JAROCELLS
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MANUAL
LITHIUM ION BATTERY
JARO-HIGH CAPACITY

5 YEARS WARRANTY

JARO-BT28.12

HIGH CAPACITY

01 / 2024

SPECIFICATIONS BATTERY

Parameter	BT28.12
Capacity	28Ah
Voltage nominal	11,1V
Temperature during charging	0 – 45°C
Voltage during charging	12,6V±0,1V
Maximum charge current	10A
Recommended charge current	≤6A
Temperature during discharge	-20 - 50°C
Output voltage range	9,0 – 12,6V
Maximum discharge current	20A
Maximum power per battery	200W
Battery disconnects at	8,5 - 9,0V
Length	151mm
Width	65mm
Height	95mm
Weight	1,5kg
Recommended storage temperature	5 – 30°C
Self discharge rate	< 15% per year (+ Bluetooth 5% per month)
When not in use	Charge every 3 months when not in use
Lifespan	> 1000 charge cycles

SAFETY GUIDLINES

General safety

Attention should be paid to all safety instructions in this manual. Keep the manual located close to the battery for future reference. Maintenance or repair work should only be carried out by qualified personnel. A damaged or abnormal functioning battery should not be used. Keep the battery away from children. The battery should be used for general purpose, small drive trains (Baitboats, etc.) and source for small electrical equipment (Fishfinders, lab equipment, cameras, etc.). The batteries should not be used for critical equipment like medical equipment unless a thorough risk analysis has been conducted.

BOOTSHALLE

Explosion and fire

> The battery terminals have a different polarity. For this reason, you should not place any conductive materials on the battery. When working close to the battery it is advised not to ware any jewelry or watches to prevent short circuits.
> The battery should not come in contact with fire or be placed close to a heat source.
> Although the battery case is rain proof, contact with very humid air and water should be avoided as much as possible. Store the battery on a dry and safe place.
> Use a type D, foam or CO_2 type fire extinguisher in case of fire.

Safety and protection

> Never try to open the battery or dismantle the battery. The battery contains electrolyte. Under normal operational conditions contact with the electrolyte is impossible. If the battery casing is damaged do not touch the electrolyte or other materials released from the battery. In case of contact with the electrolyte: rinse thoroughly with water and consult a doctor.
> Prevent damaging of the battery. A damaged battery should not be used anymore.
> A damaged battery has to be disposed according local guidelines as small chemical waste.
> Prevent mechanical shock and extreme vibrations as the batteries can get damaged. Never cut or drill in the casing.
> Use only special Li-ion chargers (12,6V CC/CV).

Instructions for connecting battery packs

> Use cables of sufficient thickness. Pay attention to the required current load and length of the cables.
> Putting batteries in series is not allowed.
> Up to three batteries can be placed in parallel to increase the capacity. For safety reasons however it's recommended to limit the current to two times the maximum current of one battery or to fuse every battery separately by a fuse of two times the maximum continuous current of one battery. This is to avoid large current spikes across one battery as the other batteries would fail.

BOOTSHALLE

Charging and discharging

> The battery may only be charged with the cables supplied with the battery charger. Extending the charger cables can cause slow or not completely charging of your battery.
> Only a charger suitable for Li-ion (12,6V) may be used to charge the battery.
> The battery must not be charged with damaged cables. Check this before charging the batteries.
> Use the charger in a dry environment. The charger should not come into contact with moisture unless it is a waterproof charger.
> A JARO BT battery cannot be overcharged, is protected against over-discharging and will not be damaged when completely discharged.
> When discharging, ensure that the maximum current remains within specifications. It is important that sufficient battery capacity installed to prevent operating outside

specifications at maximum consumption. Although the battery switches off at high current, this only happens after a certain time to be able to absorb peak currents. Working outside the normal current range regularly will shorten the life of the battery.

> Check the battery regularly for State of Charge (SOC) and charge it if the battery is less than 50% SOC or less than 10,5V.
> In case the battery is not used for a longer period of time it is recommended to disconnect all the equipment from the battery to prevent discharge by e.g. monitoring instruments.
> The battery should not be charged when the temperature of the battery is below 0°C. Discharging the battery up to -20°C is allowed. Since the battery temperature will increase during discharge, charging can be done directly after discharge when the temperature is over 0°C.
> A fully discharged battery should be recharged within 24 hours. The loads will be disconnected automatically when the battery is fully discharged but the remaining energy is minimal. Self-discharge can lead to damage of the battery when the battery is left in fully discharged state for a longer period.
> Even if the battery is not completely discharged, it is recommended to fully charge the battery at least once every three months to recalibrate the internal measurements to ensure that the reading remains reliable.

Warnings for transportation

> Transportation of the batteries should be done packed in the original packaging or a packaging suitable to protect the battery against shock of falling on the ground.
> Make sure the batteries are fixed properly during transport to prevent shifting of the load. Avoid mechanical shocks such as knocks and falls.

THE JARO LI-ION APP

General

All information that is available within the battery about the degree of charge, power consumption, voltage, temperature, etcetera is made available via a wireless Bluetooth connection to be read via the Bluetooth App on an Android or Apple device. The main advantage of the App is that the status and performance of the battery can be monitored in real time without the need to install additional instruments.

To download and install

> Download the **Jaro li-ion App** of your choice from the App store or Google Playstore.
> Switch on your Bluetooth and allow the App to use Location services.

BOOTSHALLE

Connect to the battery

> Open the App on your device.
NOTE: The battery must be within a range of <6 meters from your device.
> When the App is activated, it will search for batteries in the area and display them in a list on the screen.
> Click on the battery you want to connect to.
> The App connects to the chosen battery and will display the data from this battery.

Important safety warning

> In some Apps you are allowed to change settings of the BMS, including safety settings. Never change any setting to avoid that your warranty is void and to prevent accidents like overheating or fire.

Change the name of the battery

> Tap the pen icon on the top right of the screen to change the name of the battery **(max. 18 characters)**. Use the password **5678** and confirm.

WARRANTY

> The warranty period is five years for the battery and two years for the charger.
> The warranty applies to normal use according to recommendations and within specifications of the product.
> The warranty does not go beyond repair or replacement of the delivered goods. Consequential damage is expressly stated excluded.
> In all cases where the warranty conditions are not clear, an attempt will be made to resolve the complaints within reason unload. This within the provisions of liability.

Liability

> Besides the warranty provisions on the delivered goods, JAROCELLS B.V. will not accept any liability. JAROCELLS B.V. shall not be liable for any direct, incidental or consequential damages of any nature, or losses or consequential damages or losses or expenses resulting from the use of this product.
> The user of the product should take all precautions, required to prevent damage.
> In case JAROCELLS B.V. will be held responsible for damage or losses caused by the product, the compensation payed by JAROCELLS B.V. will not exceed the payments of the assurance company. When the damage is not covered by the insurance, the maximum payment will be equal to the total of the invoice.
> Liability and right to warranty is in any case excluded with: damage due to external disasters such as lightning strike, the use of an unsuitable charger, incorrect installation or use, repairs have been carried out by third parties or changes have been made to the product, using the battery or charger if water or possible water has entered the housing of the equipment or using the battery when defects are visible or signaled (such as heat distortion, smelling scorching air, loosening of parts, etc.).

SPECIFICATIONS CHARGER

Parameter	JCC12/6 Li-ion
Designed for	BT28.12 Li-ion
Voltage range input	190 - 250VAC
Frequency	45 - 55 Hz
Maximum battery voltage	12,6VDC
Charging method	CC/CV
Maximum charge current	6A
Battery type	Li-ion 3S
Connector type	XT60
Switch from CC to CV	5% of maximum charge current
Efficiency	> 85%
Battery charge indicator	Led battery fully charged
Shortcut protection DC	Yes
High voltage protection DC	Yes
High temperature charger	Yes
Protection class	IP22
Material	Aluminium
Colour	Silver
Charger size l x w x h	150 x 95 x 50mm
Weight	0,8kg

Manual

> Connect the XT60 connector of the charger via a XT60-6,3mm (included) interface cable to the battery terminals. One red led will go on.
> Connect the charger with the mains. Both leds will show a red light now, a sign that the charger is charging the battery.
> At the moment the second led shows a green light instead of red (so one red and one green led) the charging is finished and the battery is fully charged.
> Disconnect the battery from the charger and take the wall connector out of the mains.

General safety

> Provide sufficient ventilation for the charger during the charging process.
> Never put the charger on top of the battery during the charging process.
> A charger should not be used by children. Keep the charger properly stored when not in use.
> The connector for the mains should only be used with a grounded mains outlet.
> The charger should only be used to charge the BT28.12 Li-ion battery.
> Don't dismantle the charger. A smell or strange sound should warn you not to use the charger anymore. Send the charger back to your supplier for repair.
> Only use the charging cables that are part of the charger. Making the charging cable longer can cause insufficient charging or a battery that will not be fully charged.
> Don't charge the batteries below 0°C.
> Make sure you connect the charger to mains with the correct voltage and frequency.

Attention should be paid to all safety instructions in this manual. Keep the manual located close to the charger for future reference. Maintenance or repair work should only been carried out by qualified personnel. Don't use the charger when wires are broken or damaged.

Risk on incidents during charging

> Make sure the connections between the charger and battery are tight. Without a good contact the terminals are getting hot with the risk of melting the surrounding plastic.
> Check after a few minutes of charging whether the contact on the terminals and connectors are still cold.
> Keep the charger not longer connected to the battery than required for charging. A few hours longer is no problem but keeping the charger connected constantly is not good for the lifetime of the battery.

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NEXT GENERATION BATTERY PACKS

BOOTSHALLE