

320 Watts

SDC Series



- High Power Density
- Single & Dual Outputs
- Up to 700 W Peak Power
- Fan Fail & Power Good Signals
- Low Leakage Current Option
- Fits 1U Applications
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-132 VAC/180-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 7 A at 90 VAC, 3 A at 230 VAC
Inrush Current	• Max 70 A at 230 VAC, 35 A at 115 VAC, cold start
Power Factor	• EN61000-3-2 class A
Earth Leakage Current	• <500 μ A at 264 VAC/50 Hz
Input Protection	• T8 A/250 V fuse

Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 5\%$ on V1 (V2 of dual output models will track by same % of adjustment)
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• 1% on single output models, 10% on both output of dual output models in order to maintain ripple & noise and regulation specifications
Start Up Delay	• 1.5 s max at 120 VAC
Start Up Rise Time	• 50 ms typical
Hold Up Time	• 20 ms min at 80% of full load
Line Regulation	• $\pm 0.5\%$
Load Regulation	• $\pm 1\%$ 1-100% load for single outputs, $\pm 3\%$ V1, $\pm 7\%$ V2 for dual outputs (except AD0548 version: $\pm 11\%$ on V2)
Over/Undershoot	• 5% max
Transient Response	• $\pm 5\%$ max deviation, recovery to within 1% in 500 μ s for a 50% load change
Ripple & Noise	• 1% pk-pk (see note 3)
Overvoltage Protection	• <130% on V1 recycle AC input to reset
Overtemperature	• Measured internally auto recovery
Overload Protection	• 110-140%
Short Circuit Protection	• Trip & restart, auto recovery
Fan Supply	• 12 V/300 mA, not available on '-F' & '-E' versions with built-in fans

General

Efficiency	• Single output: 5 V: 70%, 12 V: 80%, All other models: >83% at 230 V & full load, Dual Output: >70% at 230 V & full load
Isolation	• 3000 VAC Input to Output, 1500 VAC Input to Ground, 250 VDC Output to Ground
Switching Frequency	• 23 kHz typical single output models, 25 kHz typical dual output models
Power Density	• 8.9 W/In ³
Signals	• Fan Fail & Power Good
MTBF	• >100 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 when force air cooled. 0 °C to +60 °C, derate at 5%/°C from +50 °C to +60 °C when convection cooled.
Storage Temperature	• -20 °C to +85 °C
Operating Humidity	• 5-90%, non-condensing
Cooling	• '-F' & '-E' versions have built-in fans, 5 V single output model requires 22 CFM to meet forced air ratings, all other models require 18 CFM.
Operating Altitude	• 3000 m
Vibration	• 5-50 Hz, acceleration 7.35 ms ² on 3 axes

EMC & Safety

Emissions	• EN55022 Level B conducted & radiated
Harmonic Currents	• EN61000-3-2 class A
Voltage Flicker	• 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, installation class 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. 60950-1, EN60950-1

Models and Ratings

SDC320 **XP**

Output Power		Output 1				Output 2				Model Number
Forced Air Cooled	Convection Cooled	Voltage	Current			Voltage	Current			Auto Ranging Input
			Forced Air	Convection	Peak ⁽¹⁾		Forced Air	Convection	Peak ⁽¹⁾	
225 W	136 W	5 V	45.00 A	27.28 A	140.00 A					SDC320AS05 ⁽³⁾
260 W	147 W	9 V	29.10 A	16.37 A	77.79 A					SDC320AS09 ⁽³⁾
320 W	180 W	12 V	26.67 A	15.00 A	58.33 A					SDC320AS12
320 W	180 W	15 V	21.33 A	12.00 A	46.77 A					SDC320AS15 ⁽³⁾
320 W	180 W	18 V	17.78 A	10.00 A	38.89 A					SDC320AS18 ⁽³⁾
320 W	180 W	24 V	13.33 A	7.50 A	29.17 A					SDC320AS24
320 W	180 W	28 V	11.43 A	6.43 A	25.00 A					SDC320AS28 ⁽³⁾
320 W	180 W	36 V	8.88 A	5.00 A	19.44 A					SDC320AS36
320 W	180 W	48 V	6.67 A	3.75 A	14.58 A					SDC320AS48
320 W	180 W	54 V	5.93 A	3.33 A	12.96 A					SDC320AS54 ⁽³⁾
320 W	180 W	60 V	5.33 A	3.00 A	11.61 A					SDC320AS60 ⁽³⁾
250 W	125 W	+5 V	30.00 A	15.00 A	36.00 A	+12 V	16.67 A	10.42 A	20.00 A	SDC320AD0512 ⁽³⁾
250 W	125 W	+5 V	30.00 A	15.00 A	36.00 A	+24 V	8.33 A	5.20 A	10.00 A	SDC320AD0524 ⁽³⁾
250 W	125 W	+5 V	30.00 A	15.00 A	36.00 A	+48 V	4.16 A	2.60 A	5.00 A	SDC320AD0548 ⁽³⁾
300 W	150 W	+12 V	16.67 A	12.50 A	20.00 A	+24 V	8.33 A	6.25 A	10.00 A	SDC320AD1224

Notes

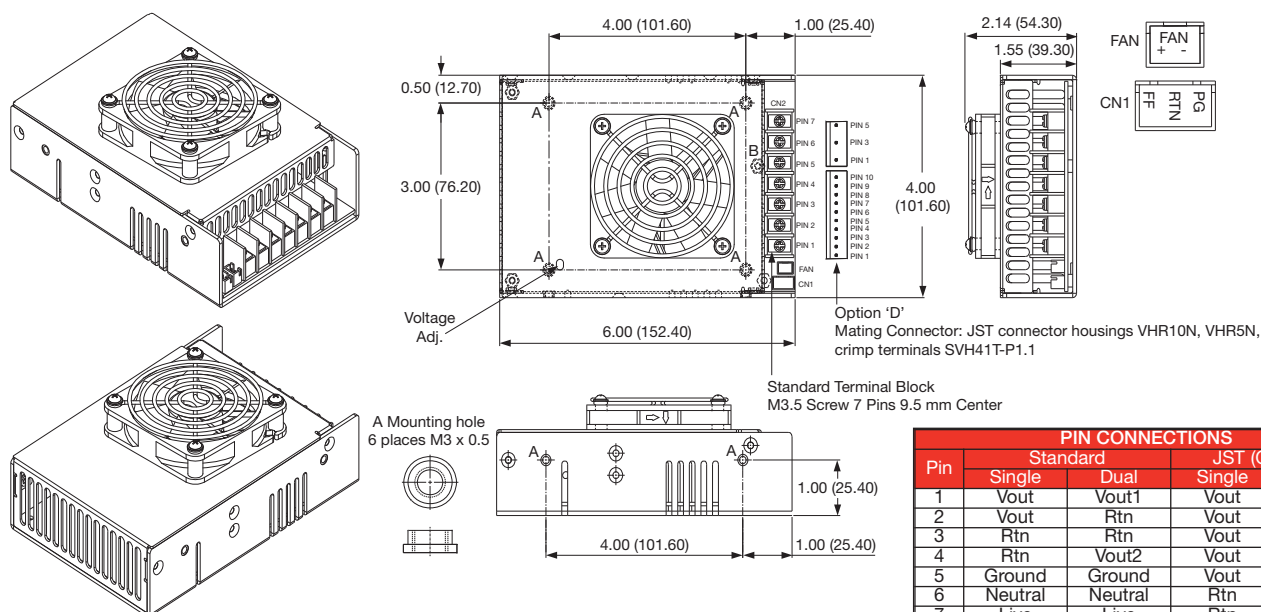
1. Peak load can be taken for 500 μ s. Average power not to exceed nominal power.
2. Ripple & noise is measured using 0.1 μ F ceramic capacitor in parallel with 22 μ F electrolytic and 20 MHz bandwidth.
3. Available for OEM quantities, contact Sales.

Mechanical Options

- Add suffix '-F' to the model number for a top fan cover (forced air cooled ratings apply).
- Add suffix '-E' to the model number for an end fan cover (forced air cooled ratings apply).
- Add suffix '-C' to the model number for a U-channel with vented cover.
Convection-cooled output power available 125 W for 5 V & 9 V model & 170 W for other single output models.
- Add suffix 'D' to the model number for JST connector, not available on SDC320AS05 for OEM quantities, contact Sales.
- If no suffix is added to the model number the unit is a U-channel, convection-cooled ratings apply or external fan cooling required (22 CFM for 5 V model, 18 CFM for all other models).

Mechanical Details

Enclosed with Top Fan (-F'Option)



Signal Connector mating part is JST XHP-3
Crimp terminals SXH-002T-P0.6
All dimensions are in inches (mm)
Weight: 770 g (1.70 lbs)
Tolerance: ± 0.012 in (± 0.3 mm)

Max screw terminal torque: 15.7 lbs-in (1.8 Nm)
Max screw mount hole penetration : 0.16 (4.0)

Pin	Standard		JST (Option D)	
	Single	Dual	Single	Dual
1	Vout	Vout1	Vout	Vout1
2	Vout	Rtn	Vout	Vout1
3	Rtn	Rtn	Vout	Vout1
4	Rtn	Vout2	Vout	Rtn
5	Ground	Ground	Vout	Rtn
6	Neutral	Neutral	Rtn	Rtn
7	Live	Live	Rtn	Rtn
8			Rtn	Rtn
9			Rtn	Vout2
10			Rtn	Vout2

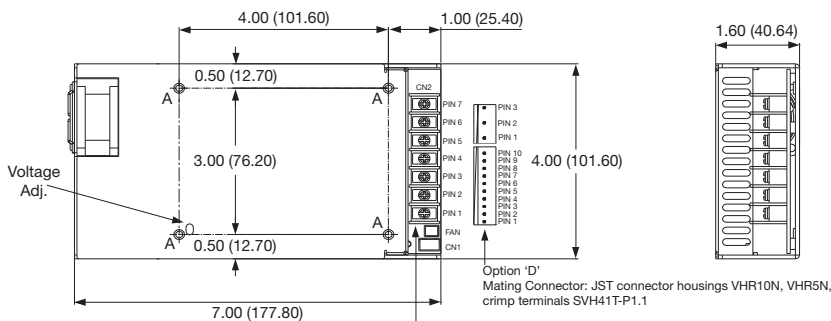
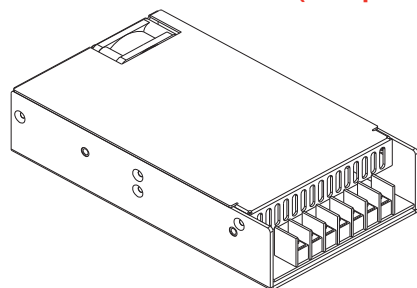
1			Ground	Ground
3			Neutral	Neutral
5			Live	Live



THE X P E R T S I N P O W E R

Mechanical Details

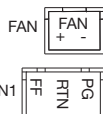
Enclosed with End Fan (±E'Option)



Option 'D'
Mating Connector: JST connector housings VHR10N, VHR5N, crimp terminals SVH41T-P1.1

Standard Terminal Block
M3.5 Screw 7 Pins 0.37 (9.50) Center

A Mounting hole
6 places M3 x 0.5



Signal Connector mating part is JST XHP-3
Crimp terminals SXH-002T-P0.6

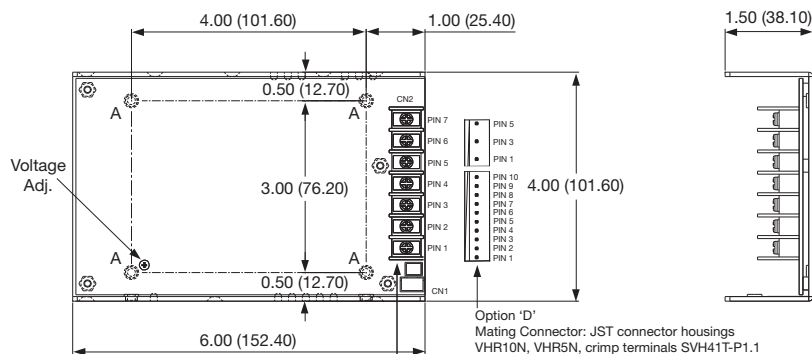
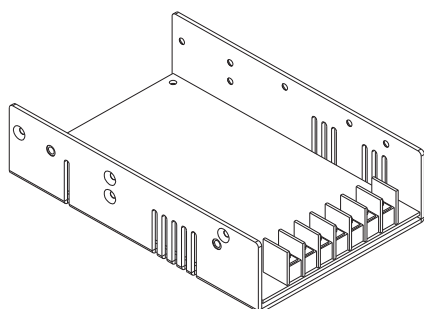
All dimensions are in inches (mm)
Weight: 800 g (1.76 lbs)
Tolerance: ± 0.012 in (± 0.3 mm)

Max screw terminal torque: 15.7 lbs-in (1.8 Nm)
Max screw mount hole penetration : 0.16 (4.0)

Pin	Standard		JST (Option D)	
	Single	Dual	Single	Dual
1	Vout	Vout1	Vout	Vout1
2	Vout	Rtn	Vout	Vout1
3	Rtn	Rtn	Vout	Vout1
4	Rtn	Vout2	Vout	Rtn
5	Ground	Ground	Vout	Rtn
6	Neutral	Neutral	Rtn	Rtn
7	Live	Live	Rtn	Rtn
8			Rtn	Rtn
9			Rtn	Vout2
10			Rtn	Vout2

1		Ground	Ground
3		Neutral	Neutral
5		Live	Live

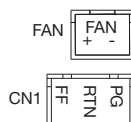
U-Channel



Option 'D'
Mating Connector: JST connector housings VHR10N, VHR5N, crimp terminals SVH41T-P1.1

Standard Terminal Block
M3.5 Screw 7 Pins 0.37 (9.50) Centre

A Mounting hole
6 places M3 x 0.5



Signal Connector mating part is JST XHP-3
Fan Connector mating part is JST XHP-2, Crimp terminals SXH-002T-P0.6

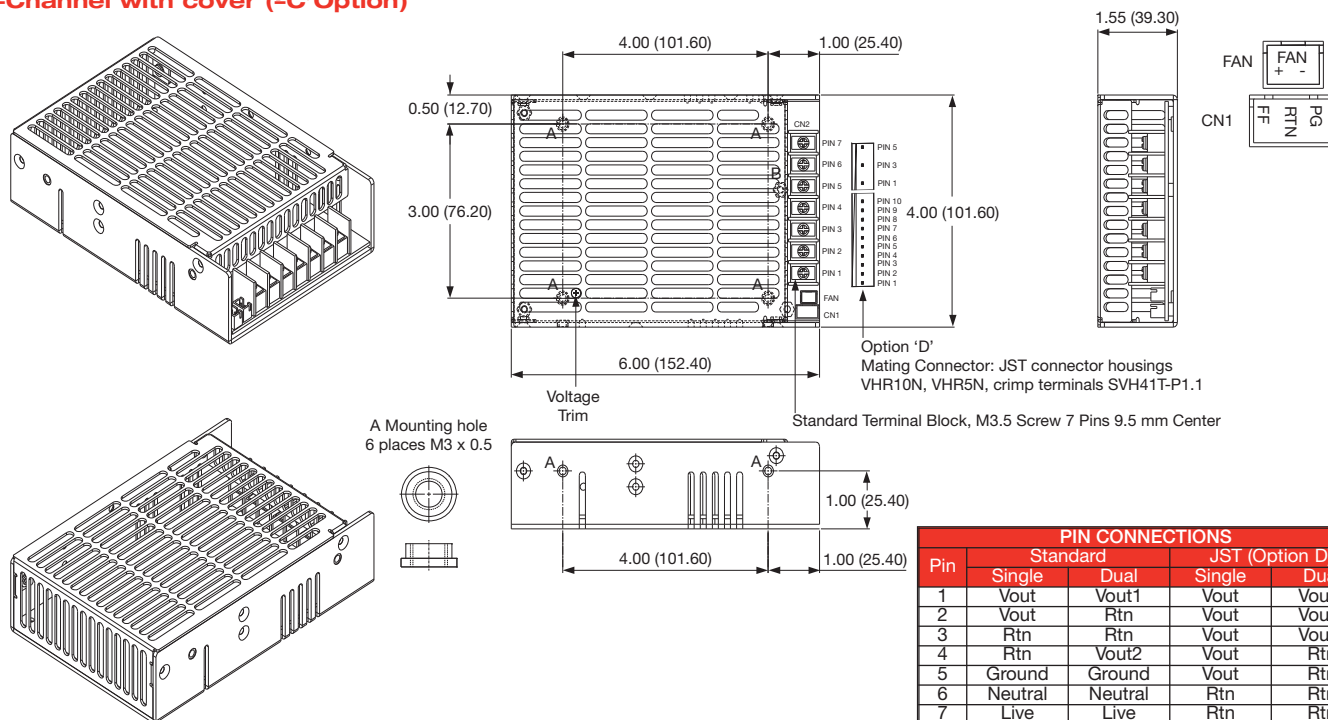
All dimensions are in inches (mm)
Weight: 680 g (1.50 lbs)
Tolerance: ± 0.012 in (± 0.3 mm)

Max screw terminal torque: 15.7 lbs-in (1.8 Nm)
Max screw mount hole penetration : 0.16 (4.0)

Mechanical Details

SDC320 XP

U-Channel with cover (±C'Option)



Signal Connector mating part is JST XHP-3

Fan Connector mating part is JST XHP-2, Crimp terminals SXH-002T-P0.6

All dimensions are in inches (mm)

Weight: 720 g (1.59 lbs)

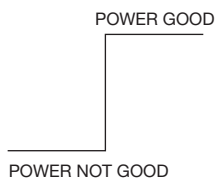
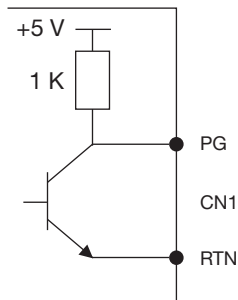
Tolerance: ± 0.012 in (± 0.3 mm)

Max screw terminal torque: 15.7 lbs-in (1.8 Nm)

Max screw mount hole penetration : 0.16 (4.0)

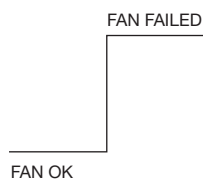
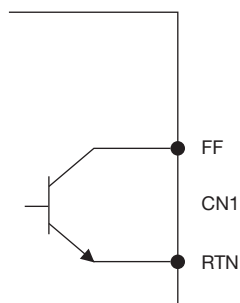
Application Notes

Power Good



Sink current = 6 mA
Source current = 1 mA

Fan Fail



Open collector signal can pull up to 5-28 VDC,
limit sink current to 5 mA max