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

E61379 E137632 E234790

Certifications and Compliances

- c UL us Listed, Ind. Control Equipment, E61379
  - UL 508, CSA C22.2 No. 107.1
- c TÜV us UL Recognized Component, ITE, E137632
  - UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition
- c TÜV 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
- EAC TR CU 012/2011 Safety of Equipment intended for Explosive Atmospheres
- ABS Type Approved
- DNV-GL Certified
- RoHS Compliant

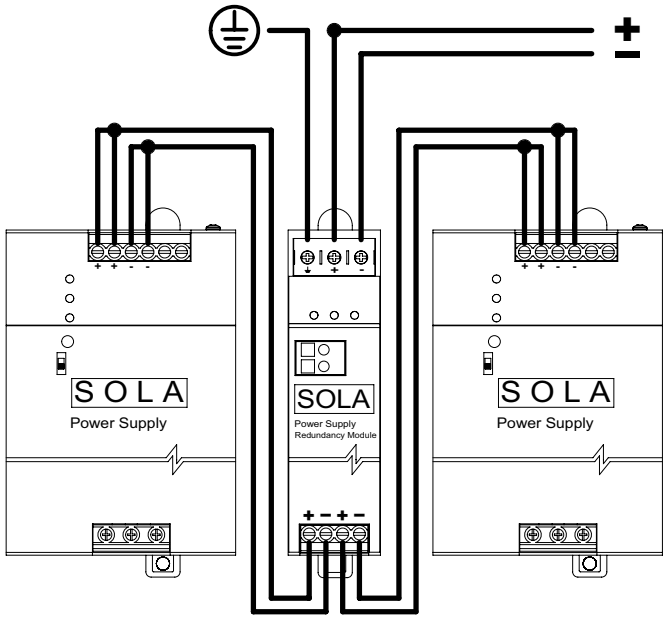
Selection Table

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
Input			
Input Voltage Range	10.8-30.8 V DC (SELV)		
– Nominal Voltage	12-28 Vdc		
– Maximum Voltage	30.8 Vdc		
Maximum Current	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)
Type of Protection	Protect against static surge voltages >30 V		
Output			
Nominal Voltage	12-28 Vdc		
Voltage Drop (input–output)	0.2V Typical		
Nominal Output Current	10 A (Redundant) 20A (Non-Redundant)	20A (Redundant) 40A (Non-Redundant)	40A (Redundant) 80A (Non-Redundant)
Current Handling Capacity (Power Boost)	50A for 5 seconds	65A for 5 seconds	120A 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	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 (V_{in1}, V_{in2}, V_{out}) Normally Open "V_{out} OK" Relay Contact (60 Vdc, 1A maximum)		

Wiring Diagram



Diagnostics

Condition		LED Indicators			Contact Status
PSU 1	**PSU 2**	**V_{in1}**	**V_{out}**	**V_{in2}**	**V_{out} 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

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