

RFM-500P SERIES

SINGLE OUTPUT MEDICAL SWITCHERS

500 WATT U-Channel & Enclosed

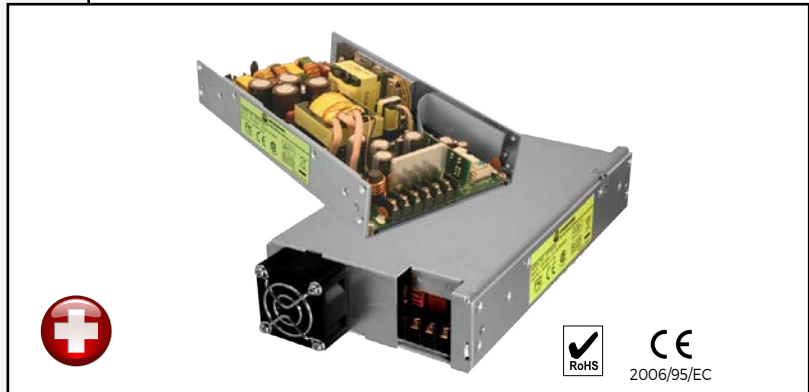
FEATURES

- ◆ Compact Format
- ◆ Universal AC Input
- ◆ Outputs from 12VDC to 57VDC
- ◆ Active Power Factor Correction
- ◆ Full Medical Approvals
- ◆ 5V @ 1A Standby Output
12V @ 1A Aux. Fan Output
- ◆ Remote Inhibit
- ◆ Current Share

TWO YEAR WARRANTY

SAFETY CERTIFICATIONS

UL60601-1 3rd Edition
CSA22.2, No. 60601-1 3rd Edition
EN60601-1 3rd Edition



STANDARD MODELS

Model Number	Output Voltage	Output Current ^{1,2}	Output Power ^{1,2}	Output Current ³	Output Power ³
RFM-500P-S12-U	12V	41.67A	500W	30.00A	360W
RFM-500P-S24-U	24V	20.84A	500W	15.00A	360W
RFM-500P-S30-U	30V	16.67A	500W	12.00A	360W
RFM-500P-S36-U	36V	13.89A	500W	10.00A	360W
RFM-500P-S48-U	48V	10.42A	500W	7.50A	360W
RFM-500P-S54-U	54V	9.26A	500W	6.67A	360W
RFM-500P-S57-U	57V	8.78A	500W	6.32A	360W

NOTES:

1. Maximum output current/power for U-Channel models with 30cfm forced cooling at 40°C.
2. Maximum output current/power for models with cover/fan at 50°C.
3. Maximum output current/power for U-Channel models with free air convection at 40°C.

OPTIONS

Cover with end-mounted fan: Replace -U with -E.
Cover with top mounted fan: Replace -U with -T.

SPECIFICATIONS

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

INPUT SPECIFICATIONS

Input Operating Range90-264VAC
Power Factor, full load>0.95 @ 115VAC, > 0.9 @ 230VAC
Input Frequency47-63Hz
Input Current, RMS<6.0A @115VAC, <3.0A @ 230VAC
Inrush Current, cold start @ 25°C<25A Peak @ 115VAC
.....<50A Peak @ 230VAC
Input EMI Filter.....EN55022 Curve B, FCC20780 pt. 15J Curve B
Input Protection Internal Fuse
Leakage Current<300µA @ 264VAC

OUTPUT SPECIFICATIONS

Total Output Power, Continuous, Max500 Watts
Total Regulation¹±1%
Ripple & Noise, Pk-Pk²±1%
Holdup Time, 360W @ 115VAC>20ms
Dynamic Response³300µS
Temperature Coefficient±0.04%/°C
Minimum Load0A
Overload Protection110-150% Full Load, Auto Recovery
Overvoltage Protection<130% Vnom, Shutdown, Latch Off
Short Circuit Protection Auto Recovery
Current Share error<10%, 4 units max.

AUXILIARY OUTPUTS

Standby Output
Natural Convection+5VDC @ ¼A
Fan Cooled+5VDC @ 1A
Fan Output+12VDC @ 1A

GENERAL SPECIFICATIONS

Efficiency, typical>83% at Full Load, 115VAC
MTBF100,000 Hours
ImmunityEN61000-4-2, 3, 4, 5, 6, 8, 11
Safety StandardsUL60601-1 3rd Ed., CSA22.2 No.60601-1 3rd Ed.,
EN60601-1 3rd Ed.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature0°C to 70°C Ambient
Derating see derating charts
Storage Temperature-10°C to 70°C
Humidity10% to 95%, non-condensing
Cooling Natural Convection or Single Fan

PHYSICAL SPECIFICATIONS

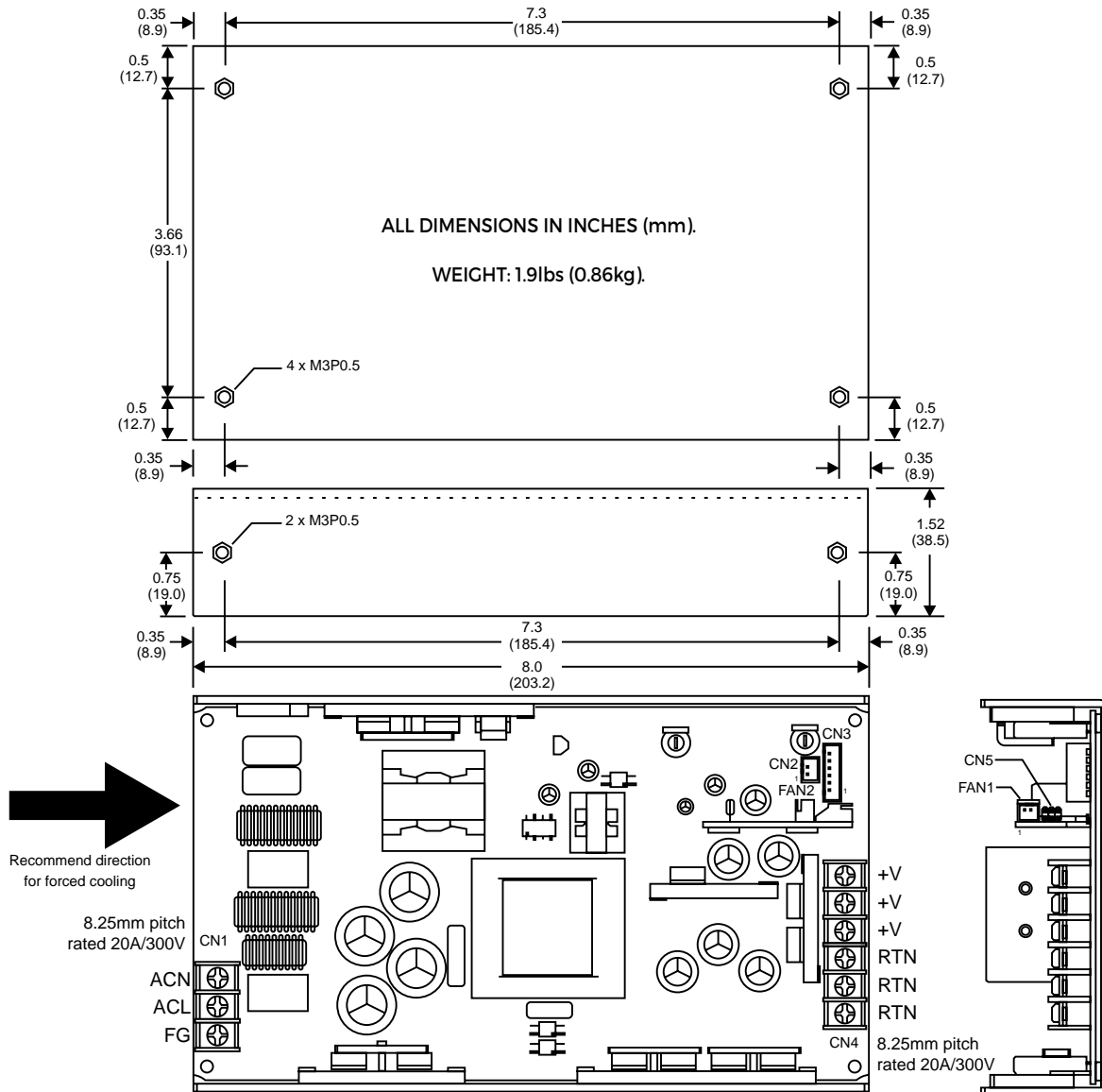
FormatU-Channel or Enclosed with Top or End Fan
Dimensions see outline drawings
Weight see outline drawings

- 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.

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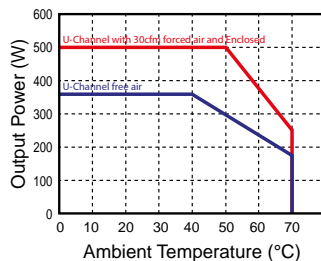
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MECHANICAL SPECIFICATIONS & CONNECTION DETAILS - U-CHANNEL



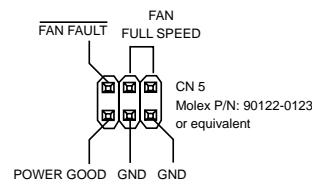
CONNECTOR PINOUTS		MATING CONNECTORS	
CN2	Pin 1: 5Vsb Pin 2: GND	JST XHP-2 or equivalent	
CN3	Pin 1: Sense +ve Pin 3: 5V standby Pin 5: INHIBIT Pin 2: Sense -ve Pin 4: GND Pin 6: Current Share	JST XHP-6 or equivalent	
FAN 1 & 2	Pin 1: 12V FAN + Pin 2: 12V FAN -	JST XHP-2 or equivalent	

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



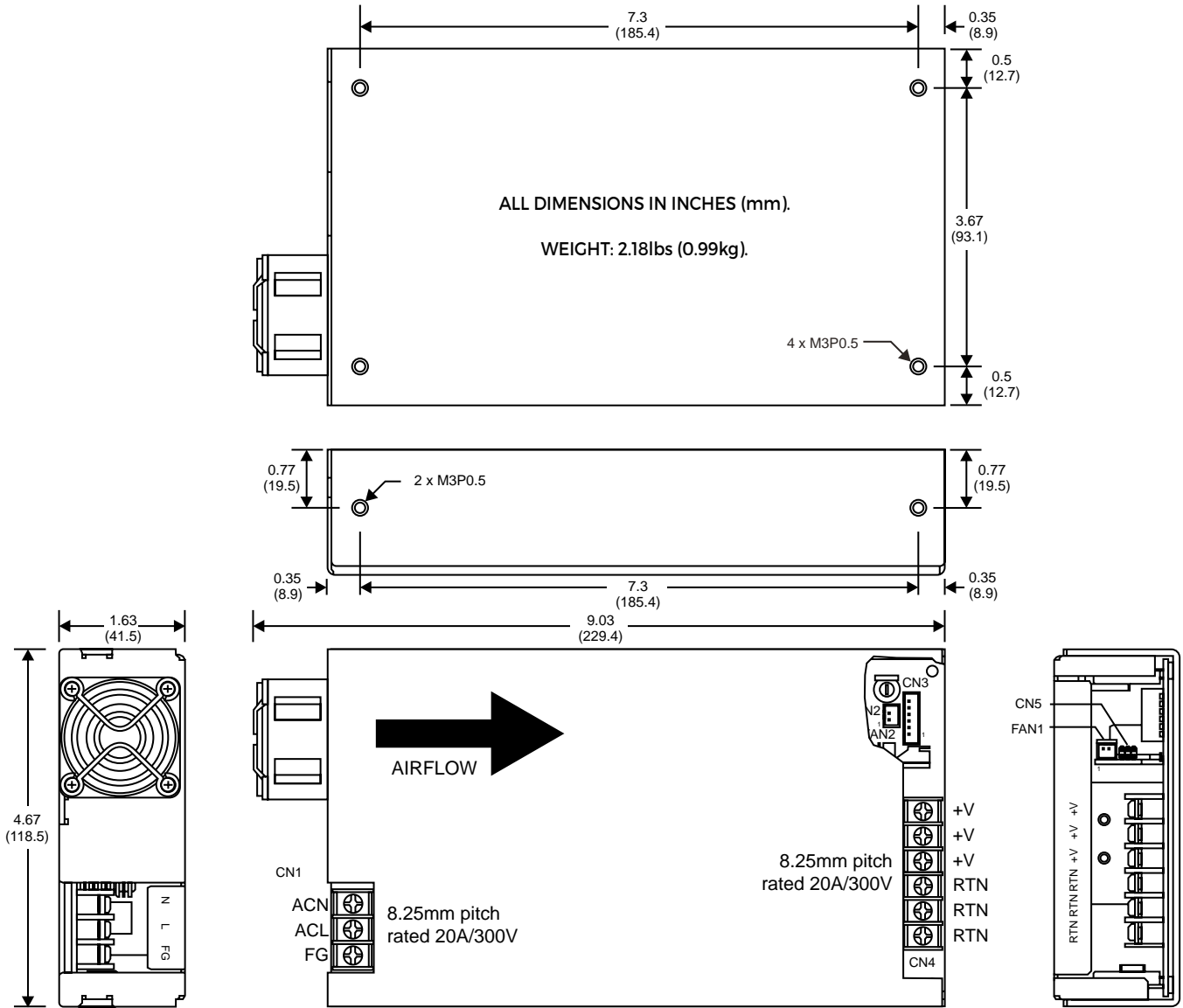
Function / State	LOGIC FUNCTIONS	
	HIGH	LOW
Remote Control (input)	Output Enabled	Output Disabled
Power Good (output)	DC Output good and within regulation	DC Output below UV threshold
Fan 2 Fault (output)	Fan operating normally	Fan fault

Note: HIGH = 3.5-5.35V, LOW = 0-0.5V



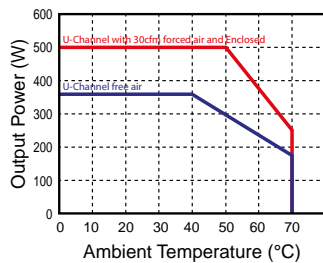
PLEASE SEE [APPLICATION NOTE](#) FOR IMPORTANT INFORMATION ABOUT THE USE OF EXTERNAL FANS.

MECHANICAL SPECIFICATIONS & CONNECTION DETAILS - END FAN



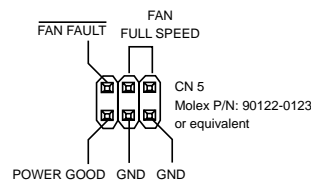
CONNECTOR PINOUTS		MATING CONNECTORS	
CN2	Pin 1: 5Vsb Pin 2: GND	JST XHP-2 or equivalent	
CN3	Pin 1: Sense +ve Pin 3: 5V standby Pin 5: INHIBIT	Pin 2: Sense -ve Pin 4: GND Pin 6: Current Share	JST XHP-6 or equivalent
FAN 1 & 2	Pin 1: 12V FAN + Pin 2: 12V FAN -	JST XHP-2 or equivalent	

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



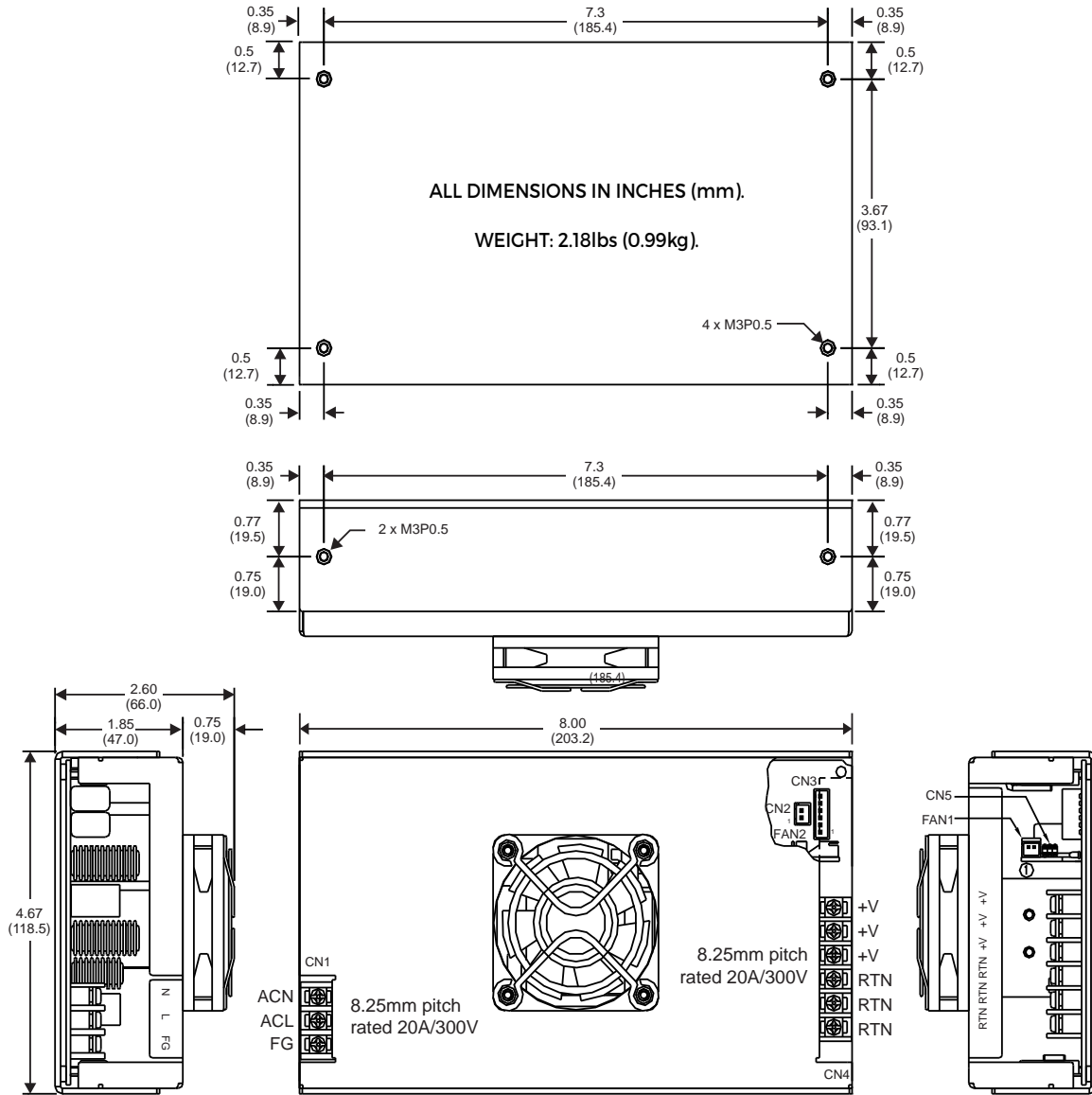
Function / State	LOGIC FUNCTIONS	
	HIGH	LOW
Remote Control (input)	Output Enabled	Output Disabled
Power Good (output)	DC Output good and within regulation	DC Output below UV threshold
Fan 2 Fault (output)	Fan operating normally	Fan fault

Note: HIGH = 3.5-5.35V, LOW = 0-0.5V



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MECHANICAL SPECIFICATIONS & CONNECTION DETAILS - TOP FAN

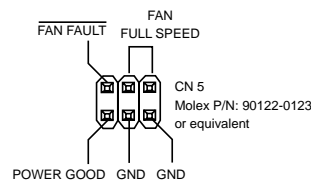
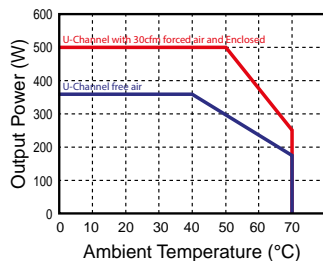


CONNECTOR PINOUTS		MATING CONNECTORS	
CN2	Pin 1: 5Vsb Pin 2: GND	JST XHP-2 or equivalent	
CN3	Pin 1: Sense +ve Pin 3: 5V standby Pin 5: INHIBIT	Pin 2: Sense -ve Pin 4: GND Pin 6: Current Share	JST XHP-6 or equivalent
FAN 1 & 2	Pin 1: 12V FAN + Pin 2: 12V FAN -	JST XHP-2 or equivalent	

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

Function / State	LOGIC FUNCTIONS	
	HIGH	LOW
Remote Control (input)	Output Enabled	Output Disabled
Power Good (output)	DC Output good and within regulation	DC Output below UV threshold
Fan 2 Fault (output)	Fan operating normally	Fan fault

Note: HIGH = 3.5-5.35V, LOW = 0-0.5V



PLEASE SEE APPLICATION NOTE FOR IMPORTANT INFORMATION ABOUT THE USE OF EXTERNAL FANS.