

MCP0500C0-0016R0SHC



FEATURES AND BENEFITS

- Compact, fully enclosed splash proof design
- Highest power performance
- Individually balanced cells
- Over 1,000,000 duty cycles
- Ultra-low internal resistance

TYPICAL APPLICATIONS

- Automotive
- Industrial
- Telecommunications
- Railway transportation
- Uninterruptible Power Supplies(UPS)

SPECIFICATIONS

ELECTRICAL

Capacitance

Nominal capacitance	500 F
Capacitance tolerance	+20% / -0%

Voltage

Rated voltage	16 V
Absolute Maximum Voltage	17 V

Resistance

ESR, DC	1.8 mΩ
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Current

Maximum continuous current ($\Delta T=40^{\circ}\text{C}$)	100 A
Maximum peak current, 1 sec.	2275 A
Leakage current (25°C, after 72h)	5.2 mA

TEMPERATURE

Operating temperature range (Cell case temperature)	-40°C to +65°C
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Storage temperature range (Storage uncharged)	-40°C to +70°C
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PHYSICAL

Weight	5.7 kg
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Power Terminals	M8/M10
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Recommended Torque - Terminal	20/30 Nm
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Vibration Specification	GB-T 11287-2000
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Shock Specification	GBT 14537-1993
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Environmental Protection	IP54
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MONITORING / CELL VOLTAGE MANAGEMENT

Internal Temperature Sensor	NTC Thermistor
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Cell Voltage Monitoring	Overvoltage Alarm
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POWER AND ENERGY

Usable power density (Pd)	2,990 W/kg
Impedance match power density (Pmax)	6,230 W/kg
Gravimetric energy density (Emax)	3.1 Wh/kg
Energy available	17.8 Wh

LIFE

High Temperature (at Rated Voltage & Maximum operating Temperature)	1,500 hours
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Capacitance change (% decrease from minimum initial value)	≤20%
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ESR change (% increase from maximum initial value)	≤100%
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Room Temperature (at Rated Voltage at 25°C)	10 years
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Capacitance change (% decrease from minimum initial value)	≤20%
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ESR change (% increase from maximum initial value)	≤100%
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Cycle Life (Number of cycles)	1,000,000
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Capacitance change (% decrease from minimum initial value)	≤20%
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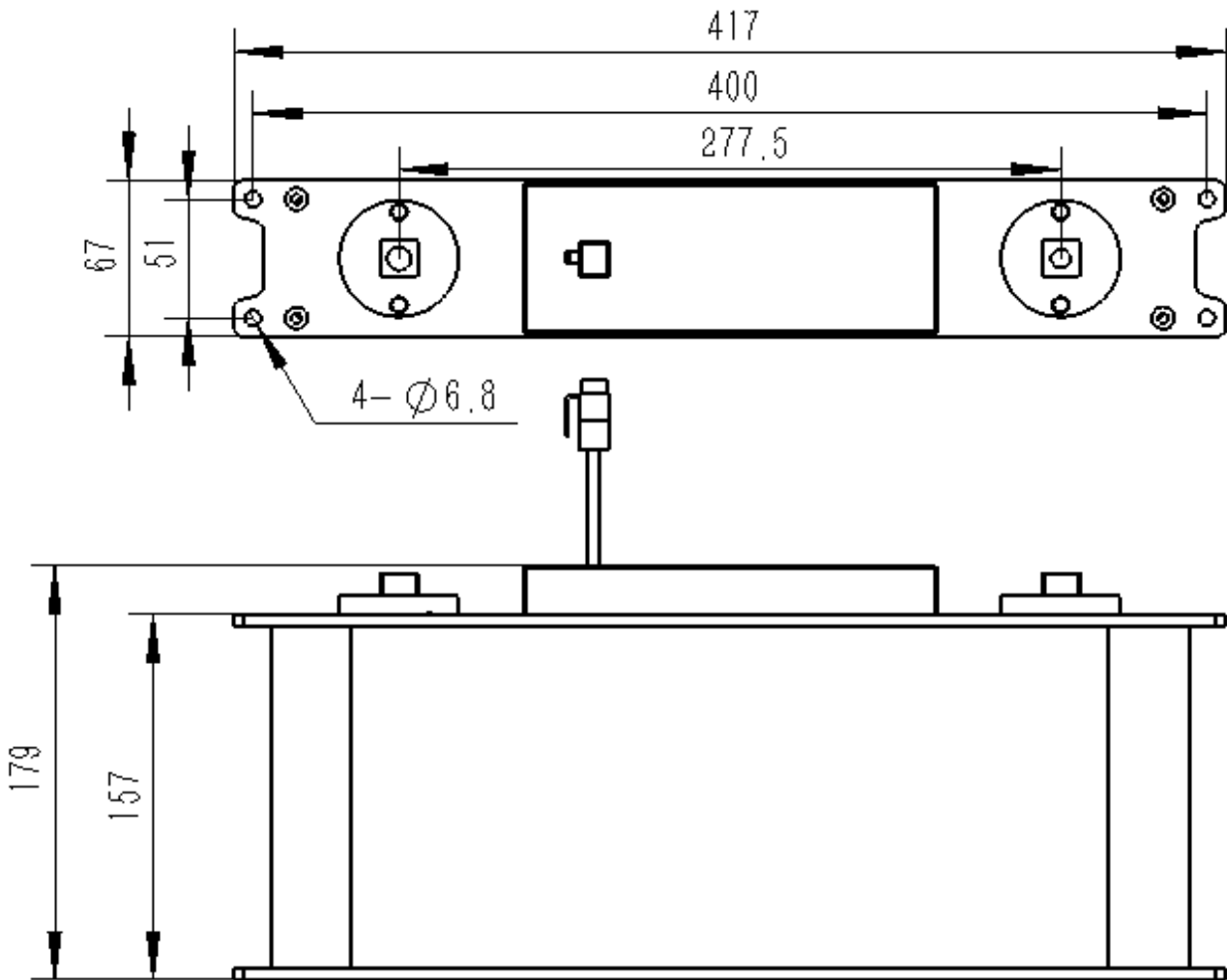
ESR change (% increase from maximum initial value)	≤100%
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Shelf Life (Stored uncharged up to a maximum storage temperature)	2 years
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Factory High-Pot Test	1,500 V DC
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Environment humidity	≤90%
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Pin No.	Wire color	Defination	Output
1	Black	GND	
2	Red	Over voltage alarm	High - Inactive Low - Active
3	Void	Void	
4	Green	Temperature	

Part Number	Dimension (mm)			Package Quantity(set)
	L (±0.5mm)	W (±0.5mm)	H (±0.5mm)	
MCP0500C0-0016R0SHC	417.0	67.0	179.0	2

Product dimensions are for reference only unless otherwise identified. Product dimensions and specifications may change without notice.
Please contact SPS directly for any technical specifications critical to application.