

SD Series

15-1000 WATTS DC/DC SINGLE OUTPUT

Features

- 2:1 input range
- Low cost, high reliability
- High efficiency
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- Short circuit protection
- Over load/voltage protection



SPECIFICATIONS

INPUT	
Voltage	See table.
Withstand voltage	I/P-O/P: 3.0kV, I/P-FG: 1.5kV, O/P-FG: 0.8kV, 1 min (SD15) I/P-O/P: 1.5kV, I/P-FG: 1.5kV, O/P-FG: 0.5kV, 1 min.
Isolation resistance	500VDC 1000M ohm
OUTPUT	
DC output voltage adj.	5V: 4.5V to 5.5V. 12V: 11V to 16V. 24V: 23V to 30V. 48V: 43V to 53V.
Power	50W, 100W, 150W, 200W, 350W, 500W and 1,000W.
Line regulation	±0.5% max.
Load regulation	±0.5% max.
Overload protection	105% to 150% (SD15 160%) Contact Powerbox for details.
Over voltage protection	115% to 165% of output voltage. (Shut down O/P voltage, re-power on to recover).
Over temp. protection	Yes, on SD200 to SD1000 only.
Withstand voltage	I/P-O/P: 1.5kV, I/P-FG: 1.5kV, O/P-FG: 0.5kV, 1 min.
ENVIRONMENTAL	
Operating temperature	-10°C to +60°C, with derating.
GENERAL	
Expected lifetime	80,000 h (SD25), 40,000 h (SD50), 45,000 h (SD100), 22,000 h (SD150) at 25°C ambient temperature, nominal input voltage, 100% load. 36,000 h (SD25), 12,000 h (SD50), 22,000 h (SD100), 12,000 h (SD150), 218,200 h (SD200), 209,400 h (SD350-D 500), 33,000 (SD1000) at 50°C ambient temperature, nominal input voltage, 100% load.
Dimensions (L x W x H)	Refer to technical drawings
Weight	SD15: 180g, SD25: 360g, SD50: 500g. SD100: 600g, SD150: 850g, SD200: 1.1kg, SD350:1.1kg, SD500:1.15kg, SD1000:1.94kg
STANDARDS	
Safety standards	24V and 48V input design refer to LVD.
C-tick	AS/NZS CISPR11 Group 1, Class A
EMC standards	EN55022 Class B, EN61000-4-2, 3, 4, 6, 8.

MODEL NUMBER	INPUT	OUTPUT		RIPPLE & NOISE	EFFI
SD-15A-5	9.2-18V	5V	3A	100mV	71%
SD-15A-12	9.2-18V	12V	1.25A	120mV	72%
SD-15A-24	9.2-18V	24V	0.625A	150mV	75%
SD-15B-5	19-36V	5V	3A	100mV	72%
SD-15B-12	19-36V	12V	1.25A	120mV	75%
SD-15B-24	19-36V	24V	0.625A	150mV	78%
SD-15C-5	36-72V	5V	3A	100mV	74%
SD-15C-12	36-72V	12V	1.25A	120mV	78%
SD-15C-24	36-72V	24V	0.625A	150mV	81%
SD-25A-5	9.2-18V	5V	5A	100mV	71%
SD-25A-12	9.2-18V	12V	2.1A	120mV	72%
SD-25A-24	9.2-18V	24V	1.1A	150mV	75%
SD-25B-5	19-36V	5V	5A	100mV	72%
SD-25B-12	19-36V	12V	2.1A	120mV	75%
SD-25B-24	19-36V	24V	1.1A	150mV	78%
SD-25C-5	36-72V	5V	5A	100mV	74%
SD-25C-12	36-72V	12V	2.1A	120mV	78%
SD-25C-24	36-72V	24V	1.1A	150mV	81%
SD-50A-5	9.2-18V	5V	10A	100mV	70%
SD-50A-12	9.2-18V	12V	4.2A	120mV	72%
SD-50A-24	9.2-18V	24V	2.1A	150mV	74%
SD-50B-5	19-36V	5V	10A	100mV	73%
SD-50B-12	19-36V	12V	4.2A	120mV	75%
SD-50B-24	19-36V	24V	2.1A	150mV	80%
SD-50C-5	36-72V	5V	10A	100mV	76%
SD-50C-12	36-72V	12V	4.2A	120mV	78%
SD-50C-24	36-72V	24V	2.1A	150mV	83%
SD-100B-5	19-36V	5V	20A	100mV	74%
SD-100B-12	19-36V	12V	8.5A	120mV	75%
SD-100B-24	19-36V	24V	4.2A	150mV	78%
SD-100C-5	36-72V	5V	20A	100mV	75%
SD-100C-12	36-72V	12V	8.5A	120mV	77%
SD-100C-24	36-72V	24V	4.2A	150mV	81%
SD-100D-5	72-144V	5V	20A	100mV	76%
SD-100D-12	72-144V	12V	8.5A	120mV	80%
SD-100D-24	72-144V	24V	4.2A	150mV	83%
SD-150B-12	19-36V	12V	12.5A	120mV	75%
SD-150B-24	19-36V	24V	6.3A	150mV	77%
SD-150C-12	36-72V	12V	12.5A	120mV	77%
SD-150C-24	36-72V	24V	6.3A	150mV	80%
SD-150D-12	72-144V	12V	12.5A	120mV	79%
SD-150D-24	72-144V	24V	6.3A	150mV	82%

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MODEL NUMBER	INPUT	OUTPUT	RIPPLE & NOISE	EFFI
SD-200B-5	19-36V	5V 34A	100mV	79%
SD-200B-12	19-36V	12V 16.7A	120mV	82%
SD-200B-24	19-36V	24V 8.4A	150mV	85%
SD-200B-48	19-36V	48V 4.2A	200mV	86%
SD-200C-5	36-72V	5V 40A	100mV	81%
SD-200C-12	36-72V	12V 16.7A	120mV	84%
SD-200C-24	36-72V	24V 8.4A	150mV	86%
SD-200C-48	36-72V	48V 4.2A	200mV	86%
SD-200D-5	72-144V	5V 40A	100mV	82%
SD-200D-12	72-144V	12V 16.7A	120mV	82%
SD-200D-24	72-144V	24V 8.4A	150mV	84%
SD-200D-48	72-144V	48V 4.2A	200mV	90%

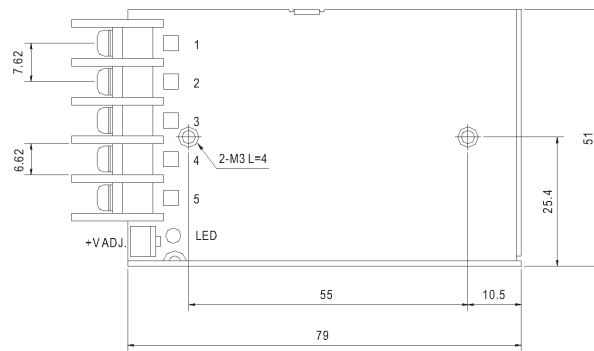
MODEL NUMBER	INPUT	OUTPUT	RIPPLE & NOISE	EFFI
SD-350B-5	19-36V	5V 57A	100mV	74%
SD-350B-12	19-36V	12V 27.5A	120mV	80%
SD-350B-24	19-36V	24V 14.6A	150mV	80%
SD-350B-48	19-36V	48V 7.3A	200mV	84%
SD-350C-5	36-72V	5V 60A	100mV	76%
SD-350C-12	36-72V	12V 27.5A	120mV	81%
SD-350C-24	36-72V	24V 14.6A	150mV	81%
SD-350C-48	36-72V	48V 7.3A	200mV	82%
SD-350D-5	72-144V	5V 60A	100mV	78%
SD-350D-12	72-144V	12V 29.2A	120mV	83%
SD-350D-24	72-144V	24V 14.6A	150mV	87%
SD-350D-48	72-144V	48V 7.3A	200mV	89%

MODEL NUMBER	INPUT	OUTPUT	RIPPLE & NOISE	EFFI
SD-500L-12	19-72V	12V 40A	150mV	86%
SD-500L-24	19-72V	24V 21A	150mV	88%
SD-500L-48	19-72V	48V 10.5A	150mV	89%
SD-500H-12	72-144V	12V 40A	150mV	87%
SD-500H-24	72-144V	24V 21A	150mV	89%
SD-500H-48	72-144V	48V 10.5A	150mV	90%

MODEL NUMBER	INPUT	OUTPUT	RIPPLE & NOISE	EFFI
SD-1000L-12	19-72V	12V 60A	150mV	84%
SD-1000L-24	19-72V	24V 40A	150mV	88%
SD-1000L-48	19-72V	48V 21A	150mV	90%
SD-1000H-12	72-144V	12V 60A	150mV	85%
SD-1000H-24	72-144V	24V 40A	150mV	89%
SD-1000H-48	72-144V	48V 21A	150mV	92%

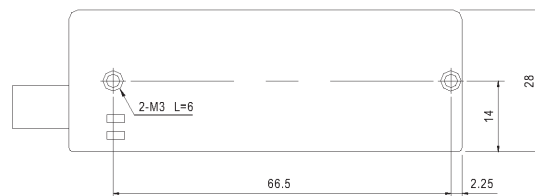
TECHNICAL ILLUSTRATIONS

15 WATT



Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4	DC OUTPUT +V
2	DC INPUT V-	5	DC OUTPUT -V
3	FG \oplus		

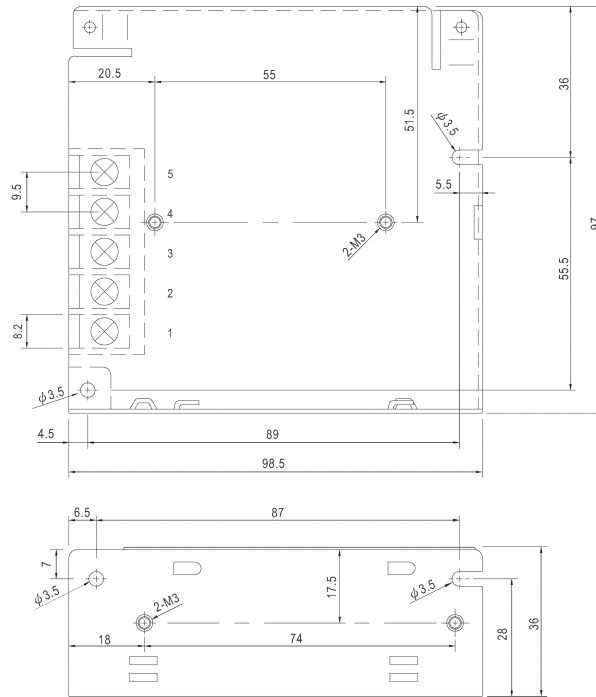


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DC-DC CONVERTERS

25 WATT



Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V-	4	DC OUTPUT +V
2	DC INPUT V+	5	DC OUTPUT -V
3	FG \pm		

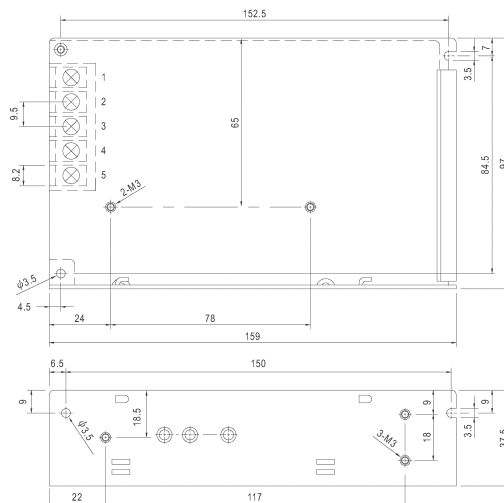
50 WATT



Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4	DC OUTPUT -V
2	DC INPUT V-	5	DC OUTPUT +V
3	FG \pm		

50 WATT



Terminal Pin. No Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4	DC OUTPUT -V
2	DC INPUT V-	5	DC OUTPUT +V
3	FG \pm		

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150 WATT

Terminal Pin. No Assignment

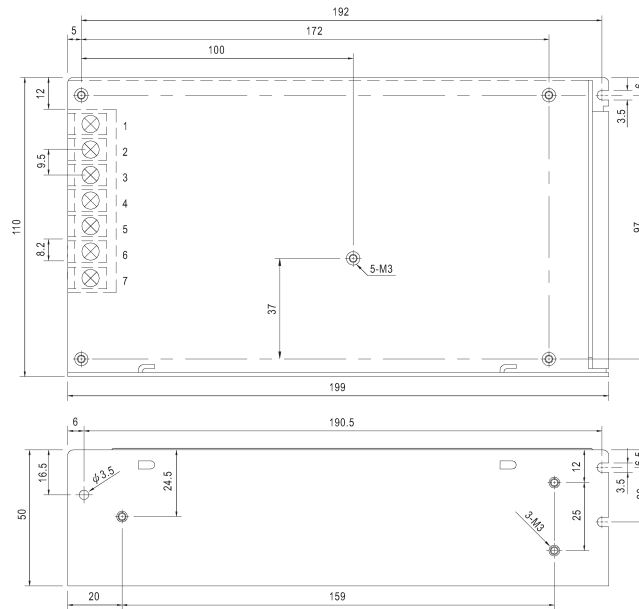
Pin No.	Assignment	Pin No.	Assignment
1,2	INPUT ※	4,5	DC OUTPUT -V
3	FG ⚡	6,7	DC OUTPUT +V

※ SD-150B.C

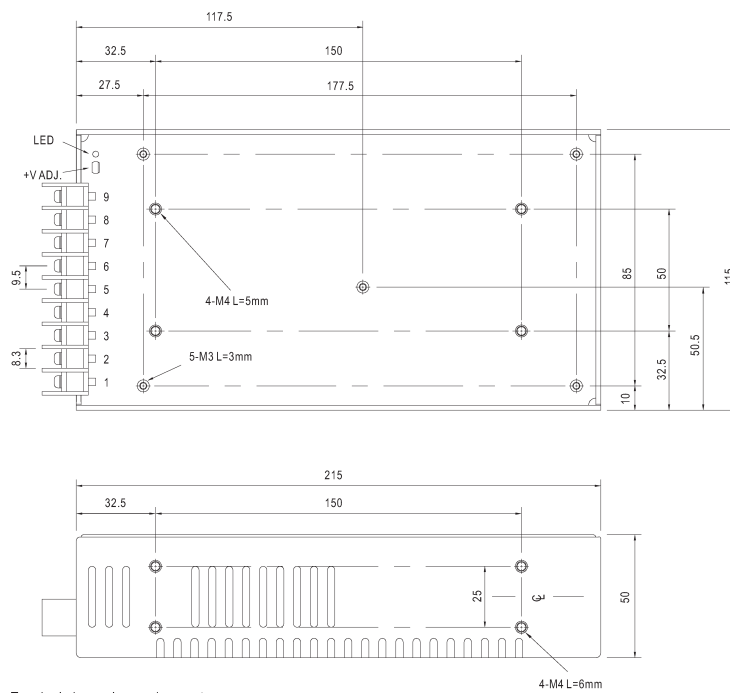
Pin No.	Assignment
1	DC INPUT V+
2	DC INPUT V-

※ SD-150D

Pin No.	Assignment
1,2	AC/DC INPUT



200 WATT



Terminal pin number assignment :

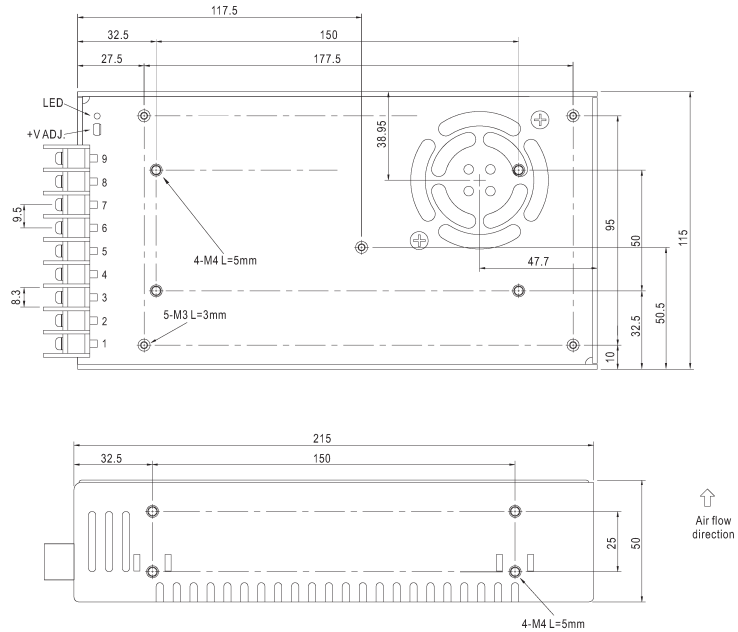
Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4,5,6	DC OUTPUT V-
2	DC INPUT V-	7,8,9	DC OUTPUT V+
3	FG ⚡		

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DC-DC CONVERTERS

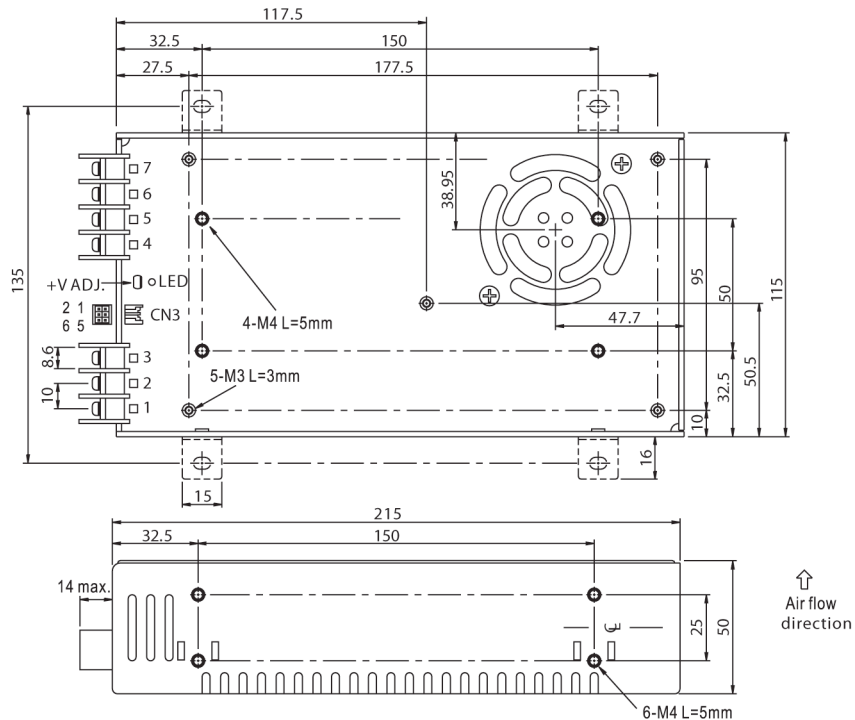
350 WATT



Terminal pin number assignment :

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4,5,6	DC OUTPUT V-
2	DC INPUT V-	7,8,9	DC OUTPUT V+
3	FG \perp		

500 WATT



DC Input Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC INPUT V+	4,5	-V
2	DC INPUT V-	6,7	+V
3	FG \perp		

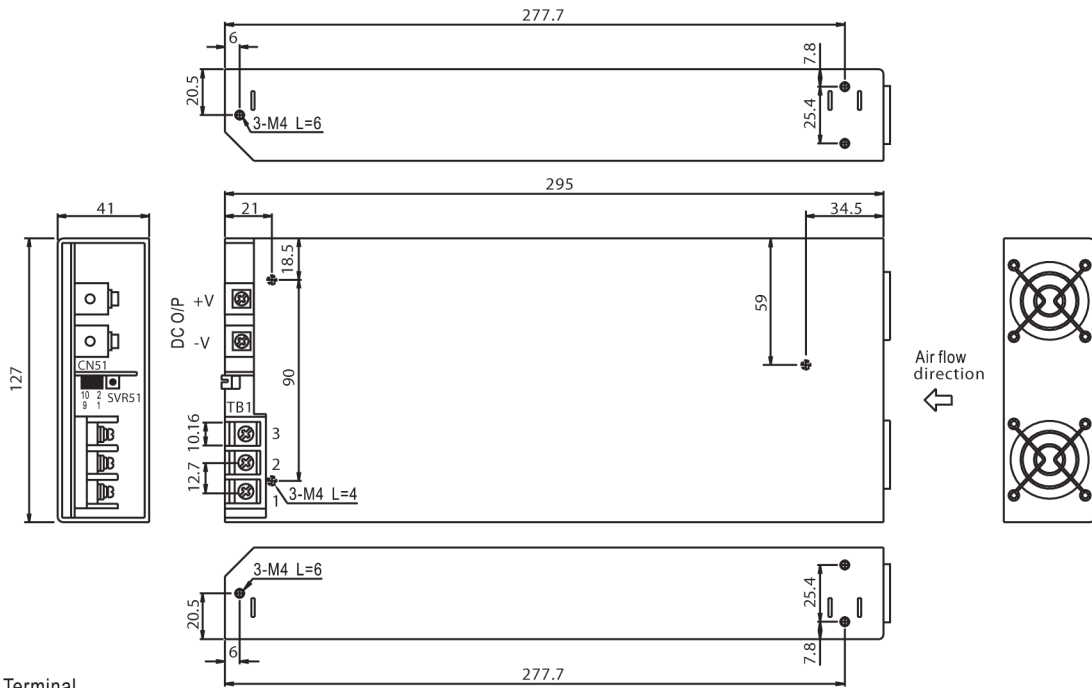
Control Pin No. Assignment (CN3) : HRS DF11-6DP-2DS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	+S	4	GND	HRS DF11-6DS or equivalent	JST SPHD-002T-P0.5 or equivalent
2	-S	5	RC		
3	OUTPUT OK	6	RCG		

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DC Input Terminal
Pin No. Assignment

Pin No.	Assignment
1	DC INPUT V+
2	DC INPUT V-
3	FG

Control pin number assignment (CN51) : HRS DF11-10DP-2DS or equivalent

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	+S	5	AUX	9	RCG	HRS DF11-10DS or equivalent	JST SPHD-002T-P0.5 or equivalent
2	-S	6	AUXG	10	NC		
3	OUTPUT OK	7	RC1				
4	GND	8	RC2				