

## 1. SCOPE

This specification describes the electrical, mechanical and environmental parameters for this battery pack consisting of a Lithium Ion cell 15.2V/ 6.6Ah, with protection safety circuit and gas gauge.

## 2. Dimensions:

- Thickness = 0.864''
- Width = 2.311''
- Length = 11.25''

## 3. Weight: 1.415 lb

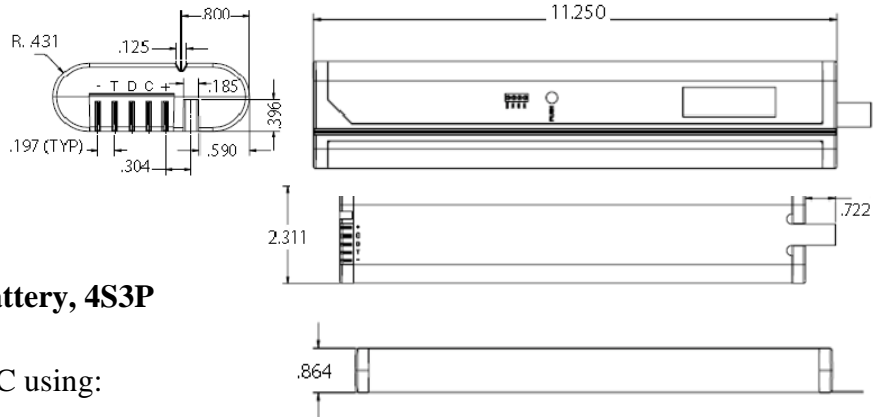
## 4. Cell specification: Lithium- Ion Battery, 4S3P

4.1 Nominal voltage: 15.2V

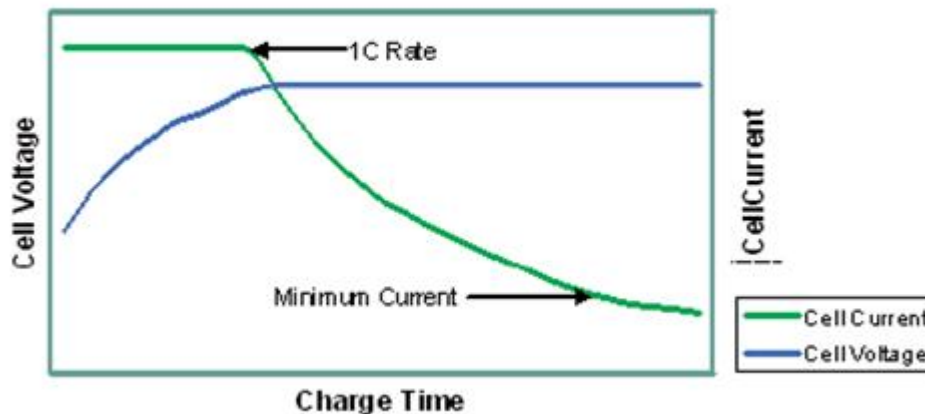
4.2 Capacity: Nominal 6.6Ah at 25°C using:

- Charge profile of 16.8V
- Recommended charge current of 3750mA
- Charging time of 3 hrs or a taper current of 330mA (C/20)
- Discharge profile with a maximum current of 1320mA (C/5) to 2.5V

4.3 Charging Battery:



### Lithium Ion Charging Characteristics



4.3.1 Charging Condition:

- CV of 16.8V max
- CC of 6.0A max.

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4.3.2 To charge lithium-ion battery packs please follow the charging instruction stated below:

#### Charging instructions

- **Charge Voltage:** Limit the maximum charge voltage to 4.2V times the number of cells connected in series. This charging voltage is noted on the product specification sheet.
- **Charge current:** Packs should be charged at C rate for lithium-ion cells. C is the nominal capacity of the pack. (Example: for a 2400 mAh cell, charge at 2.4A).
- **Pre-charge:** If the cells are deeply depleted (less than 2.9V per cell), packs should be charged at 10% of their capacity (Example: for a 2400 mAh cell, charge at 240 mA) until reaching 3.0V per cell when charging can be continued as stated above.
- **Charge temperature:** Do not charge lithium ion cells at less than 0°C or more than 45°C.
- **Reverse polarity:** When connecting the cells to a charger, verify proper polarity.
- **Charge method:** Lithium ion cells should be charged using a constant current/constant voltage (CC/CV) method. Apply the charge current as stipulated above in step 2 until the pack reaches the voltage measured in step 1. Then, hold the voltage constant until the current tapers down to about 5% of nominal capacity (Example: for a 2400 mAh cell, charge until current is 120 mA).

#### 4.4 Discharge condition:

- Cutoff voltage of 3.0V
- Maximum discharge current of 6.0A.

4.5 Cycle life: 84% of initial minimum capacity after 300 cycles at 0.5C, 21°C

#### 4.6 Temperature:

- Charge 0~45°C
- Discharge -20~60°C
- Storage -20~20°C

4.7 Products shipped have 40% state of charge typical

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## 5. Protection Safety Circuit

- Main IC controller is Texas Instruments BQ20z90 with BQ29330 Analog front end
- Overcharge cutoff voltage: 4.30V +/-50mV
- Overdischarge cutoff voltage: 2.20V +/- 50mV
- Overcurrent detection will not occur below 8.25A and will occur above 10.0A
- Thermistor 10k ,5%
- Gold-Plated Contacts

## 6. Additional component

- Polyester Label
- Polycarbonate ABS Plastic Tray
- Polycarbonate ABS Plastic Cover
- Nomex, Kapton Tape, PVC Heat Shrink, or similar insulators

## 7. Storage temperature and Humidity range

- -20~20°C,45-85%RH (within 1year)
- -20~45°C,45-85%RH (within 3 month)
- -20~60°C,45-85%RH (within 1 month)

## 8. Storage cautions

- Do not store packs in places of high temperature or under direct sunlight
- For long term storage, store packs in 30% charge state.
- Do not store packs in place which may expose them to rain, water or high humidity.

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