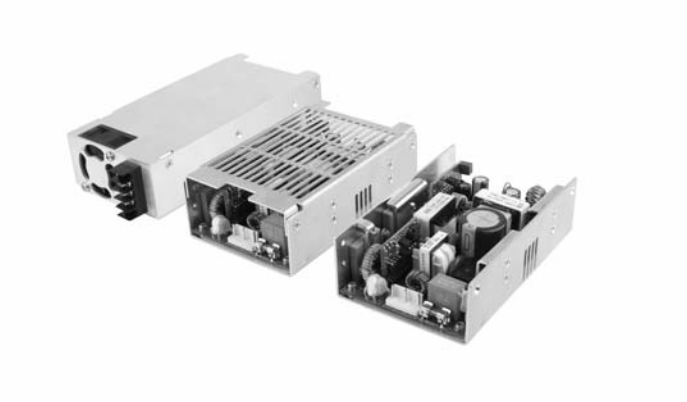
300 Watts
SDF Series



- 3.2” x 5” Footprint
- Fits 1U Applications
- Up to 600 W Peak Power
- Single & Dual Outputs
- Fan & Convection-cooled Versions
- Output Voltages from 5 V to 54 V
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 5.0 A at 115 VAC, 2.5 A at 230 VAC
Inrush Current	• Max 70 A at 230 VAC, 35 A at 115 VAC, cold start 25 °C
Power Factor	• >0.9, compliant with EN61000-3-2 Class A
Earth Leakage Current	• <0.6 mA at 264 VAC
Input Protection	• T6 A / 250 V internal in line fuse

Output

Output Voltage	• See table
Output Voltage Trim	• ±5% on V1 (V2 of dual output models will track by same % of adjustment)
Initial Set Accuracy	• ±1%
Minimum Load	• 1% on single output models, 10% on both outputs of dual output models
Start Up Delay	• 1 s max at 230 VAC
Start Up Rise Time	• 50 ms typical
Hold Up Time	• 16 ms min at 80% of full load
Line Regulation	• ±0.5%
Load Regulation	• ±1% 1-100% load for single outputs ±3% V1, ±7% V2 for dual output models (except 0512, ±10% on V2)
Over/Undershoot	• 5% max
Transient Response	• 5% max deviation, recovery to within 1% in 500 µs for a 50% load change
Ripple & Noise	• 1% pk-pk, see note 1
Overvoltage Protection	• 105-130% Vnom on output V1, recyle input to reset
Overtemperature Protection	• Measured internally with auto recovery
Overload Protection	• 110-140%
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Remote On/Off	• Requires a low signal to inhibit output
Fan Supply	• 12 VDC, 300 mA, not available on ‘-F’ or ‘E’ versions with built-in fan

General

Efficiency	• Single output models: 5 V models 70%, 80% all other models
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 100 VDC Output to Ground
Switching Frequency	• 40-66 kHz PFC, variable Single output models: 70 kHz typical PWM Dual output models: 45 kHz typical PWM
Power Density	• 11.3 W/in^3
Signals	• Power Good goes Hi 100-500 ms after output is in regulation and goes Lo at least 1 ms before loss of regulation
MTBF	• 110 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +70 °C, derate at 2.5%/ °C from +50 °C to +70 °C
Storage Temperature	• -20 °C to +85 °C
Operating Humidity	• 5-90%, non-condensing
Storage Humidity	• 5-95%, non-condensing
Cooling	• ‘-F’ and ‘-E’ versions have built-in fan, others require 25 CFM to meet forced air ratings
Operating Altitude	• 3000 m
Vibration	• 5-50 Hz, acceleration 7.35 m/s^2 on X, Y and Z axis

EMC & Safety

Emissions	• FCC Part 15 & EN55022 Level B conducted
Harmonic Currents	• EN61000-3-2, EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 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, 3V Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60950-1, CSA C22.2 No. 950, EN60950-1, CE Mark LVD

Models and Ratings

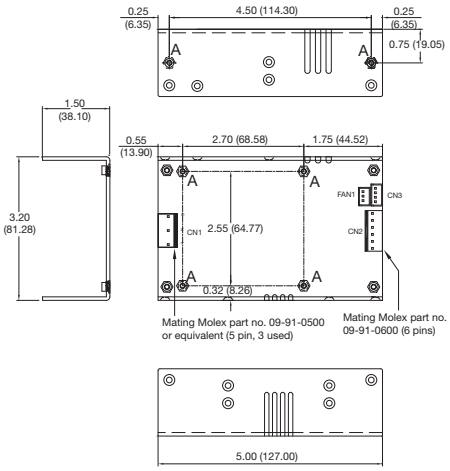
Output Voltage	Output Power		Output Current			Model Number[3,4,5,6]
	Forced Cooled	Convection Cooled	Forced Cooled	Convection Cooled	Peak[2]	
5 V	210 W	100 W	42.00 A	20.00 A	120.00 A	SDF300PS05
9 V	245 W	120 W	27.27 A	13.36 A	66.67 A	SDF300PS09
12 V	300 W	150 W	25.00 A	12.50 A	50.00 A	SDF300PS12
15 V	300 W	150 W	20.00 A	10.00 A	40.00 A	SDF300PS15
18 V	300 W	150 W	16.67 A	8.33 A	33.30 A	SDF300PS18
24 V	300 W	150 W	12.50 A	6.25 A	25.00 A	SDF300PS24
28 V	300 W	150 W	10.70 A	5.35 A	21.43 A	SDF300PS28
36 V	300 W	150 W	8.33 A	4.17 A	16.67 A	SDF300PS36
48 V	300 W	150 W	6.25 A	3.12 A	12.50 A	SDF300PS48
54 V	300 W	150 W	5.56 A	2.78 A	11.10 A	SDF300PS54
V1: 5.00 V V2: 12.0 V	240 W	120 W	24.00 A 13.33 A	12.00 A 6.67 A	28.80 A 16.00 A	SDF300PD0512
V1: 5.00 V V2: 24.0 V	240 W	120 W	24.00 A 6.67 A	12.00 A 3.33 A	28.80 A 8.00 A	SDF300PD0524
V1: 5.00 V V2: 48.0 V	240 W	120 W	24.00 A 3.33 A	12.00 A 1.67 A	28.80 A 4.00 A	SDF300PD0548
V1: 12.0 V V2: 24.0 V	240 W	120 W	13.33 A 6.67 A	6.67 A 3.33 A	16.00 A 8.00 A	SDF300PD1224

Notes

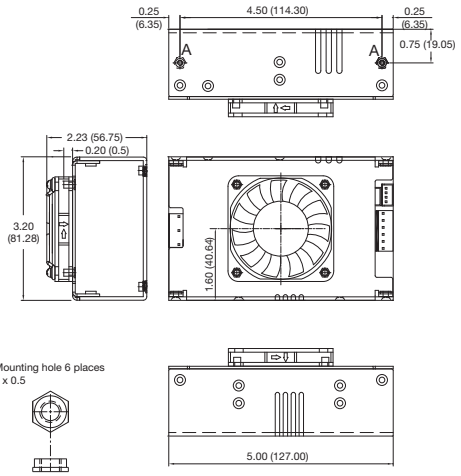
1. *Ripple & noise is measured using a 0.1 µF ceramic capacitor in parallel with 22 µF electrolytic and 20 MHz bandwidth*
2. *Peak load can be taken for 500 µs. Average power not to exceed max power.*
3. *Add suffix '-F' for top fan cover option e.g. SDF300PS24-F*
   Add suffix '-E' for end fan cover with screw terminal option e.g. SDF300PS24-E
   Add suffix '-C' for vented cover option e.g. SDF300PS24-C
   Add suffix '-K' for end fan cover with IEC inlet option e.g. SDF300PS24-K
4. *Add suffix 'D' for optional output terminal block on single output models except the 5 V, 9 V and 12 V output models which are only available with output terminal blocks eg. SDF300PS24D-F*
5. *Add suffix 'G' for optional input terminal blocks eg. SDF300PS24DG-F, except for enclosed with end fan (option '-E') which has input terminal blocks as standard.*
6. *Add suffix 'H' for optional molex output terminal on dual output models used in convection applications.*

Mechanical Details

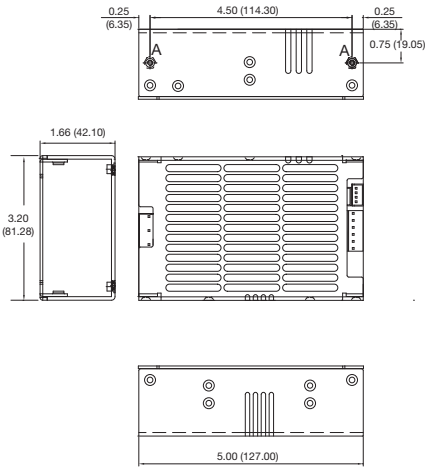
U-Channel



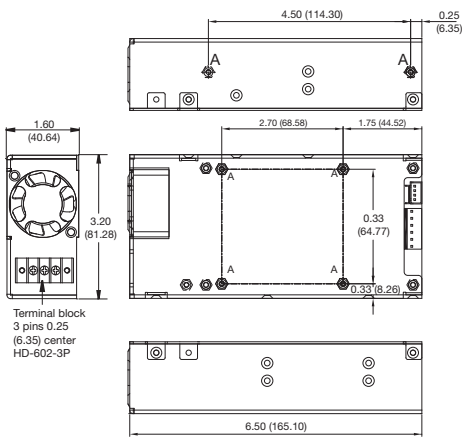
Enclosed with top fan (Option '-F')



U-Channel with cover (Option '-C')



Enclosed with end fan (Option '-E')



OPTIONAL OUTPUT CONNECTORS

Option 'D' (Standard on 5-12 V models)



Dinkle PCB terminals P-830 N
2 pins M5 screws

Option 'H' (only on dual output models in convection-cooled applications)



Dual Output models
Mating Molex part no.
09-91-0800 (8 pins)

OUTPUT CONNECTORS

Standard



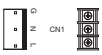
Single Output models
Mating Molex part no.
09-91-0600 (6 pins)



Dual Output models
Terminal block M3 screws
0.33 (8.25) 3 pins

INPUT CONNECTORS

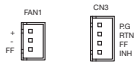
Standard Option 'G'



Mating Molex part no.
09-91-0500 or equivalent
(5 pin, 3 used)

Terminal block
3 pins 0.25
(6.35) center
HD-601-3P

SIGNALS & FAN CONNECTORS



All dimensions are in inches (mm).
Tolerance: ±0.012 (±0.3)

Weight: U-Channel: 0.88 lbs (400 g)

U-Channel with cover (option '-C'): 0.93 lbs (420 g)

Enclosed with top fan (option '-F'): 0.95 lbs (430 g)

Enclosed with end fan (option '-E'): 1.32 lbs (600 g)

Mounting holes and mating half connectors common to all models.