SDU DIN Rail DC UPS Series

The SDU DIN Rail DC UPS is an advanced 24 Vdc uninterruptible power system that combines an industry leading, high power density with a wide operational temperature range and unique installation options. The SDU DIN UPS is a powerful, microprocessor controlled UPS that provides AC power to connected systems when input DC power is applied to the UPS. When input DC power is lost, the SDU DC UPS switches to battery back-up. If the UPS includes an automatic self-test feature that checks the UPS and battery functions. Battery charging occurs automatically when input DC power is applied. When input DC power is removed, the battery is no longer supplied, the UPS will sound an alarm and go into an SDU rated DC current limit state.

Back-up power protection in modern industrial applications depends mainly on AC UPS. AC is converted to DC, and converted back to AC in the AC UPS, then the DC UPS. Critical areas requiring AC power back-up solutions in your facilities need our SDU DIN Rail DC UPS. By applying the new SolaHD SDU DIN Rail DC UPS, you avoid the inefficiencies of all these conversions. This design maximizes system up-time flexibility, and optimizes reliability assurance.

Related Products

- STV 25K Series Surge Protection
- SDN-C Series DIN Rail Power Supplies
- SDN-P Series DIN Rail Power Supplies
- DCC Series DIN Rail Mounting Component

Features

- Modular, rugged industrial grade design
- High efficiency in a compact enclosure
- Automatic self-test feature for UPS function and battery management checks
- Power module wide operation temperature (-40°C to +70°C)
- Remote 10-32VDC expansion capabilities
- Overload protection in normal and battery modes
- User replaceable batteries
- Both power and battery modules are UL508 listed
- CATV/VOF, 20-24 Vdc input and output screw terminals
- No internal fan, no extra cooling required
- Ground, reliably all metal DIN Rail Mounting Rail
- LED Status Indicators
- Universal, quick Contact Relay terminals provide remote signaling
- Monitoring, diagnostics, and remote turn-on and turn-off capabilities
- Limited two-year warranty

Applications

- Industrial/Machine Control
- Automation Process Control
- Computer-based Control Systems
- Packaging Machines
- DeviceNet
- Pharmaceutical Applications
- Control Rooms
- Amusement Park Equipment
- Semiconductor fabrication equipment
- Control Rooms
- Pharmaceutical Applications

Battery Options

- DIN Rail Mounted Battery
- External Battery

Selection

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
<th>Approx. VDC, Weight lbs (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDU 20-24</td>
<td>24 Vdc, 24A/250 VA SDU DIN Rail DC UPS power module, battery module is required</td>
<td>1.65 (0.75)</td>
</tr>
<tr>
<td>SDU 30-24</td>
<td>24 Vdc, 30A/350 VA SDU DIN Rail DC UPS power module, battery module is required</td>
<td>1.65 (0.75)</td>
</tr>
<tr>
<td>SDU 24-BAT</td>
<td>24 Vdc DIN Rail/Pannel Mount Battery Module (cable included)</td>
<td>12.0 (5.5)</td>
</tr>
<tr>
<td>SDU 24-BATTER</td>
<td>24 Vdc External Mount Battery Module (cable included)</td>
<td>6.0 (2.7)</td>
</tr>
<tr>
<td>SDU 24-BBYX</td>
<td>External Battery Module cable to 24V DC UPS</td>
<td>0.5 (0.22)</td>
</tr>
</tbody>
</table>

There are three individual hardware products when putting an SDU DC UPS system into operation:

1. SDU DIN Rail DC UPS Power Module: the power module is required and connects the 24 Vdc power supply to the 24Vdc to DC UPS. Power module wide operation temperature range (-20°C to +50°C) and battery management check. Automatic self-test feature for UPS function and battery management checks. Power module wide operation temperature range (-40°C to +70°C)

2. SDU Battery Module: the battery module is required and connects the 24Vdc to DC UPS. Power module wide operation temperature range (-20°C to +50°C) and battery management check. Automatic self-test feature for UPS function and battery management checks. Power module wide operation temperature range (-40°C to +70°C)

3. SDU DIN Rail DC UPS External Battery Module: the external battery module is required and connects the 24Vdc to DC UPS. Power module wide operation temperature range (-20°C to +50°C) and battery management check. Automatic self-test feature for UPS function and battery management checks. Power module wide operation temperature range (-40°C to +70°C)

Battery Options

- DIN Rail Mounted Battery
- External Battery
**Notes:**

1. AC/DC Power Supply
2. Power Module: SDU 10-24 or SDU 20-24
3. Battery Module: SDU 24-BAT
4. Optional battery module for extended Back-up.

**Specifications**

**Catalog Number**
- SDU 10-24
- SDU 20-24

**Input Voltage**

<table>
<thead>
<tr>
<th>SDU 10-24</th>
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</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc</td>
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</tr>
</tbody>
</table>

**Input Voltage Range**
- 22.5 - 30 Vdc

**Input Fuse**
- DC Fuse 30A

**Output Voltage Range**
- 20 Vdc

**Output Current**
- 10A

**Output Limit**
- 20A

**Protection**

Fuses for overload & short circuit protection

**Warranty**

Electronic Circuit Protection

**Short Circuit**

UPS output cut out immediately

**Battery Module**

Maintenance-free lead acid batteries

**Charging Current**
- 0.5 A

**Typical Recharge Time**
- 8 hours for 1 Battery Module
- 10 hours for 2 Battery Modules
- 12 hours for each additional Battery Module

**Back-up Time (full load)**
- 14 minutes
- 4 minutes

**Environment**

- Audible Noise: <40 dBA (1 meter from surface)
- Power Module Operating Temperature: -20 degrees C to +50 degrees C
- Storage Temperature: -20 degrees C to +70 degrees C
- Humidity: 0-95%
- Max Elevation: 3500 meters (11,483 feet)
- Shock & Vibration: According to ISTA 2A

**Battery Module Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>SDU 24-BAT</th>
<th>SDU 24-BATM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Voltage</td>
<td>24 Vdc</td>
<td>24 Vdc</td>
</tr>
<tr>
<td>Protection</td>
<td>Fuse: 30A</td>
<td>Circuit Breaker: 25A</td>
</tr>
<tr>
<td>Dimensions (in. (mm))</td>
<td>4.88 x 8.27 x 4.55</td>
<td>124 x 204 x 116</td>
</tr>
<tr>
<td>Weight (lb)</td>
<td>12 (5.33)</td>
<td>16 (7.11)</td>
</tr>
</tbody>
</table>

**Mounting**

- Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted, optional screw mounting set SDU-PMBRK.

**Safety Standards**

- UL 60950-1, UL508, CE, CAN/CSA C22.2 No 107.1-01
- EN 62040-2 Category C2, EN 55022 Class A, IEC 61000-3-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6 + A1, IEC 61000-4-8

**General**

- MTBF: > 200,000 Hours, MIL-STD HDBK-217F
- Installation: Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping.
- Mounting: Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted, optional screw mounting set SDU-PMBRK.
- Case: Fully enclosed metal housing with ventilation grid to keep out small particles.

**Notes:**

1. See Battery Back-up Times below.
2. DC UPS System includes one power module (SDU 10-24 or SDU 20-24) and one or more battery modules (SDU 24-BAT or SDU 24-BATM).
### Back-Up Times (Typical)

**SDU 10-24 with SDU 24-BAT**

<table>
<thead>
<tr>
<th>Load</th>
<th>20% (2A)</th>
<th>40% (4A)</th>
<th>60% (6A)</th>
<th>80% (8A)</th>
<th>100% (10A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 unit</td>
<td>113</td>
<td>56</td>
<td>28</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>2 units</td>
<td>247</td>
<td>114</td>
<td>56</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>3 units</td>
<td>396</td>
<td>177</td>
<td>85</td>
<td>42</td>
<td>21</td>
</tr>
<tr>
<td>4 units</td>
<td>545</td>
<td>233</td>
<td>117</td>
<td>58</td>
<td>28</td>
</tr>
</tbody>
</table>

**SDU 20-24 with SDU 24-BATEM**

<table>
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<tr>
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<th>20% (4A)</th>
<th>40% (8A)</th>
<th>60% (12A)</th>
<th>80% (16A)</th>
<th>100% (20A)</th>
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<tbody>
<tr>
<td>1 unit</td>
<td>46</td>
<td>21</td>
<td>10</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2 units</td>
<td>92</td>
<td>42</td>
<td>20</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>3 units</td>
<td>178</td>
<td>80</td>
<td>40</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
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**SDU 20-24 with SDU 24-BAT**

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