

## SDS120 Series



- Single, Dual & Triple Outputs
- Small Size
- Convection Cooled
- Open Frame, U Channel & Covered Versions
- Overvoltage & Overcurrent Protection
- Optional PFD Signal
- International Safety Standards

## Specification

## Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 1.7 A at 115 VAC • 1.0 A at 230 VAC
Inrush Current	• 15 A at 115 VAC • 30 A at 230 VAC
Power Factor	• 0.97 typical
Earth Leakage Current	• <0.30 mA at 115 VAC • <0.45 mA at 230 VAC
Input Protection	• 3.15 A on board fuse

## Output

Output Voltage	• See table
Output Voltage Trim	• $\pm 5\%$ output 1 only (except 3.3 V)
Initial Set Accuracy	• Single output models: $\pm 1\%$ • Multi output models: $\pm 5\%$
Minimum Load	• Multi output models only (see table) and when PFD option is used
Start Up Delay	• 2 s max
Start Up Rise Time	• 2 ms
Hold Up Time	• >16 ms
Line Regulation	• $\pm 1\%$ maximum, 0.5% typical
Load Regulation	• $\pm 5\%$ maximum, 3.0% typical
Transient Response	• 4% max. deviation, 500 $\mu$ s recovery time for a 50% load change
Ripple & Noise	• 1% pk-pk typical
Overvoltage Protection	• 112-132% V1 only, recycle input to reset
Overload Protection	• All outputs: 110-150% with auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature	• 0.04% / $^{\circ}$ C
Coefficient	

## General

Efficiency	• 80% typical, 85% max
Isolation	• 3000 VAC Input to Output • 1500 VAC Input to Ground • 500 VAC Output to Ground
Switching Frequency	• 80 kHz typical
Power Density	• 4.87 W/In <sup>3</sup>
Signals	• PFD - Fail = TTL low (option)
MTBF	• >100 kHrs per MIL-HDBK-217F

## Environmental

Operating Temperature	• 0 $^{\circ}$ C to +70 $^{\circ}$ C, derate linearly from 100% load at 50 $^{\circ}$ C to 50% load at 70 $^{\circ}$ C
Cooling	• Convection cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 $^{\circ}$ C to +85 $^{\circ}$ C
Vibration	• 2 G on 3 axis

## EMC &amp; Safety

Emissions	• EN55022, CISPR22 and FCC, level B conducted
Harmonic Currents	• EN61000-3-2
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria B
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria B
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria B
Surge	• EN61000-4-5, level 3 Perf Criteria B
Conducted Immunity	• EN61000-4-6, level 2 Perf Criteria B
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, >95% 5000 ms Perf Criteria A, B, B
Safety Approvals	• EN60950, UL60950, CSA60950 per cUL CE Mark LVD

## Models and Ratings

Max. Power	Output 1				Output 2				Output 3				Model Number
	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	Vnom	Imin <sup>(4,9)</sup>	Imax	Tol. <sup>(1)</sup>	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	
100.0 W	3.3 V	0.00 A	22.00 A	5%									SDS120PS03B†
110.0 W	5.0 V	0.00 A	22.00 A	5%									SDS120PS05B†
115.0 W	7.0 V	0.00 A	16.42 A	5%									SDS120PS07B
120.0 W	9.0 V	0.00 A	13.33 A	4%									SDS120PS09B
120.0 W	12.0 V	0.00 A	10.00 A	3%									SDS120PS12B†
120.0 W	15.0 V	0.00 A	8.00 A	3%									SDS120PS15B†
120.0 W	18.0 V	0.00 A	6.66 A	3%									SDS120PS18B
120.0 W	24.0 V	0.00 A	5.00 A	2%									SDS120PS24B†
120.0 W	28.0 V	0.00 A	4.28 A	2%									SDS120PS28B
120.0 W	36.0 V	0.00 A	3.33 A	2%									SDS120PS36B
120.0 W	48.0 V	0.00 A	2.50 A	2%									SDS120PS48B†
120.0 W	3.3 V	1.50 A	15.00 A	5%	12.0 V	0.20 A	6.0 A	5%					SDS120PD01B
120.0 W	5.0 V	1.50 A	15.00 A	5%	12.0 V	0.20 A	6.0 A	5%					SDS120PD02B
120.0 W	5.0 V	1.50 A	15.00 A	5%	15.0 V	0.20 A	6.0 A	5%					SDS120PD03B
120.0 W	5.0 V	1.50 A	15.00 A	5%	24.0 V	0.10 A	3.5 A	5%					SDS120PD04B
79.5 W	3.3 V	1.50 A	15.00 A	5%	5.0 V	0.40 A	6.0 A	5%					SDS120PD00B
120.0 W	5.0 V	1.50 A	15.00 A	5%	-24.0 V	0.20 A	2.0 A	5%					SDS120PD05B
120.0 W	28.0 V	0.39 A	3.92 A	5%	5.0 V	0.20 A	2.0 A	5%					SDS120PD06B
91.5 W	3.3 V	1.50 A	15.00 A	5%	5.0 V	0.60 A	6.0 A	5%	12.0 V	0.00 A	1.0 A	5%	SDS120PT00B†
91.5 W	3.3 V	1.50 A	15.00 A	5%	5.0 V	0.60 A	6.0 A	5%	-12.0 V	0.00 A	1.0 A	5%	SDS120PT01B
120.0 W	3.3 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	5.0 V	0.00 A	0.8 A	5%	SDS120PT02B
120.0 W	3.3 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	-5.0 V	0.00 A	0.8 A	5%	SDS120PT03B
120.0 W	3.3 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	-12.0 V	0.00 A	0.8 A	5%	SDS120PT04B
120.0 W	3.3 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	12.0 V	0.00 A	0.8 A	5%	SDS120PT05B
120.0 W	5.0 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	5.0 V	0.00 A	0.8 A	5%	SDS120PT06B
120.0 W	5.0 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	-5.0 V	0.00 A	0.8 A	5%	SDS120PT07B†
120.0 W	5.0 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	-12.0 V	0.00 A	0.8 A	5%	SDS120PT08B†
120.0 W	5.0 V	1.50 A	15.00 A	5%	12.0 V	0.60 A	6.0 A	5%	12.0 V	0.00 A	0.8 A	5%	SDS120PT09B
120.0 W	5.0 V	1.50 A	15.00 A	5%	15.0 V	0.60 A	6.0 A	5%	-15.0 V	0.00 A	0.8 A	5%	SDS120PT10B†
120.0 W	5.0 V	1.50 A	15.00 A	5%	15.0 V	0.60 A	6.0 A	5%	15.0 V	0.00 A	0.8 A	5%	SDS120PT11B
120.0 W	5.0 V	1.50 A	15.00 A	5%	24.0 V	0.35 A	3.5 A	5%	-24.0 V	0.00 A	0.8 A	5%	SDS120PT12B
120.0 W	5.0 V	1.50 A	15.00 A	5%	24.0 V	0.35 A	3.5 A	5%	24.0 V	0.00 A	0.8 A	5%	SDS120PT13B
120.0 W	5.0 V	1.50 A	15.00 A	5%	24.0 V	0.35 A	3.5 A	5%	-12.0 V	0.00 A	0.8 A	5%	SDS120PT14B
120.0 W	5.0 V	1.50 A	15.00 A	5%	24.0 V	0.35 A	3.5 A	5%	12.0 V	0.00 A	0.8 A	5%	SDS120PT15B†
120.0 W	5.0 V	1.50 A	15.00 A	5%	10.0 V	0.60 A	6.0 A	5%	-10.0 V	0.00 A	1.0 A	5%	SDS120PT16B
120.0 W	5.0 V	1.50 A	15.00 A	5%	10.0 V	0.60 A	6.0 A	5%	10.0 V	0.00 A	1.0 A	5%	SDS120PT17B

### Notes

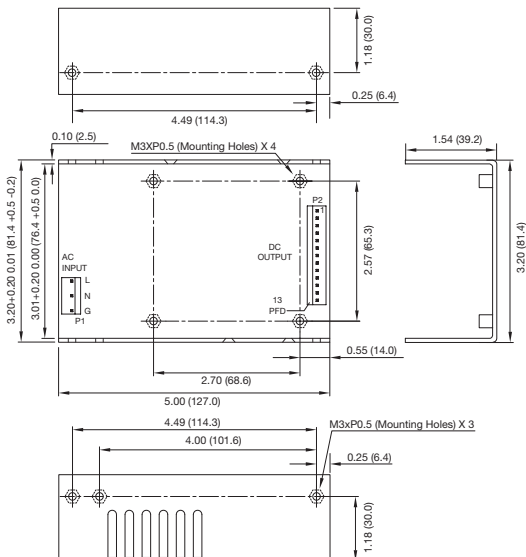
1. Total regulation includes initial set accuracy, line regulation and load regulation.
2. For optional pcb only version, delete suffix 'B' from model number. Example SDS120PS03.
3. For non-standard voltages contact sales office.
4. For optional PFD circuit, add suffix 'P' to model number

† Available from Farnell InOne. See pages 236-237

## Mechanical Details

All dimensions are in inches (mm)

Weight: 0.99-1.21 lbs (450-550 g) approx.



Pin	PIN CONNECTIONS						
	Single	Dual	Triple	Pin	Single	Dual	Triple
1	V1	V2	V2	8	Return	Common	Common
2	V1	V2	V2	9	Return	Common	Common
3	V1	V1	V1	10	Return	N/C	V3
4	V1	V1	V1	11	Return	Common	Common
5	V1	V1	V1	12	Return	Common	Common
6	V1	V1	V1	13	PFD <sup>(1)</sup>	PFD <sup>(1)</sup>	PFD <sup>(1)</sup>
7	Return	Common	Common				

### Notes:

1. Optional PFD signal on 'P' versions only. Standard models have no connection for pin 13.
2. Input connector P1 mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal.
3. Output connector P2 mates with Molex housing 09-50-3131 and Molex 2878 series crimp terminal.
4. For optional cover kit order part number SDS120 COVER†, to receive unit with cover fitted add suffix 'C' to model number.
5. For mating connector kit order part number SDS120 CON KIT†.
6. For cable harness order part number SDS120S LOOM† for single output models and SDS120M LOOM† for multi output models.
7. DIN clips are available for alternate mounting order 2 x 'DIN CLIP'.