

SDN-C Redundancy Modules

SolaHD SDN-C Redundancy Modules (RED) provide a common DC voltage feed from 2 connected power supplies to enable either high reliability or high power sourcing solutions.

As a redundant solution, the RED module continually monitors the condition of its two connected power supplies, and seamlessly migrates power draw from a failing supply to its counterpart. In a high-power solution, a RED module will feed up to the full capacity of both connected supplies to meet high demand conditions.

RED modules have low heat output thanks to MOSFET design. This extends useful life and reduces package size to improve control panel footprint and thermal impact. Diagnostic LEDs facilitate adjustment to equalize power draw across the connected power supplies. A relay output indicating status of the DC power can connect to an external controller to ensure synchronized operation.

Extensive certifications ensure RED modules comply to domestic and international safety standards, including application in many explosion-safe locations. RED modules support SolaHD SDN-C, SDN-D, and SDN-P power supplies, as well as 3rd party supplies capable of parallel operation. For redundant applications, choose the model that meets the load current requirement. For design assistance in high power applications, please contact SolaHD Technical Services.

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-D 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/CSA 60950-1, UL/CSA 62368-1
- **UL us** UL Recognized Component, Haz. Loc., E234790
 - UL 121201/CSA 213; Class 1 Div 2 Group ABCD T4
 - UL/CSA 60079-0, -7, -15
 - Class I, Zone 2, AEx ec nC IIC, Ex ec nC IIC
- **CE UK CA** - Low Voltage Directive
 - IEC/EN 62368-1
- **CB** Certified
 - IEC/EN 60950-1, IEC/EN 62368-1
- **Ex** ATEX Directive
 - EN IEC 60079-0, EN IEC 60079-7, EN IEC 60079-15
 - 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
- **ABS** Type Approved
- **DNV** Type Approved
- **CCC** Certified
 - GB 3836.1, GB 3836.8
- **KC** Certified

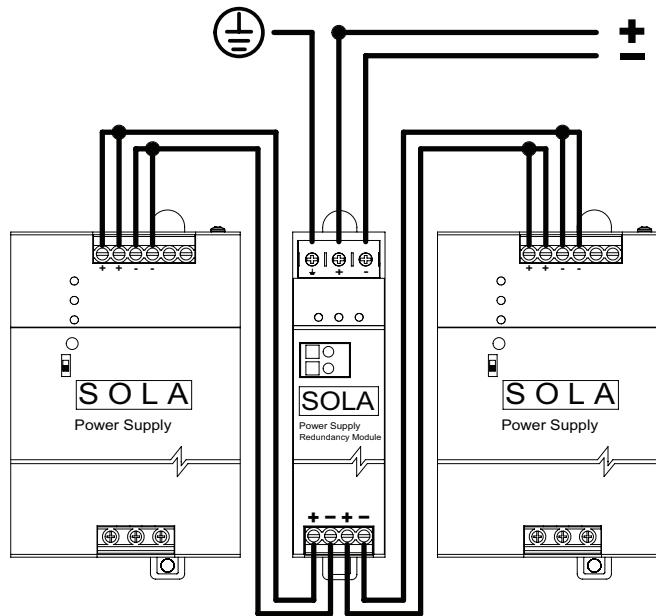
SDN-C Redundancy Modules Specifications

Catalog Number	SDN 2X10RED	SDN 2X20RED	SDN 2X40RED
Input			
Input Voltage Range	10.8-30.8 Vdc (SELV)		
– Nominal Voltage	12-28 Vdc		
– Maximum Voltage	30.8 Vdc		
Maximum Current	2 x 10 A, 1 x 20 A (-40 °C to +70 °C) 2 x 12 A, 1 x 24 A (-40 °C to +60 °C) 2 x 12.5 A, 1 x 25 A (-40 °C to +50 °C) 2 x 13 A, 1 x 26 A (-40 °C to +40 °C)		
Type of Protection	Protect against static surge voltages >30 V		
Output			
Nominal Voltage	12-28 Vdc		
Voltage Drop (input-output)	0.2 V Typical		
Nominal Output Current	10 A (Redundant) 20 A (Non-Redundant)	20 A (Redundant) 40 A (Non-Redundant)	40 A (Redundant) 80 A (Non-Redundant)
Current Handling Capacity (Power Boost)	50 A for 5 seconds	65 A for 5 seconds	120 A for 5 seconds
Inverse Polarity Protection	Yes		
Installation			
Mounting	DIN TS35/7.5 or TS35/15 rail system.		
Connection			
– Input	10-12 AWG (5.3-3.3 mm ²) for solid/stranded conductors. Torque: 7 lb-inch (79.1 N-cm).		6-8AWG (13.3-8.4 mm ²) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm)
– Output	6-8AWG (13.3-8.4 mm ²) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm)		2-6AWG (33.6-13.3 mm ²) for solid/stranded conductors. Torque: 15.6 lb-inch (176.3 N-cm).
– Contact Relay	12-22 AWG (3.3-0.33 mm ²) 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/EMI	EN 61326-1; EN 55032; EN 61000-3-2; EN 61000-3-3; EN 55035; EN 61000-6-1; EN 61000-6-2; EN 61000-6-3; EN 61000-6-4		
MTBF Telecordia SR-322 Issue 2	>1.3M h (25°C)		>1.2M h (25°C)
General			
Status Indicators	(3) two-color LEDs (V _{in1} , V _{in2} , V _{out}) Normally Open "V _{out} OK" Relay Contact (60 Vdc, 1A maximum)		

Selection Table

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

Wiring Diagram



Diagnostics

Condition		LED Indicators			Contact Status
PSU 1	PSU 2	V_{in1}	V_{out}	V_{in2}	$V_{out} \text{ OK}$
On	On	Green	Green	Green	Closed
Off	Off	Off	Off	Off	Open
On	Off	Green	Green	Off	Closed
Off	On	Off	Green	Green	Closed
$V_{in1} > V_{in2}$		Red	Green	Green	Closed
$V_{in2} > V_{in1}$		Green	Green	Red	Closed
No Output		Green	Red	Green	Open