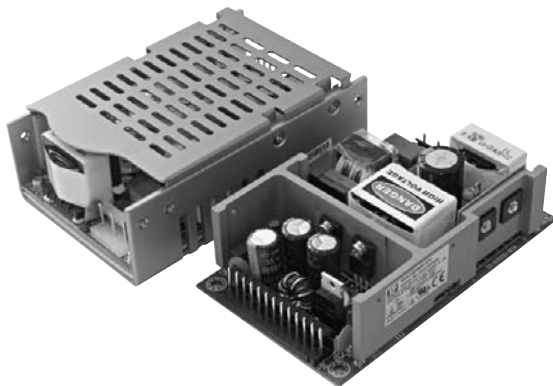


## SDS120 Series



- Single, Dual & Triple Outputs
- Convection-cooled
- 3" x 5" Footprint
- High Efficiency to 85%
- Open Frame, U-Channel & Covered Versions
- Low Temperature Option
- Optional Power Fail Detect Signal

## Specification

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### Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 1.7 A at 115 VAC • 1.0 A at 230 VAC
Inrush Current	• <30 A at 115 VAC • <55 A at 230 VAC
Power Factor	• 0.97 typical
Earth Leakage Current	• <0.30 mA at 115 VAC • <0.75 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 (3.3 V variant $\pm 10\%$ )
Initial Set Accuracy	• Single output models: $\pm 1\%$ • Multi-output models: $\pm 5\%$
Minimum Load	• No minimum load required for single output models. For multi-output models see table.
Start Up Delay	• 2 s max
Start Up Rise Time	• 2 ms
Hold Up Time	• >16 ms
Line Regulation	• 1% maximum, $\pm 0.5\%$ typical
Load Regulation	• 5% maximum, $\pm 3.0\%$ typical
Transient Response	• 4% max deviation, recovery to within 1% in 4 ms for a 50% load change
Ripple & Noise	• 1% pk-pk typical, 20 MHz BW
Overvoltage Protection	• 112-132% V1 only, recycle input to reset
Overload Protection	• All outputs: 110-150% with auto recovery (primary power limit)
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Temperature Coefficient	• 0.04%/°C

### General

Efficiency	• 80% typical, 85% max, 230 VAC 100% load
Isolation	• 3000 VAC Input to Output • 1500 VAC Input to Ground • 500 VAC Output to Ground
Switching Frequency	• PFC 100 kHz, PWM 67 kHz
Power Density	• 4.87 W/In <sup>3</sup>
Signals	• Power Fail Detect = TTL active low, combined AC and DC OK signal (option)
MTBF	• >100 kHrs per MIL-HDBK-217F

### Environmental

Operating Temperature	• 0 °C to +70 °C, derate linearly from 100% load at +50 °C to 50% load at +70 °C, low temperature option '-L' -40 °C
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Vibration	• 2 g on 3 axes

### EMC & Safety

Emissions	• EN55022, CISPR22 and FCC, part 15 level B conducted
Harmonic Currents	• EN61000-3-2
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 2 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, >95% 5000 ms Perf Criteria A, B, B
Safety Approvals	• EN60950-1, UL60950-1, CSA60950-1 per cUL, CE Mark LVD

**Models and Ratings**

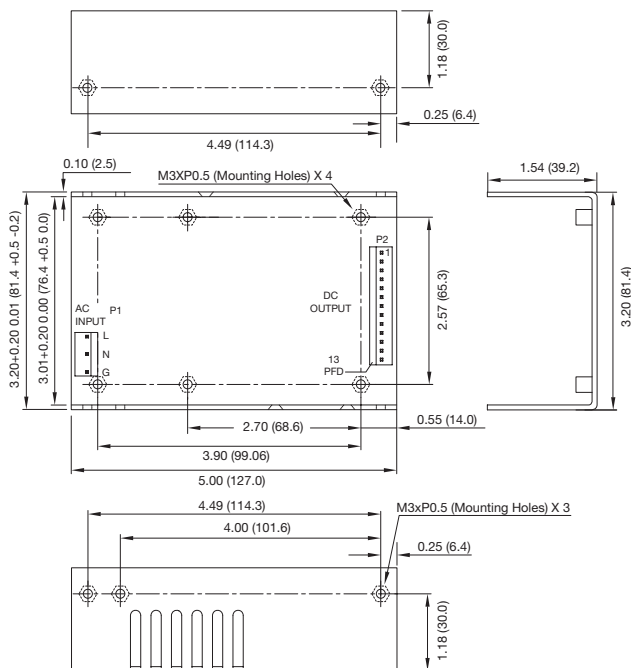
Max. Power	Output 1				Output 2				Output 3				Model Number <sup>(2, 4, 5)</sup>
	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	
72.0 W	3.3 V	0.00 A	22.00 A	5%									SDS120PS03B†
110.0 W	5.0 V	0.00 A	22.00 A	5%									SDS120PS05B†
115.0 W	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 Power Fail Detect circuit, add suffix 'P' to model number.
5. For optional -40 °C operation, add suffix '-L' to model number.

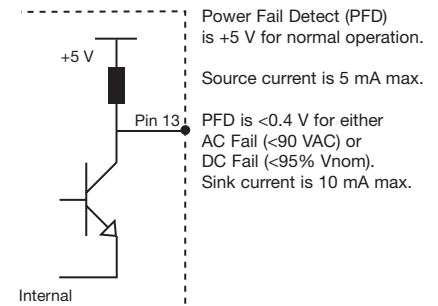
† Available from Farnell. See pages 204-206.

**Mechanical Details**



All dimensions are in inches (mm).  
 Weight: 0.77-0.99 lbs (350-450 g) approx.  
 For PCB-only version, overall dimensions are max 5.00 x 3.00 x 1.44 (127.0 x 76.2 x 36.6).

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



**Notes:**

1. Optional Power Fail Detect signal on 'P' versions only. Standard models pin 13 is N/C.
2. I/P connector P1 mates with Molex housing 09-50-3051 & Molex 2878 series crimp terminal.
3. O/P P2 mates with Molex housing 09-50-3131 & 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 (overall height is 1.73 (44.0)).
5. For mating connector kit order part number SDS120 CON KIT†.
6. For cable harness order part number SDS120S LOOM† for single output models & SDS120M LOOM† for multi-output models.
7. DIN clips are available for alternate mounting order 2 x 'DIN CLIP'.