SDP™ Low Power DIN Rail Series

The compact, lightweight DIN Rail power supplies come in output voltages from 5 to 48 Vdc and power ratings of up to 100 Watts. These extra small, efficient units are designed specifically for the industrial environment. Each unit is rated from -10ºC to 70ºC, with no derating necessary until above 60ºC.

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. Each unit contains a DC indicator and front panel adjustment potentiometer. With the SolaHD SDP series, you can count on a high grade design.

E61379 E137632 E234790

Applications

- Industrial Control
- Machine Control
- Building Automation
- Instrumentation

Features

- Adjustable output
- PowerBoost™ industrial overload design
- Overvoltage, short circuit protection
- Continuous short circuit protection
- Low output noise
- Screw terminal connections
- Three year limited warranty

Certifications and Compliances

- c UL us Listed, Industrial Control Equipment, E61379
  - UL 508, CSA C22.2 No. 107.1
- c TÜV us Recognized Component, ITE, E137632
  - UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition
- c TÜV us Recognized Component, Haz. Loc., E234790
  - ISA 12.12.01, CSA C22.2 No. 213
  - Class I, Division 2, Groups A, B, C, D
- CE
  - IEC/EN60950-1, 2nd Edition
- RoHS Compliant
- NEC Class 2 power supply except Model SDP 4-24-100RT

Related Products

- SDN™ Series
- SCP Series

Selection Table

Catalog Number	DC Output Voltage	Output Current	Ripple / Noise	Size (H x W x D) – in. (mm)
SDP 5–5–100T	5 - 6 V	5 A	<50 mVpp	2.95 in x 1.77 in x 3.58 in (75.0 mm x 45.0 mm x 91.0 mm)
SDP 2–12–100T	10 - 12 V	3 - 2.5 A		
SDP 3–15–100T	12 - 15 V	4.2 - 3.4 A		
SDP 1–48–100T	48 - 56 V	1 A		
SDP 06–24–100T	24-28 Vdc	0.6 A		2.95 in x 0.9 in x 3.8 in (75.0 mm x 22.8 mm x 96.7 mm)
SDP 1–24–100T		1.3 A		2.95 in x 1.77 in x 3.58 in (75.0 mm x 45.0 mm x 91.0 mm)
SDP 2–24–100T		2.1 A		
SDP 4–24–100LT		3.8 A		2.95 in x 2.85 in x 3.8 in (75.0 mm x 72.5 mm x 96.7 mm)
SDP 4–24–100RT *		4.2 A		

* NEC Class 1

SDP™ Series Specifications (24 V models)

Description	Catalog Number				
	SDP 06–24–100T	SDP 1–24–100T	SDP 2–24–100T	SDP 4–24–100LT	SDP 4–24–100RT
Input					
Input Voltage [1]	85-264 Vac, 90-375 Vdc			85-132 / 176-264 Vac, 210-375 Vdc	
Input Frequency	47-63 Hz				
Input Current	0.4 A / 0.25 A	0.7 A / 0.4 A	1.1 A / 0.7 A	1.8 A / 1.0 A	2.2 A / 1.2 A
External Fusing	Not required. Unit provides internal fuse (T3A, not accessible)				
Hold–Up Time	> 25 ms				
Efficiency	> 80% typ.	> 83% typ.	> 86% typ.	> 88% typ.	
Losses	< 3.75 W typ.	< 6.1 W typ.	< 8.1 W typ.	< 12 W typ.	
Output					
Output Voltage	24 V (22.5 - 28.5 Vdc Adj.)			24 V (24 - 25.7 Vdc Adj.)	24 V (22.5 - 28.5 Vdc Adj.)
Voltage Regulation	Static 0.5% V_{out}, dynamic + 2% V_{out} overall\				
Ripple/Noise [2]	< 50 mVpp				
Overvoltage Protection (OVP)	> 30 Vdc, but < 33 Vdc, auto recovery			> 26 Vdc, but < 27.2 Vdc, auto recovery	> 30 Vdc, but < 33 Vdc, auto recovery
Output Noise Suppression	Radiated EMI values below EN61000-6-2				
Rated Continuous Loading	0.63 A @ 24 Vdc / 0.54 A @ 28 Vdc	1.3 A @ 24 Vdc / 1.1 A @ 28 Vdc	2.1 A @ 24 Vdc / 1.8 A @ 28 Vdc	3.8 A @ 24.5 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				
Installation					
Status Indicators	Green LED on, when V_{out} "OK".				
Case & Mounting	Molded plastic housing using UL 94 approved flameproof material rating 94V-2. Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.				
Dimensions					
H x W x D – inches (mm)	2.95 x 0.90 x 3.80 (75.0 x 22.8 x 96.7)	2.95 x 1.77 x 3.58 (75.0 x 45.0 x 91.0)		2.95 x 2.85 x 3.80 (75.0 x 72.5 x 96.7)	
Weight – lbs (kg)	0.4 lbs (0.18 kg)	0.5 lbs (0.23 kg)		0.7 lbs (0.32 kg)	
Mounting Orientation	Standard: Vertical; Optional: Horizontal or on top (Contact Technical Services).				
Ventilation/Cooling •Free space for cooling	Normal convection, no fan required; Above/below: 25 mm recommended.				
Connection •Connector size range	Input: screw terminals, connector size range: 20-12AWG (1.5 - 6 mm^2) for solid or stranded conductors.				
General					
Electromagnetic Emissions (EMC)	EN61000-6-3 (Includes EN61000-6-4) Class B (EN 55022) incl. Annex A				
Electromagnetic Immunity (EMI)	EN61000-6-2 (Includes EN61000-6-1) (EN55024) Criterion A: no derogation of performance				
Temperature	**Storage:** -25°C to +85°C **Operation:** -10° to +60°C full power with linear derating to half power from 60°C to 70°C. (Convection cooling, no forced air required).				
MTBF	> 500,000 hours according to Telcordia/Bellcore Document SR-332, Issue 1				
Humidity	Up to 90% RH, noncondensing; IEC 68-2-2, 68-2-3				
Safe Low Voltage	SELV (acc. EN60950)				
Protection Class/Voltage	IP20 (IEC529), Protection Class 1 (IEC536)				
Warranty	3 year limited warranty				

Notes:

1. Not UL listed for DC input.
2. 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			
	SDP 5–5–100T	SDP 2–12–100T	SDP 3–15–100T	SDP 1–48–100T
Input				
Input Voltage [1]	85-264 Vac, 90-375 Vdc			
Input Frequency	47 - 63 Hz			
Input Current	0.6 A @ 102 Vac; 0.33 A @196 Vac		1.0 A @ 102 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	> 25 ms			
Efficiency	> 80% typ.		> 86% typ.	> 90% typ.
Losses	7.5 W typ.	8.1 W typ.	< 8.1 W typ.	
Output				
Output Voltage	5 - 5.5 Vdc (5 - 6 min adj.)	12 Vdc (9.9 - 12.1 min adj.)	15 Vdc (11.9 - 15.1 min adj.)	48 Vdc (48 - 56 min adj.)
Voltage Regulation	< 2% Dynamic; < 0.5% Static			
Ripple/Noise [2]	< 50 mVpp			
Overvoltage Protection (OVP)	> 6.7 Vdc	> 18 Vdc	> 20 Vdc	> 56 Vdc
Output Noise Suppression	Radiated EMI values below EN61000-6-2			
Rated Continuous Loading	I_{out} = 5A @ V_{out} = 5.1V	3A @ 10 Vdc 2.5A @12 Vdc	4.2A @ 12 Vdc 3.4A @ 15 Vdc	Up to 1.05A @ 48 V 0.9A @ 56 V
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	10 V	22 V		80 V
Installation				
Status Indicators	Green LED on, when V_{out} "OK".			
Case & Mounting	Molded plastic housing using UL 94 approved flameproof material rating 94V-2. Simple snap-on to DIN TS35/7.5 or TS35/15 rail system.			
Dimensions				
(H x W x D) (in/mm)	2.95 x 1.77 x 3.58 (75.0 x 45.0 x 91.0)			
Weight – lbs (kg)	0.5 lbs (0.23 kg)			
Mounting Orientation	**Standard:** Vertical; **Optional:** Horizontal or On Top (Contact Technical Services).			
Ventilation/Cooling •Free space for cooling	Normal convection, no fan required; Above/below: 25 mm recommended.			
Connection •Connector size range	Input: screw terminals, connector size range: 20-12 AWG (1.5 - 6 mm^2) for solid or stranded conductors.			
General				
Temperature	**Storage:** -25°C to +85°C **Operation:** -10°C to +60°C full power with linear derating to half power from +60°C to +70°C. (Convection cooling, no forced air required).			
MTBF	> 500,000 hours according to Telcordia/Bellcore Document SR-332, Issue 1.			
Humidity	Up to 90% RH, noncondensing; IEC 68-2-2, 68-2-3			
Electromagnetic Emissions (EMC)	EN61000-6-3 (Includes EN61000-6-4) Class B (EN 55022) incl. Annex A			
Electromagnetic Immunity (EMI)	EN61000-6-2 (Includes EN61000-6-1) (EN55024) Criterion A: no degradation of performance			
Safe Low Voltage	SELV (acc. EN60950)			
Protection Class/Voltage	IP20 (IEC529), Protection Class 1 (IEC536)			
Warranty	3 year limited warranty			

Notes:

1. Not UL listed for DC input.
2. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.