

SDS150 Series



- 3" x 5" Footprint
- Fits 1U Applications
- Convection-cooled
- Open Frame & U-Channel Versions
- Optional Power Fail Detect Signal
- Optional Low Temperature Operation
- Up to 90% Efficiency

Specification

Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 2.0 A at 115 VAC • 1.0 A at 230 VAC
Inrush Current	• 20 A at 115 VAC • 63 A at 230 VAC
Power Factor	• >0.95
Earth Leakage Current	• <0.40 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	• $\pm 5\%$
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• No minimum load required
Start Up Delay	• 2 s max
Start Up Rise Time	• 2 ms typical
Hold Up Time	• >16 ms
Line Regulation	• 1% max, $\pm 0.5\%$ typical
Load Regulation	• 5% max, $\pm 3.0\%$ typical
Transient Response	• 4% max deviation, recovery to within 1% in 500 μ s for a 50% load change
Ripple & Noise	• 1% pk-pk max
Overvoltage Protection	• 112-132%, recycle input to reset
Overload Protection	• 110-150% with auto recovery
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Temperature Coefficient	• 0.04%/ $^{\circ}$ C

General

Efficiency	• 88% typical, 90% max
Isolation	• 3000 VAC Input to Output • 1500 VAC Input to Ground • 500 VDC Output to Ground
Switching Frequency	• PWM 60 kHz typical, PFC 100 kHz typical
Power Density	• 6.9 W/In ³ for open frame version
Signals	• Power Fail Detect = 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, low temperature option '-L' -40 $^{\circ}$ 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 axes

EMC & Safety

Emissions	• EN55022, 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, 70% U_T for 10 ms, 40% U_T for 100 ms, <5% U_T for 5000 ms Perf Criteria A, B, B
Safety Approvals	• EN60950-1, UL60950-1, CSA60950-1 per cUL, CE Mark LVD

Models and Ratings

Maximum Output Power	Output Voltage	Output Current		Total Regulation ⁽¹⁾	Model Number ^(2,4,5,6)
		Minimum	Maximum		
144 W	9 V	0 A	16.00 A	5%	SDS150PS09B†^
150 W	12 V	0 A	12.50 A	5%	SDS150PS12B†^
150 W	15 V	0 A	10.00 A	5%	SDS150PS15B†^
150 W	18 V	0 A	8.33 A	4%	SDS150PS18B†^
150 W	24 V	0 A	6.25 A	3%	SDS150PS24B†^
150 W	30 V	0 A	5.00 A	2%	SDS150PS30B
150 W	36 V	0 A	4.17 A	2%	SDS150PS36B
150 W	48 V	0 A	3.13 A	2%	SDS150PS48B†^

Notes

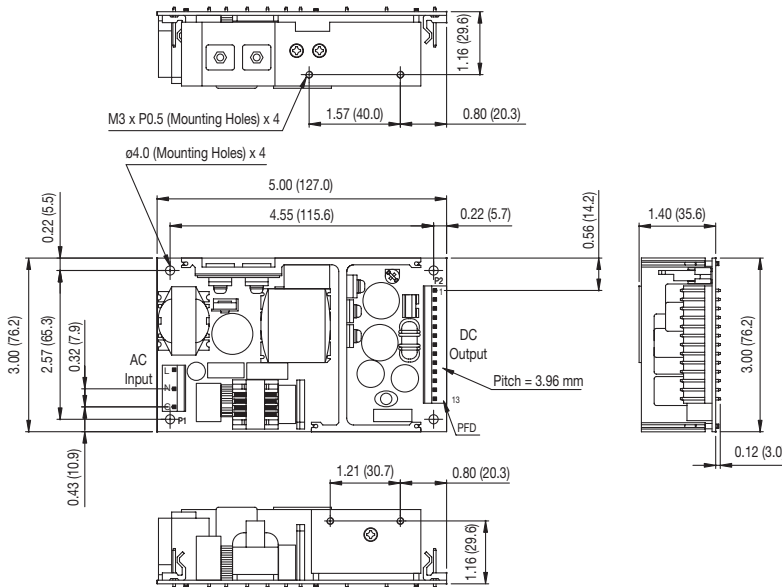
1. Total regulation includes initial set accuracy, line regulation and load regulation.
2. For optional 2 pin Molex input, add suffix '-D' to model number. Example SDS150PS12-D.
3. For non-standard voltages contact sales office.
4. For optional Power Fail Detect signal (PFD), add suffix '-P' to model number. Example: SDS150PS48B-P.
5. For optional PCB only version, delete suffix 'B' from model number. Example SDS150PS48.
6. For optional low temperature operation, add suffix '-L' to model number. Example: SDS150PS12-L.

† Available from Farnell. See pages 204-206.

^ Available from Newark. See pages 207-208.

Mechanical Details

Open Frame



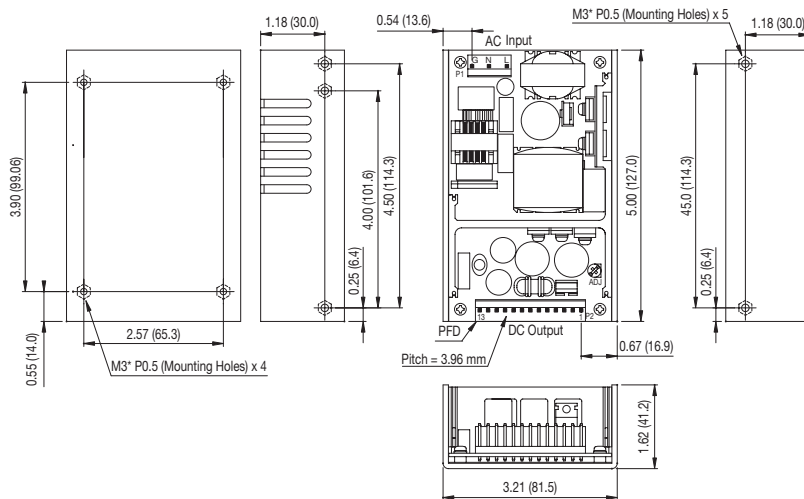
All dimensions are in inches (mm)
Tolerance: ±0.02 (±0.5)
Weight: 1.23 lbs (560 g) approx.

P2 - PIN CONNECTIONS			
Pin	Function	Pin	Function
1	V1	7	Return
2	V1	8	Return
3	V1	9	Return
4	V1	10	Return
5	V1	11	Return
6	V1	12	Return
		13	PFD ⁽⁵⁾

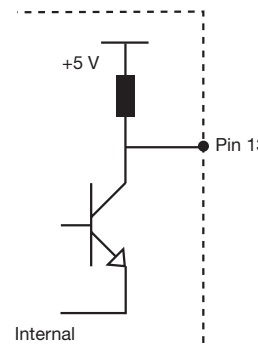
Notes:

1. Dimensions in inches (mm), tolerance ±0.02 (±0.5).
2. Optional Power Fail Detect signal on 'P' versions only. Standard models have no connection for pin 13.
3. Input connector P1 mates with Molex housing 09-50-3051 and Molex 2478 series crimp terminal.
4. Output connector P2 mates with Molex housing 09-50-3131 and Molex 2478 series crimp terminal.
5. For mating connector kit order part number SDS120 CON KIT.
6. For cable harness order part number SDS120S LOOM.
7. DIN clips are available for alternate mounting order 2 x 'DIN CLIP'.
8. For optional cover kit order part number SDS150 COVER.
To receive unit with cover fitted add suffix '-C' to model number.
Height increases by 0.18 (4.5).

U Channel



Power Fail Detect



PFD is +5 V for normal operation.
Source current is 5 mA max.
PFD is <0.4 V for either
AC Fail (<90 VAC) or
DC Fail (<95% Vnom).
Sink current is 10 mA max.