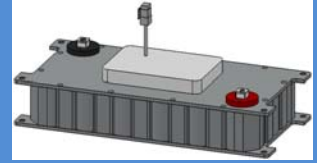


MCP0036C0-0048R0SHC



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 | 36 F |
| Capacitance tolerance | +20% / -0% |

Voltage

| | |
|--------------------------|------|
| Rated voltage | 48 V |
| Absolute Maximum Voltage | 51 V |

Resistance

| | |
|---------|-------|
| ESR, DC | 16 mΩ |
|---------|-------|

Current

| | |
|--|--------|
| Maximum continuous current ($\Delta T=40^{\circ}\text{C}$) | 60 A |
| Maximum peak current, 1 sec. | 500 A |
| Leakage current (25°C, after 72h) | 1.8 mA |

TEMPERATURE

| | |
|---|----------------|
| Operating temperature range (Cell case temperature) | -40°C to +65°C |
|---|----------------|

| | |
|---|----------------|
| Storage temperature range (Storage uncharged) | -40°C to +70°C |
|---|----------------|

PHYSICAL

| | |
|---------------|--------|
| Weight | 8.5 kg |
|---------------|--------|

| | |
|------------------------|--------|
| Power Terminals | M8/M10 |
|------------------------|--------|

| | |
|--------------------------------------|----------|
| Recommended Torque - Terminal | 20/30 Nm |
|--------------------------------------|----------|

| | |
|--------------------------------|-----------------|
| Vibration Specification | GB-T 11287-2000 |
|--------------------------------|-----------------|

| | |
|----------------------------|----------------|
| Shock Specification | GBT 14537-1993 |
|----------------------------|----------------|

| | |
|---------------------------------|------|
| Environmental Protection | IP65 |
|---------------------------------|------|

MONITORING / CELL VOLTAGE MANAGEMENT

| | |
|------------------------------------|----------------|
| Internal Temperature Sensor | NTC Thermistor |
|------------------------------------|----------------|

| | |
|--------------------------------|-------------------|
| Cell Voltage Monitoring | Overvoltage Alarm |
|--------------------------------|-------------------|

POWER AND ENERGY

| | |
|---|------------|
| Usable power density (Pd) | 2,032 W/kg |
| Impedance match power density (Pmax) | 4,235 W/kg |
| Gravimetric energy density (Emax) | 1.36 Wh/kg |
| Energy available | 11.5 Wh |

LIFE

| | |
|---|-------------|
| High Temperature (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% |
|---|-------|

| | |
|---|----------|
| Room Temperature (at Rated Voltage at 25°C) | 10 years |
|---|----------|

| | |
|---|------|
| Capacitance change (% decrease from minimum initial value) | ≤20% |
|---|------|

| | |
|---|-------|
| ESR change (% increase from maximum initial value) | ≤100% |
|---|-------|

| | |
|---|-----------|
| Cycle Life (Number of cycles) | 1,000,000 |
|---|-----------|

| | |
|---|------|
| Capacitance change (% decrease from minimum initial value) | ≤20% |
|---|------|

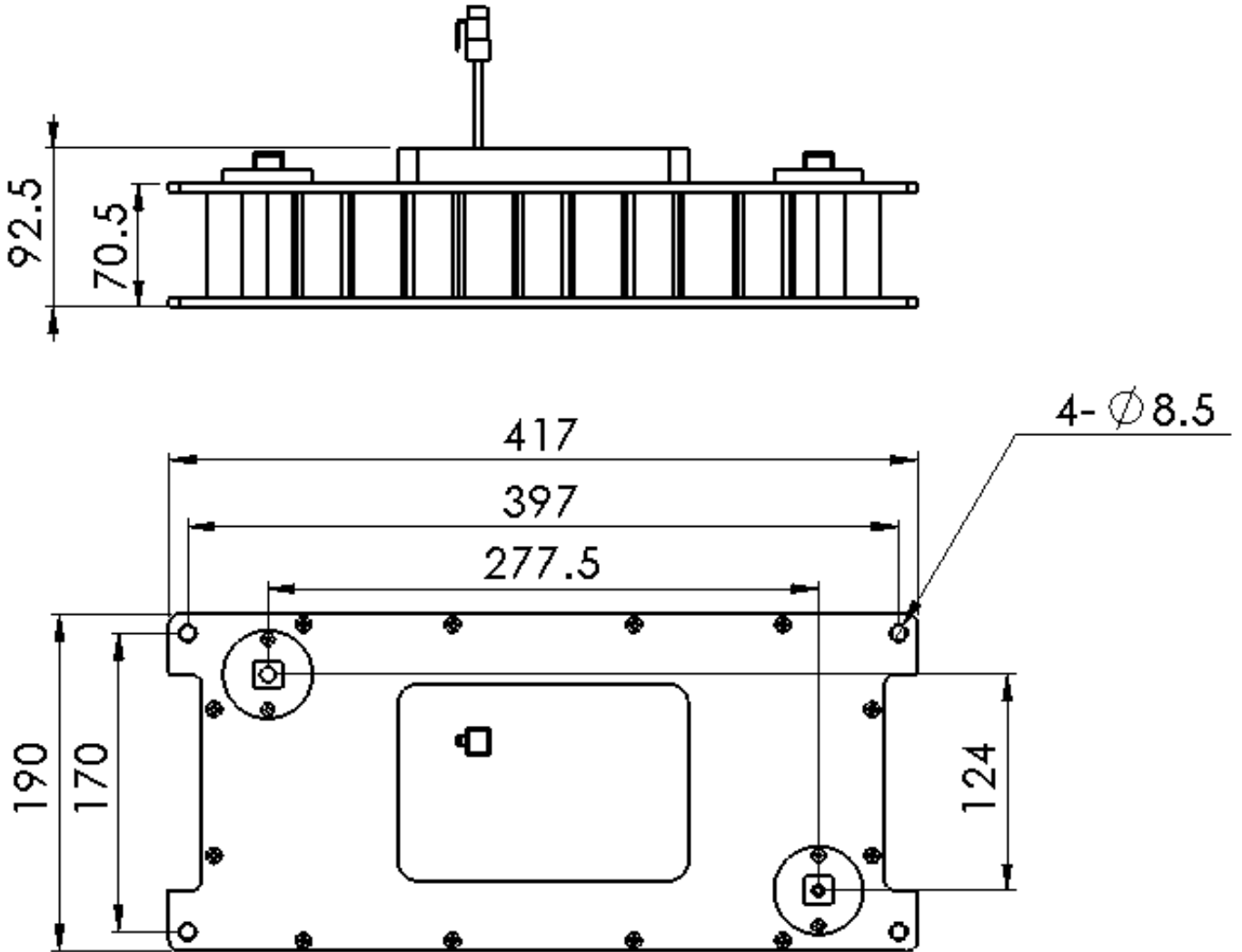
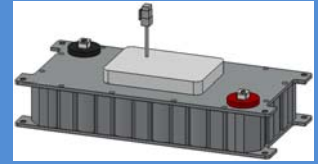
| | |
|---|-------|
| ESR change (% increase from maximum initial value) | ≤100% |
|---|-------|

| | |
|---|---------|
| Shelf Life (Stored uncharged up to a maximum storage temperature) | 2 years |
|---|---------|

| | |
|------------------------------|------------|
| Factory High-Pot Test | 1,500 V DC |
|------------------------------|------------|

| | |
|-----------------------------|------|
| Environment humidity | ≤96% |
|-----------------------------|------|

MCP0036C0-0048R0SHC



| 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) | |
| MCP0036C0-0048R0SHC | 417.0 | 190.0 | 92.5 | 1 |

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.