



Lithium-Battery Pack with protection electronics (BMS single cells monitoring), protects the battery against overcharge, deep discharge and short circuit, Implemented cell balancing, with I2C-interface for service purposes (number of cycles, capacity, temperature, etc.)

#### Connectors:

Main line: cable with PP-connector + Red and - Black  
Interface connector: waterproof round connector

#### Applications

Automotive  
Military  
Industrial  
Medical  
and others



**UN 38.3 Tested**

#### Pack Specifications

Nominal Voltage	25.6 V
Capacity (Nominal)	28800 mAh ±6%
Energy	737 Wh
Weight	6850 grams ±50g.
Size, Max. (L x W x H) mm	250 x 235 x (78 ±1)

#### Operating Specifications

Operating Voltage	21.0 V to 29.2 V
Charge Voltage	(Max. 29.20 V)
Discharge End Volt.	21.0V
Operating Temperature:	
Discharge	-20°C to 60°C
Charge	0°C to 55°C
Max. Discharge Current	40A (continuous) 50 A ±5A (Peak)
Max. Charge Current	20A @ (10°C-45°C)

#### Storage Specifications

Storage Temperature	1 year : 0~25°C(1*)
Relative humidity (≤75%)	3 months : -0~45°C(1*)

Note (1): If the cell is kept as ex-factory status (≥ 30% of charge), the capacity recovery rate is more than 80%.

#### Standard charging method

0.5C CC (constant current) charge to Max. 29.20V, then CV (constant voltage Max. 29.20V) charge till charge current decline to ≤ 0.01C

#### Transportation

The transport of this battery should be noted that this is a Lithium iron phosphate (LiFePO4) battery (dangerous goods class 9 / UN3090 / packing group II, ADR / RID, IATA DGR, IMDG). During transport, do not subject the Batteries or the box(es) to violent shaking, bumps, rain and direct sunlight. Keep the Battery(s) at a 30% charged state.

#### Care and safety recommendations:

Never open, short circuit or put in fire. Do not install backwards. Avoid short circuit with metal objects.

#### ATTENTION:

Please pay attention to following recommendations:

1. Always avoid Deep discharge of the battery
2. Charge the battery before longer Storage.
3. Use only the battery charger specified for this battery type.
4. Do not leave battery in charger over 24 hours.
5. Keep it in a cool and dry place.
6. Avoid exposure to high temperatures.
7. Do not disassemble or modify the battery, may cause the battery to generate heat, explode or ignite.
8. Dispose properly used batteries. Dispose it according to the applicable recycling regulations. Contact your city recycling coordinator. Thank you.

#### NOTE:

Information and contents in this datasheet are for reference purpose only. They do not constitute any warranty or representation and are subject to change without notice.

### Overcharge/Overdischarge/Overcurrent Safety Circuits:

The controller IC measures the voltage for each cell (or for each parallel battery block) and shuts off a control switch to either prevent overcharging (if the voltage exceeds the specified voltage range) or to prevent over discharging (if the voltage falls below the specified voltage range). Moreover, the voltage of the control switch is measured on both ends and in order to prevent overcurrent, control switches are shut off if the voltage exceeds specifications.

#### • The Functions of the Safety Circuits (typical functions)

The voltages listed below are typical values and are not guaranteed. The charge voltage varies according to model number.

#### 1. The Overcharge Safety Function

The charge stops when the voltage per cell rises above  $3.85 \pm 0.05$  V.  
The charge restarts when the voltage per cell falls below  $3.60 \pm 0.05$  V.

#### 2. The Overdischarge Safety Function

The discharge stops when the voltage per cell falls below  $2.00 \pm 0.10$  V.  
The discharge restarts when the voltage per cell rises above  $2.7 \pm 0.1$  V.

#### 3. The Overcurrent Safety Function

The discharge is stopped when the output terminals are shorted. The discharge restarts when the short is removed.

### PFLEGE- UND SICHERHEITSHINWEISE FÜR LITHIUM AKKUS:

Akku **niemals** öffnen, kurzschließen, Nässe aussetzen oder ins Feuer werfen.  
Immer auf eine richtige Polarität (+/-) achten. Kurzschluss z.B. mit metallischen Gegenständen immer vermeiden.



**ACHTUNG:** der Akku kann bei nicht sachgemäßer Handhabung auslaufen, explodieren oder einen Brand verursachen. Die Lebensdauer jedes Akkus ist begrenzt und kann durch falsche Handhabung verringert werden. Daher bitte immer zusätzlich folgende Hinweise beachten:

1. Tiefentladung immer vermeiden (auf keinen Fall unter 21 V).
2. Akku vor längerer Nichtverwendung (z.B. Überwintern) aufladen (min. 50%), Kühl und trocken lagern.
3. Hohe Umgebungstemperatur und Feuchtigkeit vermeiden.
4. Akkus immer nur mit einem dafür geeignetem Ladegerät laden, die Hersteller Hinweise beachten und den Akku während des Ladeprozesses nicht unbeobachtet lassen.
5. die Akkus nicht höher als im Technischen Datenblatt angegeben belasten, Verbrauchte Akkus nicht in den Hausmüll, bitte immer bei den dafür vorgesehenen Sammelstellen abgeben. Danke sagt die Umwelt.



### CARE AND SAFETY INSTRUCTIONS FOR THE LITHIUM BATTERY:

Never open or short circuit the battery. Never expose the battery to moisture or fire. Always make sure the battery is connected with the correct polarity (+/-). Always avoid short circuits which can be caused, for example, by metal objects.

**CAUTION:** if the battery is misused there is a danger of leaks, explosion or fire! Only use chargers which are suitable for the specific type of battery. The useful lifetime of batteries is limited, and can be shortened by incorrect handling. To avoid damage to the battery, please observe the following instructions:

1. Always avoid deep discharging of the battery (in no way below 21 V), Store the battery in a cool dry place.
2. To store the battery for longer periods (e.g. in winter), first make sure it is charged (at least 50%)
3. Avoid exposing the battery to high ambient temperatures (in accordance with the technical data sheet of the battery).
4. Always charge batteries only with a suitable charger, Batteries should be observed during the charging process.
5. The batteries should not be higher loaded than mentioned in the technical specification.

Do not dispose of used batteries with domestic waste; always bring them to the designated collection centres. help the environment and health!



#### NOTE: