



Rechargeable Lithium-Ion battery pack specification

Type: CL18650-29E1S1P-ST

| Date of issue | Date of change | Change number | Remarks |
|---------------|----------------|---------------|---------|
| 20.07.2019 | - | - | - |

The information contained in this specification is subject to change without notice.

1. SCOPE

This specification describes the technical parameters and requirements of the rechargeable Li-Ion battery pack powered by Cellevia Batteries.

2. BATTERY PACK BASIC SPECIFICATION

| NO | ITEM | SPECIFICATION | REMARK |
|----|---------------------|---------------------------|------------------------------|
| 1 | Type | CL18650-29E1S1P-ST | |
| 2 | Nominal Voltage | 3.65 V | |
| 3 | Rated Capacity | 2750 mAh | 0.55 A to 2.5 V discharge |
| 4 | Rated Energy | 10 Wh | |
| 5 | Internal Resistance | <100 mΩ | at 1kHz, typical |
| 6 | Cell type | INR18650-29E | 1 pcs |
| 7 | Cell configuration | 1S1P | |
| 8 | Dimension | Drawing (see point no. 5) | |
| 9 | Weight | 50 g ± 2 g | |
| 10 | Thermistor NTC | --- | |
| 11 | Leads | Wires, 24AWG UL1007/1569 | Length: 100 ± 5 mm with plug |
| 12 | Plug | Molex 43025-0200 | |

3. BATTERY PACK STANDARD TESTING CONDITIONS

| NO | ITEM | SPECIFICATION | | REMARK |
|----|--|-----------------|-------------------------------------|-------------------------------------|
| 1 | Charging Voltage | 4.2 V ± 0.1 V | | |
| 2 | Discharge Cut-off Voltage | 2.5 V ± 0.1 V | | |
| 3 | Charging Current | Standard | 1375 mA to 4.2 V, end current 55 mA | CC/CV method |
| | | Fast | 2750 mA to 4.2 V, end current 55 mA | not for cycle life |
| 4 | Charging Time | Standard charge | 3 hours | or 0.02C end curr. |
| | | Fast charge | 2.5 hours | or 0.02C end curr. |
| 5 | Discharging Current | Continuous | 2750 mA | Limited by cell |
| | | Non continuous | 4000 mA | Limited by BSU See point no. 4.2 |
| 6 | Temperature Range (pack surface temp.) | Charge | 0 ~ +45°C | |
| | | Discharge | -20 ~ +60°C | |
| | | Storage | -10 ~ +25°C | 1 year |

4. BATTERY SAFETY UNIT SPECIFICATION

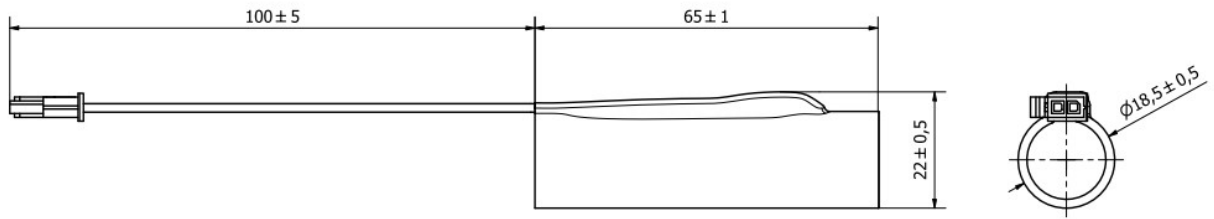
4.1. BASIC PARAMETERS

| NO | ITEM | | MIN | TYPICAL | MAX | UNIT | REMARKS |
|----|--|------------|-------|---------|-------|--------|--|
| 1 | Over charge detection voltage | Cut off | 4.225 | 4.25 | 4.275 | V/cell | 0.9 – 1.5 s |
| | | Release | 4.0 | 4.05 | 4.1 | V/cell | |
| 2 | Over discharge detection voltage | Cut off | 2.45 | 2.5 | 2.55 | V/cell | 100 - 200ms |
| | | Release | 2.9 | 3.0 | 3.1 | V/cell | |
| 3 | Discharge Over current detection current | Cut-off | 6 | 7 | 8 | A | 7 – 20 ms |
| | | Release | --- | | | - | Cut load, Auto recovery or charging activation |
| 4 | Short-circuit protection | Delay time | 200 | 300 | 500 | us | |
| | | Release | --- | | | - | Cut load or charging activation |
| 5 | Temperature range | Operating | -40 | | 80 | °C | |
| | | Storage | -55 | | 125 | °C | |
| 6 | Resistance | | 20 | 40 | 50 | mΩ | |
| 7 | Consumption current | | | | 15 | uA | |

4.2. ADDITIONAL PARAMETERS

| NO | ITEM | PARAMETER | REMARK |
|----|-------------------------|-----------|------------------|
| 1 | Max. continuous current | 3 A | charge/discharge |
| 2 | Current limit | 4 A | t < 15s |

5. OUTLINE DRAWING



6. PICTURE





Lithium-Ion Battery

CL18650-29E1S1P-ST

| | | | |
|-----------------|-----------|-----------------------|--------------|
| Nominal voltage | 3.65 V | Max charge voltage | 4.20 V |
| Rated capacity | 2750 mAh | Max charge current | 2.75 A |
| Rated energy | 10 Wh | Max discharge current | 2.75 A |
| Charge temp. | 0 to 40°C | Discharge temperature | -20 to 60 °C |

SAFETY NOTES

Do not throw. Do not hit. Do not disassemble. Do not immerse in liquid.
Do not short-circuit. Do not heat and burn. Observe the conditions of use.
Production date:19W29

7. CAUTION IN USE

To ensure proper use of the battery please read the manual carefully before using it.

7.1. HAZARD WARNINGS

- Do not expose to, dispose of the battery in fire,
- Do not put the battery in a charger or equipment with wrong terminals connected,
- Avoid shorting the battery,
- Avoid excessive physical shock or vibration,
- Do not disassemble or deform the battery,
- Do not immerse in water.
- Do not use the battery mixed with other different make, type or model batteries
- Keep out of the reach of children

7.2. CHARGE AND DISCHARGE

- Battery must be charged in appropriate charger only,
- Never use a modified or damaged charger,
- Do not leave battery in charger over 24 hours

7.3. STORAGE

- Store the battery in a cool, dry and well-ventilated area,
- Store the battery in a 30% - 50% SOC,
- The batteries shall be charged every 6 months during storage

7.4. DISPOSAL

Regulations vary for different countries. Dispose of in accordance with local Regulation.