The SDN-C Redundancy (RED) Modules support redundant power supply operation. The RED module continually monitors the condition of two power supplies connected to a single load. If one power supply fails, the RED module automatically changes over to the other power supply.

The MOSFET design of the RED modules generate less heat than traditional diode-based designs. Less heat translates to longer life of the components that are housed in the same enclosure as the RED module, and a more compact design of the RED module itself, saving on panel space.

Diagnostic LEDs assist in balancing the load between the two power supplies during normal operation, extending the life of both power supplies. Output status information can be easily provided to a PLC or other control equipment, using the RED module’s relay output contact.

Extensive certifications mean the RED modules are suitable internationally, for harsh industrial environments and even hazardous locations. The RED module works with SolaHD SDN-C and SDN-P Series power supplies, as well as most power supplies capable of parallel operation.

Three models are available. Choose the model that most closely matches your application requirements, per the Selection Table. For non-redundant operation, please contact SolaHD Technical Services for additional information.

**SUITABLE APPLICATIONS**
- Hazardous Locations
- Process Control
- Critical Production
- Remote Location

**ESSENTIAL FEATURES**
- Redundant power supply operation with true isolation
- Compact size saves panel space
- Extensive diagnostics
- Load balancing support extends power supply life
- Use in hazardous locations, with T4 temperature rating
- Works with a wide variety of power supplies

**RELATED PRODUCTS**
- SDN-C Series power supplies
- SDN-P Series power supplies

### CERTIFICATIONS AND COMPLIANCES
- UL Listed, Ind. Control Equipment, E61379
  - UL 508, CSA C22.2 No. 107.1
- UL Recognized Component, ITE, E137632
  - UL 60950-1 / CSA C22.2 No. 60950-1, 2nd Edition
- UL Recognized Component, Haz. Loc., E234790
  - UL 60079-15 / CSA E60079-15
    - Class I, Zone 2, A Ex nA nC IIC, Ex nA nC IIC
- Low Voltage Directive
  - IEC60950-1, 2nd Edition
- ATEX Directive
  - EN60079-0, EN60079-7, EN60079-15
    - II 3 G, Ex ec nC IIC Gc
- IECEx Certified
  - IEC 60079-0, IEC 60079-7, IEC 60079-15
    - Ex ec nC IIC Gc
- TR CU 012/2011 Safety of Equipment intended for Explosive Atmospheres
- Type Approved
- DNV-GL Certified
- RoHS Compliant

### SELECTION TABLE

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max Current (Redundant)</th>
<th>Max Current (Non-redundant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDN 2X10RED</td>
<td>10A</td>
<td>20A</td>
</tr>
<tr>
<td>SDN 2X20RED</td>
<td>20A</td>
<td>40A</td>
</tr>
<tr>
<td>SDN 2X40RED</td>
<td>40A</td>
<td>80A</td>
</tr>
</tbody>
</table>
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>SDN 2X10RED</th>
<th>SDN 2X20RED</th>
<th>SDN 2X40RED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Voltage Range</td>
<td>10.8-30.8 V DC (SELV)</td>
<td>12-28 Vdc</td>
<td>30.8 Vdc</td>
</tr>
<tr>
<td>- Nominal Voltage</td>
<td>12-28 Vdc</td>
<td>12-28 Vdc</td>
<td>12-28 Vdc</td>
</tr>
<tr>
<td>- Maximum Voltage</td>
<td>2 x 20A, 1 x 40A (40°C to +70°C)</td>
<td>2 x 20A, 1 x 40A (40°C to +70°C)</td>
<td>2 x 35A, 1 x 70A (40°C to +70°C)</td>
</tr>
<tr>
<td>Maximum Current</td>
<td>2 x 10A, 1 x 20A (40°C to +70°C)</td>
<td>2 x 24A, 1 x 48A (40°C to +60°C)</td>
<td>2 x 40A, 1 x 80A (40°C to +60°C)</td>
</tr>
<tr>
<td>- Nominal Voltage</td>
<td>12-28 Vdc</td>
<td>12-28 Vdc</td>
<td>12-28 Vdc</td>
</tr>
<tr>
<td>Voltage Drop (input-output)</td>
<td>0.2V Typical</td>
<td>0.2V Typical</td>
<td>0.2V Typical</td>
</tr>
<tr>
<td>Current Handling Capacity (Power Boost)</td>
<td>50A for 5 seconds</td>
<td>65A for 5 seconds</td>
<td>120A for 5 seconds</td>
</tr>
<tr>
<td>Type of Protection</td>
<td>Protect against static surge voltages &gt;30V</td>
<td>Protect against static surge voltages &gt;30V</td>
<td>Protect against static surge voltages &gt;30V</td>
</tr>
</tbody>
</table>

### Output

| Nominal Voltage | 12-28 Vdc | 12-28 Vdc | 12-28 Vdc |
| Voltage Drop (input-output) | 0.2V Typical | 0.2V Typical | 0.2V Typical |
| Current Handling Capacity (Power Boost) | 50A for 5 seconds | 65A for 5 seconds | 120A for 5 seconds |

### Installation

- **Mounting**: DIN TS35/7.5 or TS35/15 rail system.
- **Connection**:
  - **Input**: 10–12 AWG (5.3–3.3 mm²) for solid/stranded conductors. Torque: 7 lb-inch (79.1 N-cm). 6–8AWG (13.3–8.4 mm²) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm).
  - **Output**: 6–8AWG (13.3–8.4 mm²) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm).
- **Contact Relay**: 12-22 AWG (3.0–0.33 mm²) for solid/stranded conductors. Torque: 4.4 lb-inch (49.7 N-cm).

### Dimensions

- **H x W x D (in/mm)**: 4.85 (123.2) x 1.38 (35.0) x 4.46 (113.3) 4.85 (123.2) x 1.81 (46.0) x 4.61 (117.0)
- **Weight (lb/kg)**: 0.8 (0.36) 1.1 (0.48)

### Environmental Data

- **Ambient Temperature**: Storage/Shipment: -40°C to +85°C. Full Nominal Load: -40°C to +70°C
- **Relative Humidity**: 0 to 95% RH, non-condensing
- **Altitude**: 0 to 6,000 meters (0 to 20,000 feet) per MIL-STD-810F
- **Degree of Protection**: IP20
- **Minimum Required Free Space for Cooling**: 0.39 in. [10.0 mm] above/below, 0.39 in. [10.0 mm] left/right. Do not obstruct air flow.
- **Warranty**: 5 years

### EMC

- EN 61326-1; EN 55022 +AC: Class B; EN 55011 + A1: Group 1 Class B; EN 61000-3-2; EN 61000-3-3; EN 55024; EN 61000-6-1; EN 61000-6-2:2005; EN 61000-6-3:2007+A1; EN 61000-6-4:2007+A1; IEC/EN 61000-4 SERIES REGULATIONS

### MTBF Telecordia SR-322 Issue 2

- >1.3M h (25°C) >1.2M h (25°C)

### General

- **Emissions/Immunity**: According generic standards: EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
- **Status Indicators**: (3) two-color LEDs (Vin1, Vin2, Vout) Normally Open “V_out OK” Relay Contact (60Vdc, 1A maximum)

## DIAGNOSTICS

### Condition

<table>
<thead>
<tr>
<th>PSU 1</th>
<th>PSU 2</th>
<th>LED Indicators</th>
<th>Contact Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>On</td>
<td>Off</td>
<td>V1= Green V2= Green V2= Green</td>
<td>Closed</td>
</tr>
<tr>
<td>Off</td>
<td>Off</td>
<td>Off Off Off Off</td>
<td>Open</td>
</tr>
<tr>
<td>On</td>
<td>Off</td>
<td>Green Off Green Off</td>
<td>Closed</td>
</tr>
<tr>
<td>Off</td>
<td>On</td>
<td>Off Green Green Off</td>
<td>Closed</td>
</tr>
<tr>
<td>V1&gt; V2</td>
<td>On</td>
<td>Red Green Green</td>
<td>Closed</td>
</tr>
<tr>
<td>V2&gt; V1</td>
<td>On</td>
<td>Green Green Red</td>
<td>Closed</td>
</tr>
<tr>
<td>No Output</td>
<td>Vout</td>
<td>Green Red Green</td>
<td>Open</td>
</tr>
</tbody>
</table>