after pressing test button
- Digital display

## ANALOG BATTERY TESTER



### REF 145TA2255

- Heavy analog battery tester for batteries up to 500 amp
- Testing with actual load
- Setting cold start amp. middle dial
- Rotate it to the right and increase resistance to KSA to test of the battery matches the KSA on the display
- After about 10 sec. is there a sound signal
- Voltage should not come under the 9.5-10V during test

## DIGITAL BATTERY TESTER



### REF 134TA9538

Tester for 6 V and 12 V batteries, testing of 12 V and 24 V load systems



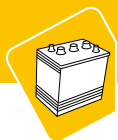
## DIGITAL BATTERY TESTER

REF [145TA2256](#) – Digital battery tester

REF [145TA2257](#) – Paper roll (for REF [145TA2256](#))

- Digital professional battery tester with printer
- Test 6 and 12 V batteries
- Load test 12 and 24 V systems suitable for all sli/vlra/agm/mf/cal-cal batteries
- Tester works with drop-down menu test range 40 to 2000 cold start amp. SAE.
- Inclusive caoutchouc protective case, 4 x AA battery, and print role





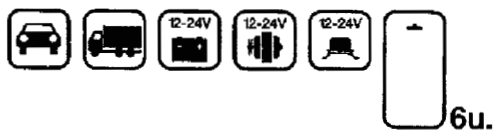
## CAR ELECTRONIC TESTER

REF [106TA8960](#)



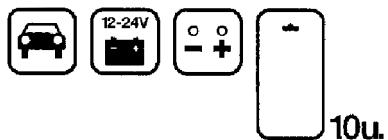
## DIGITAL VOLTMETER

REF [106TA8959](#)



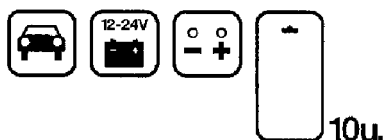
## ELECTRONIC TESTER

REF [106TA8958](#)



## ELECTRONIC TESTER

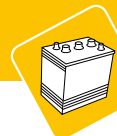
REF [106TA8957](#)



## VOLTAGE TESTER

REF [145TA2259](#)





## FLUKE 375 // CLAMP METER



### Be ready for anything

With True rms AC voltage and current measurements, the Fluke 375 clamp meter can read up to 600 V and 600 A in both AC and DC modes, and is capable of frequency measurement up to 500 Hz.

Additionally, the 375 is compatible with the new iFlex flexible current probe (sold separately), which expands the measurement range to 2500 A AC (no DC).

# FLUKE®

REF [138TA3969](#)

- **Size: (H x W x D):** 248 mm x 85 mm x 45 mm
- **Weight:** 0,375 kg
- **Warranty:** Three years for electronics  
One year for cable and clamp assembly

### Features

True RMS	✓
Display backlight	✓
Display hold	✓
Low pass noise filter	✓
Motor start-up current	✓
Large jaw	✓
Current AC/DC	✓

### Included Accessories

Soft carrying case, test leads, 2 AA alkaline batteries, coated instruction card and safety information sheet.

### Recommended accessories



i2500-10 inch iFlex (25 cm)  
Flexible current probe  
REF [138TA3971](#)



i2500-18 inch iFlex (45 cm)  
Flexible current probe  
REF [138TA3972](#)



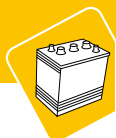
AC285  
REF [131TA8467](#)



TL223-1  
REF [140TA7507](#)

### Specifications

Functions	Range	Accuracy
Current AC	0-600,0 A	2% ± 5 digits
Current DC	0-600,0 A	2% ± 5 digits
Inrush	100 mS	
Voltage AC	0-600,0 V	1,5% ± 5 digits
Voltage DC	0-600,0 V	1% ± 5 digits
Resistance	60k Ω	1% ± 5 digits
Capacitance	1 μF to 1000 μF	1,9% ± 2 digits
Continuity		≤ 30 Ω



## POCKET MULTIMETER



**REF 106TA8963**  
Digital multimeter

## 5-IN-1 AUTORANGE DIGITAL MULTIMETER

**REF 129TA7690**

- AC/DC voltage 1000 V
- AC/DC current 10 A
- Resistance
- Capacitance
- Frequency
- Duty cycle
- Temperature
- Humidity
- Light
- Sound level
- Diode test
- Auto power off
- Data hold
- Backlight



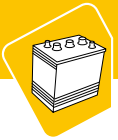
## PEN TYPE METER

**REF 142TA1383**

- AC/DC voltage: 600 V
- AC/DC current: 200 mA
- Resistance
- Continuity test
- Display: 2000 counts
- Auto and manual ranging
- Non-contact AC voltage detection: >50 V AC
- Auto power off
- Data hold
- Low battery display
- CAT III 600 V, CE







## NEW RANGE OF TOTALSOURCE® BOOSTERS

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 or if the battery is completely discharged.

Select your booster according to your machinery by means of the required peak amperage (cranking current).

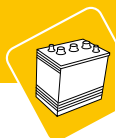
**TOTALSOURCE®**



Made in Belgium



Fig	REF	Start Ampere	Peak Ampere	Maximum discharge	Car plug output 12 V	Output – fuse	Weight	Dimensions (mm)
1	<a href="#">106TA8966</a>	700 CA	1750 A	7 kW	16 A	300 A	11,5 kg	375 x 110 x 320
2	<a href="#">136TA1197</a>	1200 CA	3100 A	14 kW	16 A	300 A	16,5 kg	450 x 130 x 390
3	<a href="#">106TA8965</a>	1600 CA on 12 V – 800 CA on 24 V	4500 A on 12 V – 2250 A on 24 V	22 kW	16 A	300 A	23 kg	530 x 160 x 480
4	<a href="#">136TA1198</a>	2400 CA on 12 V – 1200 CA on 24 V	6200 A on 12 V – 3100 A on 24 V	28 kW	16 A	500 A	28,5 kg	530 x 160 x 480
REF <a href="#">136TA1237</a> – Kit SOS 12/24 V – 2400/1200 CA complete with advised options for use on scissor lifts								
5	<a href="#">136TA1199</a>	3200 CA on 12 V – 1600 CA on 24 V	7750 A on 12 V – 3875 A on 24 V	32 kW	16 A	500 A	58 kg	470 x 340 x 970
6	<a href="#">143TA8183</a>	6400 A on 12 V – 3200 A on 24 V	15550 A on 12 V – 7750 A on 24 V	64 kW	16 A	500 A	73 kg	470 x 340 x 970



## PORTABLE MODEL SOS 12/24 V

### Technical specifications



Reference	REF <a href="#">136TA1198</a>
Voltage	12/24 V
Cranking amps	2400/1200 A
Peak amps	6200/3100 A
Cable length	1,35 m
Radaflex® welding cable size	50 mm <sup>2</sup>
Type of clamps	850 A
Automatic electronic charger AC/DC	3,6 Ah
12 V output	16 A
Reverse polarity system	yes
Internal fuse on the batteries	yes

### Advised options on the booster and the scissor lift



#### Auxiliary connector built on a 12/24 V portable booster.

This connector is used to plug easily your auxiliary cables on the booster (standard for 24 V models).



#### 1-meter long cable with a red connector on one side and terminal rings on the other side to fix on the vehicle's battery.

Place this connector on all your vehicles to make their batteries easily accessible at any time (recovery services).



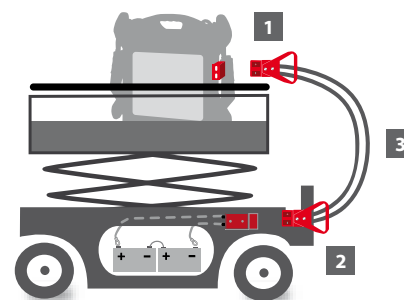
#### 4-meter long jump cable with a red connector at each side.

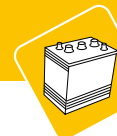
Use this special cable to connect the booster to the vehicle. This connection eliminates all risks of mistake and insures a better conductivity in comparison to clamps.



#### Booster kit SOS 12/24 V complete with advised options for scissor lifts.

REF [136TA1237](#)





## ACID RESISTANT APRON



### REF [144TA1727](#)

- Type PB[4] (partial Body) apron designed to be used for maintenance, industrial, cleaning and handling
- Apron with adjustable lace - 400 g/m<sup>2</sup>
- Dimensions: 1210 x 910 mm
- Color: green
- Unisex

## ACID-RESISTANT JACKET AND TROUSERS

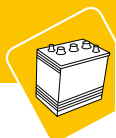


### REF [140TA8672](#)

- EN 14605 – Type 4
- Jacket: 100% waterproof, windproof, strong, supple, high-frequency welded seams, different linings, fleeces can be zipped in
- Outside: fixed hood, raglan sleeves, elasticized wind cuffs within sleeve, unlined, 2 inset pockets, zip closure under double flap with touch and close fastening
- Fabric: Chemflex: 100% polyester knitting with PVC/PU coating; ± 390 g/m<sup>2</sup>
- Acid-resistant
- Colour: green

### REF [140TA8673](#)

- EN 14605 – Type 4
- Trousers: 100% waterproof, windproof, strong, supple, high-frequency welded seams
- Outside: elasticized waist, leg narrowing by flap and touch and close fastening, reinforced knees, unlined
- Fabric: Chemflex: 100% polyester knitting with PVC/PU coating; ± 390 g/m<sup>2</sup>
- Acid-resistant
- Colour: green



## ACID-RESISTANT GLOVES

Ideal for use where heavy-duty chemical protection is essential

**Applications:**

Sandblasting, sanitation, agriculture

**Standard:**

- EN 388:4121
- EN 374:ABCKL
- EN 420
- CE Complex design

Fig	Length	Sizes	Standard	REF
1	267 mm	8	EN 388:4121	<a href="#">106TA9014</a>
		9	EN 374-2:ABCKL	<a href="#">106TA9015</a>
		10	EN 374-3:3263	<a href="#">106TA9016</a>
		11	EN 420:5	<a href="#">106TA9017</a>
2	610 mm	7,5	EN 388:4121	<a href="#">140TA2061</a>
		8,5	EN 374-2:ABCKL	<a href="#">140TA2062</a>
		9,5	EN 374-3:3263	<a href="#">140TA2063</a>
		10,5	EN 420:5	<a href="#">140TA2064</a>



1



2



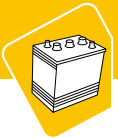
## ACID-RESISTANT SLEEVES

REF [145TA2260](#)

**Features:**

- Excellent chemical resistant Northylon sleeves thanks to Nylon
- 490 mm
- Reusable garment
- Protection type 4





## GOGGLES

### REF 143TA7061

#### Features & benefits:

- Sporty style goggles
- Can be used with most prescription glasses and/or most respirator half masks
- Indirect ventilation and anti-splash system
- Acetate (chemicals) lens
- Pivoting headband clips to adjust around hard hats or hearing protection
- Fits a wide variety of workers
- General use and protection against impact (45 m/s)
- Chemical laboratory (manipulation of dangerous liquids), hospital
- Painting
- Protection against fogging

#### Standard:

- Cat I
- EN 166



**Honeywell**

## GOGGLES

### REF 143TA7060

REF 143TA7062 – Chemistry version with an acetate fog-ban lens

#### Features & benefits:

- Economy goggles with good impact resistance and large field of vision with indirect ventilation that offers protection against droplets of liquids
- Impact-resistant polycarbonate (PC) lens for excellent protection against flying particles, coarse dusts, liquid droplets, mists and sprays
- Lightweight design
- Soft seal and easily adjustable headband fits a wide variety of workers

#### Applications:

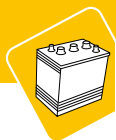
- Industry
- Building and construction
- Food industries
- Industrial cleaning
- Laboratory
- Maintenance
- Medical and pharmaceutical

#### Standard:

- Cat I
- EN166



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## FACE SCREEN

### REF [143TA7065](#)

#### Features:

- Three-part face shield with clear crown and chin guard for optimum protection
- Flip-up visor for all industrial applications
- Chemical resistance: protects against impacts from flying particles of medium energy, hot solid penetration, liquid splashes and crop sprays all in accordance with cited standards

#### Standard:

- Cat I
- EN 166



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## FACE SCREEN

### REF [143TA7066](#)

#### Features:

- Safe, practical, economical
- Integral visor fitting ensures extra protection against liquids and impacts
- Comfortable and lightweight, even during extended usage
- Visor can be tilted upwards and locked in any position
- Easy exchangeable visor in polycarbonate

#### Standard:

- Cat I
- EN 166

### REF [143TA7067](#)

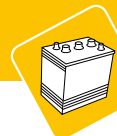
Economical replaceable acetate visor for REF [143TA7066](#)

#### Standard:

- Cat I
- EN 166



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## HALF MASK WITH COMBINED FILTERS

### REF [143TA7046](#)

#### Features & benefits:

Single and limited use respirator with dual cartridge system.

- Maintenance-free, easy to use, safe and hygienic
- Disposed of when filters are saturated: user-friendly – no maintenance
- Areas of application:
  - Laboratories, pharmaceutical industry
  - Exposure to aerosols containing bacteria or viruses, handling powders, clean rooms
  - Mechanical industry, automotive industry
  - Painting, protection against dust in workshops
- Universal size
- White

#### Filter type:

- FFA2P2

#### Standard:

- EN 405



**Honeywell**

## REUSABLE MASKS

Size	Weight	Width x height	REF
M	113 g	152,6 x 190,7 mm	<a href="#">143TA7047</a>
L	140 g	161,0 x 204,1 mm	<a href="#">143TA7048</a>

Optimal breathing comfort for long-term work using a full face mask

- Silicone body and ergonomic design for optimum fit
- Wide field of vision through the panoramic screen
- Click-fit cartridge fastening system

#### Areas of application:

- Laboratories, pharmaceutical industry: exposure to aerosols containing bacteria or viruses, handling powders creating a risk for skin and eyes, working in clean rooms
- Oil and gas industry: handling chemicals where there is a risk of splashes (gas detection), chemical sampling
- Mechanical industry, automotive industry: application of paints and solvents with a risk for skin and eyes
- Chemical industry: manufacture of paints, solvents, high risk products



#### Technical description:

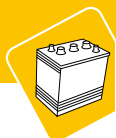
- Body: silicone
- Eyepiece: polycarbonate
- Harness: adjustable five-point harness
- Speech diaphragm: integrated (plastic)
- Twin filter system: "Click-fit" fasteners
- Wearing corrective lenses: possible
- Standard: EN 136

Filters (not included) see next page:

REF [143TA7044](#) – A2P3

REF [143TA7045](#) – ABEK1P3

**Honeywell**



## VALUAIR MASK

### REF [143TA7042](#)

- Size: M
- Weight: 109 g

### REF [143TA7043](#)

- Size: L
- Weight: 113 g

#### Features & benefits:

- A lightweight, dual cartridge system with Click-fit connection, half-mask respirator developed to provide effective protection in today's bodyshop environments
- Moulded in a silicone free thermoplastic elastomer it has an exceptionally comfortable facial seal and low nosepiece for easy vision and features low breathing resistance

#### Standard:

- Cat III
- EN 140

#### Filters (not included):

- REF [143TA7044](#) – A2P3
- REF [143TA7045](#) – ABEK1P3



**Honeywell**

## FILTER "CLICK-FIT"

### REF [143TA7044](#)

#### Areas of application:

- Construction: sanding, plastering, sawing, painting
- Mechanical engineering, machining
- Painting: protection against dust in workshops
- Farming and horticulture: preparing spray mixtures, application of pesticides/herbicides

#### Standard:

- A2P3
- Used against toxic gases relevant for the A classification on the EN 141 standard, and for the particules filter, P3 following the EN 143 (high efficiency filter 99,95%)



**Honeywell**

## FILTER "CLICK-FIT"

### REF [143TA7045](#)

#### Areas of application:

- Construction: sanding, plastering, sawing, painting
- Mechanical engineering, machining
- Painting: protection against dust in workshops
- Farming and horticulture: preparing spray mixtures, application of pesticides/herbicides

#### ABEK1P3

Used against toxic gases relevant for the A B E K classification on the EN 141 standard, and for the Particules filter, P3 following the EN 143 (high efficiency filter 99,95%).

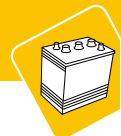
#### Technical description:

- Housing: plastic
- Connection: "Click-fit"
- Protection: particles and/or gas/vapour
- Standards: EN 14387, EN 143



**Honeywell**





## BATTERY SAFETY KIT



REF [134TA8691](#)

**Contents:**

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

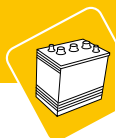
## BATTERY SAFETY KIT



REF [138TA8246](#)

**Includes:**

- 1- Acid sleeves
- 2- First aid box
- 3- Safety glasses
- 4- Gloves
- 5- Acid-resistant apron



## FIRST-AID KIT – SPLINTER REMOVAL KIT

REF [106TA9004](#)

**Contents:**

- Professional removal pencil
- 1 mirror
- 1 magnifying glass
- 1 sterile eyewash solution 100 ml
- 1 eye glass
- 1 stainless steel s/s tweezers 11,5 cm
- 2 sterile gauze pads 18 x 40 cm



## EYEWASHING BOTTLES – STERILE SOLUTION FOR EYE WASH



REF [134TA8688](#) – 100 ml ampul

REF [134TA8689](#) – 250 ml ampul

REF [134TA8690](#) – 500 ml bottle



## PORTABLE EYEWASH KIT

REF [140TA8667](#)

- Contains the necessary items for an efficient first emergency eyewash
- Thermo-formed with transparent lid
- Can be easily wall-mounted with the screws and plugs, supplied in the kit

**Contents:**

- 2 x sterile saline solution of 500 ml
- 2 integrated eye cups
- 1 mirror



## EMPTY EYEWASH BOTTLE



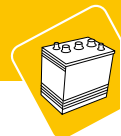
REF [106TA9006](#) – 400 ml

REF [106TA9007](#) – 800 ml

**Support**



REF [106TA9008](#)



## FIRST-AID KIT EURO

Look up via



### REF 140TA8638

Small first-aid kit which is useful for cars, trekking, camping, boy scout, ...

#### Contents:

- 1 triangular bandage TNT 96 x 96 x 136 cm
- 2 adhesive plasters 10 x 6 cm
- 1 pair of scissors 10 cm
- 1 plastic tweezers
- 1 cotton wool pack 20 g
- 1 pack of 10 assorted adhesive plasters
- 2 gauze bandages 7 cm
- 1 adhesive plaster roll 5 x 2,5 cm
- 1 pair of gloves
- 2 packs of sterile TNT pads 1 x 1 cm
- 1 PIC
- 3 packs of 8 ass sachets soap/disinfectant/ammonium
- 1 instant ice pack
- Guidance leaflet 5 languages



## FIRST-AID KIT

### REF 140TA8668

Made of strong tripolymer plastic which is shiny smooth and easy to clean. A neoprene seal is fitted to make the kit dustproof. A wall bracket secures the kit on any wall. A better contents settlement is permitted by the internal crystal partitions. The closing security is given by two swivel catches.

#### Contents:

- 1 ministerial decret copy 388 of the 15/07/03
- 2 pair of sterile gloves
- 1 jodopovidone disinfectant solution at 10% 125 ml
- 1 saline solution 250 ml CE
- 3 sterile gauze 18 x 40 cm sachets
- 1 pack of cotton
- 3 sterile gauze 100 x 100 mm sachets
- 1 plastosan 20 assorted dressings
- 1 sterile tweezers
- 1 adhesive plaster 5 x 2,5 cm
- 2 gauze bandages 10 cm x 3,50 m
- 1 lister pair of scissors 14,5 cm DIN 58279
- 1 tourniquet
- 1 instant ice pack
- 1 sanitary bag
- 1 triangular TNT bandage: 96 x 96 x 136 cm
- 1 isothermic blanket gold/silver 160 x 210 cm
- 1 pack of 8 ass sachets soap/disinfectant/ammonium
- 2 compressive bandages 8 x 10 cm DIN 13151
- 2 x burn gel sachet: 3,5 g
- 1 sterile bandage 40 x 60 cm DIN 13152BR
- 1 multilingual first aid booklet



## EYE CARE AND SPLINTER REMOVAL KIT

### REF 106TA9005

#### Contents:

- 1 magnifying glass
- 1 eyewash bottle with sterile solution (500 ml)
- 1 magnetic stick
- 5 sterile eye pads with conforming bandage loop
- 1 metal tweezers, 12 cm long
- 1 plaster 100 x 6 cm
- 1 pair of metal scissors, 10 cm long, with plastic handles
- 3 packets of disposable paper wipes





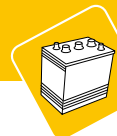
## EMERGENCY SHOWER



REF [106TA9019](#)

Emergency shower complete with eyewash bath – fixed unit





## BATTERY PROTECTION SPRAY

**REF [107TA7662](#)**

- With acid indicator
- Eliminates and prevents corrosion
- Turns pink in the presence of acid
- 400 ml

Curious about more products for battery maintenance?  
Contact your sales advisor.



**TOTAL SOURCE®**

## NEUTRACID

**REF [106TA9020](#)**

- Absorber and extinguisher with indicator of neutralization
- NeutrAcid absorbs liquids and neutralizes acids
- 1 kg of NeutrAcid is capable of neutralizing approx. 300 ml of concentrated sulphuric acid  $H_2SO_4$ , approx. 600 ml of concentrated nitric acid  $HNO_3$ , approx. 1000 ml of concentrated hydrochloric acid  $HCl$
- When colour turns yellow, neutralization is completed
- One filling of box cap holds approx 150 g of NeutrAcid



## ABSORBING SOCKS

**REF [106TA9009](#)**

- 76 x 1220 mm
- 12 pieces/box
- **Absorbs acid!**

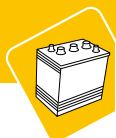


## ABSORBING TOWELS

**REF [107TA7236](#)**

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





## SPILL KIT FOR CHEMICALS

### REF [124TA1742](#)

#### Contents:

- Lockable container with handle and 2 wheels
- 25 absorbing towels: 390 x 500 mm
- Absorbing socks: 70 x 1500 mm
- Absorbing socks: 70 x 3000 mm
- 1 pair of safety goggles
- 1 pair of gloves
- 1 dammit seal kit: 500 g
- 1 absorbing cushion: 400 x 520 mm



## ACID EATER – BATTERY STATION CLEANING KIT

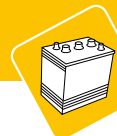
### REF [124TA1734](#)

- Kit contains everything needed to clean forklift batteries
- Neutralizes and cleans batteries, stands, rollers, forklifts, battery compartments and concrete floors
- Eliminates trickle discharge to ensure optimum performance
- Minimizes 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

#### Accessories:

- REF [124TA1735](#) – Acid eater neutralizer and degreaser
- REF [124TA1736](#) – Acid-resistant PVC apron
- REF [124TA1737](#) – Haz Mat boot covers
- REF [124TA1738](#) – Acid-resistant goggles
- REF [124TA1739](#) – Acid-resistant gloves
- REF [124TA1740](#) – Utility brush





## EMERGENCY EXIT

**REF [126TA9496](#)**

- Width: 210 mm
- Height: 105 mm



**REF [138TA1257](#)**

- Width: 400 mm
- Height: 200 mm

- Foreground: white
- Background: green

## EMERGENCY EXIT

**REF [126TA9495](#)**

- Width: 210 mm
- Height: 105 mm



**REF [126TA9664](#)**

- Width: 400 mm
- Height: 200 mm

- Foreground: green
- Background: white

## EMERGENCY EXIT

**REF [126TA9665](#)**

- Foreground: white
- Background: green
- Width: 400 mm
- Height: 200 mm



## EMERGENCY EXIT

**REF [126TA9497](#)**

- Foreground: green
- Background: white
- Width: 200 mm
- Height: 198 mm



## EMERGENCY EXIT

**REF [126TA9559](#)**

- Width: 200 mm
- Height: 200 mm



**REF [126TA9659](#)**

- Width: 302 mm
- Height: 302 mm

- Foreground: white
- Background: green

## FIRE EXTINGUISHER

**REF [138TA2444](#)**

- Foreground: white
- Background: red
- Width: 45 mm
- Height: 60 mm



## FIRE EXTINGUISHER

**REF [107TA8113](#)**

- Foreground: white
- Background: red
- Width: 200 mm
- Height: 200 mm

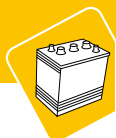


## FIRE EXTINGUISHER

**REF [126TA9661](#)**

- Foreground: white
- Background: red
- Width: 316 mm
- Height: 316 mm





## FIRE EXTINGUISHER



**REF 126TA9660**

- 90° mounting
- Foreground: white
- Background: red
- Width: 330 mm
- Height: 316 mm
- Non-adhesive

## EYE SHOWER



**REF 106TA9011**

- Foreground: white
- Background: green
- Width: 200 mm
- Height: 200 mm
- Non-adhesive

## EMERGENCY SHOWER



**REF 106TA9290**

- Width: 200 mm
- Height: 200 mm

**REF 138TA6925**

- Width: 200 mm
- Height: 200 mm
- Non-adhesive

- Foreground: white
- Background: green

## CORROSIVE



**REF 138TA8284**

- Width: 74 mm
- Height: 74 mm

**REF 138TA8285**

- Width: 148 mm
- Height: 148 mm

- Foreground: mixed
- Background: white

## WARNING DECALS SET



**REF 138TA2006**

- Foreground: mixed
- Background: mixed
- Width: 125 mm
- Height: 62 mm

## FLAMMABLE



**REF 138TA8294**

- Width: 74 mm
- Height: 74 mm

**REF 138TA8295**

- Width: 148 mm
- Height: 148 mm

- Foreground: mixed
- Background: white

## GASES UNDER PRESSURE



**REF 138TA8296**

- Width: 74 mm
- Height: 74 mm

**REF 138TA8297**

- Width: 148 mm
- Height: 148 mm

- Foreground: mixed
- Background: white

## DO NOT USE A HAMMER



**REF 123TA5473**

- Foreground: mixed
- Background: white
- Diameter: 50 mm

Decals are self-adhesive, unless otherwise specified.





## DO NOT MOVE WITH ELEVATED LOAD



REF [138TA1235](#)

- Foreground: mixed
- Background: mixed
- Diameter: 85 mm

## DO NOT USE A KNIFE



REF [138TA2480](#)

- Foreground: mixed
- Background: white
- Diameter: 100 mm

## NO ACCESS



REF [138TA2778](#)

- Foreground: mixed
- Background: white
- Diameter: 59 mm

## DO NOT WALK OR STAND HERE



REF [138TA1387](#)

- Foreground: mixed
- Background: white
- Diameter: 57 mm

## NO SMOKING



REF [126TA9500](#)

Diameter: 50 mm

REF [126TA9498](#)

Diameter: 200 mm

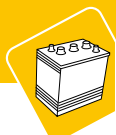
- Foreground: mixed
- Background: white

## NO SMOKING



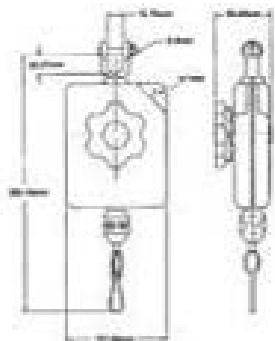
REF [138TA3375](#)

- Foreground: mixed
- Background: white
- Diameter: 100 mm



HANDLING

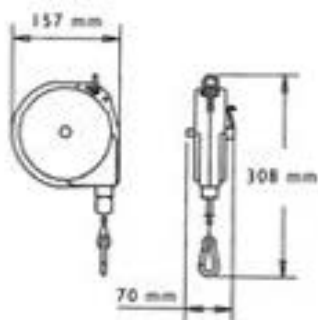
## STANDARD-DUTY BALANCERS 0,5 - 1,8 KG



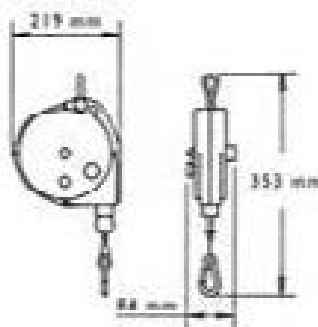
- Long-life heavy-duty spring for lasting performance
- Easy tension adjustment, no tools required
- Full range of motion with 360° swivel hanger
- Quick installation
- Durable nylon cable for long life and reduced maintenance
- Convenient snap-type tool clip for easy tool handling
- Alignment of hanger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

Weight	Cable travel	REF
0,5 - 0,9 kg	2 m	<a href="#">115TA7048</a>
0,9 - 1,8 kg	2 m	<a href="#">115TA7049</a>

## HEAVY-DUTY BALANCERS 0,5 - 6,8 KG

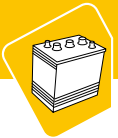


Ratchet lock	Weight	Cable travel	REF
No	0,5 - 2,3 kg	2,4 m	<a href="#">115TA7050</a>
Yes	0,5 - 2,3 kg	2,4 m	<a href="#">115TA7051</a>

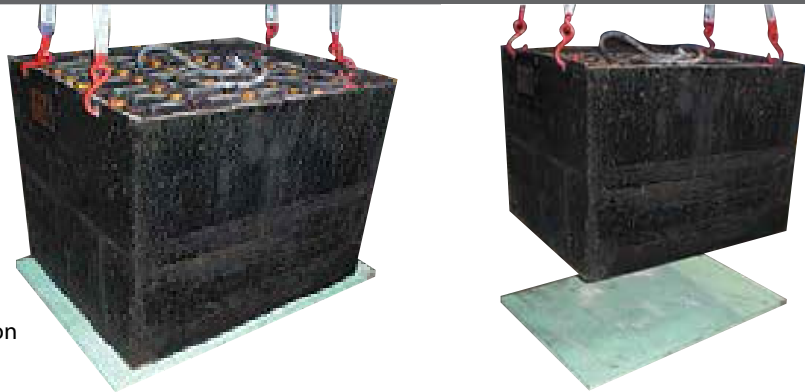


Ratchet lock	Weight	Cable travel	REF
No	1,8 - 4,5 kg	2,4 m	<a href="#">115TA7052</a>
Yes	1,8 - 4,5 kg	2,4 m	<a href="#">115TA7053</a>
No	3,6 - 6,8 kg	2,4 m	<a href="#">115TA7054</a>
Yes	3,6 - 6,8 kg	2,4 m	<a href="#">115TA7055</a>

- Easy tension adjustment, no special tools
- Heavy-duty steel construction for long life
- Easy spring replacement
- Long-lasting mainspring designed to minimize 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



## PROTECTIVE MAT



### REF [115TA5411](#)

- Protective mat for traction batteries
- Protects the floor from damage and pollution
- Protects the battery against severe shocks
- Dimensions: 800 x 1200 x 2 mm

## PROTECTIVE MOUNTINGS

### REF [115TA5412](#)

- Protects the floor from damage and pollution
- Protects the battery against severe shocks
- Can be fitted in the lift truck compartment
- Dimensions: 252 x 80 x 25 mm

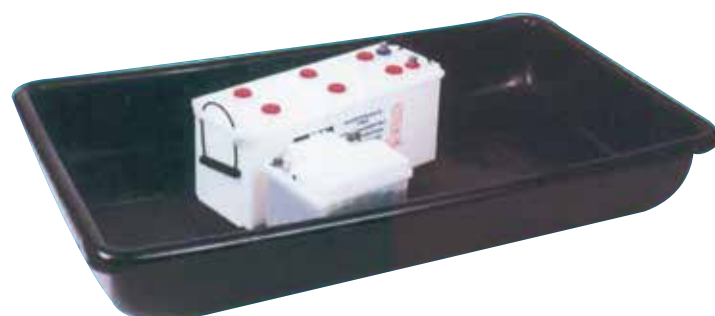


## BATTERY BOX



### REF [145TA2265](#)

## CONTAINER



### REF [115TA4699](#)

- 550 l
- 1310 x 1310 x 350 mm

### REF [116TA5638](#)

- Pallet to easily lift container
- 1200 x 800 mm



HANDLING

## CONTAINER



REF [106TA8992](#)  
Container for storing batteries



REF [106TA8993](#)  
Container cover

## PALLET COVER



REF [116TA5639](#) – Pallet cover  
Container: REF [106TA8992](#)

## BATTERY CARRYING HARNESS



REF [106TA8842](#)  
Universal battery carrier  
with handle

## BATTERY CARRYING HARNESS



REF [106TA8840](#)  
• Battery carrier  
• 2 arms

## BATTERY CARRYING HARNESS

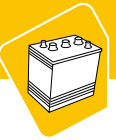


REF [145TA2266](#)  
Strap battery carrier

## CARRIER SCISSOR TYPE



REF [145TA2267](#)



## SIDE LIFT BATTERY CARRIER WITH PADS



REF [144TA1735](#)

## FOLDABLE PLATFORM TROLLEY

REF [105TA4563](#)

- Load capacity: 150 kg
- Width: 480 mm
- Length: 740 mm
- Weight: 11 kg
- Height: 810 mm
- Wheels: 100 mm



## FOLDABLE PLATFORM TROLLEY

REF [106TA8844](#)

- Load capacity: 300 kg
- Width: 870 mm
- Length: 890 mm
- Weight: 21 kg
- Height: 612 mm
- Wheels: 130 mm

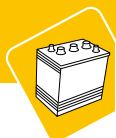


## ALUMINIUM TROLLEY

REF [137TA1792](#)

- Load capacity: 200 kg
- Loading surface: 320 x 250 mm
- Weight: 9,5 kg
- Height: 1300 mm
- Tyres: pneumatic
- Wheels: 260 x 85 mm





HANDLING

## CLAMP



**REF 116TA5784**

Clamp to lift traction cells

## MANUAL HOIST



**REF 115TA5410**

- Manual hoist: 250 kg
- Lift capacity: 250 kg
- Total length: 250 mm
- Chain: 1500 mm
- Weight: 1,5 kg



## BATTERY CHANGING BEAMS

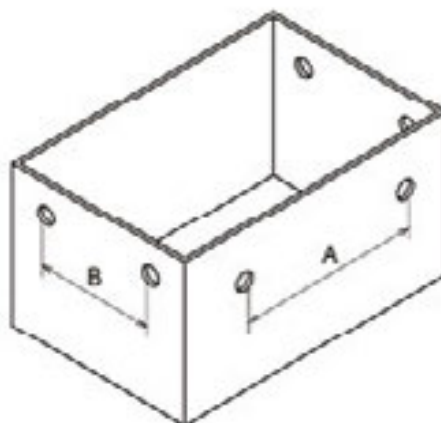


**REF 122TA7459**

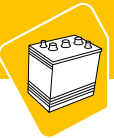
Lifting beams are specifically designed to remove and replace forklift truck batteries safely and economically without the risk of damage. Supplied complete with 4 swivel hooks. Secured safely to the forks by thumb screws.

### Technical specifications:

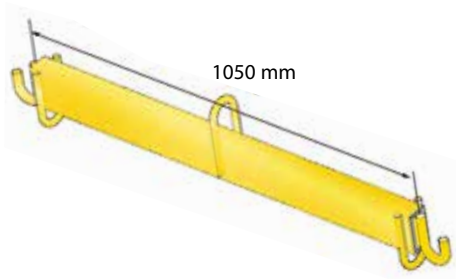
- Maximum fork section: 150 x 70 mm
- A: min 590 mm - max 1010 mm
- B: min 180 mm - max 900 mm
- Capacity: 2000 kg
- Fully tested and CE-certified



CE



## BATTERY MOVER ASSEMBLY



To remove traction batteries from forklifts.  
Capacity: 2000 kg

**REF [122TA9158](#)**

Complete kit (includes: 1x [106TA8838](#), 1x [122TA9098](#), 2x [122TA9099](#))

**REF [106TA8838](#)**

Battery mover supplied **without** upper and lower chains

**REF [122TA9098](#)**

Upper chains, with **RED** hook

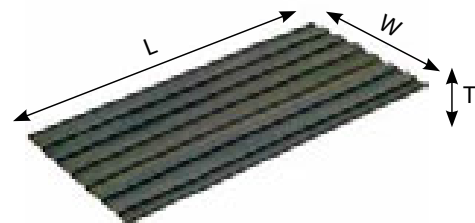
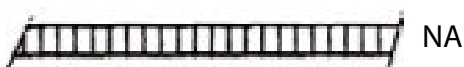
**REF [122TA9099](#)**

Lower chains, with **YELLOW** hooks

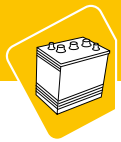


## BATTERY SPACER PLATES

REF	Length L (mm)	Width W (mm)	Thickness T (mm)
<a href="#">106TA8929</a>	685	2000	5
<a href="#">134TA8568</a>	690	2000	10



For all our latest catalogue updates and company info: [www.tvh.com](http://www.tvh.com)



NOTES

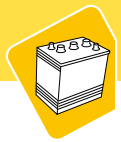
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4

CHARGERS



NOTES

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BATTERY MAINTENANCE

BATTERY MAINTENANCE

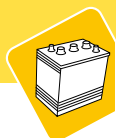


**ENERGIC Plus<sup>®</sup>**

IN CHARGE OF YOUR BATTERIES

[www.energicplus.com](http://www.energicplus.com)

BATTERY  
MAINTENANCE



## INTRODUCTION ENERGIC PLUS®

The **Energic Plus** name is synonymous with quality, innovation and durability in power electronics for battery-operated systems.

Energic Plus has had a **long-lasting and successful worldwide presence** in the **energy storage and power supply sectors** for more than 10 years now. With more than 10 000 happy and returning customers on all continents of the world, we can say that we are one of the leading suppliers of battery charge equipment on today's market.

In terms of battery regeneration and diagnostics equipment, Energic Plus has® become the market leader **with currently over 500 happy and returning customers!**



### Products:

With a range of **more than 400 different chargers**, Energic Plus offers an extensive variety of industrial battery chargers that are well-known for their excellent reliability. In addition to the **high-frequency chargers and chargers for traction batteries**, we also offer you **battery accessories** such as measuring equipment, safety kits and connectors. In combination with large stock, Energic Plus is your answer to all battery-related questions!

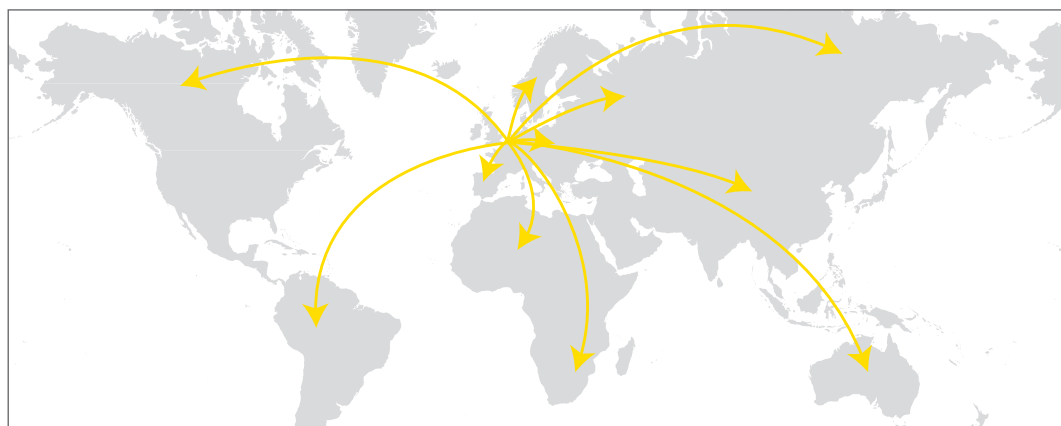
Our showpiece is the **Energic Replus battery regenerator**, which can give any lead-acid battery a second life. Regeneration is very popular, because 80% of the batteries breaking down and losing capacity are sulphated and can be restored with the right equipment. Sulphation of the internal plates increases the resistance within the battery, making it impossible for the battery to work to its full potential. Our Energic Plus regenerator successfully removes sulphation by applying a very 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.

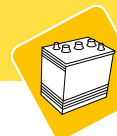
In addition to the fact that the Energic Plus battery regenerator restores the capacity of your batteries, it is also the perfect battery analyzer. Since we have a complete load bank built into this device, we can perform a complete load test to check the current capacity of your battery. And we even go one step further: if you use the battery regenerator in combination with our BMS system, you can even easily detect bad cells in your battery bank! So stop wasting time: as of now the Energic Plus product range makes battery analysing and restoring a piece of cake!

### Custom-made solutions:

We gladly assemble the perfect battery maintenance package for your working environment. Contact us via [info@energicplus.com](mailto:info@energicplus.com) for more information.

### We export to more than 170 countries





## BATTERY REGENERATOR

When we speak about battery maintenance, diagnostics and regeneration, we find that this is somewhat of a complicated conversation for many people. If you want to analyse and maintain batteries properly and restore their capacity if necessary, then this consumes a lot of time and the answer is often: is this even possible? This takes up too much time and it is too labour-intensive? Don't we need specialised battery engineers for that...? Does this even work?

Our answer is YES, the REPLUS technology is the most professional and easy-to-use piece of equipment available on today's market! Fast, accurate, efficient, practically effortless, provides fully detailed reports on the battery condition before and after + analysis of the battery down to cell level!

**The Energic Plus battery regenerator is a proven technology we have sold in more than 50 countries and that is used by more than 500 customers.**

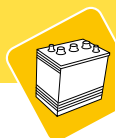


The **Energic Replus battery regenerator** ensures a quick regeneration and expands the life span of the batteries significantly. This process is fully automatic and doesn't require any special attention since the entire process is temperature-controlled and fully monitored by software. After 30-40 hours the regenerator will have finished the entire operation which consists of 2 complete charge and discharge cycles specifically designed to desulphate your battery completely.

Battery regeneration is very popular. 80% of the batteries that break down and lose their capacity are sulphated, but these can be restored with the right equipment. If your battery is maintained properly, it can easily continue for another 2-3 years.

With minimum maintenance costs and only the highest quality components used during the production, the regenerator is an investment that only brings benefits for your business.

You will be able to analyse your batteries like you have never done before, no stone will be left unturned... If used in combination with our BMS technology the Replus regenerator will analyse your battery down to cell level, after which the recovery mode will start completely automatic and it will completely desulphate your battery. Once it is finished you can print out the fully detailed report on the battery condition before and after. Don't wait any longer, stop wasting valuable money and get the best out of your batteries with **Energic Plus®**.



## ENERGIC REPLUS BATTERY REGENERATOR

Expand the lifespan of your batteries: restore your sulphated batteries by the electrical high frequency pulsation process of the battery regenerator.

### Regenerate your sulphated batteries:

Battery regeneration is very popular. **80% of the batteries breaking down and losing capacity are sulphated, but can be restored with the right equipment.** Our Energic Replus battery regenerator successfully replaces sulphation by active material thanks to an electrical high-frequency pulsation process. This process restores the battery capacity, giving you the ability to reuse old and sulphated batteries. You can also use the battery regenerator for annual maintenance to considerably prolong the lifespan of your batteries. The battery regenerator can be used in every lead-acid-based battery: starter batteries, stationary batteries, traction & semi-traction batteries, Ni-Cad batteries ...

### What is sulphation?

During use, small sulphate crystals form, but these are normal and are not harmful. During prolonged charge deprivation however, the amorphous lead sulphate converts to a crystalline form that deposits on the negative plates. This leads to the development of large crystals, which reduce the battery's active material that is responsible for high capacity and low resistance. Sulphation also lowers the charge acceptance.

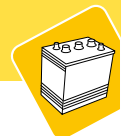
This lead sulphate increases internal resistance and decreases the specific gravity of the electrolyte. The process of sulphation build-up is unavoidable. Worse yet, after 3-4 years the process accelerates substantially. Batteries sulphate due to a mix of reasons:

- 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

### Advantages of using the battery regenerator:



- Combination of battery discharger and battery charger, all combined into 1
- Detailed test reports
- Minimum maintenance cost
- Extended lifespan of batteries
- Quick regenerations
- Free analyzing software
- Automation program applied
- 18-month warranty
- CE-certified, MET-certified (US market)
- Wireless connection between regenerator and computer
- Possibility to monitor the regenerator process on smartphone or laptop (within local network)



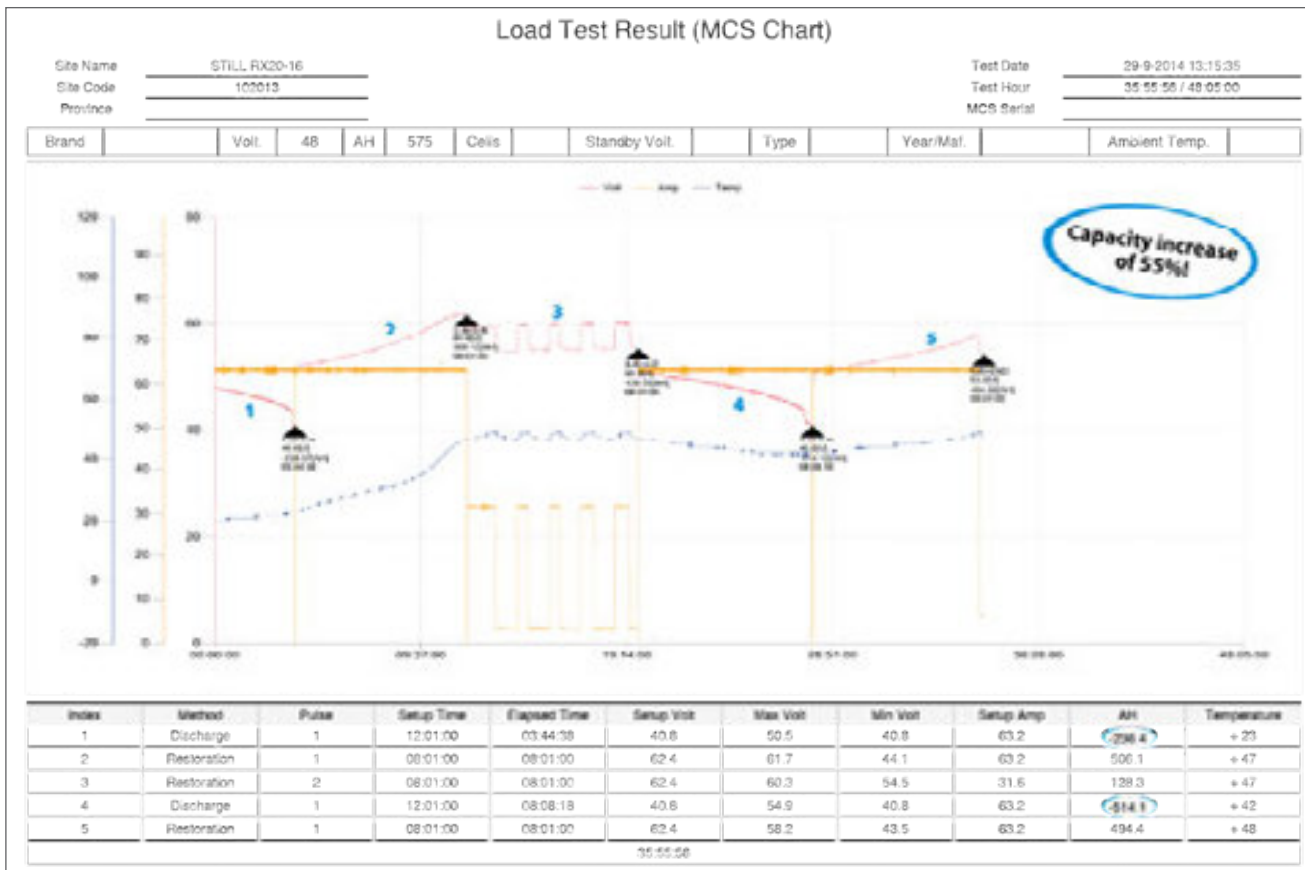
## ENERGIC REPLUS BATTERY REGENERATOR

### Regeneration reports:

When you compare 1 & 4, you can see that the time needed to discharge the battery is much longer in step 4. This is a direct result of the restoration in mode 2 & 3. When comparing step 5 to step 2, you can see that the set battery voltage is reached much later than in step 2. This means that your battery lasts longer and has been restored to a good condition.

This curve shows a complete restoration:

- 1 Controlled discharge
- 2 Restoration
- 3 Restoration
- 4 Discharge
- 5 Restoration



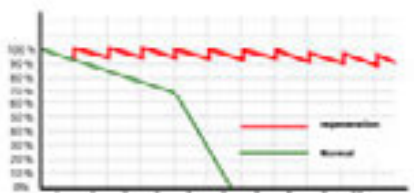
### 2 ways to use the battery regenerator

#### Reconditioning regeneration

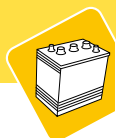


Reconditioning regeneration allows you to restore old (5, 6, 7... years), medium to well-maintained batteries that have 'silted up' as a result of natural sulphation, to a 90-100% productivity.

#### Maintenance regeneration



Maintenance regeneration allows you to keep your battery in optimal, sulphate-free condition, by means of a yearly short regeneration.



## ENERGIC REPLUS BATTERY REGENERATOR

### Overview REPLUS models:



<b>Model</b>	REF <a href="#">139TA1918</a>
Input power	AC 1PH, 220 V, 50/60 Hz
Output	1,2 V - 100 V - 0 A - 30 A
Battery capacity	300 Ah
Transformer	7,5 kW

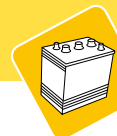
<b>Model</b>	REF <a href="#">139TA1917</a>
Input power	AC 3PH, 220 V or 380 V, 50/60 Hz
Output	1,2 V - 120 V - 0 A - 50 A
Battery capacity	500 Ah
Transformer	10 kW



<b>Model</b>	REF <a href="#">138TA6595</a>
Input power	AC 3PH, 220 V or 380 V, 50/60 Hz
Output	1,2 V - 150 V - 0 A - 100 A
Battery capacity	1000 Ah
Transformer	20 kW

<b>Model</b>	REF <a href="#">139TA5237</a>
Input power	AC 3PH, 220 V or 380 V, 50/60 Hz
Output	1,2 V - 75 V - 0 A - 300 A
Battery capacity	3000 Ah
Transformer	50 kW





## BMS SYSTEM: WIRELESS DETECTION OF BAD CELLS

Professional individual voltage measurements of all cells during a complete discharge **provide a perfect evaluation of the battery**. Ordinary capacity systems only display the total voltage and capacity of the battery, but never the results of the 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 system offers:

- Duration test during the entire discharge 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 that is 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 BDX battery discharger or Battery Regenerator REPLUS you will be able to detect the faulty element and increase the battery's capacity.

Thanks to the **software program** 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 analyzing software and indication of the bad element

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	2.02	2.01	2.01	2.00	2.00	2.00	2.00	2.00	1.99	1.99	1.98	1.98	1.98	
#2	2.13	2.13	2.05	2.05	2.03	2.03	2.03	2.02	2.02	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00
#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	2.02	2.01	2.01	2.01	
#4	2.14	2.14	2.03	2.02	1.99	1.99	1.99	1.97	1.96	1.96	1.96	1.95	1.94	1.94	1.94	1.92	1.92	
#5	2.16	2.16	2.03	2.02	1.99	1.99	1.99	1.96	1.96	1.95	1.94	1.93	1.92	1.92	1.91	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	1.92	1.92	1.92	1.91	1.91	
#7	2.13	2.13	2.02	2.01	1.99	1.99	1.99	1.98	1.97	1.97	1.97	1.96	1.96	1.96	1.96	1.95	1.95	
#8	2.10	2.10	2.02	2.01	2.00	2.00	1.99	1.99	1.98	1.97	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	2.16	2.16	1.96	1.96	1.93	1.92	1.91	1.89	1.89	1.89	1.87	1.86	1.84	1.84	1.84	1.83	1.83	
#11	2.10	2.10	1.91	1.89	1.84	1.83	1.82	1.80	1.79	1.77	1.75	1.73	1.71	1.68	1.65	1.61	1.54	
#12	2.14	2.15	1.96	1.96	1.92	1.92	1.91	1.89	1.88	1.87	1.85	1.85	1.84	1.83	1.82	1.81	1.80	
Sum	25.58	25.59	24.14	24.01	23.67	23.63	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	

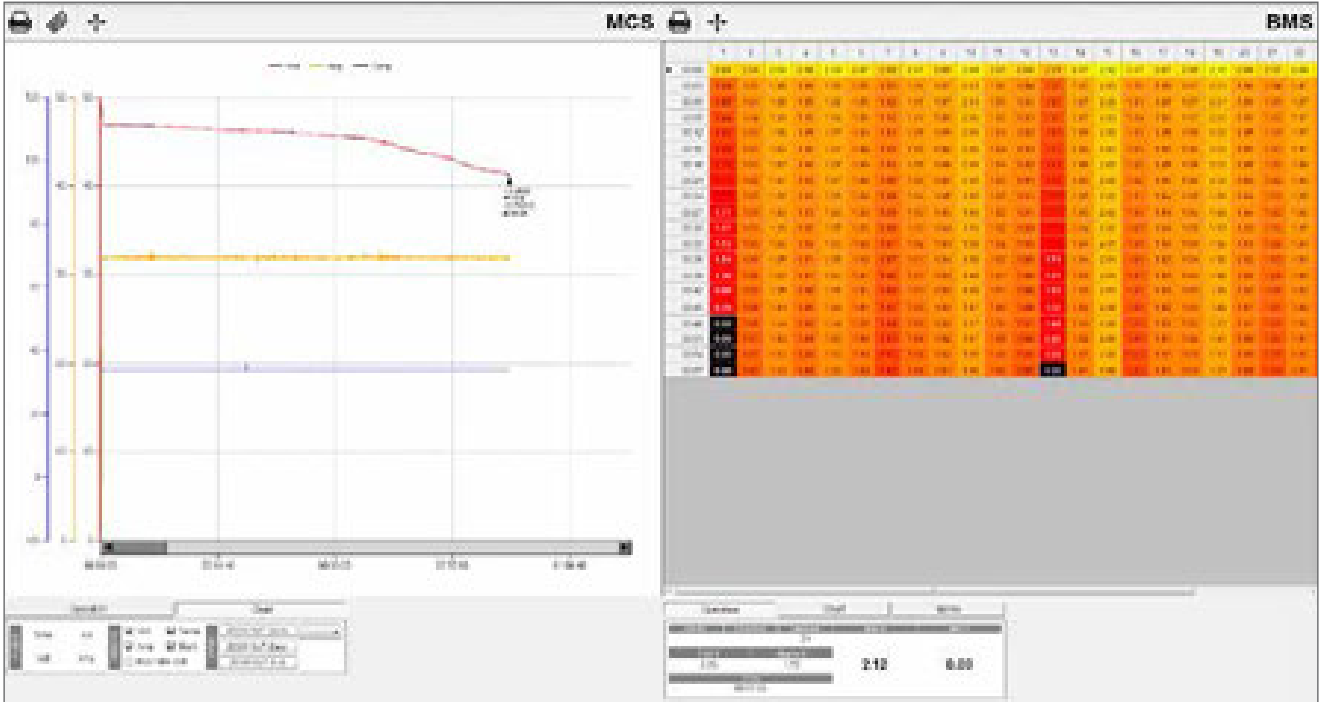
Custom-made BMS kits available on request.

REF	Content
<a href="#">141TA5241</a> - 12 V-120 V	10 sensors* + 1 receiver
<a href="#">141TA1479</a> - 48 V	24 sensors** + 1 receiver
<a href="#">141TA1480</a> - 80 V	40 sensors** + 1 receiver

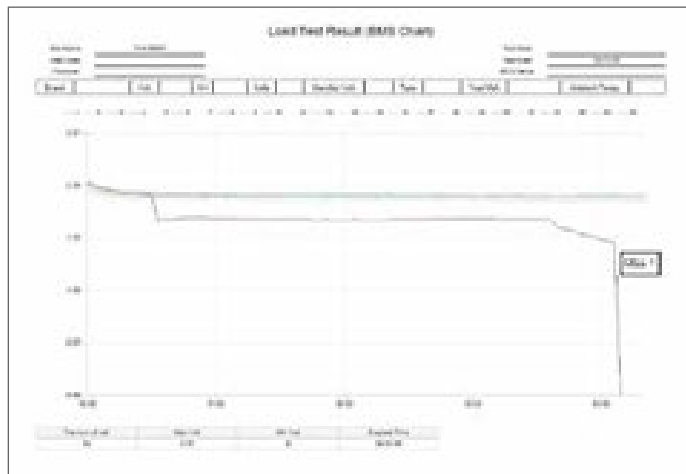
\* each sensor measures 1 battery of 12 V • \*\* each sensor measures 1 cell of 2 V

## BMS SYSTEM: WIRELESS DETECTION OF BAD CELLS

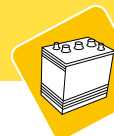
Synched regen report of REPLUS + BMS system



If you combine the regenerator with the BMS system, 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**.



With just 2 clicks you can create these fully detailed reports which you can then save as a PDF, Word or Excel file. Professional information that 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.



## FLUKE THERMAL IMAGERS & BATTERY ANALYZERS



### Fluke T190 & T1100 THERMAL IMAGERS

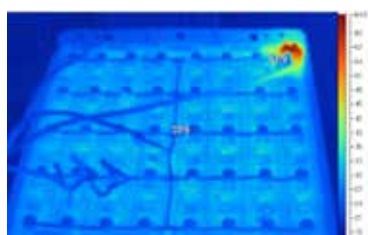
With these thermal imaging cameras you can easily a bad connector on this battery was the cause of the battery failure. Aim the imaging camera at the battery and you can immediately detect the warmer cells. These are the cells that need attending to.

#### Features:

- Wireless with superior image quality
- Easy-to-use and rugged
- Size (H x W x D): 284 x 86 x 135 mm
- Weight: 0,726 kg
- Warranty: 2 years

#### Specifications:

	T190	T1100
	REF <a href="#">144TA3650</a>	REF <a href="#">140TA7524</a>
		
<b>Resolution</b>	80 x 60 (4800 pixels)	160 x 120 (19200 pixels)
<b>Field of view</b>	19,5 °H x 26 °V	22,5 °H x 31 °V
<b>Thermal sensitivity</b>	≤ 0,15 °C at 30 °C target temp. (150 mK)	≤ 0,10 °C at 30 °C target temp. (100 mK)
<b>Type of images</b>	Thermal and visible images	Thermal images only
<b>Built-in digital camera</b>	2 megapixel industrial performance	IR only
<b>Ruggedized display</b>	3,5 inch diagonal (portrait format)	3,5 inch diagonal (portrait format)
<b>Laser pointer</b>	No	Yes
<b>Emissivity correction</b>	Yes	Yes
<b>Field replaceable battery</b>	1 x Lithium-Ion	1 x Lithium-Ion
<b>Ingress protection (IP) rating</b>	IP54 dust-/splash-proof housing	IP54 dust-/splash-proof housing
<b>Focus system</b>	Fixed focus 46 cm and beyond	Fixed focus 122 cm and beyond



Below thermal image was taken on an 80 V battery where – after thermal analysis – it turned out that **a bad connector on this battery was the cause of the battery failure.**

Via the free supplied software it has become clear that the average battery temperature was 22 °C, and that this temperature climbed to 62 °C in the vicinity of the bad connector. A temperature difference is not possible within one and the same battery, so this must be repaired.

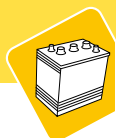
### Fluke 500-SERIES BATTERY ANALYZERS

**Reduced testing complexity, a simplified workflow and an intuitive user interface provide a new level of ease-of-use in battery testing.** The Fluke 500-Series Battery Analyzer 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 500-Series Battery Analyzers cover a **broad range of battery test functions** ranging 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. 500-Series Battery Analyzers are designed for **measurements on stationary batteries of all types.**

Fluke BT510 - REF [145TA8977](#)

Fluke BT520 - REF [145TA8996](#)

Fluke BT521 - REF [145TA8979](#)



## DIGITAL HYDROMETER

99,9% accurate and 50% faster than standard density testing.

REF [138TA7531](#)

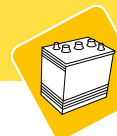
### Features:

- 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

### Specifications:

- Measuring range:
  - Density: 0 g/cm<sup>3</sup> to 3 g/cm<sup>3</sup>
  - Temperature: 0 °C to 40 °C
  - Viscosity: 0 mPa·s to 1000 mPa·s
- Sample volume: 2 ml
- Dimensions (L x W x H): 140 x 138 x 27 mm
- Data memory: 1024 measured results
- Power supply: two 1,5 V alkaline batteries
- Immediately compensates to 25 °C
- Measure the density of all your cells and then export them wirelessly to your PC in Excel





## BDX BATTERY DISCHARGER/ANALYZER

The BDX is an **automatic battery discharger/analyzer**, designed to test the efficiency of industrial batteries of any type, voltage and capacity. This equipment can be programmed to discharge the battery with a precisely controlled constant current, adjustable from zero to the maximum rated value, while keeping the battery voltage under control.

### REF 124TA2652

Battery voltage: 12 - 48 V / Maximum discharge current: 100 A

### REF 124TA2653

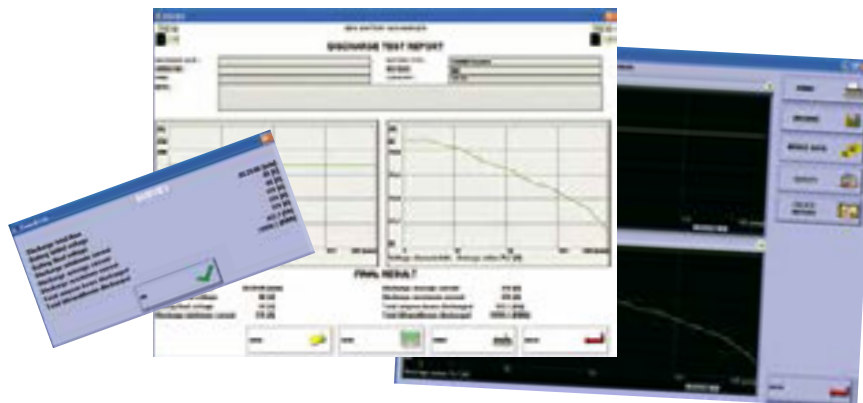
Battery voltage: 12 - 96 V / Maximum discharge current: 200 A

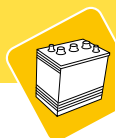
### General information:

- High-frequency IGBT regulator, featuring constant current discharge of the battery.
- Rugged construction
- Compact and portable design
- Wide power range available – battery voltages up to 600 VDC & discharge currents up to 600 A
- Intelligent electronic protection system
- Programmable digital board, controlled by microprocessor
- Can operate with batteries of any type
- Digital display (battery voltage and current, time, capacity discharged, programmed values)
- CE-certified
- USB-connection
- Free analyzing software provided (graphs of voltage, Ah & time)

### AC input Standard Voltage:

- Voltage range: 85 - 135 or 180 - 250 VAC
- Single-phase
- Maximum power: 250 W
- 50/60 Hz





## DISCHARGER & BMS SYSTEM

### PORTABLE BATTERY DISCHARGER & BMS system

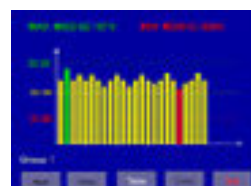
This load bank is designed to discharge batteries with a precisely controlled current - adjustable from zero to the maximum rated value - while keeping the battery voltage under control.

The control board measures the total capacity (Ah) discharged from the battery while the individual cell voltages are constantly monitored during the complete discharge cycle by the included wireless voltage modules.

A battery charger can be connected to the discharge system, this way the voltage of each cell can be monitored during both discharge and charge.

With the supplied software you can now easily detect which element is no longer keeping its charge and needs to be replaced or regenerated. All data is automatically stored in the built-in memory and can be consulted on the 5,7 inch LCD touchscreen or transferred to your computer via USB.

**With this package you will have all the tools you need to analyze your batteries down to cell level and generate detailed reports. This tool is a professional piece of equipment used to measure your batteries' capacity and detect bad cells.**



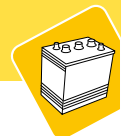
REF [144TA7479](#)

#### Features:

- Very compact & light-weight unit, extremely suitable for on-site capacity testing.
- Supplied in a strong and mobile flightcase that can easily be taken everywhere.
- 5,7 inch LCD touchscreen for easy operation and display of various parameters in real-time.
- Internal memory: saves each test result automatically and protects data.
- Can be programmed with up to 8 sets of test parameters, speeding up test setup and performance.
- Supports real-time monitoring with a PC or stores data internally for later transfer via USB.
- PC software included for detailed analysis of test results and generation of reports.
- Wireless voltage modules included for individual voltage monitoring of each battery cell.

**• User-friendly  
• No particular  
training needed**

Battery voltage	Discharge current
20-40 V	0-75 A
40-60 V	0-150 A



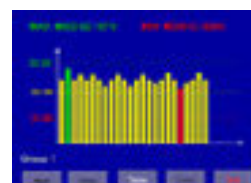
## DISCHARGER & BMS SYSTEM

### Heavy-duty discharger & BMS system

This discharger offers you a complete solution for testing all types of lead-acid batteries from 2-96 V. It enables you to discharge your batteries with a precisely controlled current - adjustable from zero to the maximum rated value - while keeping the battery voltage under control. The control board measures the total capacity (Ah) discharged from the battery while the individual cell voltages are constantly monitored during the complete discharge cycle by the included wireless voltage modules. With the supplied software you can now easily detect which element is no longer keeping its charge and needs to be replaced or regenerated. All data is automatically stored in the built-in memory and can be consulted on the 5,7 inch LCD touchscreen or transferred to your computer via USB.



**With this package you will have all the tools you need to analyze your batteries down to cell level and generate detailed reports. This tool is a professional piece of equipment used to measure your batteries' capacity and detect bad cells.**



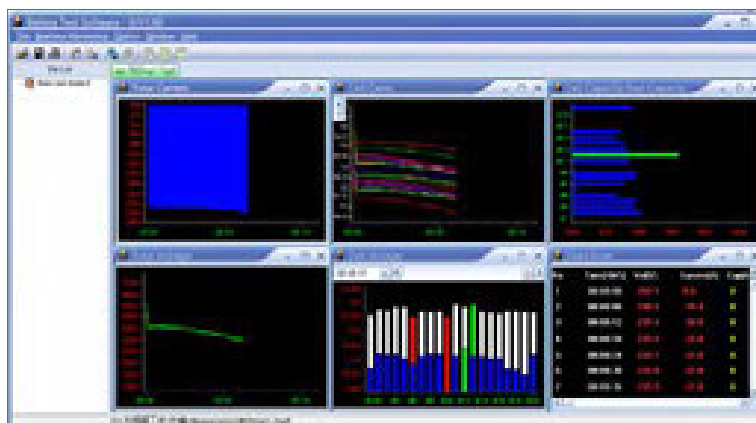
• User-friendly  
• No particular training needed

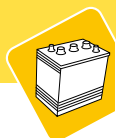
REF [144TA7480](#)

#### Features:

- Supplied in a strong and mobile flightcase (equipped with wheels) that can easily be taken everywhere.
- 5,7 inch LCD touchscreen for easy operation and display of various parameters in real-time.
- Internal memory: saves each test result automatically and protects data.
- Can be programmed with different sets of test parameters to speed up test setup and performance.
- Supports real-time monitoring with a PC or stores data internally for later transfer via USB.
- Pc software included for detailed analysis of test results and generation of reports.
- Wireless voltage modules included for individual voltage monitoring of each battery cell.

Battery voltage	Discharge current
1,6-2,5 V	0-60 A
2,5-6 V	0-180 A
6-120 V	0-200 A





## MULTIVOLTAGE BMS SYSTEM

This multivoltage 80 V battery monitoring system offers an exact evaluation down to cell level of your battery by measuring the individual voltage of each separate cell.

Using this system while charging or discharging gives you a clear view on which cells in your battery bank are the weakest and should be replaced or regenerated. This will permit you to work in a more cost-effective manner.

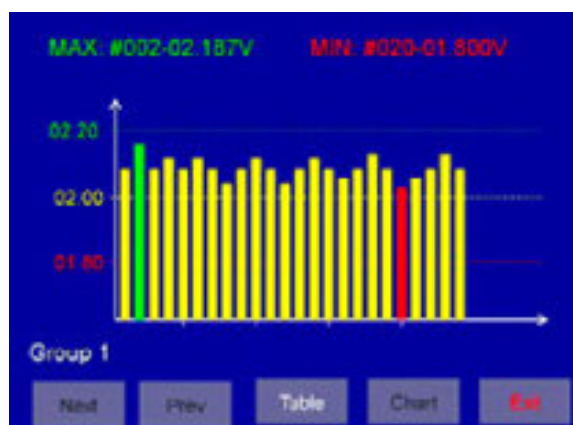
**Make an exact evaluation of your expensive batteries instead of often replacing them unnecessarily.**



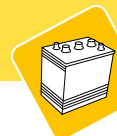
REF [144TA8715](#)

### Features:

- Wireless bluetooth monitoring of 2 V cells and 6 V or 12 V batteries
- 5, 5" touchscreen
- Current measurements with the supplied current clamp
- Programmable battery type and ideal cell voltages
- Ethernet connection
- The system consists of 10 wireless voltage detectors that can each measure and transmit 4 different voltages to the receiver unit. All data is automatically stored on an SD-card in the receiver.
- The stored data can be consulted via the touchscreen and different graphs can be made to easily detect the weakest cells with the receiver unit. The data can also be transferred to your computer through a USB-connection or via an SD card. The supplied software then permits you to draw up detailed reports.







## ACCESSORIES

### CBC High-frequency battery charger

Before the regeneration, the battery must be fully charged. The CBC 2011 is the ultimate Energic Plus charger, and it is the result of 40 years of experience in design, production and customization of chargers for the material handling industry. Based on HF-IGBT technology with hybrid power conversion system, this charger offers a unique combination of performance, flexibility and electrical efficiency. The CBC has a multivoltage output, features automatic battery recognition and is completely programmable.



Voltage: 12-80 VDC

REF	Model	Voltage from 12 V to ...	Current from 0 A to ...	Max battery capacity
<a href="#">139TA2732</a>	IGBT9	80 V	120 A	1050 Ah
<a href="#">139TA2733</a>	IGBT13	80 V	200 A	1070 Ah

### Complete CONVERSION KIT SB175

REF [139TA3247](#)



### 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 neutralize excess battery acid.



REF [115TA4701](#)

### PAINT FOR BATTERY BOX

REF [106TA8933](#)

- Black paint
- 0,5 l

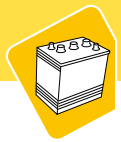
REF [106TA8932](#)

- Black battery paint
- 5 l



**More batteries, chargers and accessories?** Go to downloads on [www.energicplus.com](http://www.energicplus.com) to view our complete range. For more information, contact us on [info@energicplus.com](mailto:info@energicplus.com)

For all our latest catalogue updates and company info: [www.tvh.com](http://www.tvh.com)



NOTES

A large area of the page is filled with horizontal dotted lines, intended for taking notes.

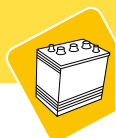


## TRACTION BATTERY CHARGERS



TRACTION BATTERY CHARGERS

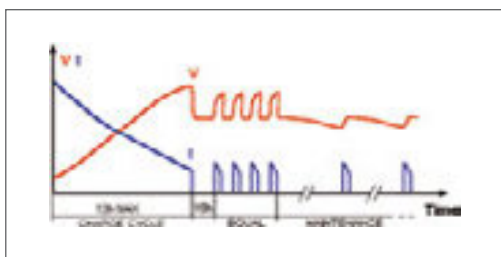
# TRACTION BATTERY CHARGERS



## AR DIGITAL/THREE-PHASE

### Three-phase

Ask for our FREE detailed manuals:  
REF [107TA8608](#) – AR box A



Box A



500 x 360 x 700 mm



### General information AR DIGITAL

- Three-phase 230/400 VAC - 50/60 Hz input
- Single-phase 230 V available on request
- Fully automatic
- CE/UL-approved
- 10-12 h charge system: Wa (DIN41774)
- Microprocessor-controlled electronic card
- Derivative dV/dT charge control
- Digital display: V/cell, current, capacity charged, time of charge, error messages

### Digital technology stands for

- Increase in lifespan of battery
- Built-in maintenance system
- More compact than the older type of chargers, easier to store and transport

### Advantages of round shape

- Less chance of damage during transport – if the side becomes dented, the damage is reduced thanks to the spherical shape

### Spares for ARD

#### Control board:

REF [138TA4136](#) - For ARD Wa

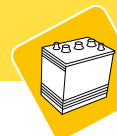
REF [138TA4137](#) - For ARD WoWa

#### Other spares available on request:

- Please provide full charger details: type - voltage - amps - serial number



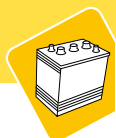
REF [138TA4135](#)  
Wall support bracket



## AR DIGITAL/THREE-PHASE

Amp	Standard charger (10-12 h) charging curve Wa		Fast charger (8 h) charging curve WoWa		Fast charger air pump (8 h) charging curve WoWa		Weight	Input kVA
	REF	Cap. range (Ah)	REF	Cap. range (Ah)	REF	Cap. range (Ah)		
<b>24 V</b>								
40 A	<a href="#">107TA9513</a>	199-263	<a href="#">123TA6906</a>	166-220	<a href="#">123TA6997</a>	166-220	48 kg	1,4
60 A	<a href="#">106TA9180</a>	323-395	<a href="#">123TA6907</a>	276-330	<a href="#">123TA6998</a>	276-330	57 kg	2,1
80 A	<a href="#">106TA9181</a>	396-526	<a href="#">123TA6908</a>	331-440	<a href="#">123TA6999</a>	331-440	62 kg	2,8
100 A	<a href="#">106TA9182</a>	527-658	<a href="#">123TA6909</a>	441-550	<a href="#">123TA7000</a>	441-550	66 kg	3,5
120 A	<a href="#">106TA9183</a>	659-789	<a href="#">123TA6910</a>	551-660	<a href="#">123TA7001</a>	551-660	68 kg	4,2
140 A	<a href="#">106TA8699</a>	790-921	<a href="#">123TA6911</a>	661-770	<a href="#">123TA7002</a>	661-770	76 kg	4,9
160 A	<a href="#">106TA8700</a>	922-1052	<a href="#">123TA6912</a>	771-880	<a href="#">123TA7003</a>	771-880	77 kg	5,6
180 A	<a href="#">106TA9514</a>	1053-1184	<a href="#">123TA6913</a>	881-990	<a href="#">123TA7004</a>	881-990	82 kg	6,3
200 A	<a href="#">106TA9515</a>	1185-1315	<a href="#">123TA6914</a>	991-1100	<a href="#">123TA7158</a>	991-1100	88 kg	7,0
<b>36 V</b>								
60 A	<a href="#">106TA9184</a>	323-395	<a href="#">123TA6915</a>	276-330	<a href="#">123TA7005</a>	276-330	59 kg	3,1
80 A	<a href="#">106TA9185</a>	396-526	<a href="#">123TA6916</a>	331-440	<a href="#">123TA7006</a>	331-440	64 kg	4,2
100 A	<a href="#">106TA9186</a>	527-658	<a href="#">123TA6917</a>	441-550	<a href="#">123TA7007</a>	441-550	73 kg	5,2
120 A	<a href="#">106TA9187</a>	659-789	<a href="#">123TA6918</a>	551-660	<a href="#">123TA7008</a>	551-660	81 kg	6,2
140 A	<a href="#">107TA7661</a>	790-921	<a href="#">123TA6919</a>	661-770	<a href="#">123TA7009</a>	661-770	90 kg	7,3
160 A	<a href="#">108TA4190</a>	922-1052	<a href="#">123TA6920</a>	771-880	<a href="#">123TA7010</a>	771-880	95 kg	8,3
180 A	<a href="#">108TA4191</a>	1053-1184	<a href="#">123TA6921</a>	881-990	<a href="#">123TA7011</a>	881-990	104 kg	9,4
200 A	<a href="#">108TA4192</a>	1185-1315	<a href="#">123TA6922</a>	991-1100	<a href="#">123TA7012</a>	991-1100	110 kg	10,4
<b>40 V</b>								
50 A	<a href="#">106TA8701</a>	264-329	<a href="#">123TA6923</a>	221-275	<a href="#">123TA7013</a>	221-275	45 kg	2,9
60 A	<a href="#">106TA8702</a>	323-395	<a href="#">123TA6924</a>	276-330	<a href="#">123TA7014</a>	276-330	49 kg	3,5
80 A	<a href="#">106TA8703</a>	396-526	<a href="#">123TA6925</a>	331-440	<a href="#">123TA7015</a>	331-440	57 kg	4,6
100 A	<a href="#">108TA4193</a>	527-658	<a href="#">123TA6926</a>	441-550	<a href="#">123TA7016</a>	441-550	70 kg	5,7
<b>48 V</b>								
40 A	<a href="#">107TA9516</a>	199-263	<a href="#">123TA6927</a>	166-220	<a href="#">123TA7017</a>	166-220	56 kg	2,8
50 A	<a href="#">106TA9188</a>	264-329	<a href="#">123TA6928</a>	221-275	<a href="#">123TA7018</a>	221-275	60 kg	3,5
60 A	<a href="#">106TA9189</a>	323-395	<a href="#">123TA6929</a>	276-330	<a href="#">123TA7019</a>	276-330	66 kg	4,2
80 A	<a href="#">106TA9190</a>	396-526	<a href="#">123TA6930</a>	331-440	<a href="#">123TA7020</a>	331-440	75 kg	5,6
100 A	<a href="#">106TA9191</a>	527-658	<a href="#">123TA6931</a>	441-550	<a href="#">123TA7021</a>	441-550	82 kg	7,0
120 A	<a href="#">106TA9192</a>	659-789	<a href="#">123TA6932</a>	551-660	<a href="#">123TA7022</a>	551-660	89 kg	8,4
140 A	<a href="#">106TA8704</a>	790-921	<a href="#">123TA6933</a>	661-770	<a href="#">123TA7023</a>	661-770	99 kg	9,8
160 A	<a href="#">106TA8705</a>	922-1052	<a href="#">123TA6934</a>	771-880	<a href="#">123TA7024</a>	771-880	113 kg	11,2
180 A	<a href="#">107TA9517</a>	1053-1184	<a href="#">123TA6935</a>	881-990	<a href="#">123TA7025</a>	881-990	122 kg	12,6
200 A	<a href="#">140TA8686*</a>	1185-1315	<a href="#">140TA8688*</a>	991-1100	<a href="#">140TA8689*</a>	991-1100	132 kg	14

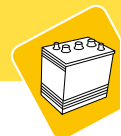
All spare parts available. / \*These chargers will be delivered in the old RLD covers.



## AR DIGITAL/THREE-PHASE

Amp	Standard charger (10-12 h) charging curve WoWa		Fast charger (8 h) charging curve WoWa		Fast charger air pump (8 h) charging curve WoWa		Weight	Input kVA
	REF	Cap. range (Ah)	REF	Cap. range (Ah)	REF	Cap. range (Ah)		
<b>72 V</b>								
60 A	<a href="#">106TA9193</a>	323-395	<a href="#">123TA6937</a>	276-330	<a href="#">123TA6967</a>	276-330	80 kg	6,3
80 A	<a href="#">106TA9194</a>	396-526	<a href="#">123TA6938</a>	331-440	<a href="#">123TA6968</a>	331-440	88 kg	8,3
100 A	<a href="#">106TA8706</a>	527-658	<a href="#">123TA6939</a>	441-550	<a href="#">123TA6969</a>	441-550	94 kg	10,5
120 A	<a href="#">106TA8707</a>	659-789	<a href="#">123TA6940</a>	551-660	<a href="#">123TA6970</a>	551-660	113 kg	12,5
140 A	<a href="#">106TA8708</a>	790-921	<a href="#">123TA6941</a>	661-770	<a href="#">123TA6971</a>	661-770	122 kg	14,6
160 A	<a href="#">107TA9519</a>	922-1052	<a href="#">123TA6942</a>	771-880	<a href="#">123TA6972</a>	771-880	131 kg	16,6
<b>80 V</b>								
40 A	<a href="#">107TA9520</a>	199-263	<a href="#">123TA6943</a>	166-220	<a href="#">123TA6973</a>	166-220	66 kg	4,6
60 A	<a href="#">106TA9195</a>	323-395	<a href="#">123TA6944</a>	276-330	<a href="#">123TA6974</a>	276-330	81 kg	6,9
80 A	<a href="#">106TA9196</a>	396-526	<a href="#">123TA6945</a>	331-440	<a href="#">123TA6975</a>	331-440	93 kg	9,2
100 A	<a href="#">106TA8709</a>	527-658	<a href="#">123TA6946</a>	441-550	<a href="#">123TA6976</a>	441-550	105 kg	11,5
120 A	<a href="#">106TA8710</a>	659-789	<a href="#">123TA6947</a>	551-660	<a href="#">123TA6977</a>	551-660	117 kg	13,8
140 A	<a href="#">106TA8711</a>	790-921	<a href="#">123TA6948</a>	661-770	<a href="#">123TA6978</a>	661-770	124 kg	16,1
160 A	<a href="#">140TA8728*</a>	922-1052	<a href="#">140TA8690*</a>	771-880	<a href="#">123TA6979*</a>	771-880	129 kg	18,4
180 A	<a href="#">140TA8687*</a>	1053-1184	<a href="#">140TA8691*</a>	881-990	<a href="#">140TA8692*</a>	881-990	135 kg	20,7
200 A	<a href="#">140TA8693*</a>	1185-1315	<a href="#">140TA8694*</a>	991-1100	<a href="#">140TA8695*</a>	991-1100	142 kg	13,0
220 A	<a href="#">140TA8696*</a>	1316-1446	<a href="#">140TA8697*</a>	1101-1210	<a href="#">140TA8698*</a>	1101-1210	180 kg	15,3
240 A	<a href="#">140TA8699*</a>	1447-1577	<a href="#">140TA8700*</a>	1211-1320	<a href="#">140TA8701*</a>	1211-1320	185 kg	27,6
260 A	<a href="#">140TA8702*</a>	1578-1708	<a href="#">140TA8703*</a>	1321-1430	<a href="#">140TA8704*</a>	1321-1430	190 kg	29,9
280 A	<a href="#">140TA8705*</a>	1709-1839	<a href="#">140TA8706*</a>	1431-1540	<a href="#">140TA8707*</a>	1431-1540	195 kg	32,2
<b>96 V</b>								
60 A	<a href="#">107TA9529</a>	323-395	<a href="#">123TA6956</a>	276-330	<a href="#">123TA6986</a>	276-330	90 kg	8,4
80 A	<a href="#">107TA9530</a>	396-526	<a href="#">123TA6957</a>	331-440	<a href="#">123TA6987</a>	331-440	100 kg	11,2
100 A	<a href="#">107TA9531</a>	527-658	<a href="#">123TA6958</a>	441-550	<a href="#">123TA6988</a>	441-550	118 kg	14,0
120 A	<a href="#">140TA8708*</a>	659-789	<a href="#">140TA8709*</a>	551-660	<a href="#">140TA8710*</a>	551-660	123 kg	16,8
140 A	<a href="#">140TA8711*</a>	790-921	<a href="#">140TA8712*</a>	661-770	<a href="#">140TA8713*</a>	661-770	135 kg	19,6
160 A	<a href="#">140TA8714*</a>	922-1052	<a href="#">140TA8715*</a>	771-880	<a href="#">140TA8716*</a>	771-880	148 kg	22,4
200 A	<a href="#">140TA8717*</a>	1185-1315	<a href="#">140TA8718*</a>	991-1100	<a href="#">140TA8719*</a>	991-1100	180 kg	28,0
240 A	<a href="#">140TA8720*</a>	1447-1577	<a href="#">140TA8721*</a>	1211-1320	<a href="#">140TA8722*</a>	1211-1320	195 kg	33,6
260 A	<a href="#">140TA8723*</a>	1578-1708	<a href="#">140TA8724*</a>	1321-1430	<a href="#">140TA8725*</a>	1321-1430	205 kg	36,4
280 A	<a href="#">140TA8726*</a>	1709-1839	<a href="#">140TA8727*</a>	1431-1540	<a href="#">140TA8710*</a>	1431-1540	215 kg	39,2
320 A	<a href="#">140TA8729*</a>	1840-2104	<a href="#">140TA8730*</a>	1541-1760	<a href="#">140TA8731*</a>	1541-1760	230 kg	44,8

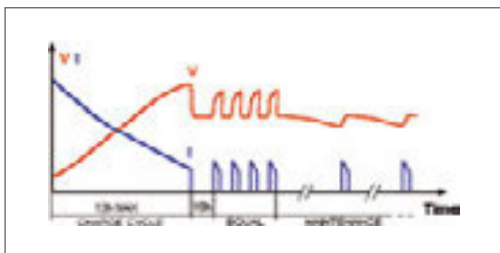
All spare parts available. / \*These chargers will be delivered in the old RLD covers.



## RE/SINGLE-PHASE

### Single-phase

Ask for our FREE detailed CD-rom manual:  
REF [107TA8608](#)



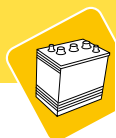
*We stock over **90%**  
of charger spare parts*

***3 year warranty**  
on all charger parts!*

Box S	Box A	Box B	Box C
250 x 200 x 320 mm	430 x 285 x 270 mm	500 x 340 x 360 mm	500 x 360 x 700 mm

#### General information RE

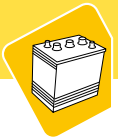
- Single-phase 230 VAC- 50/60 Hz input
- Fully automatic
- CE/UL approved
- 10-12 h charge system: Wa (DIN41774)
- Microprocessor-controlled electronic card
- Equalization
- Other versions available on request



## RE/SINGLE-PHASE

Amp	Standard charger (10-12 h) charging curve Wa		Fast charger (8 h) charging curve WoWa		Fast charger air pump (8 h) charging curve WoWa		Weight	Input kVA	Box
	REF	Cap. range (Ah)	REF	Cap. range (Ah)	REF	Cap. range (Ah)			
<b>12 V</b>									
10 A	<a href="#">106TA9226</a>	60-95	<a href="#">123TA6869</a>	42-69	-	-	8 kg	0,16	S
15 A	<a href="#">106TA9227</a>	96-110	<a href="#">123TA6870</a>	70-83	-	-	8 kg	0,25	S
20 A	<a href="#">106TA9228</a>	111-132	<a href="#">123TA6871</a>	84-109	-	-	9 kg	0,33	S
25 A	<a href="#">106TA8745</a>	133-165	<a href="#">123TA6872</a>	110-137	-	-	11 kg	0,40	S
30 A	<a href="#">106TA9229</a>	166-198	<a href="#">123TA6873</a>	138-165	-	-	13 kg	0,50	S
40 A	<a href="#">106TA9230</a>	199-263	<a href="#">123TA6874</a>	166-220	-	-	14 kg	0,65	S
50 A	<a href="#">106TA9231</a>	264-329	<a href="#">123TA6875</a>	221-275	-	-	20 kg	0,80	A
60 A	<a href="#">106TA8746</a>	323-395	<a href="#">123TA6876</a>	276-330	-	-	21 kg	1,00	A
80 A	<a href="#">106TA8747</a>	396-526	<a href="#">123TA7159</a>	331-440	-	-	25 kg	1,30	A
<b>24 V</b>									
10 A	<a href="#">106TA9232</a>	60-95	<a href="#">116TA7024</a>	42-69	-	-	10 kg	0,33	S
15 A	<a href="#">106TA9233</a>	96-110	<a href="#">116TA7025</a>	70-83	-	-	11 kg	0,50	S
20 A	<a href="#">106TA9234</a>	111-132	<a href="#">123TA6878</a>	84-109	-	-	12 kg	0,65	S
25 A	<a href="#">106TA9235</a>	133-165	<a href="#">116TA7026</a>	110-137	-	-	15 kg	0,80	S
30 A	<a href="#">106TA9236</a>	166-198	<a href="#">116TA7027</a>	138-165	-	-	19 kg	1,00	A
40 A	<a href="#">106TA9237</a>	199-263	<a href="#">116TA7028</a>	166-220	-	-	21 kg	1,30	A
50 A	<a href="#">106TA9238</a>	264-329	<a href="#">116TA7029</a>	221-275	-	-	24 kg	1,60	A
60 A	<a href="#">106TA9239</a>	323-395	<a href="#">116TA7030</a>	276-330	-	-	26 kg	2,00	A
80 A	<a href="#">106TA9240</a>	396-526	<a href="#">116TA7031</a>	331-440	-	-	38 kg	2,60	B
100 A	<a href="#">106TA9241</a>	527-658	<a href="#">116TA7032</a>	441-550	<a href="#">123TA6890</a>	441-550	41 kg	3,20	C
120 A	<a href="#">106TA9242</a>	659-789	<a href="#">116TA7033</a>	551-660	<a href="#">123TA6891</a>	551-660	48 kg	4,00	C
140 A	<a href="#">106TA8748</a>	790-921	<a href="#">116TA7034</a>	661-770	<a href="#">123TA6892</a>	661-770	52 kg	4,60	C
<b>36 V</b>									
30 A	<a href="#">106TA9243</a>	166-198	<a href="#">123TA6879</a>	138-165	-	-	23 kg	1,50	A
40 A	<a href="#">106TA9244</a>	199-263	<a href="#">123TA6880</a>	166-220	-	-	25 kg	2,00	A
50 A	<a href="#">106TA9245</a>	264-329	<a href="#">123TA6881</a>	221-275	-	-	30 kg	2,40	A
60 A	<a href="#">106TA9246</a>	323-395	<a href="#">123TA6882</a>	276-330	-	-	38 kg	3,00	B
80 A	<a href="#">106TA9247</a>	396-526	<a href="#">123TA6883</a>	331-440	-	-	40 kg	4,00	B
100 A	<a href="#">106TA9248</a>	527-658	<a href="#">123TA6884</a>	441-550	<a href="#">123TA6893</a>	441-550	53 kg	4,80	C
120 A	<a href="#">106TA9249</a>	659-789	<a href="#">123TA6885</a>	551-660	<a href="#">123TA6894</a>	551-660	55 kg	6,00	C
All spare parts available.									





## RE/SINGLE-PHASE

Amp	Standard charger (10-12 h) charging curve Wa		Fast charger (8 h) charging curve WoWa		Fast charger air pump (8 h) charging curve WoWa		Weight	Input kVA	Box
	REF	Cap. range (Ah)	REF	Cap. range (Ah)	REF	Cap. range (Ah)			
<b>40 V</b>									
50 A	<a href="#">106TA8750</a>	264-329	<a href="#">123TA6886</a>	221-275	-	-	34 kg	2,88	B
60 A	<a href="#">106TA8751</a>	323-395	<a href="#">123TA6887</a>	276-330	-	-	39 kg	3,45	B
80 A	<a href="#">106TA8752</a>	396-526	<a href="#">123TA6888</a>	331-440	<a href="#">123TA6895</a>	331-440	59 kg	4,60	C
100 A	<a href="#">106TA8753</a>	527-658	<a href="#">123TA6889</a>	441-550	<a href="#">123TA6896</a>	441-550	67 kg	5,75	C
<b>48 V</b>									
10 A	<a href="#">106TA8754</a>	60-95	<a href="#">116TA7035</a>	42-69	-	-	12 kg	0,65	S
15 A	<a href="#">106TA9249</a>	96-110	<a href="#">116TA7036</a>	70-83	-	-	20 kg	1,00	A
30 A	<a href="#">106TA9250</a>	166-198	<a href="#">116TA7037</a>	138-165	-	-	30 kg	2,00	A
40 A	<a href="#">106TA9251</a>	199-263	<a href="#">116TA7038</a>	166-220	-	-	35 kg	2,60	B
50 A	<a href="#">106TA9252</a>	264-329	<a href="#">116TA7039</a>	221-275	-	-	36 kg	3,25	B
60 A	<a href="#">106TA9253</a>	323-395	<a href="#">116TA7040</a>	276-330	-	-	40 kg	4,00	B
80 A	<a href="#">106TA9254</a>	396-526	<a href="#">116TA7041</a>	331-440	<a href="#">123TA6897</a>	331-440	53 kg	5,20	C
100 A	<a href="#">106TA9255</a>	527-658	<a href="#">116TA7042</a>	441-550	<a href="#">123TA6898</a>	441-550	57 kg	6,50	C
120 A	<a href="#">106TA8755</a>	659-789	<a href="#">116TA7043</a>	551-660	<a href="#">123TA6899</a>	551-660	62 kg	8,00	C
<b>72 V</b>									
60 A	<a href="#">106TA9256</a>	323-395	<a href="#">116TA7044</a>	276-330	<a href="#">123TA6900</a>	276-330	55 kg	6,00	C
80 A	<a href="#">106TA9257</a>	396-526	<a href="#">116TA7045</a>	331-440	<a href="#">123TA6901</a>	331-440	62 kg	8,00	C
100 A	<a href="#">106TA9258</a>	527-658	<a href="#">116TA7046</a>	441-550	<a href="#">123TA6902</a>	441-550	68 kg	9,60	C
<b>80 V</b>									
40 A	<a href="#">106TA9259</a>	199-263	<a href="#">116TA7047</a>	166-220	<a href="#">123TA6903</a>	166-220	46 kg	4,60	C
60 A	<a href="#">106TA9260</a>	323-395	<a href="#">116TA1048</a>	221-330	<a href="#">123TA6904</a>	221-330	55 kg	6,90	C
80 A	<a href="#">106TA9261</a>	396-526	<a href="#">116TA7049</a>	331-440	<a href="#">123TA6905</a>	331-440	67 kg	9,20	C
All spare parts available.									







## RX SERIES

**Single-phase**

**Three-phase**

Ask for our FREE detailed CD-rom manual:  
REF [107TA8608](#)



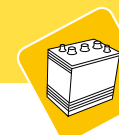
<p><b>Box S</b></p>  <p>250 x 200 x 320 mm</p>	<p><b>Box A</b></p>  <p>430 x 285 x 270 mm</p>
<p><b>Box B</b></p>  <p>500 x 340 x 360 mm</p>	<p><b>Box C</b></p>  <p>500 x 360 x 700 mm</p>

**1 year warranty**  
*on all charger parts!*

**EXTENDED RANGE**

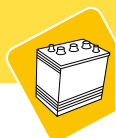
### General information RX

- Fully automatic, microprocessor-controlled battery charger
- Compact and simple construction
- LED control panel
- Battery connected – in charge
- Final charge
- Charge complete - Equalization
- Emergency stop
- Black-out of the mains
- Ammeter 0 -100%
- Automatic equalization of the battery
- Automatic start on battery connection, with 3 delays to avoid arcing between the connectors. Automatic shutdown on battery disconnection during the charge
- Automatic saving of the charge parameters in case of black-out of the mains and automatic restart when the input is available
- Input voltages single-phase 220 VAC or three-phase 380 VAC. Other input voltages available on request
- Charge curve Wa (DIN41774)
- 1 year warranty (on spare parts)



## RX SERIES

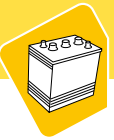
REF	Volt	Amp	Capacity range vs time of charge	Box	Weight	Input power
<b>RX/ Single-phase / 220 VAC</b>						
<a href="#">145TA1828</a>	12 V	25 A	125-150 Ah	S		0,45 kVA
<a href="#">145TA1829</a>	12 V	40 A	200-240 Ah	S		0,65 kVA
<a href="#">122TA8161</a>	24 V	20 A	100-120 Ah	S	13 kg	0,70 kVA
<a href="#">122TA8162</a>	24 V	25 A	125-150 Ah	S	14 kg	0,85 kVA
<a href="#">122TA8163</a>	24 V	30 A	150 -180 Ah	S	17 kg	1,00 kVA
<a href="#">122TA8164</a>	24 V	40 A	200-240 Ah	A	19 kg	1,30 kVA
<a href="#">122TA8165</a>	24 V	50 A	250-300 Ah	A	22 kg	1,70 kVA
<a href="#">145TA1830</a>	24 V	60 A	300-360 Ah	A	24 kg	2,00 kVA
<a href="#">145TA1831</a>	24 V	70 A				
<a href="#">139TA2548</a>	24 V	80 A	360-500 Ah	B	40 kg	2,8 kVA
<a href="#">145TA1832</a>	36 V	80 A	360-500 Ah			4,2 kVA
<a href="#">145TA1833</a>	36 V	120 A	600-749 Ah			6,3 kVA
<a href="#">145TA1834</a>	48 V	40 A	200-240 Ah			2,8 kVA
<a href="#">122TA8167</a>	48 V	60 A	300-360 Ah	B	43 kg	4,20 kVA
<a href="#">122TA8168</a>	48 V	80 A	360-500 Ah	B	48 kg	5,60 kVA
<a href="#">138TA4138</a>	48 V	100 A	500-599 Ah	B	47 kg	7,00 kVA
<a href="#">138TA4139</a>	48 V	120 A	600-749 Ah	B	51 kg	8,40 kVA
<b>RX/ Three-phase / 380 VAC</b>						
<a href="#">145TA1835</a>	24 V	30 A	150 -180 Ah			
<a href="#">145TA1836</a>	24 V	40 A	200-240 Ah			
<a href="#">145TA1837</a>	24 V	50 A	250-300 Ah			
<a href="#">122TA8169</a>	24 V	60 A	300-360 Ah	B	37 kg	2,10 kVA
<a href="#">122TA8170</a>	24 V	80 A	360-500 Ah	B	41 kg	2,80 kVA
<a href="#">122TA8171</a>	24 V	100 A	500-600 Ah	B	44 kg	3,50 kVA
<a href="#">138TA4140</a>	24 V	120 A	600-749 Ah	B	50 kg	4,20 kVA
<a href="#">138TA4141</a>	24 V	140 A	750-899 Ah	C	52 kg	4,90 kVA
<a href="#">138TA4142</a>	24 V	160 A	900 -1024 Ah	C	56 kg	5,60 kVA
<a href="#">138TA4143</a>	24 V	180 A	1025 -1149 Ah	C	58 kg	6,30 kVA
<a href="#">138TA4144</a>	24 V	200 A	1185 -1299 Ah	C	65 kg	7,00 kVA
<a href="#">122TA8172</a>	36 V	60 A	300-360 Ah	B	41 kg	3,10 kVA
<a href="#">122TA8173</a>	36 V	80 A	360-500 Ah	B	45 kg	4,20 kVA
<a href="#">122TA8174</a>	36 V	100 A	500-600 Ah	B	48 kg	5,20 kVA
<a href="#">138TA4145</a>	36 V	120 A	600-749 Ah	B	50 kg	6,20 kVA
<a href="#">138TA4146</a>	36 V	140 A	750-899 Ah	C	55 kg	7,30 kVA
<a href="#">138TA4147</a>	36 V	160 A	900 -1024 Ah	C	62 kg	8,30 kVA
<a href="#">138TA4148</a>	36 V	180 A	1025 -1149 Ah	C	68 kg	9,40 kVA
<a href="#">138TA4149</a>	36 V	200 A	1185 -1299 Ah	C	80 kg	10,40 kVA
<a href="#">122TA8175</a>	40 V	50 A	250-300 Ah	B	40 kg	4,40 kVA
<a href="#">122TA8176</a>	40 V	60 A	300-360 Ah	B	42 kg	5,30 kVA
<a href="#">145TA1838</a>	40 V	60 A	300-360 Ah	B	42 kg	5,30 kVA
<a href="#">122TA8177</a>	40 V	80 A	360-500 Ah	B	48 kg	7,00 kVA
<a href="#">145TA1839</a>	40 V	100 A	500-600 Ah	B		
<a href="#">145TA1840</a>	40 V	120 A	600-749 Ah	B		
<a href="#">145TA1841</a>	44 V	80 A	360-500 Ah	B		
<a href="#">145TA1843</a>	48 V	40A	200-240 Ah	B		



## RX SERIES

REF	Volt	Amp	Capacity range vs time of charge	Box	Weight	Input power
<a href="#">122TA8178</a>	48 V	50 A	250-300 Ah	B	39 kg	2,80 kVA
<a href="#">122TA8179</a>	48 V	60 A	300-360 Ah	B	43 kg	4,20 kVA
<a href="#">122TA8180</a>	48 V	80 A	360-500 Ah	B	49 kg	5,60 kVA
<a href="#">144TA6326</a>	48 V	100 A	500-600 Ah	B	53 kg	7,00 kVA
<a href="#">138TA4150</a>	48 V	120 A	600-749 Ah	B	62 kg	8,40 kVA
<a href="#">138TA4151</a>	48 V	140 A	750-899 Ah	C	70 kg	9,80 kVA
<a href="#">138TA4152</a>	48 V	160 A	900-1024 Ah	C	79 kg	11,20 kVA
<a href="#">138TA4153</a>	48 V	180 A	1025-1149 Ah	C	86 kg	12,60 kVA
<a href="#">138TA4154</a>	48 V	200 A	1185-1299 Ah	C	94 kg	14,00 kVA
<a href="#">145TA1844</a>	60 V	140 A	750-899 Ah	C		
<a href="#">122TA8182</a>	72 V	60 A	300-360 Ah	B	53 kg	6,30 kVA
<a href="#">122TA8183</a>	72 V	80 A	360-500 Ah	B	55 kg	8,30 kVA
<a href="#">138TA4155</a>	72 V	100 A	500-599 Ah	C	71 kg	10,50 kVA
<a href="#">138TA4156</a>	72 V	120 A	600-749Ah	C	83 kg	12,50 kVA
<a href="#">145TA1845</a>	72 V	180 A	1025-1149 Ah			
<a href="#">145TA1846</a>	80 V	40 A	200-240 Ah			
<a href="#">122TA8184</a>	80 V	60 A	300-360 Ah	B	55 kg	6,90 kVA
<a href="#">138TA4157</a>	80 V	80 A	360-500 Ah	B	65 kg	9,20 kVA
<a href="#">138TA4158</a>	80 V	100 A	500-599 Ah	C	80 kg	11,50 kVA
<a href="#">138TA4159</a>	80 V	120 A	600-749Ah	C	87 kg	13,80 kVA
<a href="#">145TA1847</a>	80 V	140 A	750-899 Ah			
<a href="#">145TA1848</a>	96 V	40 A	200-240 Ah			

All parts available



## AR-TOP

The AR-TOP brings to the industry the outstanding performances and the proven reliability of the Energic Plus® chargers, with a totally new digital control board.

This combination offers a unique package of features and benefits, at a competitive price. All the operating parameters of the AR-TOP are easily programmable (and password-protected) through the user interface and the charger can operate in both conventional and opportunity charging applications.

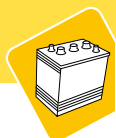
The complete set of functionalities of these chargers satisfies the needs of both basic and advanced users. These systems are scalable and expandable.

*Battery monitoring software/device available on request*



### General information

- AR-TOP (New control board + dual charging curve)
- Three-phase 230/400 VAC 50/60 Hz input
- Single-phase 230 V available on request
- Fully automatic, microprocessor-controlled
- Dual selectable charging curve: Wa (10-12 hours) / Wsa-pulse (7-8 hours)
- Derivative dV/dT charge control
- Digital display (16 x 2 LCD): V/cell, current, capacity charged, time of charge, error messages, end codes, history log
- Automatic equalization/Maintenance/Refresh functions
- Programmable gassing voltage
- Battery recovery/desulphation cycle
- Programmable real-time clock functionalities (day/time):
- Off-peak charging time window
- Equalize time and days
- Opportunity charging time frame
- Data storage capabilities
- Connectivity package: RS-485, USB (optional), wireless (optional)
- Compatible with wireless battery ID modules
- Compatible with web-based fleet management system
- Stackable cabinet (up to 3 units high)



## MVX

### Multivoltage

Universal charging capability: multivoltage, multicapacity, multichemistry, from single cell to full battery packs  
IGBT HF - Hybrid Converter Technology

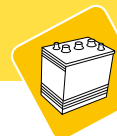


#### Different models available

Type	MVX S-100	MVX L-80	MVX M-50
Output voltage range	2-35 VDC	2-65 VDC	2-130 VDC
Max output current	100 A	80 A	50 A
Max output power	3 kW	3 kW	3 kW
Reference	<a href="#">141TA6723</a>	<a href="#">141TA6724</a>	<a href="#">141TA6725</a>

#### General information

- Input single-phase 220-230-240 VAC  $\pm 10\%$
- Efficiency > 90%, power factor > 0,90
- Full set of standard charging curves factory programmed
- Possibility to create and save customized charging curves of any type
- Intelligent electronic protection system (includes soft start, battery polarity reversal, output short circuit and over-temperature)
- Battery voltage/temperature compensation (battery temperature probe required)
- Anti-arcing protection (auxiliary wires required)
- Power-on self-test
- When a black-out of the AC input occurs, all the data related to the charge cycle that was in progress are saved in the Charge History Logger, and remains available for future review. When the AC input is restored, the charger restarts from the exact point of interruption, and it completes the charge cycle normally.
- Dimensions (W x H x D): 325 x 550 x 560 mm
- 3 year warranty (on spare parts)
- Integrated data-logger (200 cycles)
- CE-approved



## MVD

### Multivoltage

The MVD is a high-frequency charger with IUa charge curve, where the constant current (phase I) is adjustable from zero to maximum rated value of the charger with a potentiometer, and the constant voltage (phase U) is selectable from 12 different thresholds. This charger is suitable for any type of battery (lead-acid, gel, voltage, capacity). Long time, low constant current.

REF <a href="#">140TA7514</a>	REF <a href="#">140TA7515</a>	REF <a href="#">140TA7516</a>
<ul style="list-style-type: none"> <li>• 2 V cell selectable</li> <li>• 2-80 V</li> <li>• 0-100 A</li> </ul>	<ul style="list-style-type: none"> <li>• 2 V cell selectable</li> <li>• 2-80 V</li> <li>• 0-150 A</li> </ul>	<ul style="list-style-type: none"> <li>• 2 V cell selectable</li> <li>• 2-80 V</li> <li>• 0-200 A</li> </ul>



Box D: 500 x 440 x 900 mm

The MVD is equipped with a fully electronic protection system:

#### Autotest + zero inrush current

When the MVD is turned on, a complete test of the functionality of the unit is performed automatically, in less than 10 seconds. In case of faults, the MVD remains in standby and the internal circuits are not powered. This assures maximum safety for the user. While the autotest is in progress, the internal capacitors of the MVD are precharged. This assures that the AC-input current of the charger, when the transformer will be powered, will increase gradually, without an inrush peak which could create problems with the protection/limiter devices.

#### Soft start

The output current of the charger always increases gradually. Therefore, if the user turns on the MVD with the current potentiometer already set to the maximum value, the current will also increase progressively and will reach the max value in 3-5 seconds. This reduces the risk of sparks between the connectors.

#### Reverse polarity protection

If a battery is connected with reverse polarity, no current flows through the wires. The MVD remains in standby and an opposite LED "Reverse Polarity" lights up on the front panel. When the battery is reconnected with the right polarity, the MVD restarts automatically. This is the best and safest polarity protection system that a charger can have.

#### Output short circuit protection

The MVD can work without problems with the output cables connected together, in case of short circuit no damage will occur.

#### Temperature protection

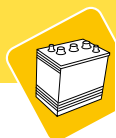
In case of overheating of the power components (e.g. because the internal fan is blocked) the MVD reduces the output current to zero and a LED "Thermal protection" lights up. With the optional battery temperature probe, the MVD can do the same in case of overheating of the battery.

**CAPABLE OF CHARGING  
SINGLE BATTERY CELLS.  
UNBEATABLE FLEXIBILITY.**

#### Optional battery temperature probe



REF [122TA9100](#)



## SMC SERIES

### Built-in charger

#### For lead-acid & gel-cell batteries!

The SMC is a battery charger designed to be mounted on board in battery-powered vehicles (scissor lifts, golf carts, etc.). It has been designed for maximum reliability in wet and dusty environments. The SMC has 3 selectable charging curves (IU, IUa, IUla), suitable to charge both lead-acid and gel-cell batteries. The output current is independent from the variations of the AC-input. The exclusive power control system of the SMC ensures a high power factor, high efficiency and very low EMI\*, while the simple construction allows very easy service/maintenance operations.

\*EMI: electromagnetic interface

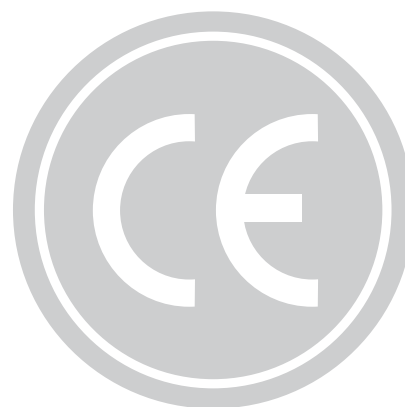


*Specify the requested charging standard supplied with lead-acid charging curve.*

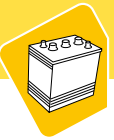


#### General information SMC

- Single-phase
- High power factor
- High efficiency
- Low EMI: the SMC doesn't generate electrical noise and input current distortion
- Microprocessor-controlled battery charger
- LED control panel
- Auto-equalization system
- Maintenance system
- Charging curves: IU, IUa & IUla
- 10-12 h charge system
- Double feed of printcard (AC/DC)
- CE/UL approved







## SMC SERIES

REF	Volt	Amp	Dimensions L x W x H	Weight	Capacity range	Input
<a href="#">123TA7203</a>	12 V	30 A	300 x 180 x 190 mm	12 kg	166-198 Ah	110/220 VAC
<a href="#">123TA7204</a>	12 V	40 A	300 x 180 x 190 mm	13 kg	199-263 Ah	110/220 VAC
<a href="#">123TA7205</a>	24 V	20 A	300 x 180 x 190 mm	13 kg	100-132 Ah	110/220 VAC
<a href="#">123TA7206</a>	24 V	25 A	300 x 180 x 190 mm	14 kg	133-165 Ah	110/220 VAC
<a href="#">123TA7207</a>	24 V	30 A	300 x 180 x 190 mm	17 kg	166-198 Ah	110/220 VAC
<a href="#">123TA7208</a>	24 V	40 A	300 x 180 x 190 mm	19 kg	199-263 Ah	110/220 VAC
<a href="#">128TA4678</a>	24 V	15 A	300 x 180 x 190 mm	22 kg	96-110 Ah	110/220 VAC
<a href="#">123TA7209</a>	36 V	25 A	300 x 180 x 190 mm	22 kg	133-165 Ah	110/220 VAC
<a href="#">123TA7210</a>	36 V	30 A	300 x 180 x 190 mm	22 kg	166-198 Ah	110/220 VAC
<a href="#">123TA7211</a>	36 V	40 A	330 x 200 x 260 mm	24 kg	199-263 Ah	220 VAC
<a href="#">123TA7212</a>	48 V	20 A	300 x 180 x 190 mm	22 kg	111-132 Ah	110/220 VAC
<a href="#">123TA7213</a>	48 V	30 A	330 x 200 x 260 mm	28 kg	166-198 Ah	220 VAC
<a href="#">123TA7214</a>	48 V	40 A	330 x 200 x 260 mm	33 kg	199-263 Ah	220 VAC

All spare parts available.

MOUNTING BRACKET



**REF 123TA6112**  
Used for JLG E3

MOUNTING BRACKET



**REF 123TA6113**  
Used for JLG E450A,  
E450AJ, M450A, M450AJ



## PANELS FOR BATTERY CHARGERS

RE



### RE-digital ammeter (serial number > 50.000)

Type	Box	Description	REF
RE	S	Base	<a href="#">107TA8754</a>
RE	S	Cover	<a href="#">107TA8755</a>
RE	A	Base	<a href="#">107TA8756</a>
RE	A	Cover	<a href="#">107TA8757</a>
RE	B	Base	<a href="#">107TA8758</a>
RE	B	Cover	<a href="#">107TA8759</a>
RE	C	Complete	<a href="#">124TA1143</a>
RE	C	Rear	<a href="#">106TA8763</a>

RLD



### RLD \* Serial number > 71.800

Type	Box	Description	REF
RLD	A	Base	<a href="#">124TA1137</a>
RLD	A	Side right panel	<a href="#">124TA1138</a>
RLD	A	Side left panel	<a href="#">124TA1139</a>
RLD	A	Top panel	<a href="#">124TA1140</a>
RLD	A	Rear panel	<a href="#">106TA8763</a>
RLD	A	Front panel (door)	<a href="#">124TA1142</a>
RLD	B	Base	<a href="#">106TA8764</a>
RLD	B	Side panel left	<a href="#">106TA8765</a>
RLD	B	Side panel right	<a href="#">106TA8766</a>
RLD	B	Top panel	<a href="#">106TA8767</a>
RLD	B	Rear panel	<a href="#">106TA8768</a>
RLD	B	Front panel (door)	<a href="#">106TA8769</a>

ARD



### ARD

Type	Box	Description	REF
ARD	Round	Base	<a href="#">141TA3595</a>
ARD		Chassis	<a href="#">141TA3596</a>
ARD		Panel	<a href="#">141TA3597</a>

RX



### RX

Type	Box	Description	REF
RX	S	Base	<a href="#">107TA8754</a>
RX	S	Cover	<a href="#">107TA8755</a>
RX	A	Base	<a href="#">107TA8756</a>
RX	A	Cover	<a href="#">107TA8757</a>
RX	B	Base	<a href="#">107TA8758</a>
RX	B	Cover	<a href="#">107TA8759</a>
RX	C	Base	<a href="#">124TA1137</a>
RX	C	Side right panel	<a href="#">124TA1138</a>
RX	C	Side left panel	<a href="#">124TA1139</a>
RX	C	Top panel	<a href="#">124TA1140</a>
RX	C	Rear panel	<a href="#">106TA8763</a>
RX	C	Front panel	<a href="#">124TA1142</a>

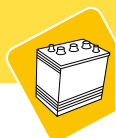


## HIGH-FREQUENCY CHARGERS



HIGH-FREQUENCY CHARGERS

# HIGH-FREQUENCY CHARGERS



## HIGH-FREQUENCY CHARGERS

### Why choose a high frequency charger?

- **MAXIMUM** energy saving
- **LONGER** total battery life
- **GREATER** total cycle life
- **REDUCED** battery heating
- **REDUCED** charging times
- **LOWER** water consumption
- **LOWER** labour and need for water
- **OPTIMIZED** charge curves
- **THERMAL** compensation
- **SUPERIOR** safety and self-protection
- **MINIMIZED** weight and size

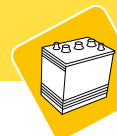


### High-frequency battery chargers face the state-of-the-art high-frequency technology

- Coated printed circuit boards
- Metal case and self-extinguishing ABS
- Weight and size are minimized
- Adaptable to every use and very flexible
- High-frequency battery chargers are all controlled by microprocessor and internally protected against overload, short circuit, incorrect battery connection and voltage transients
- With an internal selection, the chargers can be adapted to a wide range of battery capacities
- High-frequency battery chargers operate at 85-90% efficiency for the maximum saving of electric power cost
- With the thermal sensor option the charger's output electronically compensates the gasification voltage accordingly to the battery temperature
- 18-months warranty
- CE-certified (in conformity with EC directive 89/336/EEC regarding electromagnetic compatibility)

### General technical specs

- Operating temperature: -20 °C to 50 °C
- Output short circuit protection
- Reverse polarity protection
- Audible alarm system
- Automatic thermal compensation

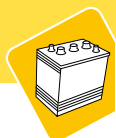


## HIGH-FREQUENCY/SINGLE-PHASE

V	Charging times			Model	Type	I1 (A)	IMAX (A)	REF For lead acid and gel/AGM	Input voltage (VAC)	NET input current (A)
	7-8,5 h (Ah)	9-11 h (Ah)	12-13 h (Ah)							
12	70-95	120		<b>UBC</b>	12 18	15	18	<a href="#">141TA6688*</a>	230	2
	145	190	240	<b>BC1</b>	12 35	30	36	<a href="#">141TA6689*</a>	230	3
	240-360	400-480	520-560	<b>NG1</b>	12 60	50	60	<a href="#">135TA9747</a>	230	5
24	80	100	125	<b>UBC</b>	24 15	12,5	15	<a href="#">141TA6690*</a>	230	3
	200	250	300	<b>BC1</b>	24 30	25	30	<a href="#">141TA6691*</a>	230	5
	145-215	240-290	310-335	<b>NG1</b>	24 35	30	36	<a href="#">135TA9748</a>	230	7
	180-270	300-360	390-420	<b>NG1</b>	24 45	37,5	45	<a href="#">141TA6692</a>	230	8
	240-360	400-480	520-560	<b>NG3</b>	24 60	50	60	<a href="#">135TA9750</a>	230	11
	335-505	560-670	730-785	<b>NG3</b>	24 85	70	84	<a href="#">135TA9751</a>	230	15
	385-575	640-770	830-895	<b>NG3</b>	24 95	80	96	<a href="#">135TA9752</a>	230	17
	480-720	800-960	1040-1120	<b>NG3</b>	24 100	100	100	<a href="#">135TA9753</a>	230	22
	480-720	800-960	1040-1120	<b>NG5</b>	24 120	100	120	<a href="#">135TA9754</a>	400	7
	575-865	960-1150	1250-1345	<b>NG9</b>	24 145	120	144	<a href="#">135TA9755</a>	400	8
960-1440	1600-1920	2080-2240	<b>NG9+</b>	24 200	200	200	<a href="#">135TA9756</a>	400	14	
36	95-145	160-190	210-225	<b>NG1</b>	36 25	20	24	<a href="#">135TA9757</a>	230	6
	240-360	400-480	520-560	<b>NG3</b>	36 60	50	60	<a href="#">135TA9758</a>	230	16
	290-430	480-575	625-670	<b>NG3</b>	36 70	60	72	<a href="#">135TA9759</a>	230	19
	480-720	800-960	1040-1120	<b>NG5</b>	36 120	100	120	<a href="#">135TA9760</a>	400	10
	575-865	960-1150	1250-1345	<b>NG9</b>	36 145	120	144	<a href="#">135TA9761</a>	400	12
	960-1440	1600-1920	2080-2240	<b>NGTOP</b>	36 200	200	200	<a href="#">135TA9762</a>	400	17
48	85-130	145-175	185-200	<b>NG1</b>	48 22	18	21,6	<a href="#">135TA9763</a>	230	6
	175-260	290-345	375-405	<b>NG3</b>	48 45	36	43,2	<a href="#">135TA9764</a>	230	16
	240-360	400-480	520-560	<b>NG3</b>	48 60	50	60	<a href="#">135TA9765</a>	230	22
	385-575	640-770	830-895	<b>NG5</b>	48 95	80	96	<a href="#">135TA9766</a>	400	11
	480-720	800-960	1040-1120	<b>NG7</b>	48 120	100	120	<a href="#">135TA9767</a>	400	14
	575-865	960-1150	1250-1345	<b>NG9</b>	48 145	120	144	<a href="#">135TA9768</a>	400	16
	650-970	1080-1295	1405-1510	<b>NG9+</b>	48 160	135	162	<a href="#">135TA9769</a>	400	18
	815-1225	1360-1630	1770-1905	<b>NGTOP</b>	48 170	170	170	<a href="#">135TA9770</a>	400	23

\* Only lead-acid, gel/AGM on demand

- NG1 range is equipped with output cable and schuko plug
- NG3 range is equipped with output cable
- NG9 range over 135A is equipped with output cable 50 mm<sup>2</sup> size
- NG3 24 100 , NG9 plus 24 200 and NG9 top 48 170 cannot work with a WUIA curve



## HIGH-FREQUENCY/SINGLE-PHASE

V	Charging times			Model	Type	I1 (A)	IMAX (A)	REF	Input voltage (VAC)	NET input current (A)
	7-8,5 h (Ah)	9-11 h (Ah)	12-13 h (Ah)							
72	50-70	80-95	105-110	<b>NG1</b>	72 12	10	12	<a href="#">135TA9771</a>	230	6
	105-160	175-210	230-245	<b>NG3</b>	72 25	22	26,4	<a href="#">135TA9772</a>	230	14
	145-215	240-290	310-335	<b>NG3</b>	72 35	30	36	<a href="#">135TA9773</a>	230	19
	265-395	440-530	570-615	<b>NG5</b>	72 65	55	66	<a href="#">135TA9774</a>	400	11
	335-505	560-670	730-785	<b>NG7</b>	72 85	70	84	<a href="#">135TA9775</a>	400	14
	430-650	720-865	935-1010	<b>NG9</b>	72 110	90	108	<a href="#">135TA9776</a>	400	18
80	105-160	175-210	230-245	<b>NG3</b>	80 25	22	26,4	<a href="#">135TA9777</a>	230	16
	130-195	215-260	280-300	<b>NG3</b>	80 30	27	32,4	<a href="#">135TA9778</a>	230	19
	240-360	400-480	520-560	<b>NG5</b>	80 60	50	60	<a href="#">135TA9779</a>	400	11
	300-450	500-600	650-700	<b>NG7</b>	80 75	62,5	75	<a href="#">135TA9780</a>	400	14
	385-575	640-770	830-895	<b>NG9</b>	80 100	80	96	<a href="#">135TA9781</a>	400	18
	600-900	1000-1200	1300-1400	<b>NGTOP</b>	80 150	125	150	<a href="#">135TA9782</a>	400	28

- NG1 range is equipped with output cable and schuko plug
- NG3 range is equipped with output cable
- NG9 range over 135A is equipped with output cable 50 mm<sup>2</sup> size
- NG3 24 100 , NG9 plus 24 200 and NG9 top 48 170 cannot work with a WUIA curve



**UBC**

- Size: 230 x 110 x 65 mm
- Weight: 850 g
- Single-phase voltage 230 VAC



**BC1**

- Size: 285 x 105 x 75 mm
- Weight: 1,5 kg
- Single-phase 230 VAC input



**NG1**

- Size: 300 x 160 x 80 mm
- Weight: 2,2 kg
- Single-phase 230 VAC input



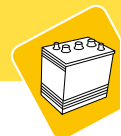
**NG3**

- Size: 425 x 215 x 90 mm
- Weight: 5,5 kg
- Single-phase 230 VAC input



**NG5/7/9**

- Size: 520 x 260 x 100 mm
- Weight: 9 kg
- Three-phase input



## HIGH-FREQUENCY CHARGER WITH PRE-INSTALLED AIR PUMP KIT

HIGH-FREQUENCY CHARGERS

**20% FASTER CHARGE WITH AIR-PUMP!**



Only for Acid batteries

TYPE	Battery voltage	Output current	Battery capacity	REF
<b>230 V MONO</b>				
NG1 24/35	24 V	35 A	120-300 Ah	<a href="#">124TA1690</a>
NG3 24/60	24 V	60 A	200-500 Ah	<a href="#">124TA1691</a>
NG3 24/95	24 V	95 A	320-800 Ah	<a href="#">124TA1692</a>
NG3 36/70	36 V	70 A	240-600 Ah	<a href="#">124TA1693</a>
NG3 48/60	48 V	60 A	200-500 Ah	<a href="#">124TA1694</a>
<b>400 V TRI</b>				
NG5 24/100	24 V	100 A	400-1000 Ah	<a href="#">124TA1695</a>
NG5 36/100	36 V	100 A	400-1000 Ah	<a href="#">124TA1696</a>
NG5 48/95	48 V	95 A	320-800 Ah	<a href="#">124TA1697</a>
NG7 48/100	48 V	100 A	400-1000 Ah	<a href="#">124TA1698</a>
NG9 24/120	24 V	120 A	480-1200 Ah	<a href="#">124TA1699</a>
NG9 48/120	48 V	120 A	480-1200 Ah	<a href="#">124TA1700</a>
NG9 80/100	80 V	100 A	320-800 Ah	<a href="#">124TA1701</a>
NGTOP 24/200	24 V	200 A	800-2000 Ah	<a href="#">124TA1702</a>
NGTOP 48/170	48 V	170 A	700-1600 Ah	<a href="#">124TA1703</a>
NGTOP 80/150	80 V	150 A	600-1250 Ah	<a href="#">124TA1704</a>

## HIGH-FREQUENCY MULTIVOLTAGE BATTERY CHARGER

- This charger can charge batteries in the range up to 96 V with an adjustable current between 1 to 50 A
- Time is adjustable from 1 to 72 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](#)

### THERMAL SENSOR



REF [116TA6110](#)

Thermal sensor for automatic compensation. Adjusts the battery voltage in relation to the ambient or battery temperature. (except BC1 and UBC)

Length: 5 m

### SUPPORT



REF [116TA6111](#)  
(except BC1 and UBC)

### INDICATOR



**Shows the charging phase for on-board chargers**

REF [116TA6112](#) – Remote indicator, LED D10, 2,5 m.  
For UBC/BC 1 (Installation hole Ø 14 mm)

REF [116TA6113](#) – Remote indicator, 2, 5 m.  
For UBC/BC 1 (Installation hole Ø 22 mm)

REF [116TA6114](#) – Remote indicator, LED D10, 1 m.  
For NG (Installation hole Ø 14 mm)

REF [116TA6115](#) – Remote indicator, 1 m.  
For NG (Installation hole Ø 22 mm)

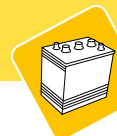
REF [116TA6116](#) – Remote indicator, LED D10, 1,3 m.  
For NG (Installation hole Ø 14 mm)

### SUPPORT



REF [116TA6118](#)  
Automatically stops the truck when main voltage is present.  
For BC1, NG1 and NG3





## IGBT SERIES

### High-frequency

Ask for our FREE detailed manuals:  
REF [123TA6868](#) - IGBT



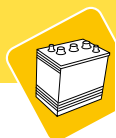
BATTERY CHARGERS 6, 12 & 24 V

The IGBT 2011 is the ultimate Energic Plus® charger and it is the result of 40 years of experience in design, production and customization of chargers for the material handling industry. Based on HF-IGBT technology with hybrid power conversion system, this charger offers a unique combination of performances, flexibility and electrical efficiency. The output is multivoltage, with automatic battery recognition, and completely programmable.

The new digital control board is designed to support applications of any type, and a complete set of optional tools is available to expand the functionalities of the system (wireless battery identification modules, integrated data loggers with USB port, remote control systems).

#### General information IGBT

- Completely automatic, microprocessor-controlled battery charger.
- High-frequency IGBT regulator. Constant current, constant voltage operation, virtually zero output ripple.
- High efficiency (> 90%)
- High power factor (PF > 0,85) Power factor corrected version available (PF > 0,98)
- User programmable charge curve, based on IU1a system.
- Multivoltage (12/96 V) and multicurrent (0-200 A) design. One unit can charge batteries of any type/voltage/capacity.
- Rugged construction, for maximum reliability in heavy applications.
- Digital display:
  - Charging current (A)
  - Battery voltage (V/cell)
  - Capacity charged (Ah)
  - Time of charge (Hours-Minutes)
  - Error messages
- Full electronic protection:
  - Battery overvoltage
  - Battery undervoltage
  - Output fuse blown
  - Blackout of the main supply
  - Emergency timer
  - Thermal protection
  - Reverse polarity
- Automatic equalization and maintenance of the battery (programmable).
- Automatic start on battery connection and automatic shutdown on battery disconnection.
- Automatic saving of the charge parameters in case of blackout of the mains and automatic restart when the input is available.
- Input voltage three-phase 220 V/380 V ( $\pm$  15%), 50/60 Hz. Other input voltages available on request.
- Battery voltages from 12 V to 96 V. Output currents from 40 A to 320 A
- 3 year warranty
- CE-certified. Available: CCSA US approved (UL+CSA) version.
- EN50081 – 50082 - 55011
- DIN 41772 - 41774
- IEC 801/2 - 801/3 - 801/4 - 529
- Dimensions: 500 x 440 x 900 mm



## IGBT SERIES

REF	Model	Voltage From 12 V to ..	Current From 0 A to ..	Max battery capacity
<a href="#">139TA2728</a>	IGBT3	24 V	120 A	1050 Ah
<a href="#">140TA7501</a>	IGBT4	24 V	200 A	1700 Ah
<a href="#">139TA2729</a>	IGBT5	36 V	120 A	1050 Ah
<a href="#">140TA7502</a>	IGBT6	36 V	200 A	1700 Ah
<a href="#">139TA2730</a>	IGBT7	48 V	120 A	1050 Ah
<a href="#">139TA2731</a>	IGBT11	48 V	200 A	1700 Ah
<a href="#">139TA2732</a>	IGBT9	80 V	120 A	1050 Ah
<a href="#">139TA2733</a>	IGBT13	80 V	200 A	1700 Ah
<a href="#">145TA1849</a>	IGBT13-B	96 V	200 A	1700 Ah
<a href="#">140TA7503</a>	IGBT14	24 V	250 A	2125 Ah
<a href="#">140TA7504</a>	IGBT15	36 V	250 A	2125 Ah
<a href="#">140TA7505</a>	IGBT18	48 V	250 A	2125 Ah
<a href="#">140TA7506</a>	IGBT19	80 V	250 A	2125 Ah
<a href="#">140TA7508</a>	IGBT20	36 V	320 A	2720 Ah
<a href="#">140TA7509</a>	IGBT30	48 V	320 A	2720 Ah
<a href="#">139TA2734</a>	IGBT40	80 V	320 A	2550 Ah
<a href="#">140TA7510</a>	IGBT45	48 V	400 A	3400 Ah
<a href="#">140TA7511</a>	IGBT50	36 V	500 A	4250 Ah
<a href="#">140TA7512</a>	IGBT55	48 V	500 A	4250 Ah

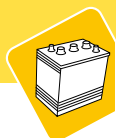


## ON BOARD CHARGERS



ON BOARD CHARGERS

# ON BOARD CHARGERS



## HIGH-FREQUENCY UNIVERSAL BATTERY CHARGERS FOR WET AND GEL BATTERIES

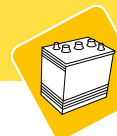
### Key features:

- **Possibility to change the charging curve by means of a DIP switch**, choosing from 16 standard preprogrammed curves for lead-acid, gel and AGM batteries. Any other curve available on request
- **High-frequency system** with advanced technology. **Efficiency > 85%**.
- Charging process **fully controlled by microprocessor**
- **Visualisation on a lit display**: the charging current, the battery voltage, the charging time, the charge supplied in Ah and the energy absorbed in kWh.
- **Protection with an output relay** against polarity inversions, short circuits, overvoltages or anomalies
- **Compensation of the voltage drop** on the connecting cables to the battery



Model	Battery voltage	Charging current	Battery range		Weight kg (lbs)	Dimensions (L x W x H)	UL approved
			(5 h rate)	(20 h rate)			
<a href="#">139TA6001</a>	12 V	4 A	20-40 Ah	30-50 Ah	1,8 (3,97)	134,5 x 241 x 80 mm (5,29 x 9,48 x 3,16 Inch)	YES
	12 V	8 A	40-80 Ah	60-105 Ah			
	12 V	10 A	60-100 Ah	70-130 Ah			
	12 V	12 A	90-120 Ah	120-157 Ah			
	24 V	4 A	20-40 Ah	30-50 Ah			
	24 V	8 A	40-80 Ah	60-105 Ah			
	24 V	10 A	60-100 Ah	70-130 Ah			
	24 V	12 A	90-120 Ah	120-157 Ah			
<a href="#">139TA6002</a>	12 V	8 A	40-80 Ah	60-105 Ah		154 x 268 x 100 mm (6,06 x 10,55 x 3,93 Inch)	NO
	12 V	10 A	60-100 Ah	70-130 Ah			
	12 V	12 A	90-120 Ah	120-157 Ah			
	12 V	14 A	90-130 Ah	120-170 Ah			
	12 V	16 A	120-160 Ah	150-200 Ah			
	24 V	8 A	40-80 Ah	60-105 Ah			
	24 V	10 A	60-100 Ah	70-130 Ah			
	24 V	12 A	90-120 Ah	120-157 Ah			
	24 V	14 A	90-130 Ah	120-170 Ah			
	24 V	16 A	120-160 Ah	150-200 Ah			





## HF+ CHARGERS HF ON-BOARD BATTERY CHARGERS



- 24 V – 1000 W – 35 A
- Withstands high mains fluctuations
- Gel and lead acid batteries

Starts on deep discharged batteries

REF [138TA4269](#)

The Charis+ charger provides higher performances, additional functionalities and outstanding reliability.

Extremely compact, it offers:

### Full power:

The charger delivers 1000 W up to 40°C ambient temperature. Above this temperature, the Charis+ continues charging, while reducing its output current to ensure self-protection against overheating. The Charis+ charger makes it possible to:

- recharge batteries with a large capacity
- to reduce the charging time for a given battery capacity

Battery capacity	Charge duration
210 Ah	8 hours *
350 Ah	12 hours*

*\*Indicative values given for a flooded battery, discharged at 80% -40°C ambient temperature.*

### Enhanced protections on the input side to ensure higher performances and reliability in difficult environments (up to 400 VAC mains input voltage)

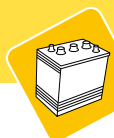
This new feature was designed by IES-Synergy to provide an efficient solution for tough applications and areas with unsteady mains networks.

Whereas most charger specifications fail above 265 VAC, the Charis+ charger is equipped with a non-destructive protection to be able to withstand up to 400 VAC, thanks to its active overvoltage protection. In case of high mains input over voltages, the charger interrupts its charge and automatically restarts once. The mains network resumes to the nominal input voltage (230 VAC, +10 % / -15 %).

### Starting on deep discharged batteries

- To adapt to the highest constraints, the Charis+ starts on deep discharged batteries, as low as 9 VDC
- EMC: immunity/industrial environment (EN 55022-2), emissions/domestic environment (EN 55022-2)
- Operating temperature: -25°C / +50°C
- Voltage, current and thermal electronic protections; protections against overcharge
- Fail-safe reverse polarity protection by relay, high resistance to shocks and vibrations
- Interlock safety relay

REF	Voltage (V)	Maximal current (A)	Dimensions (mm)	Capacity (8 - 15 h)
<a href="#">138TA4269</a>	24	35	233 x 100 x 66	140 Ah - 380 Ah



## SEALED – IP66



24 V – 720 W – 30 A

### REF [136TA3226](#)

- Very compact
- Wide input voltage 85-265 VAC
- Communication interface
- Gel and lead acid batteries

Using the up to date power conversion technology, including powerful digital control, we can offer you a powerful battery charger designed to operate in most hostile conditions.

This charger is insensitive to exterior factors such as high-pressure cleaning, acid, oily dust and vibrations, and has compact dimensions.

### Key features:

- Sealed charger / IP66 – Efficiency: >90% - PFC (power factor correction)
- Wide input voltage 85 VAC - 265 VAC – automatic/Network frequency: 50-60 Hz
- Charger starts on deep discharged battery: as from 9 V
- Operating temperature: -25°C / +50°C
- Voltage, current and thermal electronic protections, protections against overcharge
- Fail-safe reverse polarity protection by relay
- Display by leds/external
- Mains wire easy to replace
- Very compact: 276 x 126 x 66 mm

### Options:

- Interlock safety relay
- Battery temperature sensor
- Built-in communication interface
- The charger can be equipped with a communication port (CANBUS, RS232, USB), which gives access to the functionalities offered by the PRO-VIST management software.

REF	Voltage (V)	Current (A)	Battery capacity (8 - 15 h)	Dimensions (mm)	Charger weight (kg)
<a href="#">136TA3226</a>	24	30	180 Ah - 230 Ah	280 x 126 x 66	3



48 V – 1500 W

### REF [138TA4270](#)

- Rugged design
- Input voltage 120 VAC - 230 VAC
- Communication interface

### Key features:

- Sealed charger/IP66
- Universal input voltage 120 VAC - 230 VAC (automatic selection)/Network frequency: 50-60 Hz
- Charger starts on deep discharged battery: as from 2,5 V
- Operating temperature: -25°C / +50°C
- Voltage, current and thermal electronic protection; protections against overcharge
- Fail-safe reverse polarity protection by relay
- Display by leds/external

### Options:

- Interlock safety relay
- Battery temperature sensor
- Built-in communication interface
- The charger can be equipped with a communication port (CANBUS, RS232, USB), which gives access to the functionalities offered by the PRO-VISTA management software.
- Charge curve to be selected from an existing charging profile database
- Real-time battery charge display
- Charge cycle record
- Storage of the charge cycles in default
- Trouble shooting guide

REF	Output voltage (V)	Max output current (A)	Dimensions (mm)	Battery capacity (8-15 h)
<a href="#">138TA4270</a>	48	30	265 x 210 x 145	180 Ah - 350 Ah



## HFN OPEN LEAD ACID CHARGERS



**REF [139TA2549](#)**

48 V - 50 A with relay

**REF [139TA2550](#)**

24 V - 50 A

- 230 VAC, +10% / -15 %
- 50 Hz

REF	Battery capacity (8 - 15 h)	Weight (kg)	Dimensions (mm)
<a href="#">139TA2549</a>	260 - 500 Ah	5,55	305 x 190 x 85
<a href="#">139TA2550</a>	260 - 500 Ah	5,50	315 x 130 x 83

## UNIVERSAL ON-BOARD CHARGER



**REF [138TA4273](#)**

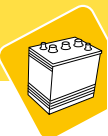
- Lead acid, gel, gel/AGM
- Can charge very deep discharged batteries
- Protection against short circuit, over heating, reversed polarity
- Dimensions: 253 x 123 x 71,5 mm
- For batteries 24 V, 200 - 300 Ah
- White & red: cable to relay
- Black & red cable: - and + battery

**Option:**

External LED indicator

**REF [138TA4274](#)**

24 V - 30 A



DELTA-Q

## DELTA-Q IC650: 650 W INDUSTRIAL BATTERY CHARGER



- Small industrial battery charger (weight < 3 kg, 252 x 186 x 80 mm)
- For small aerial work platforms, scrubbers & sweepers, personnel & burden carriers ...
- Keep track of every load cycle thanks to the detailed data logs

### Technical details

Rugged, sealed aluminium die-cast enclosure

Two-way communication through charger USB host port

Wide AC input voltage range, high efficiency and unity power factor

QuiQTM optimized charging profiles for all popular industrial battery brands and types

CAN bus and Modbus communication

### Advantages

+ Protected against high vibration, extreme temperatures and water, chemical and dust ingress  
+ Installable on- or off-board in any orientation

+ USB flash drive retrieves detailed charging logs and updates charger software and QuiQ charge profiles  
+ Saves technician field visits by providing info for battery maintenance or troubleshooting

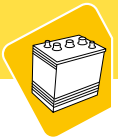
+ Operates on any single-phase grid worldwide  
+ Meets CEC energy efficiency standards  
+ Reduced electricity costs

+ Extend battery life and minimize charge times  
+ Auto-recharge for low voltage/storage ensures equipment is ready for use

+ Integrate charger with battery management system and vehicle/machine electronics







## DELTA-Q IC650: 650 W INDUSTRIAL BATTERY CHARGER

### IC650 Specifications

DC output	24 VDC	36 VDC	48 VDC
	REF 141TA7908	REF 141TA7909	REF 141TA7910
Nominal DC output voltage	24 V	36 V	48 V
Maximum DC output voltage	36 V	54 V	72 V
Maximum DC output current	27,1 A	18,1 A	13,5 A
Maximum DC output power	650 W	650 W	650 W
Deep discharge recovery (minimum voltage)	1,2 V	1,8 V	2,4 V
Maximum interlock current	1 A	1 A	1 A
Battery type	Lead acid (Wet/AGM/GEL), Lithium Ion		
Reverse polarity	Electronic protection with auto-reset		
Short circuit	Electronic current limit		

AC input		
AC input voltage range	85-270 VAC	
Nominal AC input voltage	100-240 VAC	
Nominal AC input frequency	50/60 Hz	
Maximum AC input current	7,5 A	
Nominal AC input current	7,3 A @ 100 VAC	6,0 A @ 120 VAC
	3,1 A @ 230 VAC	2,9 A @ 240 VAC
Nominal AC power factor	> 0,99 @ 120 VAC	> 0,98 @ 230 VAC

Regulatory	
Efficiency	93,5% peak
Safety	Approval pending to UL1564, CSA 107,2 EN 60335-2-29
Emissions	FCC Part 15/ICES 003 Class A, EN55011
Immunity	EN61000-3-2, EN61000-3-3 EN 61000-4-2/-3/-4/-5/-6/-11

Mechanical	
Dimensions	252 x 186 x 80 mm (9,9 x 7,3 x 3,1")
Weight	< 3 kg (< 6,5 lbs)
AC input connector	IEC320/C14 (requires country-specific cord)
DC output connector	M6 threaded fasteners for ring terminals
Service port	Sealed (IP66) USB 2.0 Host Port (Type A) with dust cover
Mounting holes	Allows for safe installation on shelf, wall or bulkhead
Cooling	Normal operation in any orientation with passive cooling only

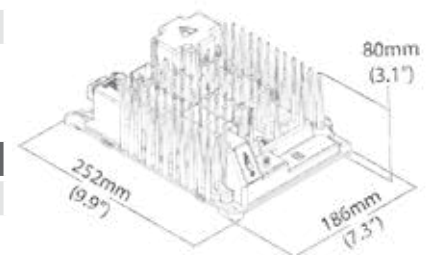
Environmental		
Enclosure	IP66 (NEMA4)	
Operating temperature	-40 °C to 65 °C (-40 °F to 149 °F)	Derated at >40 °C (104 °F)
	Storage temperature	
Storage temperature		-40 °C to 85 °C (-40 °F to 185 °F)



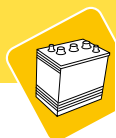
### Features

- Multi-color LED indicator for AC source, battery status (< 80%/> 80%/completion), charging, alarm, fault
- Numeric display for charge profile, alarm/fault codes
- Field programmable with up to 25 QuiQ™ charge profiles
- OEM customizable, field replaceable cable design

### Dimensions



Including European power cord



## BUILT-IN BATTERY CHARGERS

Used for Jungheinrich



REF [123TA6127](#)

Input: 230 VAC 1 A 50 Hz  
Output: 24 V 9 A

Used for Jungheinrich



REF [123TA6128](#)

Input: 230 VAC 3,7 A 50/60 Hz  
Output: 24 V 30 A

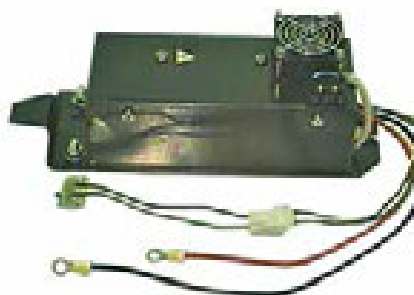
Used for Linde



REF [116TA5127](#)

Input: 230 VAC 8,5 A 50/60 Hz  
Output: 24 V 30 A

Used for Linde



REF [123TA6129](#)

Input: 230 VAC 8,5 A 50 Hz  
Output: 24 V 30 A  
With LED, red/green

Used for Loc



REF [123TA6132](#)

Input: 230 VAC 8,5 A 50/60 Hz  
Output: 24 V 30 A

Used for Prat



REF [123TA6134](#)

Input: 230 VAC 4,7 A 50/60 Hz  
Output: 24 V 20 A



## BUILT-IN BATTERY CHARGERS

Used for Rocla



REF [123TA6135](#)

Input: 230 VAC 50 Hz  
Output: 24 V 30 A

Used for Steinbock/Boss



REF [123TA6136](#)

Input: 230 VAC 4,7 A 50/60 Hz  
Output: 24 V 20 A  
With LED, yellow/green

Used for Still



REF [123TA6137](#)

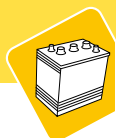
Input: 230 VAC 8,5 A 50 Hz  
Output: 24 V 30 A

Used for Still



REF [123TA6138](#)

Input: 230 VAC 8,5 A 50 Hz  
Output: 24 V 30 A



## TRAILER CHARGE TC2020



### Trailer Charge battery charging system

Trailer Charge battery charging system make sure that the batteries on board in the trailer are always perfectly charged, independent of the alternator voltage and power losses in the cables between truck and trailer. Severe frost or Mediterranean heat, Trailer Charge keeps your batteries in excellent condition, ready for your next customer.

REF [139TA2551](#)

### General information TC2020

- Two separate chargers
- Independent of alternator output voltage
- High efficiency
- Microprocessor technology
- Easy programmable
- Temperature compensation
- Remote display

### Technical specifications

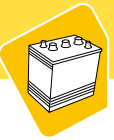
- Input voltage: 12-35 V
- Charging current: programmable 5-10-15 or 20 A per channel
- Battery type: programmable for all types of lead acid batteries
- Charging method: 3 stage (bulk charge, absorption and float charge)
- Temperature compensation: -20 °C to + 40 °C
- Protected against: wrong polarity, short circuit and overload
- Dimensions (L x W x H): 270 x 250 x 150 mm
- Weight: 3,1 kg

### Program key

REF [139TA2552](#)

The settings for charging current and battery type can only be changed by using an electronic key. As soon as the key is plugged in, the chargers enter the programming mode. In this mode the settings can easily and quickly be changed using the program buttons on the unit. Without the programming key the parameters can not be changed. An optional remote display unit, to be fitted on the outside of the trailer, can be connected to the Trailer Charge unit. Two sets of LED's shows the state of charge of the two sets of batteries.

The remote display units are built according to the customer's specification.



## BATTERY CHARGER BOX

Protect your battery chargers

REF [131TA4944](#)

### Advantages:

- Simple and safe transport
- Avoids damage to the cables and the battery charger cover during transport by a lift truck
- Also suitable for ARD (round models)



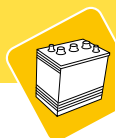
BATTERY CHARGER BOX

### Technical data:

- Max dimensions of the battery charger (W x L x H): 620 x 620 x 945 mm
- Dimensions of the box (W x L x H): 700 x 700 x 1175 mm
- Capacity: 160 kg
- Weight: 81 kg
- Fork pocket inner dimensions (W x H): 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



## VOLTMETERS

60 x 65 mm	REF
0-50 V	<a href="#">106TA8775</a>
0-100 V	<a href="#">106TA8776</a>
Rear body: Ø 45 mm	



100 x 124 mm	REF
0-50 V	<a href="#">106TA8777</a>
0-100 V	<a href="#">106TA8778</a>
Rear body: Ø 45 mm	



## AMMETERS EXTERNAL SHUNT

60 x 65 mm	REF
0-50 A	<a href="#">106TA8773</a>
0-150 A	<a href="#">106TA8774</a>
Rear body: Ø 45 mm	



## SHUNT FOR AMMETERS

	REF
0 A-60 mV	<a href="#">106TA8771</a>
150 A-60 mV	<a href="#">106TA8772</a>
250 A-60 mV	<a href="#">111TA4118</a>





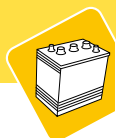
## AMMETERS INTERNAL SHUNT (GENERAL USE)



72 x 62 mm	REF
0-20 A	<a href="#"><u>106TA8779</u></a>
0-30 A	<a href="#"><u>106TA8780</u></a>
0-50 A	<a href="#"><u>106TA8781</u></a>
0-60 A	<a href="#"><u>111TA3456</u></a>
0-80 A	<a href="#"><u>106TA8782</u></a>
Rear body: Ø 55 mm	

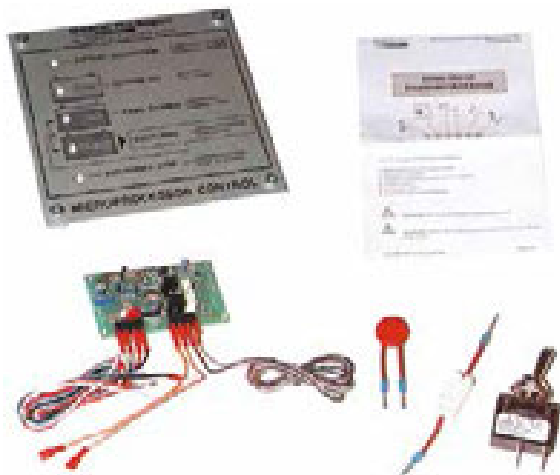


92 x 82 mm	REF
0-50 A	<a href="#"><u>106TA8783</u></a>
0-80 A	<a href="#"><u>106TA8784</u></a>
Rear body: Ø 70 mm	



## RETROFIT-KITS

### 1. Multivoltage kit: Type 473SCE with equalization (24 V-80 V)



REF [105TA2756](#) – 24-80 V

### 2. Single voltage kits: Type 422SCE with equalization (12 V-24 V-36 V)



REF [105TA2753](#) – 12 V

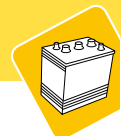
REF [105TA2754](#) – 24 V

REF [105TA2755](#) – 36 V

**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





## GYSTECH 750

**REF 145TA1759**

- Voltage: 6-12V
- Charging amps: 0,75 A
- Battery capacity charge: 1,2-20 Ah



## GYSTECH 3800

**REF 145TA1760**

- Voltage: 12 V
- Charging amps: 0,8-3,8 A
- Battery capacity charge: 1,2-60 Ah
- Battery capacity maintenance: 1,2-120 Ah



## GYSTECH 7000

**REF 145TA1761**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Voltage: 12 V</li> <li>• Charging amps: 7 A</li> <li>• Battery capacity charge: 14-130 Ah</li> <li>• Battery capacity maintenance: 14-230 Ah</li> </ul> | <ul style="list-style-type: none"> <li>• Voltage: 24 V</li> <li>• Charging amps: 3,5 A</li> <li>• Battery capacity charge: 14-60 Ah</li> <li>• Battery capacity maintenance: 14-120 Ah</li> </ul> |
|--|---|

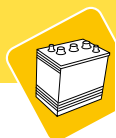


## DHC 54 A

**REF 145TA1762**

- Voltage: 4 x 12 V
- Charging amps: 4 x 5 A
- Battery capacity charge: 10-100 Ah





## DEFENDER 8

**REF 145TA2887**

- Voltage: 6 V
- Charging amps: 0,75 A
- Battery capacity charge: 2-30 Ah

- Voltage: 12 V
- Charging amps: 0,75 A
- Battery capacity charge: 2-30 Ah



## NEVATRONIC 12

**REF 145TA1808**

- Voltage: 12 V
- Charging amps: 6 A
- Battery capacity charge: 40-50 Ah



## NEVATRONIC 24 12-24 V

**REF 145TA1809**

- Voltage: 12 V
- Charging amps: 6 A
- Battery capacity charge: 40-55 Ah

- Voltage: 24 V
- Charging amps: 4,5 A
- Battery capacity charge: 30-45 Ah



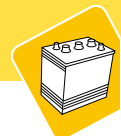
## AUTOTRONIC 25 BOOST 12-24 V

**REF 145TA1810**

- Voltage: 12 V
- Charging amps: 18 A
- Boost charge amps: yes
- Battery capacity charge: 30-225 Ah

- Voltage: 24 V
- Charging amps: 12 A
- Boost charge amps: yes
- Battery capacity charge: 20-180 Ah





## BATTERY CHARGERS 6, 12 & 24 V

### Domestic charger

- 230 V ~ 50/60 Hz 46 W
- 6-12 V
- 1,5-3 A
- 10-50 Ah
- 150 x 90 x 130 mm
- 1,455 kg



REF [106TA8834](#)

### Charger – Tester

- 230 V ~ 50/60 Hz 315 W
- 12-24 V
- 6-12 A
- 45-180 Ah
- 290 x 170 x 240 mm
- 10,390 kg



REF [106TA8830](#)

### Domestic charger

- 230 V ~ 50/60 Hz 83 W
- 12 V
- 5 A
- 32-60 Ah
- 210 x 125 x 160 mm
- 2,320 kg



REF [106TA8835](#)

### Charger – Tester

- 230 V ~ 50/60 Hz 395 W
- 12-24 V
- 8-16 A
- 60-205 Ah
- 290 x 170 x 240 mm
- 10,640 kg



REF [105TA4897](#)

### Domestic charger

- 230 V ~ 50/60 Hz 115 W
- 12 V
- 4-8 A
- 24-120 Ah
- 210 x 125 x 160 mm
- 3,500 kg



REF [106TA8833](#)

### Charger – Tester

- 230 V ~ 50/60 Hz 540 W
- 12-24 V
- 10-20 A
- 92-250 Ah
- 290 x 170 x 240 mm
- 11,370 kg



REF [106TA8829](#)

### Domestic charger

- 230 V ~ 50/60 Hz 210 W
- 12-24 V
- 4-8 A
- 24-120 Ah
- 210 x 125 x 160 mm
- 4,400 kg



REF [106TA8832](#)

### Automatic charger

- 230 V ~ 50/60 Hz 46 W
- 12 V
- 3 A
- 24-50 Ah
- 150 x 90 x 130 mm
- 1,460 kg



REF [106TA8828](#)

### Charger – Tester

- 230 V ~ 50/60 Hz 177 W
- 12 V
- 6-12 A
- 45-180 Ah
- 250 x 145 x 200 mm
- 6,270 kg



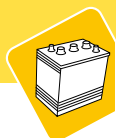
REF [106TA8831](#)

### Automatic charger

- 230 V ~ 50/60 Hz 210 W
- 12-24 V
- 4-8 A
- 24-120 Ah
- 210 x 125 x 160 mm
- 4,430 kg



REF [106TA8827](#)



## BATIUM 7/12

**REF 143TA8524**

- Voltage: 6–12 V
- Charging amps: 3 A
- Boost charge amps: 7 A
- Battery capacity charge: 15–130 Ah



## BATIUM 7/24

**REF 143TA8525**

- Voltage: 6–12–24 V
- Charging amps: 3 A
- Boost charge amps: 7 A
- Battery capacity charge: 15–130 Ah



## BATIUM 15/12

**REF 143TA8526**

- Voltage: 6–12 V
- Charging amps: 7–10 A
- Boost charge amps: 15 A
- Battery capacity charge: 35–225 Ah



## BATIUM 15/24

**REF 143TA8527**

- Voltage: 6–12–24 V
- Charging amps: 7–10 A
- Boost charge amps: 15 A
- Battery capacity charge: 35–225 Ah





## BATIUM 25/24



**REF 143TA8561**

- Voltage: 6–12–24 V
- Charging amps: 7–15–25 A
- Battery capacity charge: 35–350 Ah

## T-CHARGE 10



**REF 145TA1850**

- Voltage: 12 V
- Charging amps: 2 A
- Battery capacity charge: 5–50 Ah

## T-CHARGE 12



**REF 145TA1798**

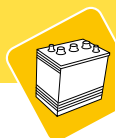
- Voltage: 12 V
- Charging amps: 4 A
- Battery capacity charge: 2-70 Ah

## T-CHARGE 18 BOOST



**REF 145TA1799**

- Voltage: 12 V
- Charging amps: 8 A
- Boost charge amps: yes
- Battery capacity charge: 5–180 Ah



## T-CHARGE 20 BOOST

**REF 145TA1800**

- Voltage: 12 V
- Charging amps: 8 A
- Boost charge amps: yes
- Battery capacity charge: 5–180 Ah
- Voltage: 24 V
- Charging amps: 4 A
- Boost charge amps: yes
- Battery capacity charge: 5–90 Ah

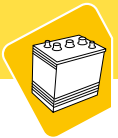


## T-CHARGE 26 BOOST

**REF 145TA1801**

- Voltage: 12 V
- Charging amps: 16 A
- Boost charge amps: yes
- Battery capacity charge: 10–250 Ah





## STARTIUM 330E

**REF 145TA1763**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Voltage: 12 V</li> <li>• Charging amps: 25 A</li> <li>• Start amps: 270 A</li> <li>• Battery capacity charge: 20-370 Ah</li> <li>• Charge – Start</li> </ul> | <ul style="list-style-type: none"> <li>• Voltage: 24 V</li> <li>• Charging amps: 25 A</li> <li>• Start amps: 210 A</li> <li>• Battery capacity charge: 20-300 Ah</li> <li>• Charge – Start</li> </ul> |
|---|---|



## STARTIUM 480E & 680E

**REF 145TA1764 - STARTIUM 480E**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Voltage: 12 V</li> <li>• Charging amps: 30 A</li> <li>• Start amps: 390 A</li> <li>• Battery capacity charge: 20-600 Ah</li> <li>• Charge – Start</li> </ul> | <ul style="list-style-type: none"> <li>• Voltage: 24 V</li> <li>• Charging amps: 30 A</li> <li>• Boost charge amps: 40 A</li> <li>• Start amps: 290 A</li> <li>• Battery capacity charge: 20-450 Ah</li> <li>• Charge – Start</li> </ul> |
|---|--|



**REF 145TA1765 - STARTIUM 680E**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Voltage: 12 V</li> <li>• Charging amps: 30 A</li> <li>• Boost charge amps: 45 A</li> <li>• Start amps: 550 A</li> <li>• Battery capacity charge: 20-675 Ah</li> <li>• Charge – Start</li> </ul> | <ul style="list-style-type: none"> <li>• Voltage: 24 V</li> <li>• Charging amps: 30 A</li> <li>• Boost charge amps: 45 A</li> <li>• Start amps: 380 A</li> <li>• Battery capacity charge: 20-525 Ah</li> <li>• Charge – Start</li> </ul> |
|--|--|

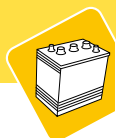


## ENERGY STATION

**REF 143TA8552**

- Voltage: 12-24 V
- Charging amps: 2 x 15 A
- Start amps: according to batteries
- Battery capacity charge: 35-225 Ah





## DIGITRONY 230

**REF 145TA1802**

- Voltage: 12–24 V
- Charging amps: 30 A
- Boost charge amps: 120 A
- Start amps: 180 A
- Battery capacity charge: 30–400 Ah
- Charge – Start



## DIGISTRART 340

**REF 145TA1803**

- Voltage: 12–24 V
- Charging amps: 45 A
- Boost charge amps: 180 A
- Start amps: 300 A
- Battery capacity charge: 10–450 Ah
- Charge – Start



## STARTRONIC 330 & 530

**REF 145TA1804 - STARTRONIC 330**

- Voltage: 6–12–24 V
- Charging amps: 50 A
- Boost charge amps: 210 A
- Start amps: 230 A
- Battery capacity charge: 10–450 Ah
- Charge – Start

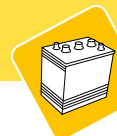


**REF 145TA1805 - STARTRONIC 530**

- Voltage: 6–12–24 V
- Charging amps: 75 A
- Boost charge amps: 300 A
- Start amps: 400 A
- Battery capacity charge: 10–600 Ah
- Charge – Start







## START UP 80



**REF 143TA8558**

- Voltage: 12 V
- Charging amps: 9 A
- Boost charge amps: 17 A
- Start amps: 50 A
- Battery capacity charge: 45–170 Ah
- Charge – Start



## PULSE 50

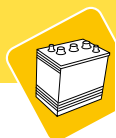
**REF 145TA1797**

- Voltage: 6 V
- Charging amps: 45 A
- Boost charge amps: 70 A
- Start amps: yes
- Battery capacity charge: 10–600 Ah
- Battery capacity maintenance: yes
- Charge – Start

- Voltage: 12 V
- Charging amps: 45 A
- Boost charge amps: 70 A
- Start amps: yes
- Battery capacity charge: 10–600 Ah
- Battery capacity maintenance: yes
- Charge – Start

- Voltage: 24 V
- Charging amps: 23 A
- Boost charge amps: 35 A
- Start amps: yes
- Battery capacity charge: 10–300 Ah
- Battery capacity maintenance: yes
- Charge – Start





## DOCTOR CHARGE 30 & 50

### REF 145TA1798 - DOCTOR CHARGE 30

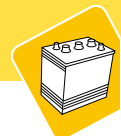
- Voltage: 6 V
  - Charging amps: 25 A
  - Battery capacity charge: 5–400 Ah
  - Battery capacity maintenance: yes
  - Charge – Test
- 
- Voltage: 12 V
  - Charging amps: 25 A
  - Battery capacity charge: 5–400 Ah
  - Battery capacity maintenance: yes
  - Charge – Test
- 
- Voltage: 24 V
  - Charging amps: 12 A
  - Battery capacity charge: 5–200 Ah
  - Battery capacity maintenance: yes
  - Charge – Test



### REF 145TA1806 - DOCTOR CHARGE 50

- Voltage: 6 V
  - Charging amps: 45 A
  - Boost charge amps: 70 A
  - Start amps: yes
  - Battery capacity charge: 10–600 Ah
  - Battery capacity maintenance: yes
  - Charge – Test – Start
- 
- Voltage: 12 V
  - Charging amps: 45 A
  - Boost charge amps: 70 A
  - Start amps: yes
  - Battery capacity charge: 10–600 Ah
  - Battery capacity maintenance: yes
  - Charge – Test – Start
- 
- Voltage: 24 V
  - Charging amps: 23 A
  - Boost charge amps: 35 A
  - Start amps: yes
  - Battery capacity charge: 10–300 Ah
  - Battery capacity maintenance: yes
  - Charge – Test – Start





## GYSFLASH 4 A

**REF 145TA1766**

- Voltage: 12 V
- Charging amps: 0,8–3,6 A
- Boost charge amps: 4 A
- Battery capacity charge: 1,2–70 Ah
- Battery capacity maintenance: 1,2–130 Ah
- IP65



## GYSFLASH 7 A

**REF 145TA1767**

- Voltage: 12 V
- Charging amps: 0,8–5 A
- Boost charge amps: 7 A
- Battery capacity charge: 1,2–130 Ah
- Battery capacity maintenance: 1,2–230 Ah
- IP65



## GYS TECH 2-12 A

**REF 145TA1768**

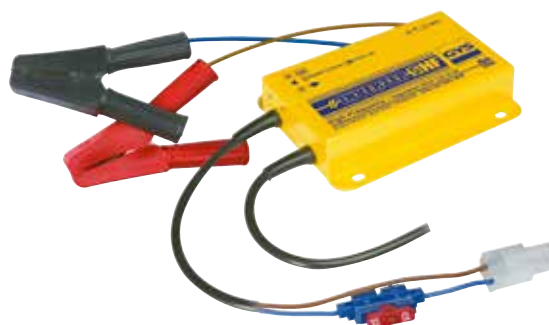
- Voltage: 12 V
- Charging amps: 2–12 A
- Battery capacity charge: 2–200 Ah
- Battery capacity maintenance: 2–250 Ah



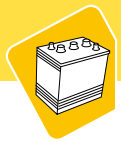
## INVERTER 5 A

**REF 143TA8521**

- Voltage: 12 V
- Charging amps: 5 A
- Battery capacity charge: 20–100 Ah
- Battery capacity maintenance: 20–160 Ah
- IP67



For all our latest catalogue updates and company info: [www.tvh.com](http://www.tvh.com)



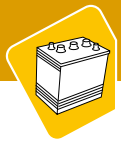
NOTES

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5

# BATTERY CONNECTORS



## SB/SBE/SBX CONNECTORS

### Battery connector chart



Type	Wire size			Yellow	Orange	Red	Grey	Blue	Green	Black	Brown	Purple
	AWG	Exact mm <sup>2</sup>	European mm <sup>2</sup>	12 V	18 V	24 V	36 V	48 V	72 V	80 V	96 V	120 V
SB50	#6	13,3	16	<a href="#">136TA3094</a>	<a href="#">136TA3105</a>	<a href="#">106TA9801</a>	<a href="#">105TA4671</a>	<a href="#">136TA3141</a>	<a href="#">136TA3155</a>	<a href="#">106TA9804</a>		
	#10/12	5,3/3,3	6/4	<a href="#">136TA3095</a>	<a href="#">136TA3106</a>	<a href="#">105TA4670</a>	<a href="#">106TA9802</a>	<a href="#">136TA3142</a>	<a href="#">136TA3156</a>	<a href="#">106TA9803</a>		
SB120	#2	33,6	35			<a href="#">136TA3116</a>	<a href="#">136TA3129</a>	<a href="#">136TA3143</a>				
	#4	21,1	25			<a href="#">136TA3117</a>	<a href="#">136TA3130</a>	<a href="#">136TA3144</a>				
	#6	13,3	16			<a href="#">136TA3118</a>	<a href="#">136TA3131</a>	<a href="#">136TA3145</a>				
SB175	1/0	53,5	50	<a href="#">105TA4672</a>	<a href="#">105TA4673</a>	<a href="#">106TA9805</a>	<a href="#">105TA4674</a>	<a href="#">106TA9806</a>				
	#2	33,6	35	<a href="#">136TA3096</a>	<a href="#">136TA3107</a>	<a href="#">136TA3119</a>	<a href="#">136TA3132</a>	<a href="#">136TA3146</a>				
	#4	21,1	25	<a href="#">136TA3097</a>	<a href="#">136TA3108</a>	<a href="#">136TA3120</a>	<a href="#">136TA3133</a>	<a href="#">136TA3147</a>				
SB350	2/0	67,4	70	<a href="#">105TA4675</a>	<a href="#">106TA9807</a>	<a href="#">106TA9808</a>	<a href="#">106TA9809</a>	<a href="#">106TA9810</a>	<a href="#">106TA9811</a>			
	3/0	85,0		<a href="#">136TA3098</a>	<a href="#">136TA3109</a>	<a href="#">136TA3121</a>	<a href="#">136TA3134</a>	<a href="#">136TA3148</a>	<a href="#">136TA3157</a>			
	4/0	107,2		<a href="#">136TA3099</a>	<a href="#">136TA3110</a>	<a href="#">136TA3122</a>	<a href="#">136TA3135</a>	<a href="#">136TA3149</a>	<a href="#">136TA3158</a>			
SBE80	#6	13,3	16			<a href="#">136TA3123</a>						
SBE160	1/0	53,5	50	<a href="#">106TA9817</a>	<a href="#">106TA9818</a>	<a href="#">106TA9819</a>	<a href="#">106TA9820</a>	<a href="#">106TA9821</a>	<a href="#">106TA9822</a>	<a href="#">106TA9823</a>		
	#2	33,6	35	<a href="#">105TA4676</a>	<a href="#">106TA9812</a>	<a href="#">106TA9813</a>	<a href="#">106TA9814</a>	<a href="#">105TA4677</a>	<a href="#">106TA9815</a>	<a href="#">106TA9816</a>		
SBE320	2/0	67,4	70	<a href="#">106TA9831</a>	<a href="#">106TA9832</a>	<a href="#">106TA9833</a>	<a href="#">107TA8404</a>	<a href="#">106TA9834</a>	<a href="#">106TA9835</a>	<a href="#">106TA9836</a>	<a href="#">106TA9837</a>	<a href="#">106TA9838</a>
			50	<a href="#">136TA3100</a>	<a href="#">136TA3111</a>	<a href="#">136TA3124</a>	<a href="#">136TA3136</a>	<a href="#">136TA3150</a>	<a href="#">136TA3159</a>	<a href="#">136TA3163</a>	<a href="#">136TA3166</a>	<a href="#">136TA3167</a>
SBX175	1/0	53,5	50	<a href="#">136TA3101</a>	<a href="#">136TA3112</a>	<a href="#">136TA3125</a>	<a href="#">136TA3137</a>	<a href="#">136TA3151</a>	<a href="#">136TA3168</a>			
			35	<a href="#">136TA3102</a>	<a href="#">136TA3113</a>	<a href="#">136TA3126</a>	<a href="#">136TA3138</a>	<a href="#">136TA3152</a>	<a href="#">136TA3169</a>			
SBX350	2/0	67,4	70	<a href="#">106TA9824</a>	<a href="#">106TA9825</a>	<a href="#">106TA9826</a>	<a href="#">106TA9827</a>	<a href="#">106TA9828</a>	<a href="#">106TA9829</a>	<a href="#">106TA9830</a>		
	3/0	85,0		<a href="#">136TA3103</a>	<a href="#">136TA3114</a>	<a href="#">136TA3127</a>	<a href="#">136TA3139</a>	<a href="#">136TA3153</a>	<a href="#">136TA3161</a>	<a href="#">136TA3164</a>		
	4/0	107,2		<a href="#">136TA3104</a>	<a href="#">136TA3115</a>	<a href="#">136TA3128</a>	<a href="#">136TA3140</a>	<a href="#">136TA3154</a>	<a href="#">136TA3162</a>	<a href="#">136TA3165</a>		

### Voltage color code

- Mechanical keys molded in connectors will engage only with connectors of same color.
- This color code given for various voltages is only a suggestion.

Color	Suggested voltage	Color	Suggested voltage	Color	Suggested voltage
Yellow	12 VDC	Grey	36 VDC	Black	80 VDC
Orange	18 VDC	Blue	48 VDC	Brown	96 VDC
Red	24 VDC	Green	72 VDC	Purple	120 VDC



## SB CONNECTORS

- Single piece housings of impact resistant polycarbonate offer both high physical strength and superior dielectric properties.
- Silver plated solid copper contacts offer low resistance for superior conductivity.
- Self-cleaning contact design resists arcing by keeping conductive surfaces clean and free of corrosion.
- Contacts have flared and heat treated barrels which readily accept fine stranded wire and allow easy, quality crimping.
- Integral stainless steel springs maintain constant pressure on the contact to insure a consistent, low-resistance connection.

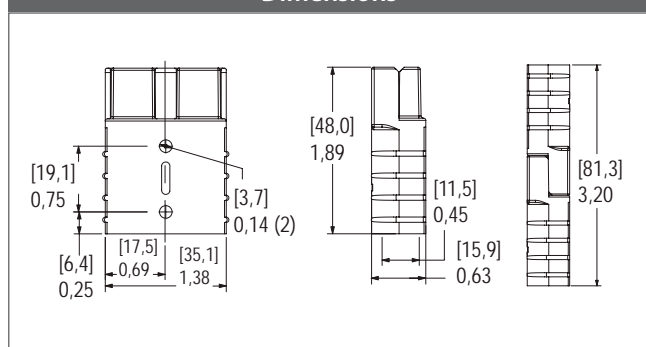




## SB50 CONNECTOR

UL Current rating	50 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#6 to #16 AWG 13,3 to 1,3 mm <sup>2</sup>
Maximum wire insulation diameter	0,44 inches 11,2 mm <sup>2</sup>
AVG contact resistance	200 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	50 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 50 A
Avg. connection/disconnect	10 lbf - low detent 15 lbf - high detent
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector

- SB®, UL and CSA Reference: this equipment is an Underwriters Laboratories Inc® recognized component.
- It is also listed by the Canadian Standards Association as certified.



### Housings only

REF	Housing color
<a href="#">138TA4379</a>	Grey
<a href="#">138TA4380</a>	Red
<a href="#">138TA4381</a>	Black
<a href="#">138TA4382</a>	Blue
<a href="#">138TA4383</a>	Yellow
<a href="#">138TA4384</a>	Green
<a href="#">138TA4385</a>	Orange

### 50 A contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4386</a>	Contact set	#6	13,3
<a href="#">138TA4387</a>	Contact set	#10/12	5,3/3,3

### Complete connector: 2-pole housing with 50 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4375</a>	Grey	#6	13,3
<a href="#">138TA4376</a>	Grey	#10/12	5,3/3,3
<a href="#">138TA4377</a>	Red	#6	13,3
<a href="#">138TA4378</a>	Red	#10/12	5,3/3,3
<a href="#">126TA6189</a>	Black	#6	13,3
<a href="#">106TA9803</a>	Black	#10/12	5,3/3,3
<a href="#">136TA3141</a>	Blue	#6	13,3
<a href="#">136TA3142</a>	Blue	#10/12	5,3/3,3
<a href="#">136TA3094</a>	Yellow	#6	13,3
<a href="#">136TA3095</a>	Yellow	#10/12	5,3/3,3
<a href="#">136TA3155</a>	Green	#6	13,3
<a href="#">136TA3156</a>	Green	#10/12	5,3/3,3
<a href="#">136TA3105</a>	Orange	#6	13,3
<a href="#">136TA3106</a>	Orange	#10/12	5,3/3,3

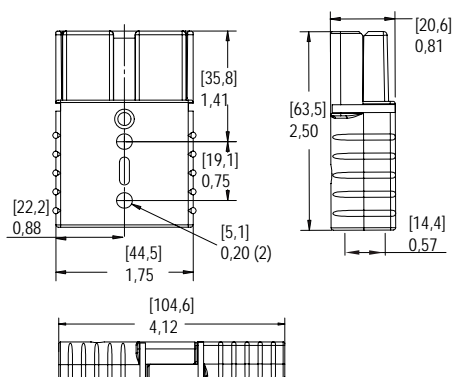




## SB120 CONNECTOR

UL Current rating	190 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#1 to #6 AWG 42,4 to 13,3 mm <sup>2</sup>
Maximum wire insulation diameter	0,575 inches 14,6 mm <sup>2</sup>
AVG contact resistance	136 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	100 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 50 A
Avg. connection/disconnect	20 lbf 89 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 75 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector

- SB®, UL and CSA Reference: this equipment is an Underwriters Laboratories Inc® recognized component.
- It is also listed by the Canadian Standards Association as certified.



### Housings only

REF	Housing color
<a href="#">138TA4388</a>	Grey
<a href="#">138TA4389</a>	Blue
<a href="#">138TA4390</a>	Red

### 120 A contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4391</a>	Contact set (2)	#2	33,6
<a href="#">138TA4392</a>	Contact set (2)	#4	21,1
<a href="#">138TA4393</a>	Contact set (2)	#6	13,3

### Complete connector: 2-pole housing with 120 A contacts

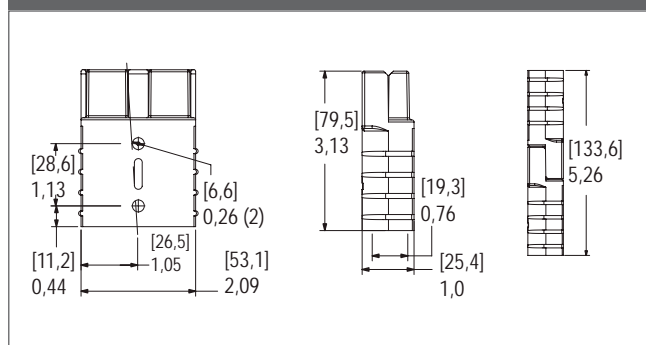
REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">136TA3129</a>	Grey	#2	33,6
<a href="#">136TA3130</a>	Grey	#4	21,1
<a href="#">136TA3131</a>	Grey	#6	13,3
<a href="#">136TA3143</a>	Blue	#2	33,6
<a href="#">136TA3144</a>	Blue	#4	21,1
<a href="#">136TA3145</a>	Blue	#6	13,3
<a href="#">136TA3116</a>	Red	#2	33,6
<a href="#">136TA3117</a>	Red	#4	21,1
<a href="#">136TA3118</a>	Red	#6	13,3



## SB175 CONNECTOR

UL Current rating	175 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#4 to 1/0 AWG 21,1 to 53,5 mm <sup>2</sup>
Maximum wire insulation diameter	0,75 inches 19,01 mm <sup>2</sup>
AVG contact resistance	100 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	300 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 75 A
Avg. connection/disconnect	25 lbf (SB 2 Pole) 35 lbf (SB 3 Pole)
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector

- SB®, UL and CSA Reference: this equipment is an Underwriters Laboratories Inc® recognized component.
- It is also listed by the Canadian Standards Association as certified.



### Housings only

REF	Housing color
<a href="#">138TA4399</a>	Grey
<a href="#">138TA4400</a>	Blue
<a href="#">138TA4401</a>	Orange
<a href="#">138TA4402</a>	Yellow
<a href="#">138TA4403</a>	Red

### 175 A contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4404</a>	Contact set (2)	1/0	53,5
<a href="#">138TA4405</a>	Contact set (2)	#2	33,6
<a href="#">138TA4406</a>	Contact set (2)	#4	21,1

### Complete connector: 2-pole housing with 175 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4394</a>	Grey	1/0	53,5
<a href="#">136TA3132</a>	Grey	#2	33,6
<a href="#">136TA3133</a>	Grey	#4	21,1
<a href="#">138TA4395</a>	Blue	1/0	53,5
<a href="#">136TA3146</a>	Blue	#2	33,6
<a href="#">136TA3147</a>	Blue	#4	21,1
<a href="#">138TA4396</a>	Orange	1/0	53,5
<a href="#">136TA3107</a>	Orange	#2	33,6
<a href="#">136TA3108</a>	Orange	#4	21,1
<a href="#">138TA4397</a>	Yellow	1/0	53,5
<a href="#">136TA3096</a>	Yellow	#2	33,6
<a href="#">136TA3097</a>	Yellow	#4	21,1
<a href="#">138TA4398</a>	Red	1/0	53,5
<a href="#">136TA3119</a>	Red	#2	33,6
<a href="#">136TA3120</a>	Red	#4	21,1



## SB175 CONNECTOR

Complete connector: 3-pole housing with 175 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4407</a>	Grey	1/0	53,5



SB175 CONNECTORS

Handle for 3-pole connector



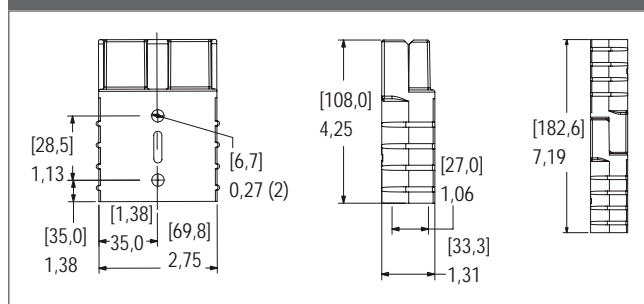
REF [138TA4408](#)



## SB350 CONNECTOR

UL Current rating	350 A*
UL Voltage ratings	600 V*
Contact barrel wire size	2/0 to 300 AWG 67,4 to 152,0 mm <sup>2</sup>
Maximum wire insulation diameter	1,10 inches 27,9 mm <sup>2</sup>
AVG contact resistance	50 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	500 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 100 A
Avg. connection/disconnect	30 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector

- SB®, UL and CSA Reference: this equipment is an Underwriters Laboratories Inc® recognized component.
- It is also listed by the Canadian Standards Association as certified.



### Housings only

REF	Housing color
<a href="#">138TA4415</a>	Grey
<a href="#">138TA4416</a>	Blue
<a href="#">138TA4417</a>	Red
<a href="#">138TA4418</a>	Yellow
<a href="#">138TA4419</a>	Green
<a href="#">138TA4420</a>	Orange

### 350 A contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4421</a>	Contact set (2)	1/0	53,5
<a href="#">138TA4422</a>	Contact set (2)	2/0	67,4
<a href="#">138TA4423</a>	Contact set (2)	3/0	85,0
<a href="#">138TA4424</a>	Contact set (2)	4/0	107,2
<a href="#">138TA4425</a>	Contact set (2)	300 mcm	152,0

### Complete connector: 2-pole housing with 350 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4409</a>	Grey	2/0	67,4
<a href="#">136TA3135</a>	Grey	4/0	107,2
<a href="#">138TA4410</a>	Grey	300 mcm	152,0
<a href="#">136TA3134</a>	Grey	3/0	85,0
<a href="#">138TA4411</a>	Blue	2/0	67,4
<a href="#">136TA3149</a>	Blue	4/0	107,2
<a href="#">136TA3148</a>	Blue	3/0	85,0
<a href="#">138TA4412</a>	Red	2/0	67,4
<a href="#">136TA3122</a>	Red	4/0	107,2
<a href="#">136TA3121</a>	Red	3/0	85,0
<a href="#">138TA4413</a>	Yellow	2/0	67,4
<a href="#">136TA3099</a>	Yellow	4/0	107,2
<a href="#">136TA3098</a>	Yellow	3/0	85,0
<a href="#">138TA4414</a>	Green	2/0	67,4
<a href="#">136TA3158</a>	Green	4/0	107,2
<a href="#">136TA3157</a>	Green	3/0	85,0
<a href="#">106TA9807</a>	Orange	2/0	67,4
<a href="#">136TA3110</a>	Orange	4/0	107,2
<a href="#">136TA3109</a>	Orange	3/0	85,0



## SB BATTERY CONNECTOR ACCESSORIES

### Handle kits - Polycarbonate

#### For 50 A connectors

REF	Color
<a href="#">107TA8414</a>	Red



#### For 120 A connectors

REF	Color
<a href="#">138TA4426</a>	Red



#### For 50-120 A connectors

REF	Color
<a href="#">138TA4427</a>	Grey
<a href="#">138TA4428</a>	Black
<a href="#">138TA4429</a>	Red



#### For 175-350 A connectors

REF	Color
<a href="#">116TA5895</a>	Grey
<a href="#">138TA4430</a>	Red
<a href="#">138TA4431</a>	Black



### Handle kits - Steel

#### For 50 A connectors (connector not included)

REF	Color
<a href="#">138TA4432</a>	Red



#### For 175 A connectors (connector not included)

REF	Color
<a href="#">138TA4433</a>	Red



#### For 175-350 A connectors (connector not included)

REF	Color
<a href="#">138TA4434</a>	Red



#### Handle and clamp for 350 A connectors

REF [138TA4435](#)





## SB BATTERY CONNECTORS ACCESSORIES

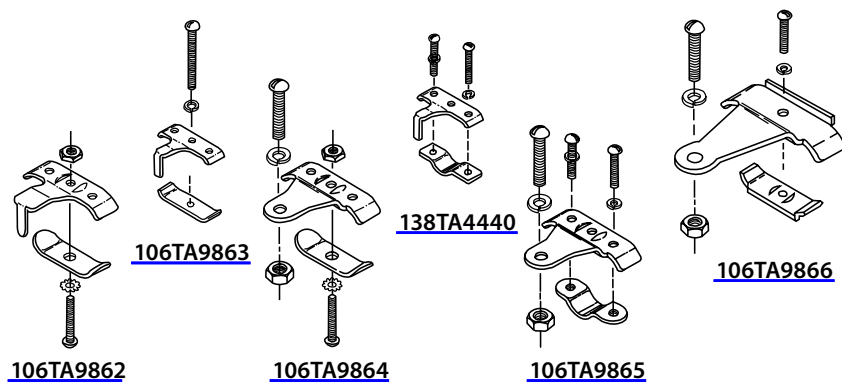
### Manual releases



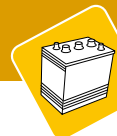
For use with	REF	Description
SB175	<a href="#">106TA9853</a>	Locking handle with hardware, for battery
	<a href="#">106TA9854</a>	Mounting half with hardware, for truck/charger
SB350	<a href="#">106TA9855</a>	Locking handle with hardware, for battery
	<a href="#">106TA9856</a>	Locking handle with lockout spring and hardware, for battery
	<a href="#">106TA9857</a>	Mounting half with hardware, for truck/charger

### Cable clamps

- Required by UL when contacts are soldered to unsupported leads



For use with	REF	Description
SB50	<a href="#">106TA9862</a>	2 Single conductor
	<a href="#">106TA9863</a>	1 Twin conductor
SB175	<a href="#">106TA9864</a>	2 Single conductor
	<a href="#">138TA4440</a>	Used with handle only
	<a href="#">106TA9865</a>	1 Twin conductor
SB350	<a href="#">106TA9866</a>	2 Single conductor



## SB BATTERY CONNECTORS ACCESSORIES

### Connector key kits

- Key kits can be mounted to prevent charger to SCR panel connector halves from engaging while still allowing battery and truck connector halves to engage
- Key kits can also be mounted to prevent battery to truck connector halves from engaging on unsafe vehicles
- Bright zinc plate
- All key kits include 2 plated steel keys and all necessary hardware



REF	For use with
<a href="#">138TA4444</a>	SB 50
<a href="#">138TA4445</a>	SB 175/350

### Connector dust cover



REF	Color	A
<a href="#">138TA4446</a>	Red	For use on 50 A connector
<a href="#">123TA7587</a>	Black	For use on 50 A connector
<a href="#">107TA8411</a>	Red	For use on 175 A connector
<a href="#">123TA7586</a>	Black	For use on 350 A connector
<a href="#">131TA4680</a>	Red	For use on 350 A connector

REF	Color	A
<a href="#">123TA7588</a>	Black	For use on 175 A connector
<a href="#">138TA4447</a>	Black	For use on 350 A connector
<a href="#">123TA7589</a>	Black	For use on 350 A connector

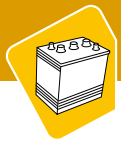
### Connector lockouts

#### 175 & 350-AMP CONNECTOR LOCKOUTS



- For use with 175 A or 350 A connectors
- Lock not included, needs to be ordered separately with reference 142TA7045

REF	For use with
<a href="#">115TA4599</a>	SB350-lockout
<a href="#">115TA4598</a>	SB175-lockout



NOTES

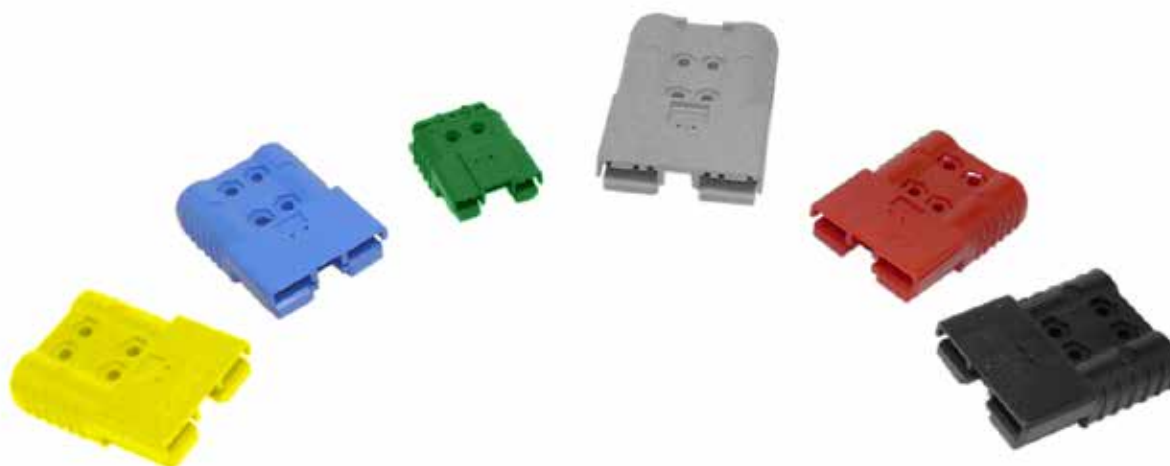
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## SBE CONNECTORS

- Single piece housings of impact resistant velox offer both high physical strength and superior dielectric properties.
- Silver plated solid copper contacts offer low resistance for superior conductivity.
- Self-cleaning contact design resists arcing by keeping conductive surfaces clean and free of corrosion.
- Contacts have flared and heat treated barrels that readily accept fine stranded wire and allow easy, quality crimping.
- Integral stainless steel springs maintain constant pressure on the contact to insure a consistent, low resistance connection.
- Mechanical keys in housing prevent mating of different color connectors, preventing mismatching of voltages.
- Auxiliary contacts provide a secondary circuit connection.

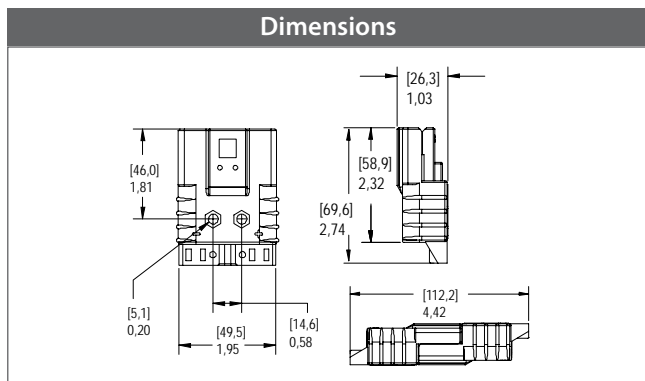




## SBE80 CONNECTOR

Current rating (main contacts)	80 A*
Largest wire size	#6 (60 A) AWG 16 (80 A) mm <sup>2</sup>
Maximum operating voltage AC/DC	150 V*
Contact material	Silver plated copper
Operating temperature range	-20 °C to 105 °C -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0
Average contact resistance	200 mΩ
Insulation with standing test voltage	1300 VAC/DC
Maximum wire insulation diameter	0,44 inches 11,2 mm <sup>2</sup>
Contact retention force	50 lbf
Life	
a. No load (contact/disconnect cycles)	To 10 000 A
b. Under load (Hot Plug 250 cycles @ 120 V)	60A

### Dimensions



\*UL rated for 65 °C largest wire or cable size



### Complete connector: 2-pole housing with 80 A contacts, clamp and hardware

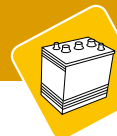


REF	Wire	
	AWG	mm <sup>2</sup>
<a href="#">136TA3123</a>	#6	16

### Complete connector: 2-pole housing with 80 A contacts, handle, clamp and hardware



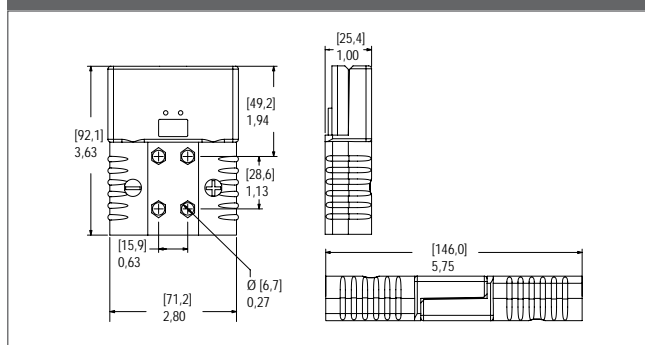
REF	Wire	
	AWG	mm <sup>2</sup>
<a href="#">138TA4452</a>	#6	16



## SBE160 CONNECTOR

UL Current rating	160 A*
UL Voltage ratings	150 V*
Contact barrel wire size	1/0 or 35 mm AWG
Maximum wire insulation diameter	0,75 inches 19,1 mm <sup>2</sup>
AVG contact resistance	100 mΩ
Insulation withstanding test voltage	1300 VAC/DC
Contact retention force	300 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000A 75 A
Avg. connection/disconnect	25 lbf
Operating temperature range	-20 °C to 105 °C ** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



### Housings only

REF	Housing color
<a href="#">138TA4464</a>	Grey
<a href="#">138TA4465</a>	Blue
<a href="#">138TA4466</a>	Orange
<a href="#">138TA4467</a>	Yellow
<a href="#">138TA4468</a>	Red
<a href="#">138TA4469</a>	Green
<a href="#">138TA4470</a>	Black

### Contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9841</a>	Contact set	/	35
<a href="#">106TA9842</a>	Contact set	1/0	53,5

\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector



### Complete connector: 2-pole housing with 160 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">123TA9503</a>	Grey	/	35
<a href="#">106TA9820</a>	Grey	/	50
<a href="#">126TA6103</a>	Blue	/	35
<a href="#">106TA9821</a>	Blue	/	50
<a href="#">138TA4453</a>	Orange	/	35
<a href="#">106TA9818</a>	Orange	/	50
<a href="#">138TA4454</a>	Yellow	/	35
<a href="#">138TA4456</a>	Yellow	/	50
<a href="#">126TA6198</a>	Red	/	35
<a href="#">106TA9819</a>	Red	/	50
<a href="#">106TA9815</a>	Green	/	35
<a href="#">106TA9822</a>	Green	/	50
<a href="#">138TA4455</a>	Black	/	35
<a href="#">106TA9823</a>	Black	/	50

### 2-pole housing with 160 A contacts and auxilliary contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4457</a>	Grey	/	35
<a href="#">138TA4458</a>	Blue	/	35
<a href="#">138TA4459</a>	Orange	/	35
<a href="#">138TA4460</a>	Yellow	/	35
<a href="#">138TA4461</a>	Red	/	35
<a href="#">138TA4462</a>	Green	/	35
<a href="#">138TA4463</a>	Black	/	35



## SAE160 CONNECTOR

### 3-pole connectors SAE3160

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9850</a>	Red	/	50



### 3-pole connectors SAE3160

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">105TA4678</a>	Blue	/	50



### Handle for SAE3160

REF	Housing color
<a href="#">105TA4679</a>	Black



### Contact set for SBE3160 (3 pcs)

REF	Wire	
	AWG	mm <sup>2</sup>
<a href="#">107TA8406</a>	/	50

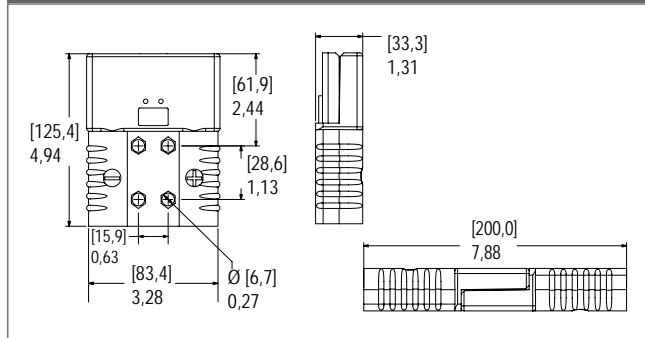




## SBE320 CONNECTOR

UL Current rating	320 A*
UL Voltage ratings	150 V*
Contact barrel wire size	2/0 to 300 AWG 67,4 to 152,0 mm <sup>2</sup>
Maximum wire insulation diameter	1,10 inches 27,9 mm <sup>2</sup>
AVG contact resistance	50 mΩ
Insulation withstanding test voltage	1300 VAC/DC
Contact retention force	500 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 100 A*
Avg. connection/disconnect	30 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector



### Contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4496</a>	Contact set (2)	2/0	67,4
<a href="#">138TA4497</a>	Contact set (2)	3/0	85
<a href="#">106TA9848</a>	Contact set (2)	4/0	107,2
<a href="#">138TA4498</a>	DIN standard	/	50

### Housings only

REF	Housing color
<a href="#">138TA4487</a>	Grey
<a href="#">138TA4488</a>	Blue
<a href="#">138TA4489</a>	Red
<a href="#">138TA4490</a>	Green
<a href="#">138TA4491</a>	Black
<a href="#">138TA4492</a>	Yellow
<a href="#">138TA4493</a>	Orange
<a href="#">138TA4494</a>	Brown
<a href="#">138TA4495</a>	Purple



## SBE320 CONNECTOR

Complete connector: 2-pole housing with 320 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9831</a>	Yellow	2/0	67,4
<a href="#">136TA3100</a>	Yellow	/	50
<a href="#">106TA9832</a>	Orange	2/0	67,4
<a href="#">136TA3111</a>	Orange	/	50
<a href="#">106TA9833</a>	Red	2/0	67,4
<a href="#">136TA3124</a>	Red	/	50
<a href="#">107TA8404</a>	Grey	2/0	67,4
<a href="#">136TA3136</a>	Grey	/	50
<a href="#">106TA9834</a>	Blue	2/0	67,4
<a href="#">136TA3150</a>	Blue	/	50
<a href="#">106TA9835</a>	Green	2/0	67,4
<a href="#">136TA3159</a>	Green	/	50
<a href="#">106TA9836</a>	Black	2/0	67,4
<a href="#">136TA3163</a>	Black	/	50
<a href="#">106TA9837</a>	Brown	2/0	67,4
<a href="#">136TA3166</a>	Brown	/	50
<a href="#">106TA9838</a>	Purple	2/0	67,4
<a href="#">136TA3167</a>	Purple	/	50

2-pole housing with 320 A contacts and auxilliary contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4471</a>	Brown	2/0	67,4
<a href="#">138TA4478</a>	Brown	/	50
<a href="#">138TA4472</a>	Purple	2/0	67,4
<a href="#">138TA4479</a>	Purple	/	50
<a href="#">138TA4473</a>	Grey	2/0	67,4
<a href="#">138TA4480</a>	Grey	/	50
<a href="#">126TA6104</a>	Blue	2/0	67,4
<a href="#">138TA4481</a>	Blue	/	50
<a href="#">126TA6105</a>	Red	2/0	67,4
<a href="#">138TA4482</a>	Red	/	50
<a href="#">138TA4474</a>	Green	2/0	67,4
<a href="#">138TA4483</a>	Green	/	50
<a href="#">138TA4475</a>	Black	2/0	67,4
<a href="#">138TA4484</a>	Black	/	50
<a href="#">138TA4476</a>	Yellow	2/0	67,4
<a href="#">138TA4485</a>	Yellow	/	50
<a href="#">138TA4477</a>	Orange	2/0	67,4
<a href="#">138TA4486</a>	Orange	/	50



## SBX CONNECTORS

- Single piece housings of impact resistant polycarbonate offer both high physical strength and superior dielectric properties.
- Silver plated solid copper contacts offer low resistance for superior conductivity.
- Self-cleaning contact design resists arcing by keeping conductive surfaces clean and free of corrosion.
- Contacts have flared and heat treated barrels that readily accept fine stranded wire and allow easy, quality crimping.
- Integral stainless steel springs maintain constant pressure on the contact to insure a consistent, low resistance connection.
- Mechanical keys in housing prevent mating of different color connectors, preventing mismatching of voltages.
- Auxiliary contacts provide a secondary circuit connection.



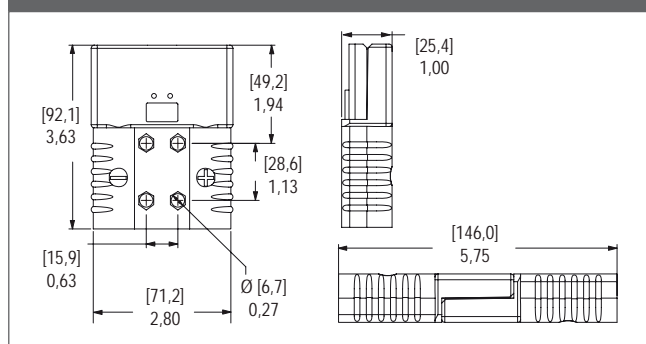


SBX175 CONNECTOR

## SBX175 CONNECTOR

UL Current rating	175 A*
UL Voltage ratings	600 V*
Contact barrel wire size	1/0 AWG 50 or 35 mm <sup>2</sup>
Maximum wire insulation diameter	0,75 inches 19,1 mm <sup>2</sup>
AVG contact resistance	100 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	300 lbf 1334 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 75 A
Avg. connection/disconnect	25 lbf 111 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



### Contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4513</a>	Contact set (2)	1/0	53,5
<a href="#">106TA9841</a>	Contact set (2)	/	35

\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector



### Housings only

REF	Housing color
<a href="#">138TA4507</a>	Grey
<a href="#">138TA4508</a>	Blue
<a href="#">138TA4509</a>	Orange
<a href="#">138TA4510</a>	Yellow
<a href="#">138TA4511</a>	Red
<a href="#">138TA4512</a>	Green





## SBX175 CONNECTOR

SBX175 CONNECTOR

Complete connector: 2-pole housing with 175 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">136TA3101</a>	Yellow	1/0	53,5
<a href="#">136TA3102</a>	Yellow	/	35
<a href="#">136TA3112</a>	Orange	1/0	53,5
<a href="#">136TA3113</a>	Orange	/	35
<a href="#">136TA3125</a>	Red	1/0	53,5
<a href="#">136TA3126</a>	Red	/	35
<a href="#">136TA3137</a>	Grey	1/0	53,5
<a href="#">136TA3138</a>	Grey	/	35
<a href="#">136TA3151</a>	Blue	1/0	53,5
<a href="#">136TA3152</a>	Blue	/	35
<a href="#">136TA3168</a>	Green	1/0	53,5
<a href="#">136TA3169</a>	Green	/	35

2-pole housing with 175 A contacts and auxilliary contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">126TA6099</a>	Grey	1/0	53,5
<a href="#">138TA4503</a>	Grey	/	35
<a href="#">126TA6101</a>	Blue	1/0	53,5
<a href="#">138TA4504</a>	Blue	/	35
<a href="#">138TA4499</a>	Orange	1/0	53,5
<a href="#">138TA4505</a>	Orange	/	35
<a href="#">138TA4500</a>	Yellow	1/0	53,5
<a href="#">138TA4506</a>	Yellow	/	35
<a href="#">126TA6100</a>	Red	1/0	53,5
<a href="#">138TA4501</a>	Red	/	35
<a href="#">138TA4544</a>	Green	1/0	53,5
<a href="#">138TA4502</a>	Green	/	35

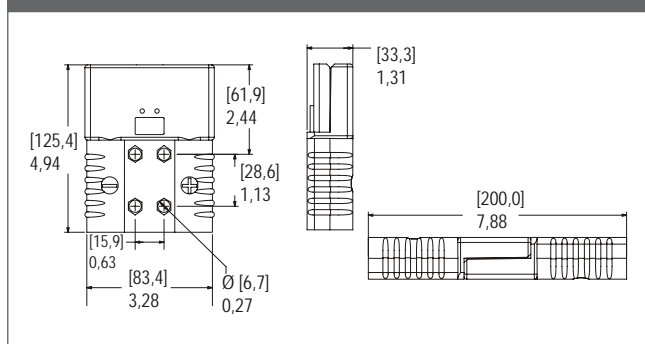


SBX350 CONNECTOR

## SBX350 CONNECTOR

UL Current rating	350 A*
UL Voltage ratings	600 V*
Contact barrel wire size	2/0 to 300 mcm AWG 67,4 to 152 mm <sup>2</sup>
Maximum wire insulation diameter	1,10 inches 27,9 mm <sup>2</sup>
AVG contact resistance	50 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	500 lbf 2224 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 100 A*
Avg. connection/disconnect	30 lbf 133 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Contact factory for higher temperature rated connector



### Contact sets

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4496</a>	Contact set (2)	2/0	67,4
<a href="#">138TA4497</a>	Contact set (2)	3/0	85
<a href="#">106TA9848</a>	Contact set (2)	4/0	107,2

### Housings only

REF	Housing color
<a href="#">138TA4521</a>	Grey
<a href="#">138TA4522</a>	Blue
<a href="#">138TA4523</a>	Red
<a href="#">138TA4524</a>	Green
<a href="#">138TA4525</a>	Black
<a href="#">138TA4526</a>	Yellow
<a href="#">138TA4527</a>	Orange



## SBX350 CONNECTOR

SBX350 CONNECTOR

Complete connector: 2-pole housing with 350 A contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9824</a>	Yellow	2/0	67,4
<a href="#">136TA3103</a>	Yellow	3/0	85
<a href="#">136TA3104</a>	Yellow	4/0	107,2
<a href="#">106TA9825</a>	Orange	2/0	67,4
<a href="#">136TA3114</a>	Orange	3/0	85
<a href="#">136TA3115</a>	Orange	4/0	107,2
<a href="#">106TA9826</a>	Red	2/0	67,4
<a href="#">136TA3127</a>	Red	3/0	85
<a href="#">136TA3128</a>	Red	4/0	107,2
<a href="#">106TA9827</a>	Grey	2/0	67,4
<a href="#">136TA3139</a>	Grey	3/0	85
<a href="#">136TA3140</a>	Grey	4/0	107,2
<a href="#">106TA9828</a>	Blue	2/0	67,4
<a href="#">136TA3153</a>	Blue	3/0	85
<a href="#">136TA3154</a>	Blue	4/0	107,2
<a href="#">106TA9829</a>	Green	2/0	67,4
<a href="#">136TA3161</a>	Green	3/0	85
<a href="#">136TA3162</a>	Green	4/0	107,2
<a href="#">106TA9830</a>	Black	2/0	67,4
<a href="#">136TA3164</a>	Black	3/0	85
<a href="#">136TA3165</a>	Black	4/0	107,2

2-pole housing with 350 A contacts and auxilliary contacts

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA4514</a>	Grey	2/0	67,4
<a href="#">138TA6562</a>	Grey	3/0	85
<a href="#">138TA6563</a>	Grey	4/0	107,2
<a href="#">138TA4515</a>	Blue	2/0	67,4
<a href="#">138TA6564</a>	Blue	3/0	85
<a href="#">136TA3154</a>	Blue	4/0	107,2
<a href="#">138TA4516</a>	Red	2/0	67,4
<a href="#">138TA6565</a>	Red	3/0	85
<a href="#">138TA6566</a>	Red	4/0	107,2
<a href="#">138TA4517</a>	Green	2/0	67,4
<a href="#">138TA6567</a>	Green	3/0	85
<a href="#">138TA6568</a>	Green	4/0	107,2
<a href="#">138TA4518</a>	Black	2/0	67,4
<a href="#">138TA6569</a>	Black	3/0	85
<a href="#">138TA6570</a>	Black	4/0	107,2
<a href="#">138TA7534</a>	Yellow	2/0	67,4
<a href="#">138TA6570</a>	Yellow	3/0	85
<a href="#">136TA3104</a>	Yellow	4/0	107,2
<a href="#">136TA3103</a>	Orange	2/0	67,4
<a href="#">138TA4519</a>	Orange	3/0	85
<a href="#">136TA3104</a>	Orange	4/0	107,2



## SBE/SBX BATTERY CONNECTORS ACCESSORIES

### Extraction tools



REF	Description
<a href="#">107TA8407</a>	For SBE/SBX 175 A connectors



REF	Description
<a href="#">107TA8409</a>	For SBE/SBX 350 A connectors

### Handle kits

- Polycarbonate
- SBE-160/320 A
- SBX-175/350 A



REF	Color
<a href="#">116TA5895</a>	Grey
<a href="#">138TA4430</a>	Red
<a href="#">138TA4431</a>	Black

- Steel handle
- SBE-160/320 A
- SBX-175/350 A



REF	Color
<a href="#">107TA8420</a>	Red

- Ergonomic handle
- SBE160/320A
- SBX175/350A



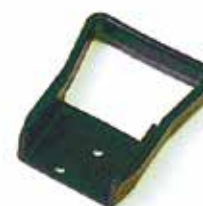
REF	Color
<a href="#">144TA9210</a>	Red

- Special handles for BT
- SBE 160/SBX 175

REF	Color
<a href="#">106TA9851 (1)</a>	Black
<a href="#">106TA9852 (2)</a>	Black



1



2

### Manual release handles

For use with	REF	Description
SBE160 / SBX175	<a href="#">106TA9858</a>	Locking handle with hardware, for charger or truck
	<a href="#">106TA9859</a>	Mounting half with hardware, for battery
SBE320 / SBX350	<a href="#">106TA9860</a>	Locking handle with hardware, for charger or truck
	<a href="#">106TA9861</a>	Mounting half with hardware, for battery



Locking handle



Mounting half



## SBE/SBX BATTERY CONNECTORS ACCESSORIES

### Cable clamps



REF	For use with
<a href="#">107TA8422</a>	SBE160 / SBX175
<a href="#">107TA8423</a>	SBE320 / SBX350



REF	For use with
<a href="#">106TA9867</a>	SBE/SBX

### Auxilliary contact kit

REF	For use with
<a href="#">107TA8413</a>	SBE160 / 320 A
	SBX175 / 350 A



### Charger key kit

REF	For use with
<a href="#">106TA9879</a>	SBE160 / 320 A
	SBX175 / 350 A



### Pin/tube kit

REF	For use with	Description	Wire	
			AWG	mm <sup>2</sup>
<a href="#">106TA9880</a> (1)	SBE160 / 320 A	Truck/charger pin kit	#16/12	1,31/3,31
<a href="#">106TA9881</a> (2)	SBX175 / 350 A	Battery tube kit	#16/12	1,31/3,31



### Air supply system

REF	For use with
<a href="#">123TA7590</a>	SBE160 / 320 A





## POWERPOLE CONNECTORS

### FEATURES

- **Flat wiping contact system**

Allows for minimal contact resistance at high current, wiping action cleans contact surface during connection/disconnection

- **Interchangeable genderless design**

Makes assembly quick and easy and reduces number of parts stocked

- **Silver plated contacts**

Offers greatest longevity when using high power, elevated temperature applications

- **Colored modular housings**

Provides visual identification of proper mating connector

- **Polarized housings**

Prevents damage to connectors from being mated incorrectly

- **Molded-in dovetails**

Secures individual connectors together

- **Crimp PCB or Bus bar contact terminals**

Offers design flexibility for your manufacturing and maintenance requirements

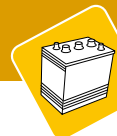
- **Wide product range - from 15 A through 180 A**

15, 30, 45, 75, 120 and 180 A product ratings, allows versatility to choose product best suited to design requirements

- **UL94 V-0 housing material**

Provides security in knowledge that the connector chosen meets strict UL flammability ratings

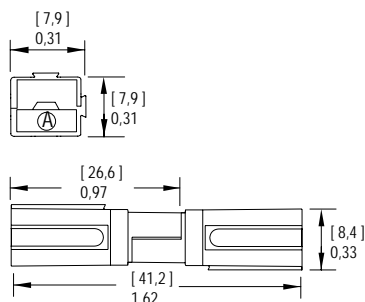




## PP15 POWERPOLE CONNECTORS

UL Current rating	15 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#16 to #20 AWG 1,3 to 0,5 mm <sup>2</sup>
Maximum wire insulation diameter	0,175 inches 4,45 mm <sup>2</sup>
AVG contact resistance	875 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	25 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 15 A
Avg. connection/disconnect	3 lbf - low detent 5 lbf - high detent
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Both AC & DC Voltage

\*\*\* Contact factory for higher temperature rated connectors



### Housing & 15 A contact

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9882</a>	Red	16/20	11,3/0,52
<a href="#">106TA9883</a>	Black	16/20	1,3/0,52
<a href="#">106TA9884</a>	White	16/20	1,3/0,52
<a href="#">138TA8175</a>	Green	16/20	1,3/0,52
<a href="#">106TA9885</a>	Blue	16/20	1,3/0,52

### 15 A contacts

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9886</a>	Contact (1 pc.)	16/20	1,3/0,52

### Housings only

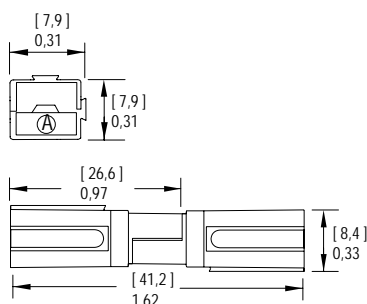
REF	Housing color
<a href="#">138TA8176</a>	Red
<a href="#">138TA8177</a>	green
<a href="#">138TA8178</a>	Black
<a href="#">138TA8179</a>	White
<a href="#">138TA8180</a>	Blue
<a href="#">138TA8181</a>	Yellow
<a href="#">138TA8182</a>	Orange
<a href="#">138TA8183</a>	Grey
<a href="#">138TA8184</a>	Brown
<a href="#">138TA8185</a>	Pink
<a href="#">138TA8186</a>	Purple



## PP30 POWERPOLE CONNECTORS

UL Current rating	30 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#12 to #16 AWG 3,3 to 1,3 mm <sup>2</sup>
Maximum wire insulation diameter	0,175 inches 4,45 mm <sup>2</sup>
AVG contact resistance	600 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	25 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 30 A
Avg. connection/disconnect	3 lbf - low detent 5 lbf - high detent
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Both AC & DC Voltage

\*\*\* Contact factory for higher temperature rated connectors



### Housing & 30 A contact

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9887</a>	Red	12/16	3,3/1,3
<a href="#">138TA8187</a>	Green	12/16	3,3/1,3
<a href="#">106TA9888</a>	Black	12/16	3,3/1,3
<a href="#">106TA9889</a>	White	12/16	3,3/1,3
<a href="#">138TA8188</a>	Yellow	12/16	3,3/1,3
<a href="#">105TA4691</a>	Blue	12/16	3,3/1,3
<a href="#">138TA8189</a>	Grey	12/16	3,3/1,3

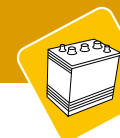
### 30 A contact

REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9890</a>	Contact (1 pc.)	12/16	3,3/1,3

### Housings only

REF	Housing color
<a href="#">138TA8176</a>	Red
<a href="#">138TA8177</a>	Green
<a href="#">138TA8178</a>	Black
<a href="#">138TA8179</a>	White
<a href="#">138TA8180</a>	Blue
<a href="#">138TA8181</a>	Yellow
<a href="#">138TA8182</a>	Orange
<a href="#">138TA8183</a>	Grey
<a href="#">138TA8184</a>	Brown
<a href="#">138TA8185</a>	Pink
<a href="#">138TA8186</a>	Purple

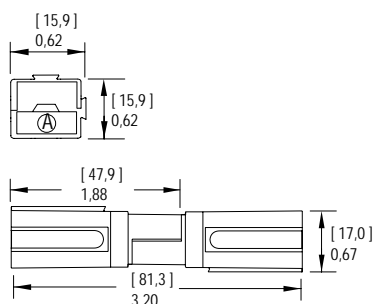




## PP75 POWERPOLE CONNECTORS

UL Current rating	75 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#6 to #16 AWG 13,3 to 1,3 mm <sup>2</sup>
Maximum wire insulation diameter	0,437 inches 11,10 mm <sup>2</sup>
AVG contact resistance	200 mΩ
Insulation withstanding test voltage	2200 VAC
Contact retention force	50 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 50 A
Avg. connection/disconnect	5 lbf - low detent 7 lbf - high detent
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

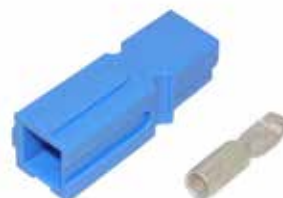
### Dimensions



\* UL Rated for 75 °C largest wire or cable size

\*\* Both AC & DC Voltage

\*\*\* Contact factory for higher temperature rated connectors



### Housing & 75 A contact

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">106TA9892</a>	Blue	6	13,3
<a href="#">138TA8190</a>	Green	6	13,3
<a href="#">106TA9891</a>	Red	6	13,3
<a href="#">105TA4692</a>	Black	6	13,3
<a href="#">138TA8191</a>	White	6	13,3

### Housings only

REF	Housing color
<a href="#">138TA8192</a>	Blue
<a href="#">138TA8193</a>	Black
<a href="#">138TA8194</a>	White
<a href="#">138TA8195</a>	Green
<a href="#">138TA8196</a>	Red

### 75 A contacts

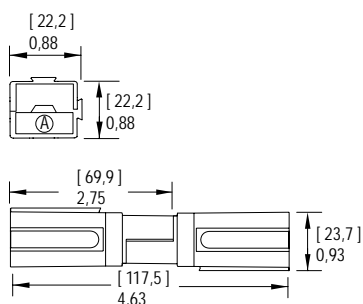
REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA8197</a>	Contact (1 pc.)	6	13,3
<a href="#">138TA8198</a>	Contact (1 pc.)	10	5,3
<a href="#">138TA8199</a>	Contact (1 pc.)	10/12	5,3/3,3
<a href="#">138TA8200</a>	Contact (1 pc.)	8	8,4



## PP120 POWERPOLE CONNECTORS

UL Current rating	120 A*
UL Voltage ratings	600 V*
Contact barrel wire size	#2 to #8 AWG 33,6 to 8,4 mm <sup>2</sup>
Maximum wire insulation diameter	0,600 inches 15,24 mm <sup>2</sup>
AVG contact resistance	136 mΩ
Insulation withstanding test voltage	2200 VAC/DC
Contact retention force	100 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 60 A
Avg. connection/disconnect	8 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Both AC & DC Voltage

\*\*\* Contact factory for higher temperature rated connectors



### Housing & 120 A contact

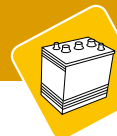
REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA8201</a>	Blue	2	33,6
<a href="#">138TA8202</a>	Black	2	33,6
<a href="#">105TA4693</a>	White	2	33,6
<a href="#">112TA4817</a>	Red	2	33,6
<a href="#">138TA8203</a>	Green	2	33,6

### Housings only

REF	Housing color
<a href="#">138TA8205</a>	Blue
<a href="#">138TA8206</a>	Black
<a href="#">138TA8207</a>	White
<a href="#">138TA8208</a>	Red
<a href="#">138TA8209</a>	Green

### 120 amp contacts

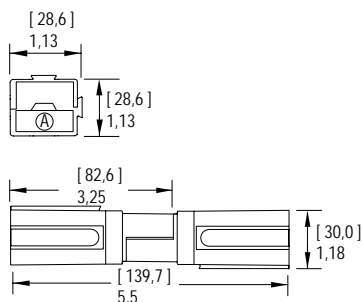
REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA8204</a>	Contact (1 pc.)	2	33,6
<a href="#">106TA9898</a>	Contact (1 pc.)	4	21,2
<a href="#">106TA9899</a>	Contact (1 pc.)	6	13,3



## PP180 POWERPOLE CONNECTORS

UL Current rating	180 A*
UL Voltage ratings	600 V*
Contact barrel wire size	1/0 to #10 AWG 53,5 to 5,3 mm <sup>2</sup>
Maximum wire insulation diameter	0,900 inches 22,86 mm <sup>2</sup>
AVG contact resistance	100 mΩ
Insulation withstanding test voltage	2200 VAC
Contact retention force	170 lbf
Life a. No load (contact/disconnect cycles) b. Under load (Hot Plug 250 cycles @ 120 V)	To 10 000 A 75 A
Avg. connection/disconnect	20 lbf
Operating temperature range	-20 °C to 105 °C** -4 °F to 221 °F
Flammability rating of housing material	UL94 V-0

### Dimensions



\* UL Rated for 65 °C largest wire or cable size

\*\* Both AC & DC Voltage

\*\*\* Contact factory for higher temperature rated connectors



### Housing & 180 A contact

REF	Housing color	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA8210</a>	Blue	1/0	53,5
<a href="#">138TA8211</a>	Black	1/0	53,5
<a href="#">138TA8212</a>	White	1/0	53,5
<a href="#">138TA8213</a>	Red	1/0	53,5
<a href="#">138TA8214</a>	Green	1/0	53,5

### Housings only

REF	Housing color
<a href="#">138TA8216</a>	Blue
<a href="#">138TA8217</a>	Black
<a href="#">138TA8218</a>	White
<a href="#">138TA8219</a>	Red
<a href="#">138TA8220</a>	Green

### 180 A contacts

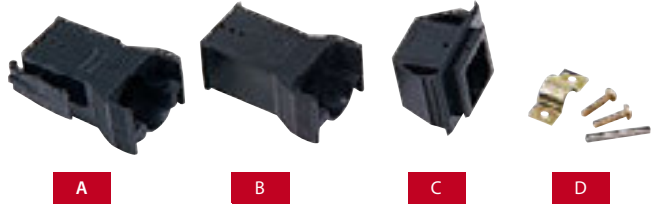
REF	Description	Wire	
		AWG	mm <sup>2</sup>
<a href="#">138TA8215</a>	Contact (1 pc.)	1/0	53,5
<a href="#">106TA9903</a>	Contact (1 pc.)	#2	33,6
<a href="#">106TA9904</a>	Contact (1 pc.)	#4	21,2



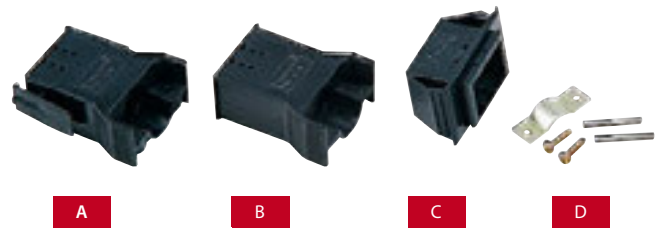
## POWERPOLE PACK HOUSINGS

- Offer high impact and corrosion-resistant black nylon outer.
- Easy connection and disconnection of electrical equipment in commercial and industrial applications.
- Cable clamps and integral latches prevent accidental disconnection of your equipment.
- Accommodates 2-8 AWG, 20 A maximum circuits.
- For 15/30 A Powerpole® housings.

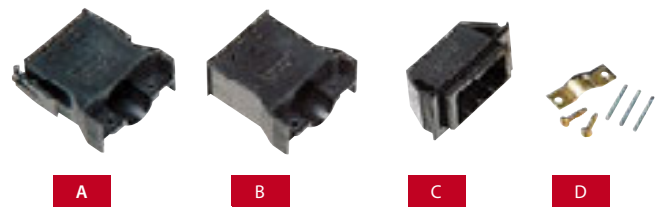
REF	Size	
<a href="#">138TA8221</a>	4 pole housing with latch	A
<a href="#">138TA8222</a>	4 pole housing without latch	B
<a href="#">138TA8223</a>	4 pole receptacle	C
<a href="#">138TA8224</a>	4 pole hardware kit	D



REF	Size	
<a href="#">138TA8225</a>	6 pole housing with latch	A
<a href="#">138TA8226</a>	6 pole housing without latch	B
<a href="#">138TA8227</a>	6 pole receptacle	C
<a href="#">138TA8228</a>	6 pole hardware kit	D



REF	Size	
<a href="#">138TA8229</a>	8 pole housing with latch	A
<a href="#">138TA8230</a>	8 pole housing without latch	B
<a href="#">138TA8231</a>	8 pole receptacle	C
<a href="#">138TA8232</a>	8 pole hardware kit	D



## REDUCER BUSHINGS

REF	For use with	AWG wire
<a href="#">138TA8233</a>	PP 75	6 AWG to 10-12 AWG
<a href="#">138TA8234</a>	PP 180	1/0 to 1 AWG
<a href="#">138TA8235</a>	PP 180	1/0 to 2 AWG
<a href="#">138TA8236</a>	PP 50	8 AWG
<a href="#">138TA8237</a>	PP 350	2/0 to 1/0 AWG







## REMA MRC CONNECTORS



### 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!

These REMA® MRC® Power Solution Series cable and connector assemblies utilize innovative, patent pending construction technology to permanently bond the electrical and mechanical elements. This process results in a highly durable, wear-resistant, acid-proof and maintenance-free assembly.

At the heart of any cable and connector assembly is the power contact. REMA® engineers have conducted extensive research in the construction of these power contacts and have developed a design that delivers extraordinary performance which is unsurpassed by any competitor. The REMA® super-conductive plug and socket contacts are capable of transmitting higher peak currents in addition to lowering the cable insulation operating temperature.

#### 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
- REMA® engineered power contacts made of high-grade electrolyte copper for superior efficiency and silver plated for corrosion 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 °C to +120 °C
- Definition of new amperage classes:
  - MRC 120 > DIN 80
  - MRC 260 > DIN 160
  - MRC 400 > DIN 320

#### 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

Production patent pending



For all our latest catalogue updates and company info: [www.tvh.com](http://www.tvh.com)

## REMA MRC CONNECTORS

### HOW TO ORDER?

Please indicate following specifications:

**Truck details**

And / or

**Part number mentioned on the wire ending of the battery cable**



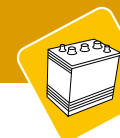
REMA MRC CONNECTORS



## PLUGS

REF	Plug	Cable size mm <sup>2</sup>	Handle	Coding pin	Option	Terminal +	Terminal -	Length +	Length -
<b>Plug: Charger</b>									
<a href="#">145TA7552</a>	MRC 80	16	std.	grey		Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,63
<a href="#">145TA7553</a>	MRC 80	16	std.	grey	air kit	Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,63
<a href="#">145TA7554</a>	MRC 80	25	std.	grey		Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,86
<a href="#">145TA7555</a>	MRC 80	25	std.	grey	air kit	Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,86
<a href="#">145TA7556</a>	MRC 160	16	std.	grey		Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,63
<a href="#">145TA7557</a>	MRC 160	16	std.	grey		Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,86
<a href="#">145TA7558</a>	MRC 160	25	std.	grey		Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,86
<a href="#">145TA7559</a>	MRC 160	35	std.	grey		Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,86
<a href="#">145TA7560</a>	MRC 160	35	std.	grey	air kit	Lug DIN 46234 M8	Lug DIN 46234 M6	2,51	2,86
<b>Plug: Vehicle</b>									
<a href="#">145TA7561</a>	MRC 80	25		yellow		Lug DIN 46234 M8	Lug DIN 46234 M8	2,04	1,44
<a href="#">145TA7562</a>	MRC 80	25		yellow		Lug DIN 46234 M8	Lug DIN 46234 M8	1,29	1,25
<a href="#">145TA7563</a>	MRC 80	25		yellow		Lug DIN 46234 M8	Lug DIN 46234 M8	0,82	0,82
<a href="#">145TA7564</a>	MRC 80	25		yellow		Lug DIN 46234 M8	Lug DIN 46234 M8	0,43	0,52
<a href="#">145TA7565</a>	MRC 80	25		yellow		Lug DIN 46234 M8	Lug DIN 46234 M8	0,22	0,22
<a href="#">145TA7566</a>	MRC 160	35		grey	pilot contact	Lug DIN 46234 M10	Lug DIN 46234 M10	2,00	2,00
<a href="#">145TA7567</a>	MRC 160	35		grey	air kit	Lug DIN 46234 M10	Lug DIN 46234 M10	2,00	2,00
<a href="#">145TA7568</a>	MRC 160	35		grey		Lug DIN 46234 M10	Lug DIN 46234 M10	2,00	2,00
<a href="#">145TA7569</a>	MRC 160	35		grey		Lug DIN 46234 M10	Lug DIN 46234 M10	2,00	2,00
<a href="#">145TA7570</a>	MRC 160	35		grey		Lug DIN 46234 M8	Lug DIN 46234 M8	1,47	1,25
<a href="#">145TA7571</a>	MRC 160	35		yellow		Lug DIN 46234 M8	Lug DIN 46234 M8	0,97	0,9
<a href="#">145TA7572</a>	MRC 160	35		locking/grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,3	1,35
<a href="#">145TA7573</a>	MRC 160	35		grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,52	1,33
<a href="#">145TA7574</a>	MRC 160	35		grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,39	1,42
<a href="#">145TA7575</a>	MRC 160	35		locking/grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,39	1,44
<a href="#">145TA7576</a>	MRC 160	35		green		Lug DIN 46234 M8	Lug DIN 46234 M10	2,3	1,33
<a href="#">145TA7577</a>	MRC 160	35		locking/grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,3	1,35
<a href="#">145TA7578</a>	MRC 160	35		locking/grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,39	1,44
<a href="#">145TA7579</a>	MRC 160	35		locking/grey		Lug DIN 46234 M8	Lug DIN 46234 M10	2,51	1,35
<a href="#">145TA7580</a>	MRC 160	35		green		Lug DIN 46234 M8	Lug DIN 46234 M10	2,60	1,43
<a href="#">145TA7581</a>	MRC 160	35		green		Lug DIN 46234 M8	Lug DIN 46234 M10	2,39	1,42
<a href="#">145TA7582</a>	MRC 160	35		green		Lug DIN 46234 M8	Lug DIN 46234 M10	2,52	1,33
<a href="#">145TA7583</a>	MRC 160	35		green		Lug DIN 46234 M8	Lug DIN 46234 M10	2,61	1,42
<a href="#">145TA7584</a>	MRC 160	50		grey		Flag lug M10	Flag lug M8	0,43	0,43
<a href="#">145TA7585</a>	MRC 160	50		grey	air kit	Flex	Flex	1,50	1,50
<a href="#">145TA7586</a>	MRC 160	50		grey		Lug DIN 46234 M8	Lug DIN 46234 M8 90°	1,12	0,60
<a href="#">145TA7587</a>	MRC 160	50		grey		Lug DIN 46234 M8	Lug DIN 46234 M8	1,12	0,60
<a href="#">145TA7588</a>	MRC 160	50		grey		Lug DIN 46234 M8 45°	Lug DIN 46234 M8	0,25	0,70
<a href="#">145TA7589</a>	MRC 320	50		grey		Lug DIN 46234 M8	Lug DIN 46234 M8	1,18	0,60





## SOCKETS

REF	Plug	Cable size mm <sup>2</sup>	Handle	Coding pin	Option	Terminal +	Terminal -	Length +	Length -
<b>Socket: Battery</b>									
<a href="#">145TA7590</a>	MRC 80	25	flat	green		flex	flex	0,70	0,70
<a href="#">145TA7591</a>	MRC 80	25	flat	green		flex	flex	0,70	0,50
<a href="#">145TA7592</a>	MRC 80	25	flat	green		flex	flex	0,70	0,50
<a href="#">145TA7593</a>	MRC 80	25		green		flex	flex	0,70	0,90
<a href="#">145TA7594</a>	MRC 80	25		grey	air kit	flex	flex	0,70	0,90
<a href="#">145TA7595</a>	MRC 80	25		green		flex	flex	0,70	1,20
<a href="#">145TA7596</a>	MRC 80	25	flat	grey		flex	flex	0,70	0,70
<a href="#">145TA7597</a>	MRC 80	25		grey		flex	flex	0,70	0,50
<a href="#">145TA7598</a>	MRC 80	25		grey		flex	flex	0,70	0,50
<a href="#">145TA7599</a>	MRC 80	25		grey		flex	flex	0,70	0,90
<a href="#">145TA7600</a>	MRC 80	25		grey		flex	flex	0,70	1,20
<a href="#">145TA7601</a>	MRC 80	25	flat	grey		flex	flex	0,90	0,70
<a href="#">145TA7602</a>	MRC 80	25	flat	green		flex	flex	0,90	0,70
<a href="#">145TA7603</a>	MRC 80	25		green		flex	flex	0,94	0,94
<a href="#">145TA7604</a>	MRC 80	25		grey	air kit	flex	flex	0,94	0,94
<a href="#">145TA7605</a>	MRC 80	25		grey		flex	flex	0,94	0,94
<a href="#">145TA7606</a>	MRC 80	25	flat	grey	air kit	perfect	perfect	0,70	0,50
<a href="#">145TA7607</a>	MRC 80	25	flat	grey		perfect	perfect	0,70	0,70
<a href="#">145TA7608</a>	MRC 80	25		grey		perfect	perfect	0,70	0,90
<a href="#">145TA7609</a>	MRC 80	25		grey		perfect	perfect	0,94	0,94
<a href="#">145TA7610</a>	MRC 80	35	std.	green/grey	pilot contact	flex	flex	0,85	0,85
<a href="#">145TA7611</a>	MRC 160	35		grey		flex	flex	0,36	0,90
<a href="#">145TA7612</a>	MRC 160	35		grey		flex	flex	0,36	1,20
<a href="#">145TA7613</a>	MRC 160	35		green		flex	flex	0,36	0,98
<a href="#">145TA7614</a>	MRC 160	35		green		flex	flex	0,36	1,20
<a href="#">145TA7615</a>	MRC 160	35	std.	grey		flex	flex	0,85	0,85
<a href="#">145TA7616</a>	MRC 160	35	std.	grey	air kit	flex	flex	0,85	0,85
<a href="#">145TA7617</a>	MRC 160	35	std.	green/grey	pilot contact	flex	flex	0,85	0,85
<a href="#">145TA7618</a>	MRC 160	35	std.	grey	pilot contact	flex	flex	1,20	1,20
<a href="#">145TA7619</a>	MRC 160	35		green		perfect	perfect	0,36	1,20
<a href="#">145TA7620</a>	MRC 160	50	std.	grey		bat. terminal+	bat. terminal -	1,08	1,48
<a href="#">145TA7621</a>	MRC 160	50	std.	grey		bat. terminal+	bat. terminal -	1,48	1,08
<a href="#">145TA7622</a>	MRC 160	50	std.	green/grey		flex	flex	1,20	1,60
<a href="#">145TA7623</a>	MRC 160	50	std.	green/grey	air kit	flex	flex	1,20	1,60
<a href="#">145TA7624</a>	MRC 160	50	std.	grey	air kit	flex	flex	1,40	0,40
<a href="#">145TA7625</a>	MRC 160	50	std.	grey		flex	flex	1,40	0,40
<a href="#">145TA7626</a>	MRC 160	50	std.	grey		flex	flex	1,50	1,50
<a href="#">145TA7627</a>	MRC 160	50	std.	green/grey		flex	flex	1,60	1,20
<a href="#">145TA7628</a>	MRC 160	50	std.	grey	air kit	flex	flex	2,00	2,00



## SOCKETS

REF	Plug	Cable size mm <sup>2</sup>	Handle	Coding pin	Option	Terminal +	Terminal -	Length +	Length -
<a href="#">145TA7629</a>	MRC 160	50	std.	green/grey	pilot contact	flex	flex	2,50	2,50
<a href="#">145TA7630</a>	MRC 160	50	std.	grey		Lug RKS M10	Lug RKS M10	1,09	1,49
<a href="#">145TA7631</a>	MRC 160	50	std.	grey		Lug RKS M10	Lug RKS M10	1,43	0,97
<a href="#">145TA7632</a>	MRC 160	50	std.	grey		Lug RKS M10	Lug RKS M10	1,49	1,09
<a href="#">145TA7633</a>	MRC 160	50	std.	grey		Lug RKS M10	Lug RKS M10	1,50	1,50
<a href="#">145TA7634</a>	MRC 160	50	std.	green/grey		perfect	perfect	1,20	1,60
<a href="#">145TA7635</a>	MRC 160	50	std.	green/grey		perfect	perfect	1,20	1,60
<a href="#">145TA7636</a>	MRC 160	50	std.	green/grey		perfect	perfect	1,60	1,20
<a href="#">145TA7637</a>	MRC 160	50	std.	green/grey		perfect	perfect	1,60	1,20
<a href="#">145TA7638</a>	MRC 160	50	std.	grey		Lug RKS M10	Lug RKS M10	1,37	0,97
<a href="#">145TA7639</a>	MRC 160	50	std.	grey		Lug RKS M10	Lug RKS M10	1,50	1,50
<a href="#">145TA7640</a>	MRC 320	50	std.	green/grey	pilot contact	flex	flex	1,60	1,60
<a href="#">145TA7641</a>	MRC 320	50	std.	grey		flex	flex	1,60	1,60
<a href="#">145TA7642</a>	MRC 320	50	std.	grey	aux. contact	flex	flex	2,00	2,00



## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

### DIN 80 A plugs, grey coding, acid resistant

REF	Wire
<a href="#">116TA5134</a>	16 mm <sup>2</sup>
<a href="#">106TA9914</a>	25 mm <sup>2</sup>
<a href="#">123TA7593</a>	35 mm <sup>2</sup>



### DIN 80 A plugs, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">139TA1927</a>	16 mm <sup>2</sup>
<a href="#">139TA1928</a>	25 mm <sup>2</sup>
<a href="#">139TA1929</a>	35 mm <sup>2</sup>



### DIN 80 A plugs, grey coding, acid resistant, pilot contacts

REF	Wire
<a href="#">139TA1930</a>	16 mm <sup>2</sup>
<a href="#">139TA1931</a>	25 mm <sup>2</sup>
<a href="#">139TA1932</a>	35 mm <sup>2</sup>



### DIN 80 A plug, yellow coding, 90° angle contacts

REF	Wire
<a href="#">139TA1933</a>	25 mm <sup>2</sup>



### DIN 80 A plug, grey coding, red housing

REF	Wire
<a href="#">112TA4820</a>	16 mm <sup>2</sup>
<a href="#">112TA4821</a>	25 mm <sup>2</sup>



### DIN 80 A plugs, grey coding, AIR, acid resistant

REF	Wire
<a href="#">139TA1934</a>	16 mm <sup>2</sup>
<a href="#">106TA9971</a>	25 mm <sup>2</sup>
<a href="#">139TA1935</a>	35 mm <sup>2</sup>





## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

### DIN 80 A plugs, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">139TA1936</a>	16 mm <sup>2</sup>
<a href="#">139TA1937</a>	25 mm <sup>2</sup>
<a href="#">139TA1938</a>	35 mm <sup>2</sup>



### DIN 80 A plugs, grey coding, AIR, acid resistant, aux. contacts

REF	Wire
<a href="#">139TA1939</a>	16 mm <sup>2</sup>
<a href="#">139TA1940</a>	25 mm <sup>2</sup>
<a href="#">139TA1941</a>	35 mm <sup>2</sup>



### DIN 80 A sockets, grey coding, acid resistant

REF	Wire
<a href="#">131TA4678</a>	16 mm <sup>2</sup>
<a href="#">106TA9916</a>	25 mm <sup>2</sup>
<a href="#">123TA7592</a>	35 mm <sup>2</sup>



### DIN 80 A sockets, grey coding, acid resistant, fixed handle

REF	Wire
<a href="#">112TA4818</a>	16 mm <sup>2</sup>
<a href="#">112TA4819</a>	25 mm <sup>2</sup>
<a href="#">123TA7591</a>	35 mm <sup>2</sup>



### DIN 80 A sockets, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">139TA1942</a>	25 mm <sup>2</sup>



### DIN 80 A sockets, grey coding, acid resistant, pilot contacts

REF	Wire
<a href="#">139TA1943</a>	16 mm <sup>2</sup>
<a href="#">139TA1944</a>	25 mm <sup>2</sup>





## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

DIN 80 A sockets, grey coding, acid resistant, pilot contacts, fixed handle

REF	Wire
<a href="#">139TA1945</a>	16 mm <sup>2</sup>
<a href="#">139TA1946</a>	25 mm <sup>2</sup>



DIN 80 A socket, grey coding, red housing, fixed handle

REF	Wire
<a href="#">112TA4945</a>	16 mm <sup>2</sup>
<a href="#">112TA4946</a>	25 mm <sup>2</sup>
<a href="#">139TA1947</a>	35 mm <sup>2</sup>



DIN 80 A sockets, grey coding, AIR, acid resistant, fixed handle

REF	Wire
<a href="#">106TA9965</a>	16 mm <sup>2</sup>
<a href="#">139TA1948</a>	25 mm <sup>2</sup>



DIN 80 A sockets, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">139TA1949</a>	16 mm <sup>2</sup>
<a href="#">139TA1950</a>	25 mm <sup>2</sup>





## SPARE PARTS DIN 80 A

### HOUSINGS

REF	Description	Color
<a href="#">139TA1951</a>	DIN 80 A plug housing (cable clamp, locking device); acid resistant	Grey
<a href="#">139TA1952</a>	DIN 80 A socket housing (cable clamp, locking device); acid resistant	Grey
<a href="#">139TA1953</a>	DIN 80 A socket housing (cable clamp, locking device); fixed handle; acid resistant	Grey



### MAIN CONTACT: SETS

REF	Description	Wire
<a href="#">139TA1954</a>	DIN 80 A main contact set for plug (2 pcs)	16 mm <sup>2</sup>
<a href="#">139TA1955</a>	DIN 80 A main contact set for plug (2 pcs)	25 mm <sup>2</sup>
<a href="#">139TA1956</a>	DIN 80 A main contact set for plug (2 pcs)	35 mm <sup>2</sup>
<a href="#">139TA1957</a>	DIN 80 A main contact set for socket (2 pcs)	16 mm <sup>2</sup>
<a href="#">139TA1958</a>	DIN 80 A main contact set for socket (2 pcs)	25 mm <sup>2</sup>
<a href="#">139TA1959</a>	DIN 80 A main contact set for socket (2 pcs)	35 mm <sup>2</sup>
<a href="#">139TA1960</a>	DIN 80 A angle contact 90° for plug / 25 mm <sup>2</sup>	25 mm <sup>2</sup>



### PILOT CONTACTS

REF	Description
<a href="#">106TA9921</a>	DIN 80 A pilot cont. set plug
<a href="#">106TA9922</a>	DIN 80 A pilot cont. set socket



### AUX CONTACTS

REF	Description
<a href="#">123TA7595</a>	DIN 80 A aux cont. set for plug
<a href="#">123TA7594</a>	DIN 80 A aux cont. set for socket





## SPARE PARTS DIN 80A

### CODING PINS

REF	Description	Color
<a href="#">139TA1961</a>	DIN 80 A coding pin grey (wet)	Grey
<a href="#">139TA1962</a>	DIN 80 A coding pin green (dry)	Green
<a href="#">139TA1963</a>	DIN 80 A coding pin yellow (wet/dry)	Yellow



### HANDLES

REF	Description	Color
<a href="#">139TA1964</a>	DIN 80 A handle; flat; with 2 screws M 6 x 30; acid resistant	Grey
<a href="#">107TA7665</a>	DIN 80 A handle grey (clip); acid resistant	Grey
<a href="#">139TA1965</a>	DIN 80 A handle red (clip)	Red
<a href="#">139TA1966</a>	DIN 80 A handle red; with screws M 6 x 35	Red



### AIR ADAPTERS

REF	Description
<a href="#">106TA9972</a>	DIN 80 A air adapter plug (6/8 mm connection)
<a href="#">106TA9968</a>	DIN 80 A air adapter socket (6/8 mm connection)





## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

### DIN 160 A plugs, grey coding, acid resistant

REF	Wire
<a href="#">106TA9923</a>	25 mm <sup>2</sup>
<a href="#">106TA9924</a>	35 mm <sup>2</sup>
<a href="#">106TA9925</a>	50 mm <sup>2</sup>



### DIN 160 A plugs, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">139TA1967</a>	16 mm <sup>2</sup>
<a href="#">139TA1968</a>	25 mm <sup>2</sup>
<a href="#">139TA1969</a>	35 mm <sup>2</sup>
<a href="#">139TA1970</a>	50 mm <sup>2</sup>



### DIN 160 A plugs, grey coding, acid resistant, pilot contacts

REF	Wire
<a href="#">139TA1971</a>	25 mm <sup>2</sup>
<a href="#">139TA1972</a>	35 mm <sup>2</sup>
<a href="#">139TA1973</a>	50 mm <sup>2</sup>



### DIN 160 A plugs, grey coding, AIR, acid resistant

REF	Wire
<a href="#">106TA9978</a>	25 mm <sup>2</sup>
<a href="#">106TA9979</a>	35 mm <sup>2</sup>
<a href="#">106TA9980</a>	50 mm <sup>2</sup>



### DIN 160 A plugs, grey coding, AIR, acid resistant, aux. contacts

REF	Wire
<a href="#">139TA1974</a>	25 mm <sup>2</sup>
<a href="#">139TA1975</a>	35 mm <sup>2</sup>
<a href="#">139TA1976</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, acid resistant

REF	Wire
<a href="#">112TA4822</a>	25 mm <sup>2</sup>
<a href="#">112TA4823</a>	35 mm <sup>2</sup>
<a href="#">112TA4824</a>	50 mm <sup>2</sup>







## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

### DIN 160 A sockets, grey coding, acid resistant, fixed handle

REF	Wire
<a href="#">139TA1977</a>	25 mm <sup>2</sup>
<a href="#">106TA9927</a>	35 mm <sup>2</sup>
<a href="#">106TA9928</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, acid resistant, pilot contacts

REF	Wire
<a href="#">139TA1978</a>	25 mm <sup>2</sup>
<a href="#">139TA1979</a>	35 mm <sup>2</sup>
<a href="#">139TA1980</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, acid resistant, pilot contacts, fixed handle

REF	Wire
<a href="#">139TA1981</a>	25 mm <sup>2</sup>
<a href="#">139TA1982</a>	35 mm <sup>2</sup>
<a href="#">139TA1983</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, AIR, acid resistant, fixed handle

REF	Wire
<a href="#">139TA1984</a>	25 mm <sup>2</sup>
<a href="#">139TA1985</a>	35 mm <sup>2</sup>
<a href="#">139TA1986</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">106TA9974</a>	25 mm <sup>2</sup>
<a href="#">106TA9967</a>	35 mm <sup>2</sup>
<a href="#">105TA4684</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, AIR, acid resistant, fixed handle, aux. contacts

REF	Wire
<a href="#">139TA1987</a>	25 mm <sup>2</sup>
<a href="#">139TA1988</a>	35 mm <sup>2</sup>
<a href="#">139TA1989</a>	50 mm <sup>2</sup>





## SPARE PARTS DIN 160 A

### HOUSINGS

REF	Description	Color
<a href="#">139TA1990</a>	DIN 160 A plug housing (cable clamp, locking device); acid resistant	Gray
<a href="#">139TA1991</a>	DIN 160 A socket; compl. (cable clamp, locking device); acid resistant	Gray
<a href="#">139TA1992</a>	DIN 160 A socket; compl. (cable clamp, locking device); fixed handle; acid resistant	Gray



### MAIN CONTACT SETS

REF	Description	Wire
<a href="#">139TA1993</a>	DIN 160 A main contact set 16 mm <sup>2</sup> for plug (2 pcs)	16 mm <sup>2</sup>
<a href="#">139TA1994</a>	DIN 160 A main contact set 25 mm <sup>2</sup> for plug (2 pcs)	25 mm <sup>2</sup>
<a href="#">139TA1995</a>	DIN 160 A main contact set 35 mm <sup>2</sup> for plug (2 pcs)	35 mm <sup>2</sup>
<a href="#">139TA1996</a>	DIN 160 A main contact set 50 mm <sup>2</sup> for plug (2 pcs)	50 mm <sup>2</sup>
<a href="#">139TA1997</a>	DIN 160 A main contact set 70 mm <sup>2</sup> for plug (2 pcs)	70 mm <sup>2</sup>
<a href="#">139TA1998</a>	DIN 160 A main contact set 16 mm <sup>2</sup> for socket (2 pcs)	16 mm <sup>2</sup>
<a href="#">139TA1999</a>	DIN 160 A main contact set 25 mm <sup>2</sup> for socket (2 pcs)	25 mm <sup>2</sup>
<a href="#">139TA2000</a>	DIN 160 A main contact set 35 mm <sup>2</sup> for socket (2 pcs)	35 mm <sup>2</sup>
<a href="#">139TA2001</a>	DIN 160 A main contact set 50 mm <sup>2</sup> for socket (2 pcs)	50 mm <sup>2</sup>
<a href="#">139TA2002</a>	DIN 160 A main contact set 70 mm <sup>2</sup> for socket (2 pcs)	70 mm <sup>2</sup>



### PILOT CONTACTS

REF	Description
<a href="#">106TA9935</a>	DIN 160 A pilot cont. set plug
<a href="#">106TA9936</a>	DIN 160 A pilot cont. set socket



### AUX CONTACTS

REF	Description
<a href="#">123TA7595</a>	DIN 160 A aux cont. set for plug
<a href="#">123TA7596</a>	DIN 160 A aux cont. set for socket





## SPARE PARTS DIN 160 A

### HANDLES

REF	Description	Color
<a href="#">139TA2003</a>	DIN 160 A handle grey; bended; with 4 screws; acid resistant	Grey
<a href="#">139TA2004</a>	DIN 160/320 A handle grey; bended; with 8 screws for DIN 160 / 320; acid resistant	Grey
<a href="#">139TA2005</a>	DIN 160 A handle; flat; with 2 screws + lock. nut; acid resistant	Grey
<a href="#">139TA2006</a>	DIN 160 A handle red; bended; with 4 screws	Red
<a href="#">139TA2007</a>	DIN 160/320 A handle red; bended; with 8 screws for DIN 160/320	Red
<a href="#">139TA3250</a>	DIN 160/320 metal handle	Black



### AIR ADAPTERS

REF	Description	Color
<a href="#">106TA9981</a>	DIN 160 A air adapter plug (6/8 mm connection)	Light blue
<a href="#">139TA2008</a>	DIN 160 A air adapter plug (6/9 mm connection)	Light blue
<a href="#">106TA9977</a>	DIN 160 A air adapter socket (6/8 mm connection)	Light blue
<a href="#">139TA2009</a>	DIN 160 A air adapter socket (6/9 mm connection)	Light blue



### CODING PINS

REF	Description	Color
<a href="#">139TA2010</a>	DIN 160/320 A coding pin grey (wet)	Grey
<a href="#">139TA2011</a>	DIN 160/320 A coding pin green (dry)	Green
<a href="#">139TA2012</a>	DIN 160/320 A coding pin yellow (wet/ dry)	Yellow





## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

### DIN 320 A plugs, grey coding, acid resistant

REF	Wire
<a href="#">116TA4699</a>	50 mm <sup>2</sup>
<a href="#">106TA9938</a>	70 mm <sup>2</sup>
<a href="#">139TA2013</a>	95 mm <sup>2</sup>



### DIN 320 A plugs, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">139TA2014</a>	50 mm <sup>2</sup>
<a href="#">139TA2015</a>	70 mm <sup>2</sup>
<a href="#">139TA2016</a>	95 mm <sup>2</sup>



### DIN 320 A plugs, grey coding, acid resistant, pilot contacts

REF	Wire
<a href="#">139TA2017</a>	50 mm <sup>2</sup>
<a href="#">139TA2018</a>	70 mm <sup>2</sup>
<a href="#">139TA2019</a>	95 mm <sup>2</sup>



### DIN 320 A plugs, grey coding, AIR, acid resistant

REF	Wire
<a href="#">106TA9984</a>	50 mm <sup>2</sup>
<a href="#">106TA9985</a>	70 mm <sup>2</sup>
<a href="#">139TA2020</a>	95 mm <sup>2</sup>



### DIN 320 A plugs, grey coding, AIR, acid resistant, separate handle

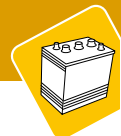
REF	Wire
<a href="#">139TA2021</a>	50 mm <sup>2</sup>
<a href="#">139TA2022</a>	70 mm <sup>2</sup>
<a href="#">139TA2023</a>	95 mm <sup>2</sup>



### DIN 320 A plugs, grey coding, AIR, acid resistant, aux. contacts

REF	Wire
<a href="#">139TA2024</a>	50 mm <sup>2</sup>
<a href="#">139TA2025</a>	70 mm <sup>2</sup>
<a href="#">139TA2026</a>	95 mm <sup>2</sup>





## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

### DIN 320 A sockets, grey coding, acid resistant

REF	Wire
<a href="#">106TA9940</a>	50 mm <sup>2</sup>
<a href="#">105TA4683</a>	70 mm <sup>2</sup>
<a href="#">139TA2027</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">112TA4825</a>	50 mm <sup>2</sup>
<a href="#">112TA4826</a>	70 mm <sup>2</sup>
<a href="#">112TA4827</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, acid resistant, pilot contacts

REF	Wire
<a href="#">139TA2028</a>	50 mm <sup>2</sup>
<a href="#">139TA2029</a>	70 mm <sup>2</sup>
<a href="#">139TA2030</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, acid resistant, pilot contacts, separate handle

REF	Wire
<a href="#">139TA2031</a>	50 mm <sup>2</sup>
<a href="#">139TA2032</a>	70 mm <sup>2</sup>
<a href="#">139TA2033</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, AIR, acid resistant

REF	Wire
<a href="#">139TA2034</a>	50 mm <sup>2</sup>
<a href="#">139TA2035</a>	70 mm <sup>2</sup>
<a href="#">139TA2036</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">106TA9975</a>	50 mm <sup>2</sup>
<a href="#">106TA9976</a>	70 mm <sup>2</sup>
<a href="#">139TA2037</a>	95 mm <sup>2</sup>





## REMA TWIN PLUG AND SOCKET CONNECTORS EN1175-1, DIN 43589, 150 V, IP23

DIN 320 A sockets, grey coding, AIR, acid resistant, separate handle, aux. contacts

REF	Wire
<a href="#">139TA2038</a>	50 mm <sup>2</sup>
<a href="#">139TA2039</a>	70 mm <sup>2</sup>
<a href="#">139TA2040</a>	95 mm <sup>2</sup>



## SPARE PARTS DIN 320 A

### HOUSINGS

REF	Description	Color
<a href="#">139TA2041</a>	DIN 320 A plug; compl. (cable clamp, locking device); acid resistant	Grey
<a href="#">139TA2042</a>	DIN 320 A housing (cable clamp, locking device, threat screw); acid resistant	Grey



### MAIN CONTACT SETS

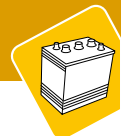
REF	Description	Wire
<a href="#">139TA2043</a>	DIN 320 A main contact set 50 mm <sup>2</sup> for plug (2 pcs.)	50 mm <sup>2</sup>
<a href="#">139TA2044</a>	DIN 320 A main contact set 70 mm <sup>2</sup> for plug (2 pcs.)	70 mm <sup>2</sup>
<a href="#">139TA2045</a>	DIN 320 A main contact set 95 mm <sup>2</sup> for plug (2 pcs.)	95 mm <sup>2</sup>
<a href="#">139TA2046</a>	DIN 320 A main contact set 50 mm <sup>2</sup> for socket (2 pcs.)	50 mm <sup>2</sup>
<a href="#">139TA2047</a>	DIN 320 A main contact set 70 mm <sup>2</sup> for socket (2 pcs.)	70 mm <sup>2</sup>
<a href="#">139TA2048</a>	DIN 320 A main contact set 95 mm <sup>2</sup> for socket (2 pcs.)	95 mm <sup>2</sup>



### PILOT CONTACTS

REF	Description
<a href="#">106TA9948</a>	DIN 320 A pilot cont. set plug
<a href="#">106TA9949</a>	DIN 320 A pilot cont. set socket





## SPARE PARTS DIN 320 A

### AUX CONTACTS

REF	Description
<a href="#">123TA7598</a>	DIN 320 A aux cont. set for plug
<a href="#">123TA7597</a>	DIN 320 A aux. cont. set for socket



### HANDLES

REF	Description	Color
<a href="#">139TA2049</a>	DIN 320 A handle grey; bended; with 4 screws; acid resistant	Grey
<a href="#">139TA2004</a>	DIN 160/320 A handle grey; bended; with 8 screws for DIN 160/ 320; acid resistant	Grey
<a href="#">139TA2050</a>	DIN 320 A handle; flat; with 2 screws; acid resistant	Grey
<a href="#">139TA2051</a>	DIN 320 A handle red; bended; with 4 screws	Red
<a href="#">139TA2007</a>	DIN 160/320 A handle red; bended; with 8 screws for DIN 160/ 320	Red
<a href="#">139TA2052</a>	DIN 320 A handle red; flat; with 2 screws; only for DIN 320 A	Red



### AIR ADAPTERS

REF	Description	Color
<a href="#">106TA9986</a>	DIN 320 A air adapter plug (6/8 mm connection)	Light blue
<a href="#">106TA9982</a>	DIN 320 A air adapter socket (6/8 mm connection)	Light blue



### CODING PINS

REF	Description	Color
<a href="#">139TA2010</a>	DIN 160/320 A pin grey (wet)	Grey
<a href="#">139TA2011</a>	DIN 160/320 A pin green (dry)	Green
<a href="#">139TA2012</a>	DIN 160/320 A pin yellow (wet/dry)	Yellow





## TWIN PLUG AND SOCKET CONNECTORS FT80 TO EURO-STANDARD EN1175-1, 150V, 80A

### FT80, plugs, red coding

REF	Wire
<a href="#">105TA4680</a>	16 mm <sup>2</sup>
<a href="#">106TA9905</a>	25 mm <sup>2</sup>



### FT80, plugs, red coding, pilot contacts

REF	Wire
<a href="#">139TA2053</a>	16 mm <sup>2</sup>
<a href="#">139TA2054</a>	25 mm <sup>2</sup>



### FT80, sockets, red coding

REF	Wire
<a href="#">105TA4681</a>	16 mm <sup>2</sup>
<a href="#">106TA9906</a>	25 mm <sup>2</sup>



### FT80, sockets, red coding, separate handle

REF	Wire
<a href="#">139TA2055</a>	16 mm <sup>2</sup>
<a href="#">139TA2056</a>	25 mm <sup>2</sup>



### FT80, sockets, red coding, pilot contacts

REF	Wire
<a href="#">139TA2057</a>	16 mm <sup>2</sup>
<a href="#">139TA2058</a>	25 mm <sup>2</sup>



### FT80, sockets, red coding, pilot contacts, separate handle

REF	Wire
<a href="#">139TA2059</a>	16 mm <sup>2</sup>
<a href="#">139TA2060</a>	25 mm <sup>2</sup>







## SPARE PARTS FT80

### MAIN CONTACTS

REF	Description	Wire
<a href="#">139TA2061</a>	Contact 16 mm <sup>2</sup> for plug (1 pc.)	16 mm <sup>2</sup>
<a href="#">139TA2062</a>	Contact 25 mm <sup>2</sup> for plug (1 pc.)	25 mm <sup>2</sup>
<a href="#">139TA2063</a>	Contact 16 mm <sup>2</sup> for socket (1 pc.)	16 mm <sup>2</sup>
<a href="#">139TA2064</a>	Contact 25 mm <sup>2</sup> for socket (1 pc.)	25 mm <sup>2</sup>



### PILOT CONTACTS

REF	Description
<a href="#">139TA2065</a>	Pilot contact for plug (1 pc.)
<a href="#">139TA2066</a>	Pilot contact for socket (1 pc.)



### HANDLE

REF	Description	Color
<a href="#">139TA2067</a>	Handle	Red



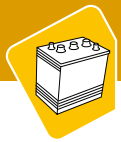
### CODING PIN

REF	Description	Color
<a href="#">139TA2068</a>	Code pin	Red



# BATTERIES, CHARGERS & ACCESSORIES

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NOTES

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## SCHALTBAU LV CHARGING CONNECTORS, EN1175-1, DIN 43589-1, 150 V, IP23

DIN 80 A plug, grey coding, acid resistant

REF	Wire
<a href="#">136TA1217</a>	25 mm <sup>2</sup>



DIN 80 A plug, grey coding, AIR, acid resistant

REF	Wire
<a href="#">139TA2735</a>	25 mm <sup>2</sup>



DIN 80 A socket, grey coding, acid resistant

REF	Wire
<a href="#">136TA1218</a>	25 mm <sup>2</sup>



DIN 80 A socket, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">139TA2736</a>	25 mm <sup>2</sup>

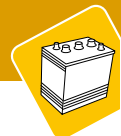


## SPARE PARTS DIN 80 A

### MAIN CONTACTS

REF	Description	Wire
<a href="#">139TA2737</a>	DIN 80 A main contact set for plug (2 pcs.)	25 mm <sup>2</sup>
<a href="#">139TA2738</a>	DIN 80 A main contact set for socket (2 pcs.)	25 mm <sup>2</sup>





## SPARE PARTS DIN 80 A

### HANDLE

REF	Description
<a href="#">107TA1007</a>	DIN 80 A handle; flat; with 2 screws



### PILOT CONTACT

REF	Description
<a href="#">139TA2739</a>	DIN 80 A pilot cont. set plug
<a href="#">139TA2740</a>	DIN 80 A pilot cont. set socket



### AUX CONTACTS

REF	Description
<a href="#">139TA2741</a>	DIN 80 A aux cont. for plug
<a href="#">139TA2742</a>	DIN 80 A aux cont. for socket



### CODING PINS

REF	Description
<a href="#">139TA2743</a>	DIN 80 A coding pin grey (wet)
<a href="#">139TA2744</a>	DIN 80 A coding pin green (dry)
<a href="#">139TA2745</a>	DIN 80 A coding pin yellow (wet/ dry)



### AIR ADAPTERS

REF	Description
<a href="#">139TA2746</a>	DIN 80 A air adapter plug (6 mm connection)
<a href="#">139TA2747</a>	DIN 80 A air adapter socket (6 mm connection)





## SCHALTBAU LV CHARGING CONNECTORS, EN1175-1, DIN 43589-1, 150 V, IP23

### DIN 160 A plugs, grey coding, acid resistant

REF	Wire
<a href="#">136TA1219</a>	50 mm <sup>2</sup>



### DIN 160 A plugs, grey coding, AIR, acid resistant

REF	Wire
<a href="#">139TA2748</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">136TA1220</a>	50 mm <sup>2</sup>



### DIN 160 A sockets, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">139TA2749</a>	50 mm <sup>2</sup>



## SPARE PARTS DIN 160 A

### MAIN CONTACTS

REF	Description	Wire
<a href="#">139TA2750</a>	DIN 160 A main contact set 50 mm <sup>2</sup> for plug (2 pcs.)	50 mm <sup>2</sup>
<a href="#">139TA2751</a>	DIN 160 A main contact set 50 mm <sup>2</sup> for socket (2 pcs.)	50 mm <sup>2</sup>



### AUX CONTACTS

REF	Description
<a href="#">139TA2752</a>	DIN 160 A aux cont. for plug
<a href="#">139TA2753</a>	DIN 160 A aux cont. for socket





## SCHALTBAU LV CHARGING CONNECTORS, EN1175-1, DIN 43589-1, 150 V, IP23

### DIN 320 A plugs, grey coding, acid resistant

REF	Wire
<a href="#">136TA1221</a>	50 mm <sup>2</sup>
<a href="#">139TA2754</a>	70 mm <sup>2</sup>
<a href="#">139TA2755</a>	95 mm <sup>2</sup>



### DIN 320 A plugs, grey coding, AIR, acid resistant

REF	Wire
<a href="#">139TA2756</a>	50 mm <sup>2</sup>
<a href="#">139TA2757</a>	70 mm <sup>2</sup>
<a href="#">139TA2758</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, acid resistant

REF	Wire
<a href="#">136TA1222</a>	50 mm <sup>2</sup>
<a href="#">139TA2759</a>	70 mm <sup>2</sup>
<a href="#">139TA2760</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, acid resistant, separate handle

REF	Wire
<a href="#">139TA2761</a>	50 mm <sup>2</sup>
<a href="#">139TA2762</a>	70 mm <sup>2</sup>
<a href="#">139TA2763</a>	95 mm <sup>2</sup>



### DIN 320 A sockets, grey coding, AIR, acid resistant, separate handle

REF	Wire
<a href="#">139TA2764</a>	50 mm <sup>2</sup>
<a href="#">139TA2765</a>	70 mm <sup>2</sup>
<a href="#">139TA2766</a>	95 mm <sup>2</sup>





SPARE PARTS 160A/320A

## SPARE PARTS DIN 320 A

### MAIN CONTACTS

REF	Description	Wire
<a href="#">139TA2767</a>	DIN 320 A main contact set 50 mm <sup>2</sup> for plug (2 pcs.)	50 mm <sup>2</sup>
<a href="#">139TA2768</a>	DIN 320 A main contact set 70 mm <sup>2</sup> for plug (2 pcs.)	70 mm <sup>2</sup>
<a href="#">139TA2769</a>	DIN 320 A main contact set 95 mm <sup>2</sup> for plug (2 pcs.)	95 mm <sup>2</sup>
<a href="#">139TA2770</a>	DIN 320 A main contact set 50 mm <sup>2</sup> for socket (2 pcs.)	50 mm <sup>2</sup>
<a href="#">139TA2771</a>	DIN 320 A main contact set 70 mm <sup>2</sup> for socket (2 pcs.)	70 mm <sup>2</sup>
<a href="#">139TA2772</a>	DIN 320 A main contact set 95 mm <sup>2</sup> for socket (2 pcs.)	95 mm <sup>2</sup>



### AUX CONTACTS

REF	Description
<a href="#">139TA2773</a>	DIN 160 A aux cont. for plug
<a href="#">139TA2774</a>	DIN 160 A aux cont. for socket



## SPARE PARTS DIN 160/320 A

### PILOT CONTACTS

REF	Description
<a href="#">139TA2775</a>	DIN 160/320 A pilot cont. set plug
<a href="#">139TA2776</a>	DIN 160/320 A pilot cont. set socket



### HANDLE

REF	Description	Color
<a href="#">139TA2777</a>	DIN 160/320 A handle black, with screws	Black
<a href="#">139TA2778</a>	DIN 160/320 A handle red, with screws	Red
<a href="#">139TA2779</a>	DIN 160/320 A handle black, snap-on	Black
<a href="#">139TA2780</a>	DIN 160/320 A handle red, snap-on	Red
<a href="#">139TA3250</a>	DIN 160/320 metal handle	Black







## SPARE PARTS DIN 160/320 A

### AIR ADAPTERS

REF	Description
<a href="#">139TA2781</a>	DIN 160/320 A air adapter plug (6 mm connection)
<a href="#">139TA2782</a>	DIN 160/320 A air adapter socket (6 mm connection)



### CODING PINS

REF	Description
<a href="#">139TA2783</a>	DIN 160/ 320 A pin grey (wet)
<a href="#">139TA2784</a>	DIN 160/ 320 A pin green (dry)
<a href="#">139TA2785</a>	DIN 160/ 320 A pin yellow (wet/ dry)





## REMA TWIN PLUG AND SOCKET CONNECTORS FOR TRAILER AND TOWING MACHINES

- Service voltage: max 48 V
- Housing made of polyamide

### COMPLETE CONNECTOR (housing and contacts)

Type	Nominal	Destination amperage	Wire size	REF
Plug (male)	160 A	Battery	35 mm <sup>2</sup>	<a href="#">106TA9988</a>
	200 A	Battery	50 mm <sup>2</sup>	<a href="#">105TA4686</a>
Socket (female)	Fixing holes distance: 82,6 x 48 mm and 80 x 35 mm			
	160 A	Truck	35 mm <sup>2</sup>	<a href="#">106TA9989</a>
	200 A	Truck	50 mm <sup>2</sup>	<a href="#">105TA4687</a>
Charger socket (female)	160 A	Charger	35 mm <sup>2</sup>	<a href="#">106TA9990</a>
	200 A	Charger	50 mm <sup>2</sup>	<a href="#">105TA4688</a>



### COMPLETE CONNECTOR (housing and contacts)

Type	Nominal	Destination amperage	Wire size	REF
Socket (female)	160 A	Battery	35 mm <sup>2</sup>	<a href="#">106TA9991</a>
	200 A	Battery	50 mm <sup>2</sup>	<a href="#">106TA9992</a>
Plug (male)	Fixing holes distance: 82,6 x 48 mm			
	160 A	Truck	35 mm <sup>2</sup>	<a href="#">106TA9993</a>
	200 A	Truck	50 mm <sup>2</sup>	<a href="#">106TA9994</a>
	Fixing holes distance: 80 x 35 mm			
	160 A	Truck	35 mm <sup>2</sup>	<a href="#">106TA9995</a>
	200 A	Truck	50 mm <sup>2</sup>	<a href="#">106TA9996</a>
Charger plug (male)	160 A	Charger	35 mm <sup>2</sup>	<a href="#">106TA9997</a>
	200 A	Charger	50 mm <sup>2</sup>	<a href="#">105TA4688</a>



- Remark: these connectors are supplied with crimpable contacts
- Spare parts: see next page



## REMA TWIN PLUG AND SOCKET CONNECTORS FOR TRAILER AND TOWING MACHINES

### MAIN CONTACTS

REF	Description	Wire
<a href="#">139TA2069</a>	Contact male; crimp version	35 mm <sup>2</sup>
<a href="#">139TA2070</a>	Contact male; crimp version	50 mm <sup>2</sup>
<a href="#">139TA2071</a>	Contact female; crimp version	35 mm <sup>2</sup>
<a href="#">139TA2072</a>	Contact female; crimp version	50 mm <sup>2</sup>



### RETAINING PINS

REF	Description	Size
<a href="#">139TA2073</a>	Retaining pin	30,5 mm
<a href="#">139TA2074</a>	Retaining pin	33,5 mm



### CABLE CLAMP

REF	Description	Color
<a href="#">139TA2075</a>	Cable clamp	Black





## RAVIOLI TWIN PLUG AND SOCKET CONNECTORS FOR TRAILER AND TOWING MACHINES

### COMPLETE CONNECTOR (housing + contact set)

REF	Description	Wire size
<a href="#">106TA9999</a>	Socket (female)	50 mm <sup>2</sup>
<a href="#">107TA7675</a>	Plug (male)	50 mm <sup>2</sup>



### CONTACT SET

REF	Description	Wire size
<a href="#">107TA1001</a>	Female	50 mm <sup>2</sup>
<a href="#">107TA1002</a>	Male	50 mm <sup>2</sup>



### AUX. CONTACT SET

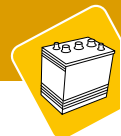
REF	Description
<a href="#">106TA1003</a>	Aux. (female)
<a href="#">107TA1003</a>	Aux. (male)



### PROTECTION COVERS

REF	Description
<a href="#">139TA3245</a>	For socket
<a href="#">139TA3246</a>	For plug





ANDERSON EC CONNECTORS

## ANDERSON EC CONNECTORS

### COMPLETE CONNECTORS (housing + contacts)

REF	Description	Wire AWG	Wire size (mm <sup>2</sup> )
<a href="#">106TA1018</a>	Locking half	2/0	70 mm <sup>2</sup>
<a href="#">106TA1019</a>	Mounting half	2/0	70 mm <sup>2</sup>
<a href="#">106TA1020</a>	Charging half	2/0	70 mm <sup>2</sup>



### HOUSINGS

REF	Description
<a href="#">106TA1021</a>	Locking half
<a href="#">106TA1022</a>	Mounting half
<a href="#">106TA1023</a>	Charging half



### CONTACT SETS

REF	Wire AWG	Wire size (mm <sup>2</sup> )
<a href="#">106TA1024</a>	2	35
<a href="#">106TA1025</a>	2/0	70
<a href="#">106TA1026</a>	4/0	107



### AUXILIARY CONTACT SET

REF	Wire AWG	Wire size (mm <sup>2</sup> )
<a href="#">106TA1027</a>	14	2,5



### ACCESSORIES

REF	Description
<a href="#">107TA1009</a>	Insulation block
<a href="#">106TA1029</a>	Cable clamp
<a href="#">106TA1030</a>	Cable gland



## ANDERSON YC CONNECTORS

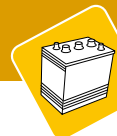
REF	Description	Wire size
<a href="#">106TA9959</a>	Plug (aluminium) with contact set	70 mm <sup>2</sup>
<a href="#">106TA9960</a>	Contact set	70 mm <sup>2</sup>
<a href="#">106TA9961</a>	Plug (polycarbonate) with contact set	70 mm <sup>2</sup>
<a href="#">106TA9962</a>	Contact set	70 mm <sup>2</sup>
<a href="#">106TA9963</a>	Receptacle (with contact set)	70 mm <sup>2</sup>
<a href="#">106TA9964</a>	Contact set	70 mm <sup>2</sup>



## BATTERY CONNECTORS USED FOR FENWICK

REF	Description	Wire size
<a href="#">106TA9950</a>	Plug (aluminium) with contact set	50 mm <sup>2</sup>
<a href="#">106TA9951</a>	Contact set	50 mm <sup>2</sup>
<a href="#">106TA9952</a>	Aux. contact set	
<a href="#">106TA9953</a>	Receptacle (rubber) with contact	50 mm <sup>2</sup>
<a href="#">106TA9954</a>	Contact set	50 mm <sup>2</sup>
<a href="#">106TA9955</a>	Aux. contact set	
<a href="#">106TA9956</a>	Receptacle with contact set	50 mm <sup>2</sup>
<a href="#">106TA9957</a>	Contact set	50 mm <sup>2</sup>
<a href="#">106TA9958</a>	Aux. contact set	





## BATTERY CONNECTORS BERG CAST ALUMINIUM

### CHARGING CONNECTOR WITH HANDLE

REF	Description	DIN	Amp.
<a href="#">105TA4689</a>	With bushes (female)	43584	160 A
<a href="#">106TA1037</a>	With bushes (female)	43586	125 A



### CHARGING PLUG

REF	Description	DIN	Amp.
<a href="#">105TA4690</a>	With contact pins (male)	43581	160 A



### BUILT-IN CHARGING APPLIANCE

REF	Description	DIN	Amp.
<a href="#">106TA1041</a>	Inlet with contact pins (male)	43584	160 A
<a href="#">106TA1042</a>	Inlet with contact pins (male)	43586	125 A



### BUILT-IN CHARGING OUTLET

REF	Description	DIN	Amp.
<a href="#">106TA1038</a>	With contact bushes (female)	43581	160 A
<a href="#">107TA1014</a>	With contact bushes (female)	43571	125 A



### CHARGING PLUG INSERTS

REF	Description	Amp.
<a href="#">106TA1043</a>	Charging plug inserts (male)	160 A
<a href="#">106TA1044</a>	Charging plug inserts (male)	125 A



### CHARGING SOCKET INSERTS

REF	Description	Amp.
<a href="#">106TA1045</a>	Charging socket insert (female)	160 A
<a href="#">106TA1046</a>	Charging socket insert (female)	125 A





## BATTERY CONNECTORS USED FOR BALKANCAR

REF	Description	Amp.	Wire size
<a href="#">112TA4834</a>	On the battery	100 A	25 mm <sup>2</sup>
<a href="#">112TA4836</a>	On the battery	200 A	35 mm <sup>2</sup>
<a href="#">112TA4838</a>	On the battery	300 A	50 mm <sup>2</sup>



REF	Description	Amp.	Wire size
<a href="#">112TA4835</a>	Vehicle/charger	100 A	25 mm <sup>2</sup>
<a href="#">112TA4837</a>	Vehicle/charger	200 A	35 mm <sup>2</sup>
<a href="#">112TA4839</a>	Vehicle/charger	300 A	50 mm <sup>2</sup>



## BATTERY CONNECTORS USED FOR BT

REF	Description	Amp.	Wire size
<a href="#">106TA1057</a>	Female connector	150 A	50 mm <sup>2</sup>
<a href="#">106TA1058</a>	Male connector	150 A	50 mm <sup>2</sup>



## BATTERY CONNECTORS TYPE CABLEFORM

REF	Color	Amp.	Wire size
<a href="#">106TA1059</a>	Red	175 A	50 mm <sup>2</sup>
<a href="#">106TA1060</a>	Black	175 A	50 mm <sup>2</sup>







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## BATTERY CONNECTORS JAPANESE MAKES

### CONNECTORS USED FOR TCM FORKLIFTS

REF	Description
<a href="#">106TA1049</a>	4-pole - 20 A - 250 V
<a href="#">107TA1016</a>	4-pole - 30 A - 250 V



### CONNECTORS USED FOR TOYOTA FORKLIFTS

REF	Description
<a href="#">112TA4832</a>	Female - 4-pole - 30 A - 250 V
<a href="#">106TA1047</a>	Female - 5-pole - 30 A - 250 V
<a href="#">106TA1048</a>	Male - 4-pole - 30 A - 250 V
<a href="#">112TA4833</a>	Male - 5-pole - 30 A - 250 V



## BATTERY CONNECTORS FOR E-Z-GO GOLF CARS

### PLUG KIT



REF [124TA2655](#)  
Plug kit

### SOCKET



REF [124TA2656](#)  
Socket

BATTERY CONNECTORS JAPANESE MAKES / BATTERY CONNECTORS FOR E-Z-GO GOLF CARS



## EX-PROOF CONNECTORS



### EX-PROOF connectors:

Flame proof single-pole connector in conformity with EN 50014 and 50019, 250 V, 250 A

#### EX PLUG

Wire	REF plug positive	REF plug negative	Dimensions
25-50 mm <sup>2</sup>	<a href="#">112TA4947</a>	<a href="#">112TA4840</a>	Max length: 1360 mm Max Ø: 50 mm Max weight: 330 g
70 mm <sup>2</sup>	<a href="#">112TA4948</a>	<a href="#">112TA4841</a>	



#### EX PLUG WITH CODING SYSTEM

Wire	REF plug positive	REF plug negative	Dimensions
25-50 mm <sup>2</sup>	<a href="#">112TA4949</a>	<a href="#">112TA4842</a>	Max length: 1360 mm Max Ø: 50 mm Max weight: 330 g
70 mm <sup>2</sup>	<a href="#">112TA4950</a>	<a href="#">112TA4843</a>	

#### EX SOCKET WITH SCREW-CONNECTION

Type	REF	Dimensions
M12	<a href="#">112TA4844</a>	Max length: 760 mm Max Ø: 50 mm Max weight: 195 g



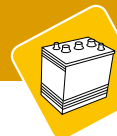
#### EX SOCKET WITH SCREW-CONNECTION, WITH CODING SYSTEM

Type	REF	Dimensions
M12	<a href="#">112TA4845</a>	Max length: 760 mm Max Ø: 50 mm Max weight: 195 g

#### ACCESSORY

Description	REF
Assembly tool for socket	<a href="#">112TA4846</a>





## BATTERY CONNECTORS ACCESSORIES

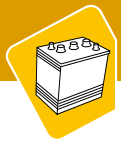
### Reducer bushings



REF	Reduces from	
	AWG	mm <sup>2</sup>
<a href="#">106TA9869</a>	#6 to #10/12	13,3 to 5,3/3,3
<a href="#">106TA9868</a>	#6 to #8	13,3 to 8,4
<a href="#">106TA9870</a>	#6 to #14/16	13,3 to 2,1/1,3
<a href="#">138TA4448</a>	#2 to #4	33,6/21,2
<a href="#">138TA4449</a>	#2 to #6	33,6/13,3
<a href="#">138TA4450</a>	#2 to #8	33,6/8,4
<a href="#">138TA4451</a>	1/0 to #10	53,5 to 5,1
<a href="#">106TA9874</a>	1/0 to #6	53,5 to 13,3
<a href="#">106TA9871</a>	1/0 to #1	53,5 to 42,4
<a href="#">106TA9872</a>	1/0 to #2	53,5 to 33,6
<a href="#">106TA9873</a>	1/0 to #4	53,5 to 21,2
<a href="#">106TA9878</a>	2/0 to 1/0	67,4 to 53,5

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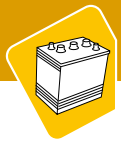
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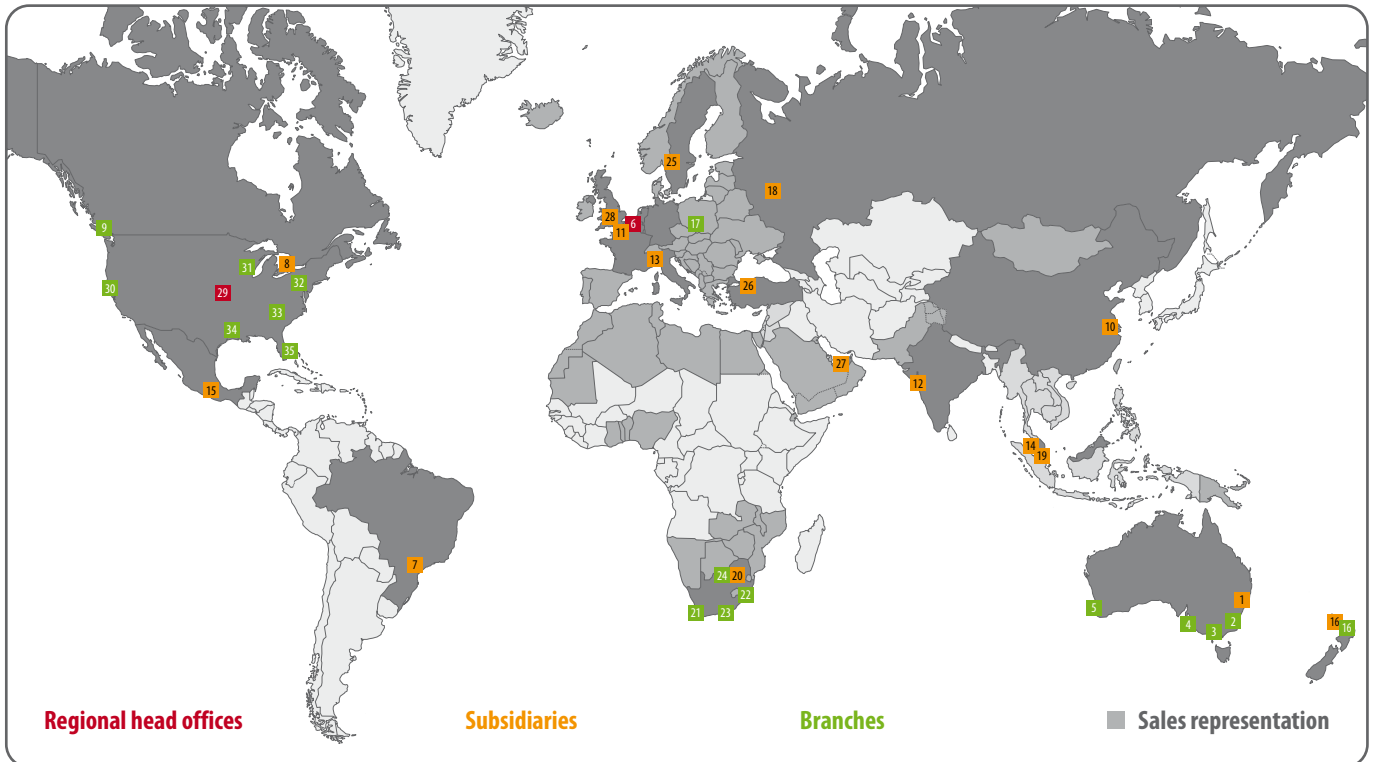
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