

### Features

- Compact, fully enclosed splash proof design
- Over 1,000,000 duty cycles
- Individually balanced cells

### Applications

- Automotive
- Industrial
- Railway transportation
- Heavy duty machinery
- Locomotive engine startup system

### Specifications



#### ELECTRICAL

Nominal capacitance	165 F
Capacitance tolerance	-0% / +20%
Rated voltage	48 V
Absolute Maximum Voltage	51 V
ESR, DC	5.0 mΩ
Maximum continuous current (Δ T=40°C)	100 A
Maximum peak current, 1 sec.	2275 A
Leakage current (25°C, after 72h)	5.2 mA

#### TEMPERATURE

Operating temperature range	-40°C to +65°C
Storage temperature range	-40°C to +70°C

#### PHYSICAL

Weight	14.5 kg
Power Terminals	M8/M10
Recommended Torque - Terminal	20/30 Nm
Vibration Specification	IEC 255-21-1
Shock Specification	IEC 255-21-2
Environmental Protection	IP65

#### MONITORING / CELL VOLTAGE MANAGEMENT

Internal Temperature Sensor	NTC Thermistor
Cell Voltage Monitoring	Overvoltage Alarm

#### POWER AND ENERGY

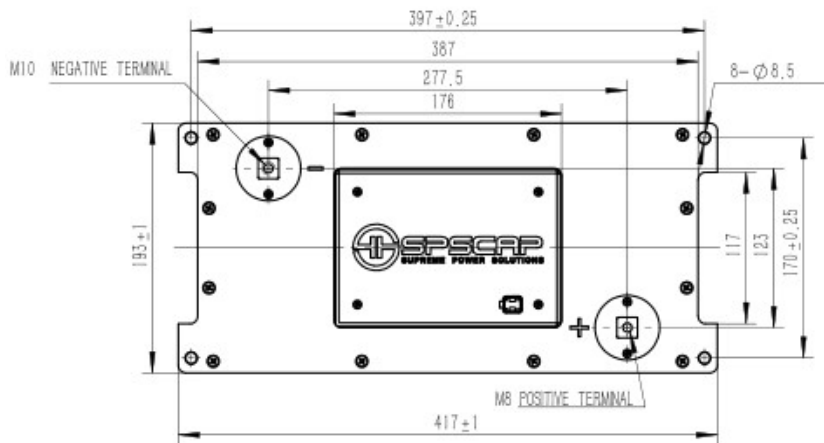
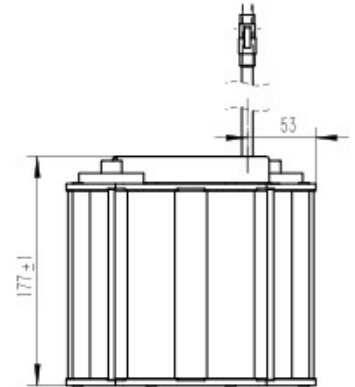
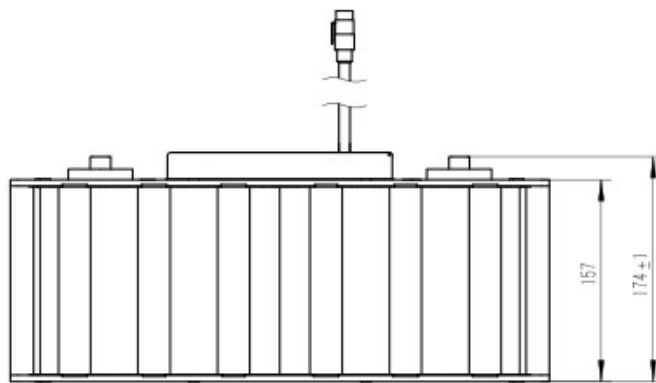
Usable power density (Pd)	3,800 W/kg
Impedance match power density (Pmax)	8,000 W/kg
Gravimetric energy density (E <sub>max</sub> )	3.8 Wh/kg
Energy available	52.8 Wh

**LIFE**

<b>High Temperature</b> (at Rated Voltage & Maximum operating Temperature)	1,500 hours
Capacitance change (% decrease from minimum initial value)	≤20%
ESR change (% increase from maximum initial value)	≤100%
<b>Room Temperature</b> (at Rated Voltage at 25°C)	10 years
Capacitance change (% decrease from minimum initial value)	≤20%
ESR change (% increase from maximum initial value)	≤100%
<b>Cycle Life</b> (Number of cycles)	1,000,000
Capacitance change (% decrease from minimum initial value)	≤20%
ESR change (% increase from maximum initial value)	≤100%
<b>Shelf Life</b> (Stored uncharged up to a maximum storage temperature)	2 years

**SAFE**

<b>Factory High-Pot Test</b>	2,500 V DC
<b>Environment humidity</b>	≤96%

**Dimensions**

**Part Number**
**Dimension (mm)**

	L (±1mm)	W (±1mm)	H (±1mm)
MCP0165C0-0048R0SHC	417	193	177

**Pin Definition**

Pin Number	Wire color	Defination	Output
1	Black	GND	
2	Red	Over voltage alarm	High - Inactive Low - Active
3	Void	Void	
4	Green	Temperature	

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