Jauch Battery Solutions

- Reliable energy for your application
- Standard cells and customized packs
- ESD protection
- Battery Certification Experts

RoHS compliant

Pb free

REACH compliant

Conflict Mineral free

SPECIFICATION

Cell Used: LR1865HB
Assembly: Protected cell
Jauch No.: 250669
Model: PROTECTED LI-ION RECHARGEABLE BATTERY – 18650
(Jauch internal SAP designation: LI18650JLS HB 3.35Ah protected)

	PREPARED BY	CUSTOMER APPROVAL	VERSION
SIGNATURE	SZA		1.4
DATE	20.12.2022		

RECORDS			
Rev. No.	Date	Changed by	Description
1.0	12.05.2022	TMU	First Edition
1.1	07.06.2022	TMU	Add UL file #
1.2	12.09.2022	TMU	Adjust charge temp. and certifications
1.3	20.12.2022	SZA	Change Label
1.4	09.07.2025	SZA	Add Jauch internal SAP designation to battery datasheet Model description

Jauch Quartz GmbH • email: batterytechnology@jauch.com
www.jauch.com

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SPECIFICATIONS

UL1642/UL2054	YES/NO
UN 38.3	YES
IEC62133-2:2017	YES
Nominal Voltage	3.6 V
Typ. Capacity	3350 mAh (0.2C, 2.5V discharge)
Rated Capacity	3250 mAh (0.2C, 2.5V discharge)
Weight	Approx. 50 g

CHARGING CHARACTERISTICS PER BATTERY PACK

Charge Voltage	4.2 V
Standard Current	670 mA
Max. Current	1005 mA
Operating Temperature	0°C to +45°C 0°C to +10°C (max. 335mA) +10°C to +20°C (max. 670mA) +20°C to +45°C (max. 1005mA)

PCM PARAMETER PER BATTERY PACK

Overcharge Det. Voltage	4.30 V ± 0.050 V
Overcharge Rel. Voltage	4.10 V ± 0.050 V
Overdischarge Det. Voltage	2.50 V ± 0.100 V
Overdischarge Rel. Voltage	2.90 V ± 0.100 V
Overcurrent Range	7.0 A - 15.0 A
PTC	I_{hold} = 5 A I_{trip} = 15 A

DISCHARGING CHARACTERISTICS PER BATTERY PACK

Cut-off Voltage	2.5 V
Standard Current	670 mA
Max. Current	5000 mA (+20°C to +40°C)
Operating Temperature	-20°C to +55°C
Recommended Storage Temperature	-20°C to +20°C (max. 6 months)
Delivery State of Charge	Max. 30%
Life Expectancy 0.3C Charge 1.0C Discharge @23°C	500 cycles ~ 70% of capacity

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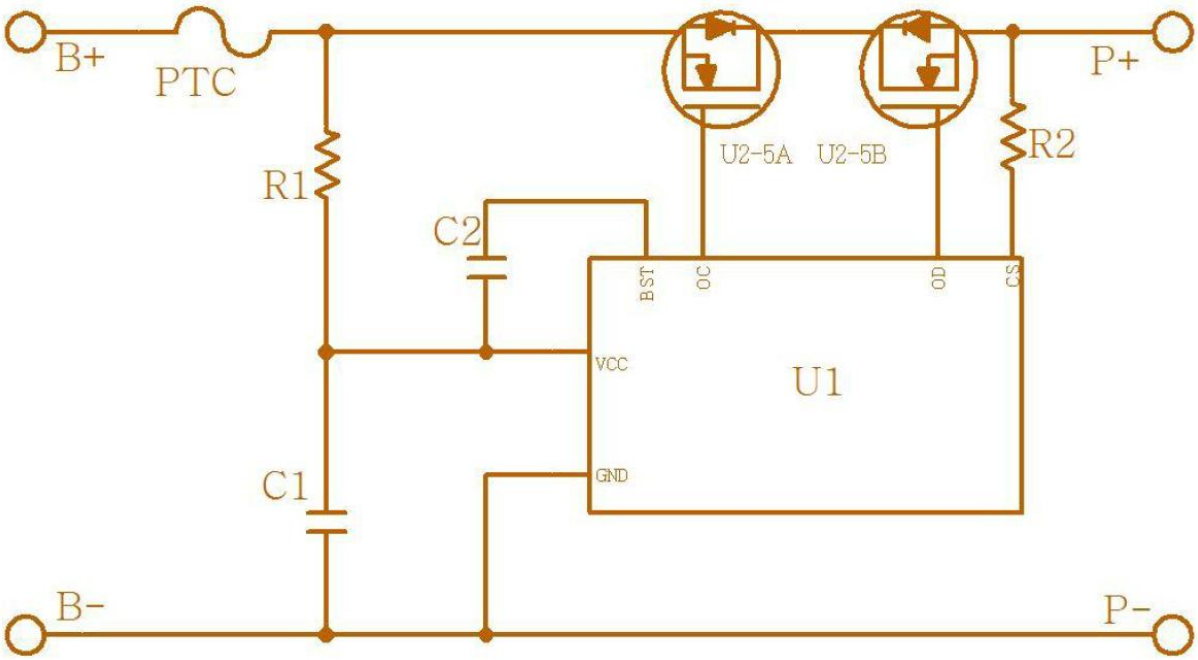
CRITICAL COMPONENTS

Item	Description	Specification	Qty	UL #
Cell	LR1865HB	Lithium Ion 18650 Cell – 3.6V, 3350mAh	1	MH27663
PCB	Protection Circuit Board	Protection circuit, Overvoltage, Undervoltage, Short circuit, over current protection	1	E492187
PTC	PTC	LN500	1	E202125

PCM SCHEMATIC



PCM BOM

No.	Position	Parts	Description	Package	Qty	UL-file #
1	U1	IC	SIT8036	SOT-23-6	1	
2	U2 – U5	MOS	8205	SOT-23-6	4	
3	R1, R2	Resistor	20Ω±5%	0603	2	
4	C2	Capacitor	0.1µF+80%-20% 50V	0603	1	
5	C1	Capacitor	4.7µF+80%-20% 25V	0603	1	

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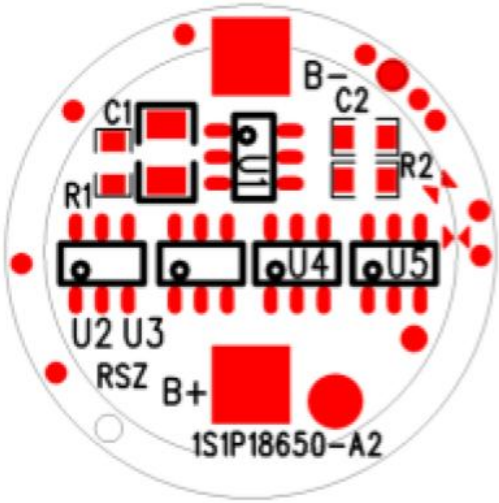
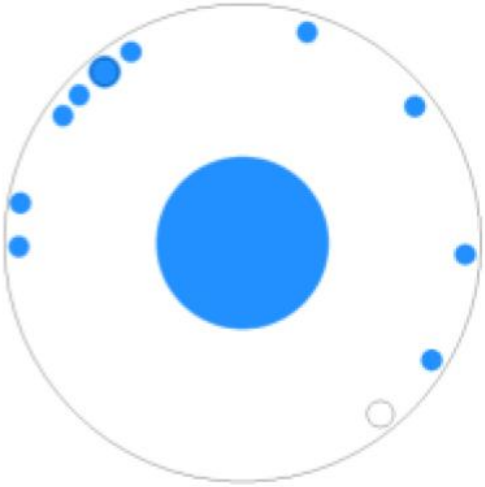
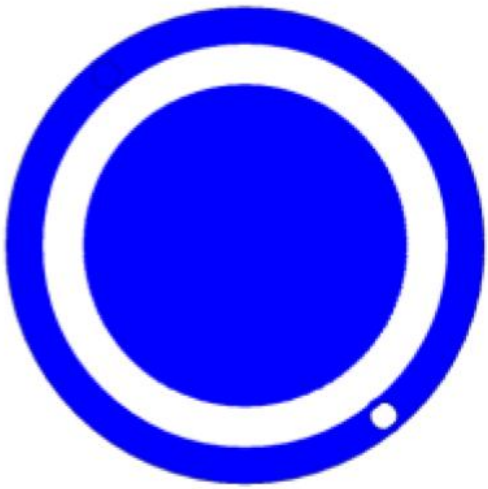
PCM LAYOUT







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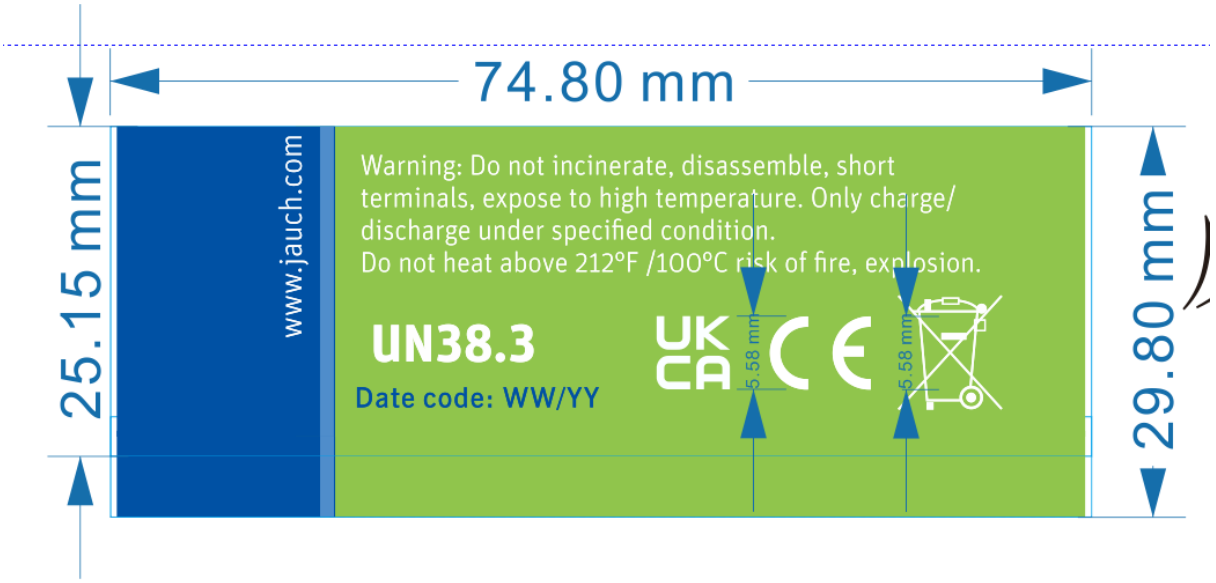
LABEL



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HANDLING AND STORAGE

Important notice:

If the battery is for backup use or if battery will be outside of the given temperature ranges – please consult with Jauch
When used correctly, Lithium-Battery-Packs / Rechargeable Lithium-Batteries provide a safe and dependable source of power. However, if they are misused or abused, leakage, venting, or in extreme cases explosion and / or fire may result. Make sure to observe amongst others, following warnings.

Caution

- Do not incinerate, disassemble, short terminals, expose to high temperature 100°C (212°F) risk of fire, explosion.
- Keep small cells and batteries which are considered swallowable out of the reach of children.
- Swallowing may lead to burns, perforation of soft tissue and death. Severe burns can occur within 2 h of ingestion.
- In case of ingestion of a cell or battery, seek medical assistance promptly.
- In case of a cell leakage, avoid skin or eye contact. Affected areas must be washed immediately with copious amounts of water and seek medical advice.

Handling

- Do not insert batteries in reverse. Observe the polarity markings on battery and equipment
- Do not short-circuit batteries
- Do not overcharge batteries
- Do not force discharge batteries
- Do not mix batteries
- Do not overheat batteries by exposure to high temperatures and direct sunlight.
- Do not weld or solder directly to batteries
- Do not dismantle batteries
- Do not deform batteries
- Do not dispose of batteries in fire
- A battery with a damaged pouch should not be exposed to water
- Do not allow children to replace batteries without adult supervision
- Keep batteries out of the reach of children. In case of ingestion of a cell or battery, the person involved should seek medical assistance promptly
- Equipment intended for use by children should have battery compartments which are tamper-proof
- Do not encapsulate and/or modify batteries
- Exhausted batteries should be immediately removed from equipment and disposed of
- When discarding batteries with solder tags, insulate the tags by wrapping them with tape, foil, etc.

Charge

- Charging method must be Constant Current – Constant Voltage (CC-CV)
- The specified charging characteristics shall not be exceeded
- Do not leave a battery on prolonged charge. Do not charge over the night.

Storage

- Store unused batteries in their original packaging and keep them away from metal objects which may short circuit them.
- Storing unpackaged cells together could result in cell shorting and heat build-up
- Store and display batteries in their original packaging in well ventilated, dry and cool conditions
- Avoid storing or display batteries in direct sun or in places where they get exposed to rain
- The normal storage of Lithium-ion Battery Pack is made at temperature between +10°C and +25°C, never exceeding +30°C In this way the maximum shelf-life (i.e. max. retention of cell performances after storage periods) of Lithium-Ion-Battery Pack is achieved
- Storage temperatures above room temperature will increase the rate of self-discharge, reducing the available capacity of the cell. Humidity above 95% R.H. and below 40% R.H. should also be avoided for sustained periods, as these extremes are detrimental to batteries
- Storing the cells / batteries at low temperature is also suggested, but attention must be paid when transferring the cells to warmer environments, because of the possibility of having water condensing on to the cells (risk of short circuits)
- Do not stack battery cartons on top of each other exceeding a specified height. The height is clearly dependent on the strength of the packaging. As for general rule this height should not exceed 1.5 m for cardboard packages or 3 m for wooden cases. The above recommendations are equally valid for storage conditions during prolonged transit. Thus, batteries should be stored away from ship engines and not left for long periods in unventilated metal box cars (containers) during summer.

Use of battery in devices

- The size and shape of the terminal contacts shall ensure that they can carry the maximum anticipated current. External terminal contact surfaces shall be formed from conductive materials with good mechanical strength and corrosion resistance. Terminal contacts shall be arranged so as to minimize the risk of short circuit.
- Don´t use metal battery holders which surround the battery casing and the positive pol at the same time.
- Avoid damaging the heat shrink tubing. This can lead to a short circuit.
- When inserting the battery into the application, do not use metal equipment to prevent a short circuit.
- The device and charger shall incorporate temperature measurement near to the battery.
- The device and charger shall incorporate additional protection against foreseeable misuse. The specified parameters shall not be exceeded.

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