

### SDN-C Redundancy Modules

The SolaHD 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.

#### Applications

- Hazardous Locations
- Process Control
- Critical Production
- Remote Location

#### 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** US Listed, Ind. Control Equipment, E61379 - UL 508, CSA C22.2 No. 107.1
- **UL** US UL Recognized Component, ITE, E137632 - UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition
- **UL** US UL Recognized Component, Haz. Loc., E234790 - UL 60079-15/CSA E60079-15 - Class I, Zone 2, AEx nA nC IIC, Ex nA nC IIC
- **CE** - Low Voltage Directive - IEC/EN60950-1, 2nd Edition
- **Ex** ATEX Directive - EN60079-0, EN60079-7, EN60079-15 - **Ex** II 3 G, Ex ec nC IIC Gc
- **IECEx** Certified - IEC 60079-0, IEC 60079-7, IEC 60079-15 - Ex ec nC IIC Gc
- **Ex EAC** TR CU 012/2011 Safety of Equipment intended for Explosive Atmospheres
- **ABS** Type Approved
- **DNV-GL** Certified
- RoHS Compliant

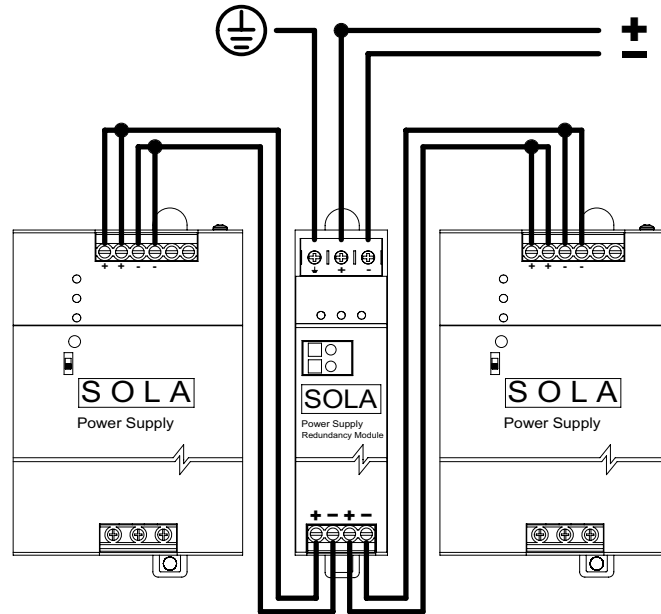
#### Selection Table

Part Number	Max Current (Redundant)	Max Current (Non-redundant)
SDN 2X10RED	10 A	20A
SDN 2X20RED	20A	40A
SDN 2X40RED	40A	80A

## SDN-C Redundancy Modules Specifications

Catalog Number	SDN 2X10RED	SDN 2X20RED	SDN 2X40RED
<b>Input</b>			
<b>Input Voltage Range</b>	10.8-30.8 V DC (SELV)		
– Nominal Voltage	12-28 Vdc		
– Maximum Voltage	30.8 Vdc		
<b>Maximum Current</b>	2 x 10 A, 1 x 20A (-40°C to +70°C) 2 x 12A, 1 x 24A (-40°C to +60°C) 2 x 12.5A, 1 x 25 A (-40°C to +50°C) 2 x 13A, 1 x 26A (-40°C to +40°C)	2 x 20A, 1 x 40A (-40°C to +70°C) 2 x 24A, 1 x 48A (-40°C to +60°C) 2 x 25 A, 1 x 50A (-40°C to +50°C) 2 x 26A, 1 x 52A (-40°C to +40°C)	2 x 35A, 1 x 70A (-40°C to +70°C) 2 x 40A, 1 x 80A (-40°C to +60°C) 2 x 42A, 1 x 85A (-40°C to +50°C) 2 x 45A, 1 x 90A (-40°C to +40°C)
<b>Type of Protection</b>	Protect against static surge voltages >30 V		
<b>Output</b>			
<b>Nominal Voltage</b>	12-28 Vdc		
<b>Voltage Drop (input–output)</b>	0.2V Typical		
<b>Nominal Output Current</b>	10 A (Redundant) 20A (Non-Redundant)	20A (Redundant) 40A (Non-Redundant)	40A (Redundant) 80A (Non-Redundant)
<b>Current Handling Capacity (Power Boost)</b>	50A for 5 seconds	65A for 5 seconds	120A for 5 seconds
<b>Inverse Polarity Protection</b>	Yes		
<b>Installation</b>			
<b>Mounting</b>	DIN TS35/7.5 or TS35/15 rail system.		
<b>Connection</b>			
– Input	10–12 AWG (5.3–3.3 mm <sup>2</sup> ) for solid/stranded conductors. Torque: 7 lb-inch (79.1 N-cm).		6–8AWG (13.3–8.4 mm <sup>2</sup> ) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm)
– Output	6–8AWG (13.3–8.4 mm <sup>2</sup> ) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm)		2–6AWG (33.6–13.3 mm <sup>2</sup> ) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm).
– Contact Relay	12-22 AWG (3.3-0.33 mm <sup>2</sup> ) for solid/stranded conductors. Torque: 4.4 lb-inch (49.7 N-cm)		
<b>Dimensions – H x W x D in (mm)</b>	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)
<b>Weight – lb. (kg)</b>	0.8 (0.36)		1.1 (0.48)
<b>Environmental Data</b>			
<b>Ambient Temperature</b>	Storage/Shipment: -40°C to +85°C Full Nominal Load: -40°C to +70°C		
<b>Relative Humidity</b>	0 to 95% RH, non-condensing		
<b>Altitude</b>	0 to 6,000 meters (0 to 20,000 feet) per MIL-STD-810F		
<b>Degree of Protection</b>	IP20		
<b>Minimum Required Free Space for Cooling</b>	0.39 in. (10.0 mm) above/below, 0.39 in. (10.0 mm) left/right. Do not obstruct air flow.		
<b>Warranty</b>	5 years		
<b>EMC</b>	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		
<b>MTBF Telecordia SR–322 Issue 2</b>	>1.3M h (25°C)		>1.2M h (25°C)
<b>General</b>			
<b>Emissions/Immunity</b>	According generic standards: EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4		
<b>Status Indicators</b>	(3) two-color LEDs ( $V_{in1}$ , $V_{in2}$ , $V_{out}$ ) Normally Open “V <sub>out</sub> OK” Relay Contact (60 Vdc, 1A maximum)		

Wiring Diagram



Diagnostics

Condition		LED Indicators			Contact Status
PSU 1	PSU 2	V <sub>in1</sub>	V <sub>out</sub>	V <sub>in2</sub>	V <sub>out</sub> OK
On	On	Green	Green	Green	Closed
Off	Off	Off	Off	Off	Open
On	Off	Green	Green	Off	Closed
Off	On	Off	Green	Green	Closed
V <sub>in1</sub> > V <sub>in2</sub>		Red	Green	Green	Closed
V <sub>in2</sub> > V <sub>in1</sub>		Green	Green	Red	Closed
No Output		Green	Red	Green	Open