

SDP Low Power DIN Rail Series

Compact DIN Rail power supplies from 5 VDC to 48 VDC in power ratings up to 100 watts. These extra small, efficient units are designed specifically for the industrial environment. Each unit is rated from -10°C to 70°C, with no derating necessary until after 60°C. High quality construction with a minimum of electrolytic capacitors ensure reliable operation. The SDP series have quick, “no tool” DIN mounting and wiring. Special screwless connectors reduce expensive installation time.

Many extra “industrial” features are standard for the SDP. PowerBoost™ overload circuitry can start up industrial loads (i.e. motors, relays, solenoids and DC-DC converters), that can cause ordinary power supplies to foldback or shutdown. The SDP2-24-100 Watt unit includes a DC OK relay contact to let your system know what’s happening with its DC power. Each unit contains a DC indicator and front panel adjustment potentiometer. With the Sola SDP series, you can count on a high grade design.

Related Products

- SDN Series
- SCP Series
- SCL Series




UL 508 Listed
IND. CONT. EQ.
18 WM, E61379


UL 60950
E137632
CUL/CSA-C22.2
No. 234-M90


EMC and
Low Volt.
Directive

Features

- No tools required for mounting and wiring.
- Adjustable output.
- PowerBoost™ industrial overload design.
- Overvoltage, short circuit protection.
- Class 2 Limited Power Source for building automation or DeviceNet™.
- Continuous short circuit protection.
- Low output noise.

Applications

- Industrial control
- Process control
- Machine control

Selection Table

Catalog Number	DC Output Voltage	Output Current	Ripple / Noise	Size (H x W x D)
SDP1-24-100	24-28 VDC	1.3 A	<25 mVpp	2.95 in. x 1.77 in. x 3.58 in. 75 mm x 45 mm x 91 mm
SDP2-24-100		2.1 A		
SDP5-5-100	5 - 5.5 V	5 A		
SDP2-12-100	10 - 12 V	2.5 A	<2 mVpp / <10 mVpp	
SDP3-15-100	12-15 V	4.2-3.4 A	<100 mVpp	
SDP1-48-100	48 - 56 V	1 A	<25 mVpp	2.85 in. x 2.95 in. x 4.21 in. 72.5 mm x 75 mm x 107 mm
SDP4-24-100	24 - 28 V	4.2 A		

SDP Series Specifications (24 V models)

Description	Catalog Number		
	SDP1-24-100	SDP2-24-100	SDP4-24-100
Input			
Input Voltage	85-264 VAC, 100-375 VDC		AC 85-132 / 184-264 (Auto Select) or DC 220-375 V
Input Frequency	43-67 Hz		
Input Current	0.6 A @ 100 VAC / 0.35 A @ 196 VAC	1.0 A @ 100 VAC / 0.6 A @ 196 VAC	2.1 A @ 100 VAC / 1.0 A @ 196 VAC
External Fusing	Not required. Unit provides internal fuse (T3A, not accessible)		
Hold-Up Time	>19 ms @ 100 VAC	>17 ms @ 100 VAC	>20 ms @ 100 VAC
Efficiency	87.5% typ.	88.5% typ.	90% typ.
Losses	< 4.5 W typ.	< 6.8 W typ.	< 12 W typ.
Output			
Output Voltage	24-28 VDC, adj. by front panel potentiometer; preset: 24.5 V ±0.5%.		
Voltage Regulation	Static 0.5% V _{out} dynamic + 2% V _{out} overall		Static < 1% Dynamic ±1.5%
Ripple/Noise ¹	< 50 mVpp		< 50 mVpp
Overvoltage Protection (OVP)	< 40 VDC		
Output Noise Suppression	Radiated EMI values below EN50081-1		
Rated Continuous Loading	1.3 A @ 24 VDC / 1.1 A @ 28 VDC	2.1 A @ 24 VDC / 1.8 A @ 28 VDC	4.2 A @ 24.5 VDC / 3.6 A @ 28 VDC
Overload Behavior	Continuous operation at overload/short-circuit: up to 1.5 x Nominal Current Continuous		
Protection	Unit is continuously protected against short-circuit, overload and open-circuit.		
Power Back Immunity	35 V		
Operation Indicator	Green LED DC On		
Power Good Output	None	To feed a 24 V relay (R _{out} > 700 Ohm). Threshold level 24 VDC ±4%	None
Installation			
Status Indicators	Green LED on, when V _{out} "OK".		
Case & Mounting	Robust sealed plastic housing with fine ventilation grid (IP20), to keep out small parts (e.g. screws). Easy snap-on mounting onto the DIN Rail (TS35/7.5 or TS35/15). Unit sits safely and firmly on the rail; no tools required to remove.		
Dimensions (H x W x D) (in/mm)	3.58 in x 1.77 in. x 2.95 in 91 mm x 45 mm x 75 mm		2.85 in x 2.95 in x 4.06 in 72.5 mm x 75 mm x 103 mm
Weight	.5 lbs (230 g)	.52 lbs (240 g)	.81 lbs (360 g)
Mounting Orientation	Standard: Vertical Optional: Horizontal or On Top (Derating required. See the User Manual on the website).		
Ventilation/Cooling •Free space for cooling	Normal convection, no fan required; Above/below: 25 mm recommended.		
Connection •Connector size range	By Spring Clamp terminals with integrated lever for wire fixing; 2 terminals per output. Flexible/Solid cable: 0.5-2.5 mm ² (AWG=20-12) Ferrules (not required) admissible		
General			
Temperature	Storage: -25°C...+85°C Operation: -10°-60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C. The relative humidity is 95% maximum non condensing.		
MTBF	650,000 (typ.) h.acc to Siemensnorm SN 295000 (230 VAC, T _{amb} = +40°C)	600,000 (typ.) h.acc to Siemensnorm SN 295000 (230 VAC, T _{amb} = +40°C)	495,000 (typ) h.acc to Siemensnorm SN 29500 (230 VAC, T _{amb} = +40°C)
Humidity	Max. 95% (non-condensing)		
Electromagnetic Emissions (EME)	EN 50081-1 (includes EN 50081-2) Class B (EN 55011, EN 55022) incl. Annex A		
Electromagnetic Immunity (EMI)	EN 50082-2 (includes EN 50082-1) Criterion A: no degradation of performance		
Safe Low Voltage	SELV (EN60950, VDE0100/T410), PELV (VDE160)		SELV (EN60950, VDE0100/T410) PELV (EN50178)
Protection Class/Voltage	IP20 (EN60529), Protection Class 1 (IEC536)		
Warranty	3 years		
Safety			
UL508 Listed, EN 60950, EN50178, UL 1950, Canada (CUL/CSA-C22.2 No.950-M90), IEC 60950 and also meets European Standards for electronic equipment in electrical power installations EN 50178, NEC Class 2 Power Source <100 VA installations.			

Notes:

¹ Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.

SDP Series Specifications (Other Voltages)

Description	Catalog Number			
	SDP5-5-100	SDP2-12-100	SDP3-15-100	SDP1-48-100
Input				
Input Voltage	85-264 VAC, 100-375 VDC			
Input Frequency	43-67 Hz			
Input Current	0.6 A @ 100 VAC; 0.35 A @196 VAC	0.65 A @ 100 VAC; 0.4 A @196 VAC	<1.0 A @ 100 VAC; <0.6 A @ 196 VAC	<1.0 A @ 100 VAC; <0.6 A @ 196 VAC
External Fusing	Not required. Unit provides internal fuse (T3A, not accessible)			
Hold-Up Time	>19 ms @ 100 VAC	>18 ms @ 100 VAC	>17 ms @ 100 VAC	>17 ms @ 100 VAC
Efficiency	>80%	84% typ.	90% typ.	90% typ.
Losses	6 W typ.	5.8 W typ.	6 W typ.	
Output				
Output Voltage	5 - 5.5 VDC adj. by front potentiometer preset: 5.1 V ± 0.5% @ 5A	10 - 12 VDC adj. by front panel potentiometer, preset: 12 V ± 0.5 % with jumper	12 - 15 VDC adj. by front potentiometer preset: 15 V ± 3.5%	48 - 56 VDC adj. by front potentiometer preset: 48 V ± 0.5% @ 1.05 A
Voltage Regulation	Static <2% V_{out} dynamic ± 5% V_{out} Overall	Static <1 -1.2 % @ V_{out} = 10V, dynamic ± 2.5% V_{out} overall	Static ± 1% V_{out} 12 V dynamic ± 3% V_{out} overall	Static <1% V_{out} Dynamic ± 2% V_{out} overall
Ripple/Noise¹	< 50 mVpp	2 mV Ripple, < 10 mV Noise Peaks	< 100 mVpp	< 100 mVpp
Overvoltage Protection (OVP)	< 6.5 VDC	< 18 VDC	< 20 VDC	< 60 VDC
Output Noise Suppression	Radiated EMI values below EN50081-1			
Rated Continuous Loading	I_{out} = 5A @ V_{out} = 5.1V (convection cooling)	3 A @ 10 VDC 2.5 A @12 VDC	4.2 A @ 12 VDC 3.4 A @ 15 VDC	Up to 1.05 A @ 48 V 0.9 A @ 56 V (convection cooling)
Overload Behavior	Straight V/I characteristic (depending on V_{in})			Continuous operation at overload/short-circuit.
Protection	Unit is continuously protected against short-circuit, overload and open-circuit.			
Power Back Immunity	10 V	30 V	22 V	63 V
Operation Indicator	Green LED DC On			
Power Good Output	None			
Installation				
Status Indicators	Green LED on, when V_{out} "OK".			
Case & Mounting	Robust sealed plastic housing with fine ventilation grid (IP20), to keep out small parts (e.g. screws). Easy snap-on mounting onto the DIN Rail (TS35/7,5 or TS35/15). Unit sits safely and firmly on the rail; no tools required to remove.			
Dimensions (H x W x D) (in/mm)	3.58 in x 1.77 in. x 2.95 in 91 mm x 45 mm x 75 mm			
Weight	.52 lbs (240 g)	.55 lbs (250 g)	.57 lbs (260 g)	
Mounting Orientation	Standard: Vertical Optional: Horizontal or On Top (Derating required. See the User Manual on the website).			
Ventilation/Cooling •Free space for cooling	Normal convection, no fan required; Above/below: 25 mm recommended.			
Connection •Connector size range	By Spring Clamp terminals with integrated lever for wire fixing; 2 terminals per output except the SDP1-15D-100. Flexible/Solid cable: 0.5-2.5 mm² (AWG=20-12) Ferrules (not required) admissible			
General				
Temperature	Storage: -25°C...+85°C Operation: -10°-60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C. The relative humidity is 95% maximum non condensing.			
MTBF	600,000 (typ) h.acc to Siemensnorm SN 29500 (230 VAC, T_{amb} = +40°C)	650,000 (typ) h.acc to Siemensnorm SN29500 (230 VAC, T_{amb} = +40°C)	600,000 (typ) h.acc to Siemensnorm SN 29500 (230 VAC, T_{amb} = +40°C)	
Humidity	Max. 95% (non-condensing)			
Electromagnetic Emissions (EME)	EN 50081-1 (includes EN 50081-2) Class B (EN 55011, EN 55022) incl. Annex A			
Electromagnetic Immunity (EMI)	EN61000-6-2 (EN50082-1, EN55024), Criterion A: no degradation of performance.			
Safe Low Voltage	SELV (EN60950, VDE0100/T.410), PELV (VDE160)			
Protection Class/Voltage	IP20 (EN60529), Protection Class 1 (IEC536)			
Warranty	3 years			
Safety				
UL508 Listed, EN 60950, EN50178, UL 1950, Canada (CUL/CSA-C22.2 No.950-M90), IEC 60950 and also meets European Standards for electronic equipment in electrical power installations EN 50178, NEC Class 2 Power Source <100 VA installations.				

Notes:

¹ Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.

² Not to exceed 30 watts total.

Visit our website at www.solaheviduty.com or
contact **Technical Services** at **(800) 377-4384** with any questions.