

### Features:

- Universal AC input / Full range with active PFC
- 5"x 3" footprint
- Medical safety approval: ANSI / AAMI ES 60601-1 / TUV EN 60601-1; IEC 60601-1 / MOPP
- 200W convection cooling and 350W with 20 CFM forced air
- Protection: Short circuit, Over load, Over voltage
- High operation temperature up to 70°C
- Built-in fan supply
- Withstand 2G vibration test
- 3 years warranty



MODEL		MP-350-12	MP-350-15	MP-350-24	MP-350-48
Output	DC Voltage Range	12V	15V	24V	48V
	Rated Current	29.17A	23.34A	14.6A	7.3A
	Current Range (Convection)	0 ~ 16.67A	0 ~ 13.34A	0 ~ 8.34A	0 ~ 4.17A
	Current Range (20 CFM Fan)	0 ~ 29.17A	0 ~ 23.34A	0 ~ 14.6A	0 ~ 7.3A
	Rated Power (Convection)	200W	200.1W	200.1W	200.1W
	Rated Power (20 CFM Fan)	350W	350.1W	350.4W	350.4W
	Ripple & Noise (Max.)	150mVp-p	150mVp-p	240mVp-p	480mVp-p
	Voltage Adj. Range	±5%			
	Voltage Tolerance	±2.0%	±2.0%	±2.0%	±2.0%
	Line Regulation	±1.0%	±1.0%	±1.0%	±1.0%
	Load Regulation	±1.0%	±1.0%	±1.0%	±1.0%
	Setup, Rise Time	800ms, 150ms / 230VAC at full load			
Hold Up Time	>5ms at 350W / 230VAC				
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC			
	Frequency Range	47 ~ 63Hz			
	Efficiency (Typ.) at 230VAC	90%	90%	90%	91%
	AC Current (Typ.)	3.6A / 115VAC, 1.8A / 230VAC			
	Inrush Current (Typ.)	Cold Start 40A / 115VAC, 80A / 230VAC			
Protection	Leakage Current	For earth < 300uA / 264VAC, For patient < 200uA / 264VAC			
	Over Current / Short Circuit	Constant current limit: > 105% rated power Auto-recovery: If O/P drop to 40% of the rated output voltage, PSU will shut down and auto-recover 5 times (If fault condition remains after 5 times recovery, PSU will shut down. User must re-power on to recover)			
	Over Voltage	115 ~ 140% rated output voltage Protection type: latch-off mode			
Environment	Working Temp.	-20 ~ 70°C (Refer to output load de-rating curve)			
	Working Humidity	20 ~ 90% RH non-condensing			
	Storage Temp. & Humidity	-40 ~ +85°C, 10 ~ 95% RH			
	Temp. Coefficient	±0.03% / °C (0 ~ 50°C)			
	Vibration	10 ~ 500Hz, 2G 10min. / 1cycle, period for 60min. each along X, Y, Z axes			
Safety & EMC	Safety Standards	Meets UL / cUL (ANSI / AAMI ES 60601-1; CAN / CSA-C22.2 No.60601-1); NFPA 99 Meets TUV (EN 60601-1; IEC 60601-1); MOPP approval			
	Withstand Voltage	I/P-O/P: 4KVAC, I/P-FG: 1.8KVAC, O/P-FG: 1.5KVAC			
	Isolation Resistance	I/P-O/P: 100M Ohms / 500VDC			
	EMI Conduction & Radiation	Certified EN 55011			
	Harmonic Current	Certified EN 61000-3-2; EN 61000-3-3			
Others	EMS Immunity	Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11			
	MTBF	XXX K HRS Certified MIL-HDBK-217F			
	Cooling	Free Air convection for 200W, with 20 CFM Fan for 350W			
	Dimension (WxHxD)	76.2x39.6x127 mm / 3.00x1.56x5.00 inch			
Note	Packing	XXX kg			
		1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor. 3. Tolerance: includes set up tolerance, line regulation and load regulation. 4. Line regulation is measured from low line to high line at rated load. 5. Load regulation is measured from 0% to 100% rated load. 6. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.			

### Mechanical Specification:

Unit : mm

AC Input Connector (CN1): JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing / Contact	
1	AC / N	JST VHR-3N or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC / L		

External Fan Power Connector (CN3): JST B2B-XH-A or equivalent

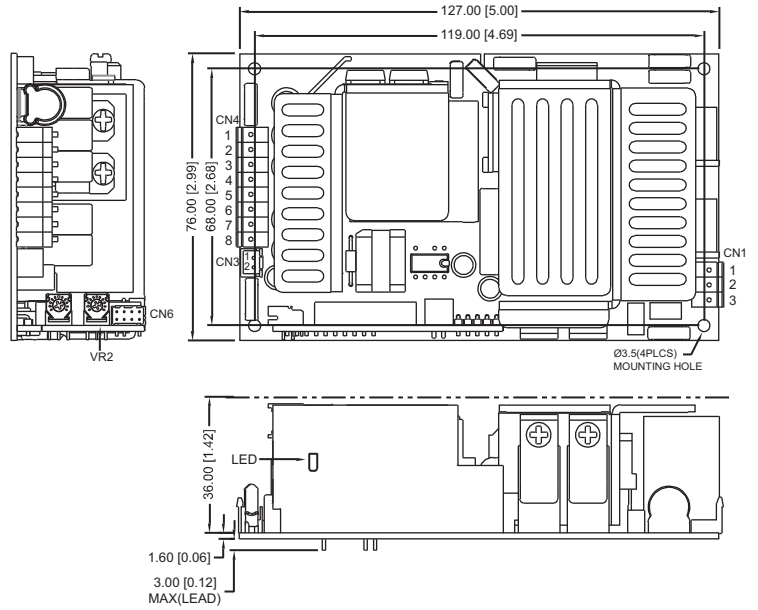
Pin No.	Assignment	Mating Housing / Contact	
1	GND	JST XHP-2 or equivalent	JST SXH-001T-P0.6 or equivalent
2	+12V		

DC Output Connector (CN4): JST B6P-VH or equivalent

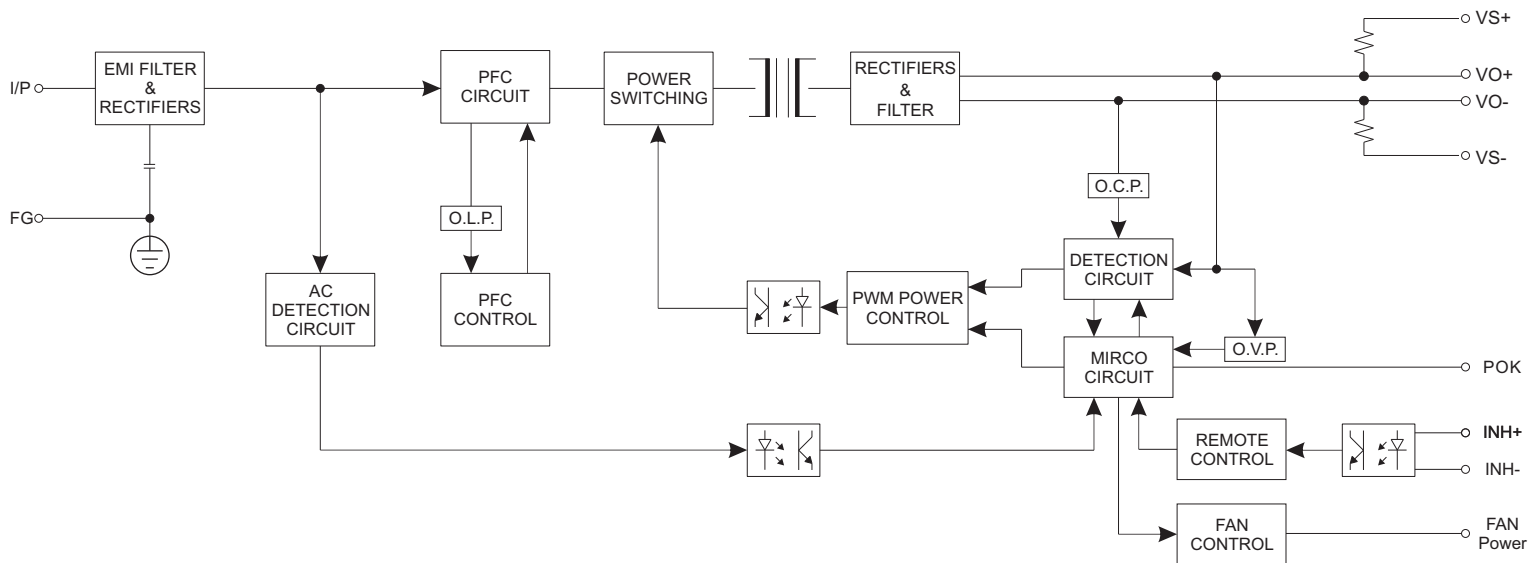
Pin No.	Assignment	Mating Housing / Contact	
1,2,3,4	VO+	JST VHR-6N or equivalent	JST SVH-41T-P1.1 or equivalent
5,6,7,8	VO-		

Connector pin number assignment (CN6):  
JST S8B-PHDSS or equivalent

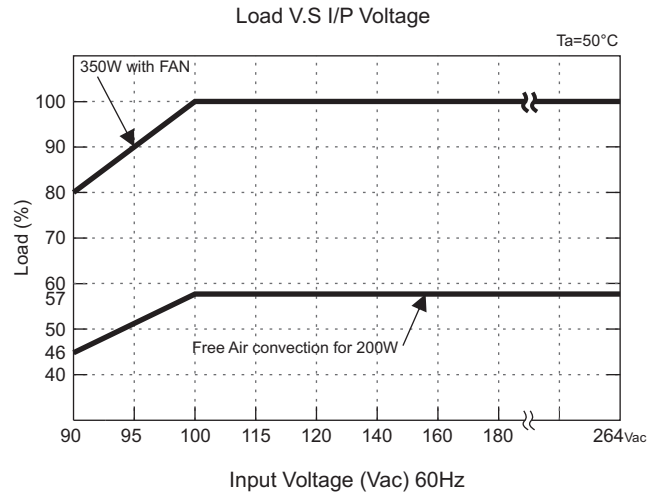
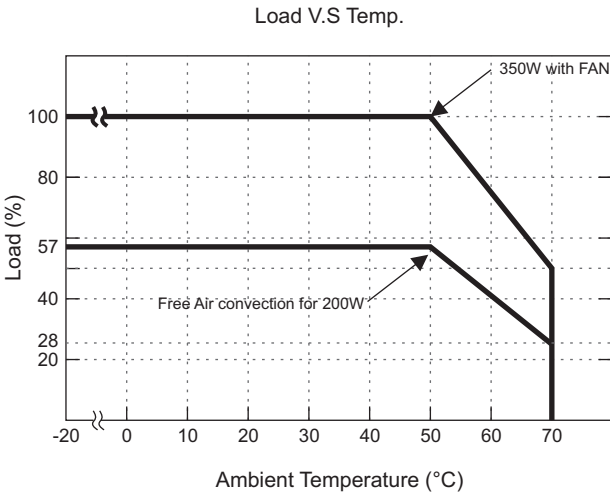
Pin. No.	Assignment	Mating Housing	Terminal
1	VS+	JST PHDR-08VS or equivalent	JST SPHD-002T-P05 or equivalent
2	S GND		
3	INH-		
4	NC		
5	VS-		
6	POK		
7	INH+		
8	VS-		



### Block Diagram:



### De-rating Curve:



### Function Description of CN6:

#### 1. Remote Control

The PSU can be turned ON/OFF by using the "Remote Control" function.

CN6 CONNECTIONS	
INH+(7 PIN)/ INH-(3 PIN)	Output Status
SW ON (>2.5V)	DISABLE
SW OFF (<0.8V)	ENABLE

(Default Setting)

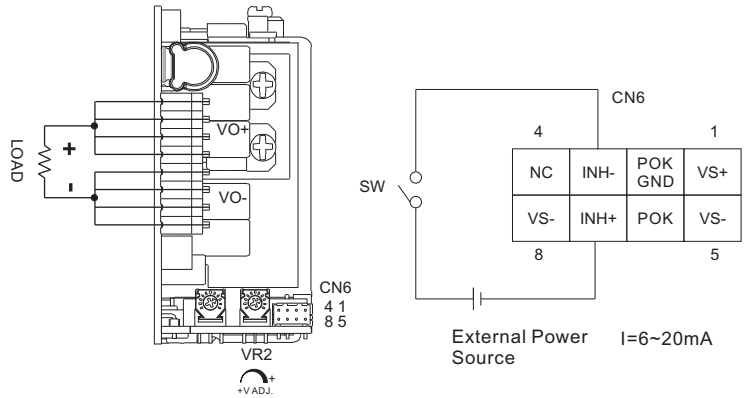


Fig 1.1

### Function Description of CN6:

#### 2. P-OK CONTROL

POK Signal use open drain mosfet control  
MAX:30Vds,0.1A

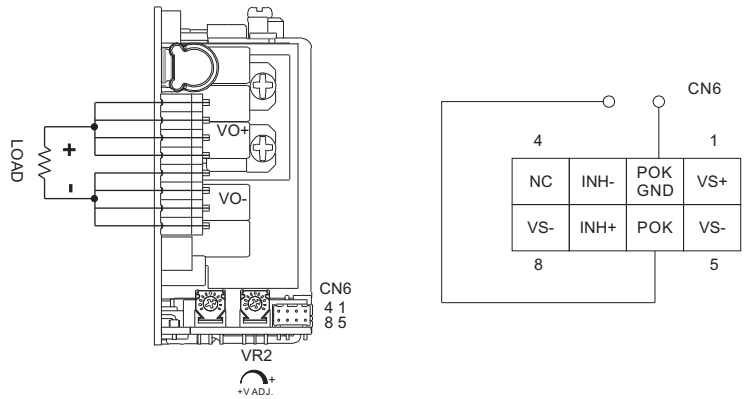
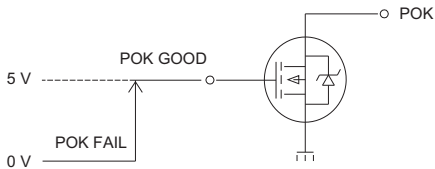


Fig 2.1

3. Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.5V.

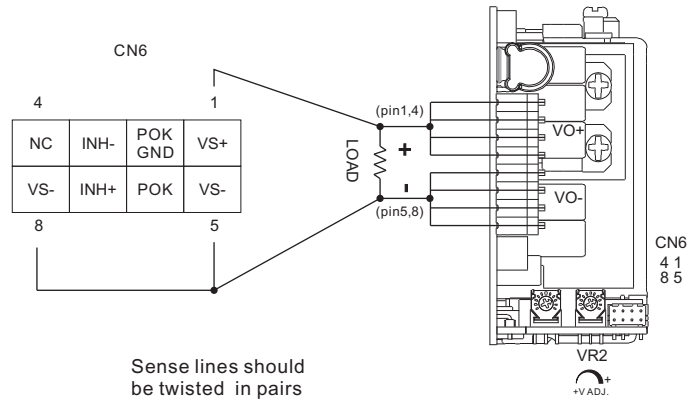


Fig 3.1