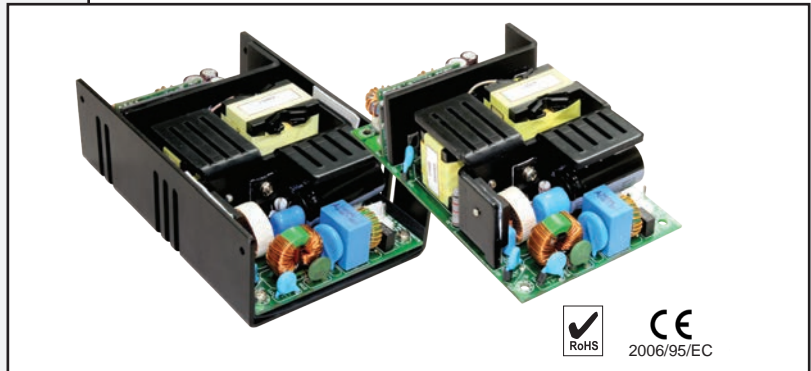


RD-150P SERIES
MULTI OUTPUT SWITCHERS
150 WATT 3" x 5" Open Frame & U-Channel

FEATURES

- ◆ 150 Watts in 3" x 5" Footprint
- ◆ Active PFC
- ◆ 2 to 4 Outputs
- ◆ Outputs from 3.3V to 48V
- ◆ Class B EMI



TWO YEAR WARRANTY

SAFETY CERTIFICATIONS

UL60950-1 2nd Edition
CSA22.2, No. 60950-1 2nd Edition
EN60950-1 2nd Edition

STANDARD MODEL SUMMARY

Model Number ¹	Output 1 ²		Output 2 ²		Output 3 ²		Output 4 ²	
RD-150P-D42	+24V	4.5A	+12V	7.5A				
RD-150P-D41	+24V	4.5A	+5V	12.0A				
RD-150P-D21	+12V	7.5A	+5V	12.0A				
RD-150P-T421	+24V	4.5A	+12V	7.5A	+5V	12.0A		
RD-150P-T210	+12V	7.5A	+5V	12.0A	+3.3V	12.0A		
RD-150P-T410	+24V	4.5A	+5V	12.0A	+3.3V	12.0A		
RD-150P-Q4210	+24V	4.5A	+12V	7.5A	+5V	12.0A	+3.3V	12.0A
RD-150P-Q2210	-12V	2.5A	+12V	7.5A	+5V	12.0A	+3.3V	12.0A
RD-150P-Q3310	-15V	1.75A	+15V	3.5A	+5V	12.0A	+3.3V	12.0A
RD-150P-Q5210	+48V	1.0A	+12V	7.5A	+5V	12.0A	+3.3V	12.0A
RD-150P-Q2421	-12V	1.5A	+24V	4.5A	+12V	7.5A	+5V	12.0A
RD-150P-Q3421	-15V	1.0A	+24V	4.5A	+12V	7.5A	+5V	12.0A
RD-150P-Q7210	+28V	4.0A	+12V	7.5A	+5V	12.0A	+3.3V	12.0A

NOTES:

1. Models shown are for Open PCB. For U-Channel Format suffix **-U** to model number.
2. See detailed STANDARD MODELS table on next page for full rating information.

SPECIFICATIONS

Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted. Subject to change without notice.

INPUT SPECIFICATIONS

Input Operating Range90-264VAC
Input Frequency.....47-63Hz
Power Factor, full load.....0.95 @ 115VAC, 0.9 @ 230VAC
Input Current, RMS.....<2.5A @115VAC, <1.25A @ 230VAC
Inrush Current, cold start @ 25°C<40A Peak @ 115VAC
.....<80A Peak @ 230VAC
Input EMI Filter..... EN55022 Curve B, FCC20780 pt. 15J Curve B
Input Protection Internal Fuse

OUTPUT SPECIFICATIONS

Total Output Power, Continuous, Maxsee model table
Total Regulation¹.....see model table
Ripple & Noise, Pk-Pk².....see model table
Holdup Time, full load @ 115VAC>16mS
Dynamic Response³.....300µS
Temperature Coefficient±0.04%/°C
Minimum Load.....0A
Overload Protection⁴.....110-160% Full Load, Auto Recovery
Overvoltage Protection..... Shutdown, Latch off
Short Circuit Protection.....Auto Recovery
Over Temperature Protection⁴..... Shutdown

GENERAL SPECIFICATIONS

Efficiency>80% typical at Full Load, 115VAC
MTBF.....100,000 Hours
Immunity EN61000-4-2, 3, 4, 5, 6, 8, 11
Safety Standards..... UL60950-1 2nd Ed., CSA22.2 No.60950-1 2nd Ed.,
EN60950-1 2nd Ed.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....0°C to 60°C Ambient
Derating.....2.5%/°C, 41°C to 60°C
Storage Temperature.....-40°C to 85°C
Humidity.....5% to 95%, non-condensing
Cooling Natural Convection or Forced Air

PHYSICAL SPECIFICATIONS

Format Open PCB or U-Channel
Dimensions..... see outline drawings
Weight see outline drawings

- NOTES:**
1. No load to full load, including line regulation and load regulation.
 2. 20MHz bandwidth. Measure with 0.1µF ceramic and 10µF tantalum capacitors in parallel across the output.
 3. <4% deviation recovering to within 1% for 25% load change.
 4. Sensor located on heatsink 1, threshold 88°C ±4°C.

STANDARD MODELS

Model Number ¹	Output Voltage		Min. Current	Convection ²			30cfm Forced Air ²			Total Regulation	Ripple & Noise (Vp-p)
				Max. Current	Max. Combined Power	Max. Total Power	Max. Current	Max. Combined Power	Max. Total Power		
RD-150P-D42	V1	+24V	0.15A	3.5A	-	120W	4.5A	-	150W	±5%	240mV
	V2	+12V	0.15A	6.0A			7.5A			±5%	120mV
RD-150P-D41	V1	+24V	0.15A	3.5A	-	120W	4.5A	-	150W	±5%	240mV
	V2	+5V	0A	10.0A			12.0A			±5%	50mV
RD-150P-D21	V1	+12V	0.15A	6.0A	-	120W	7.5A	-	150W	±5%	120mV
	V2	+5V	0A	10.0A			12.0A			±5%	50mV
RD-150P-T421	V1	+24V	0.15A	3.5A	75W	120W	4.5A	90W	150W	±5%	240mV
	V2	+12V	0.15A	6.0A			7.5A			±5%	120mV
	V3	+5V	0A	10.0A			12.0A			±5%	50mV
RD-150P-T210	V1	+12V	0.15A	6.0A	75W	120W	7.5A	90W	150W	±5%	120mV
	V2	+5V	0A	10.0A			12.0A			±5%	50mV
	V3	+3.3V	0A	10.0A			12.0A			±5%	50mV
RD-150P-T410	V1	+24V	0.15A	3.5A	75W	120W	7.5A	90W	150W	±5%	240mV
	V2	+5V	0A	10.0A			12.0A			±5%	50mV
	V3	+3.3V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q4210	V1	+24V	0.15A	3.5A	75W	120W	4.5A	90W	150W	±5%	240mV
	V2	+12V	0.15A	6.0A			7.5A			±5%	120mV
	V3	+5V	0A	10.0A			12.0A			±5%	50mV
	V4	+3.3V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q2210	V1	-12V	0.15A	1.5A	105W	120W	2.5A	125W	150W	±5%	120mV
	V2	+12V	0.15A	6.0A			7.5A			±5%	120mV
	V3	+5V	0A	10.0A			12.0A			±5%	50mV
	V4	+3.3V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q3310	V1	-15V	0.15A	1.25A	105W	120W	1.75A	125W	150W	±5%	150mV
	V2	+15V	0.15A	2.5A			3.5A			±5%	150mV
	V3	+5V	0A	10.0A			12.0A			±5%	50mV
	V4	+3.3V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q5210	V1	+48V	0.15A	0.5A	105W	120W	1.0A	125W	150W	±5%	480mV
	V2	+12V	0.15A	6.0A			7.5A			±5%	120mV
	V3	+5V	0A	10.0A			12.0A			±5%	50mV
	V4	+3.3V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q2421	V1	-12V	0.15A	1.5A	75W	120W	1.5A	90W	150W	±5%	120mV
	V2	+24V	0.15A	3.5A			4.5A			±5%	120mV
	V3	+12V	0.15A	6.0A			7.5A			±5%	50mV
	V4	+5V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q3421	V1	-15V	0.15A	1.0A	75W	120W	1.0A	90W	150W	±5%	150mV
	V2	+24V	0.15A	3.5A			4.5A			±5%	240mV
	V3	+12V	0.15A	6.0A			7.5A			±5%	120mV
	V4	+5V	0A	10.0A			12.0A			±5%	50mV
RD-150P-Q7210	V1	+28V	0.15A	3.0A	75W	120W	4.0A	90W	150W	±5%	280mV
	V2	+12V	0.15A	6.0A			7.5A			±5%	120mV
	V3	+5V	0A	10.0A			12.0A			±5%	50mV
	V4	+3.3V	0A	10.0A			12.0A			±5%	50mV

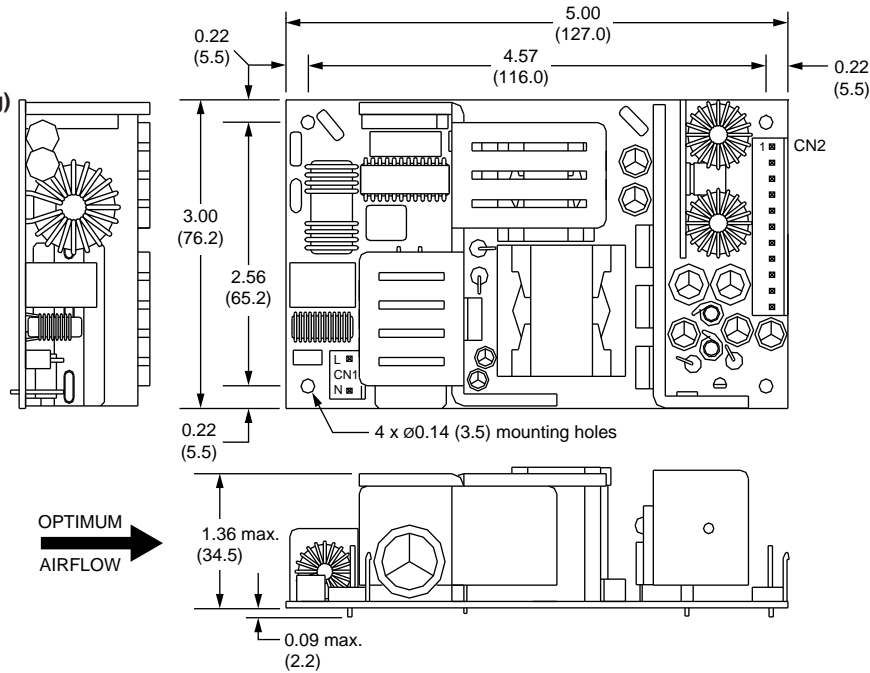
NOTES:

1. Models shown are for Open PCB. For U-Channel Format suffix **-U** to model number.
2. Ratings are the same for Open PCB and U-Channel Formats.

MECHANICAL SPECIFICATIONS & CONNECTION DETAILS

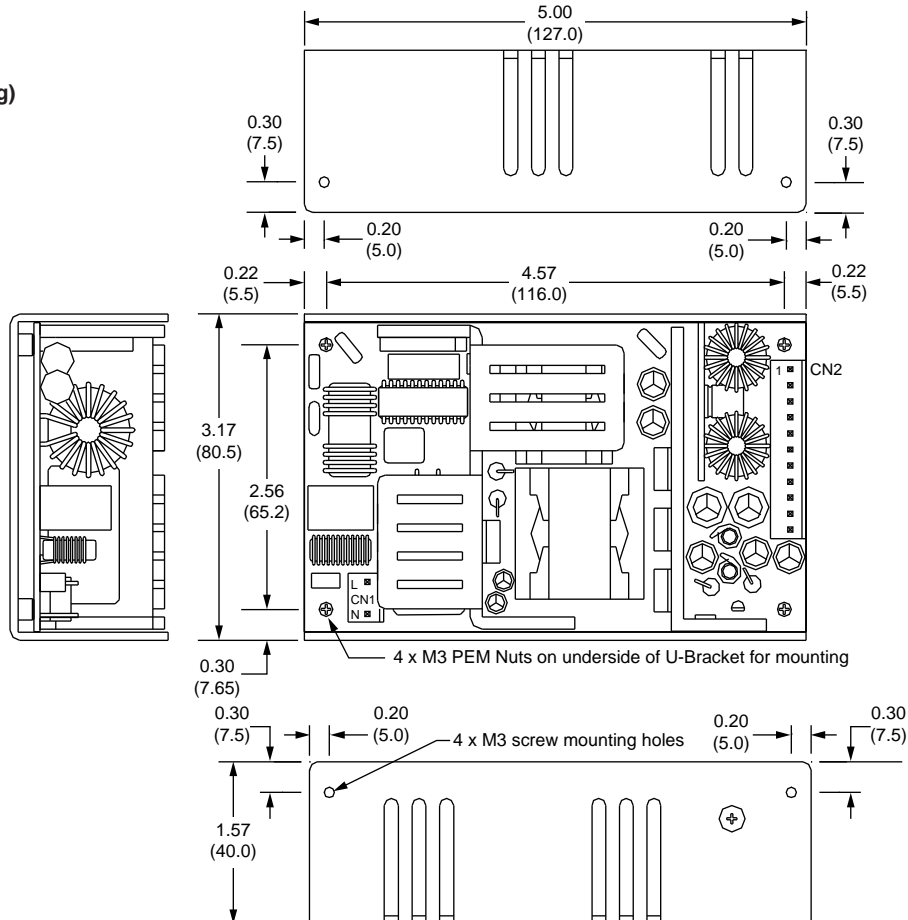
OPEN PCB

Weight: 0.86lbs (0.39kg)



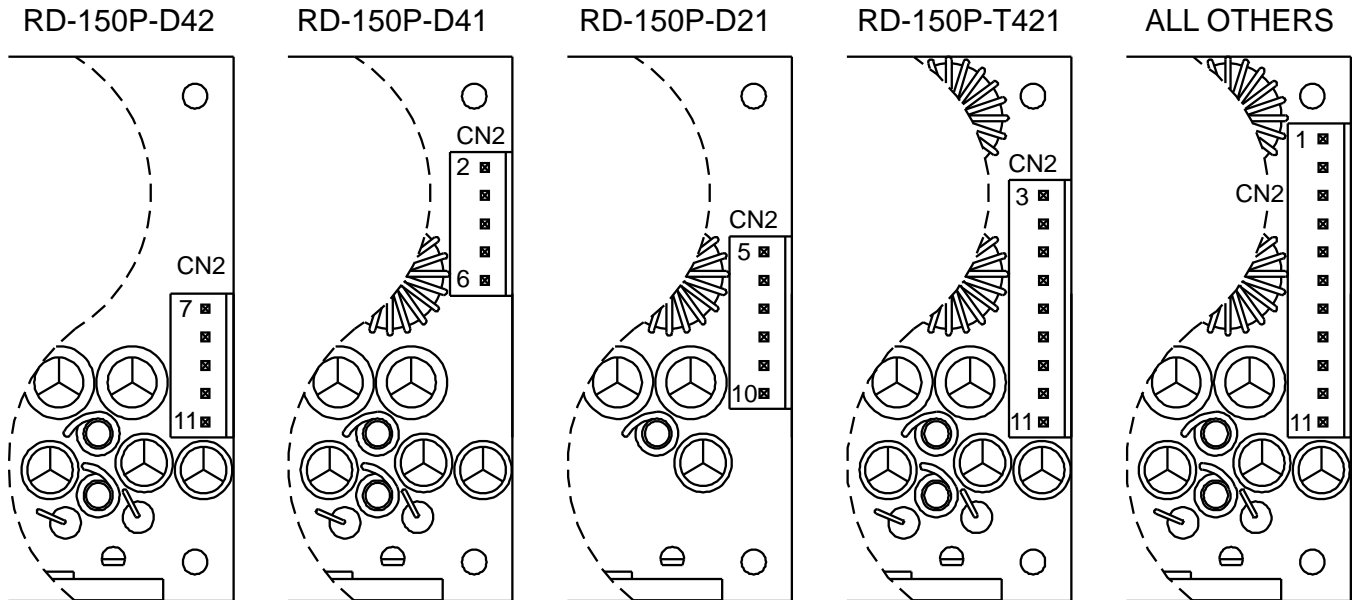
U-CHANNEL

Weight: 1.11lbs (0.5kg)



ALL DIMENSIONS IN INCHES (mm).

CONNECTION DETAILS



CN2 PIN DETAIL

Model Number	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11
RD-150P-D42	-	-	-	-	-	-	GND	GND	+12V	12V RTN	+24V
RD-150P-D41	-	+24V	GND	GND	+5V	+5V	-	-	-	-	-
RD-150P-D21	-	-	-	-	+5V	+5V	GND	GND	+12V	12V RTN	-
RD-150P-T421	-	-	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	+24V
RD-150P-T210	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	-
RD-150P-T410	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	-	-	+24V
RD-150P-Q4210	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	+24V
RD-150P-Q2210	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	-12V
RD-150P-Q3310	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+15V	15V RTN	-15V
RD-150P-Q5210	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	+48V
RD-150P-Q2421	-12V	-12V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	+24V
RD-150P-Q3421	-15V	-15V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	+24V
RD-150P-Q7210	+3.3V	+3.3V	GND	GND	+5V	+5V	GND	GND	+12V	12V RTN	+28V

CONNECTOR PINOUTS		MATING CONNECTORS
CN1	L: AC LIVE N: AC NEUTRAL	JST VHR-3N or equivalent
CN2	SEE CN2 PIN DETAIL	JST VHR-11N or equivalent

A kit containing one each housing and indicated number of pins is supplied with each unit as standard.