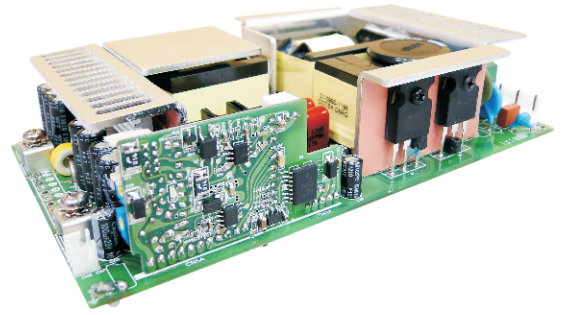


### Features:

- Universal AC input / Full range with active PFC
- 7"x 4" footprint
- Medical safety approval: ANSI / AAMI ES 60601-1 / TUV EN 60601-1; IEC 60601-1 / MOPP
- 300W convection cooling and 450W with 23.5 CFM forced air
- Protection: Short circuit, Over load, Over voltage
- High operation temperature up to 70°C
- Built-in fan auxiliary Power
- Power OK signal
- Remote ON / OFF, Remote sense function
- Withstand 2G vibration test
- 3 years warranty



MODEL		MP-450-12	MP-450-15	MP-450-24	MP-450-48
Output	DC Voltage Range	12V	15V	24V	48V
	Rated Current	37.5A	30A	18.75A	9.38A
	Current Range (Convection)	0 ~ 25A	0 ~ 20A	0 ~ 12.5A	0 ~ 6.25A
	Current Range (23.5 CFM Fan)	0 ~ 37.5A	0 ~ 30A	0 ~ 18.75A	0 ~ 9.38A
	Rated Power (Convection)	300W	300W	300W	300W
	Rated Power (23.5 CFM Fan)	450W	450W	450W	450.2W
	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	>16ms at 450W / 230VAC				
Input	Voltage Range	90 ~ 264VAC, 127 ~ 373VDC			
	Frequency Range	47 ~ 63Hz			
	Efficiency (Typ.) at 230VAC	90%	90%	90%	91%
	AC Current (Typ.)	5A / 115VAC, 2.5A / 230VAC			
	Inrush Current (Typ.)	Cold Start 40A / 115VAC, 80A / 230VAC			
	Leakage Current	For earth < 275uA / 264VAC, For patient < 100uA / 264VAC			
Protection	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			
	Working Temp.	-20 ~ 70°C (Refer to output load de-rating curve)			
Environment	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			
EMS Immunity		Certified EN 60601-1-2; IEC 61000-4-2, 3, 4, 5, 6, 8, 11			
Others	MTBF	XXX K HRS Certified MIL-HDBK-217F			
	Cooling	Free Air convection for 300W, with 23.5 CFM Fan for 450W			
	Dimension (WxHxD)	101.6x39.6x177.8 mm / 4.00x1.56x7.00 inch			
	Packing	0.7 kg			
Note	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>3. Tolerance: includes set up tolerance, line regulation and load regulation.</li> <li>4. Line regulation is measured from low line to high line at rated load.</li> <li>5. Load regulation is measured from 0% to 100% rated load.</li> <li>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.</li> </ol>				

## Mechanical Specification:

Unit : mm/inch

AC Input Connector (CN1): JST B5P-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		
4	No Pin		
5	FG		

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

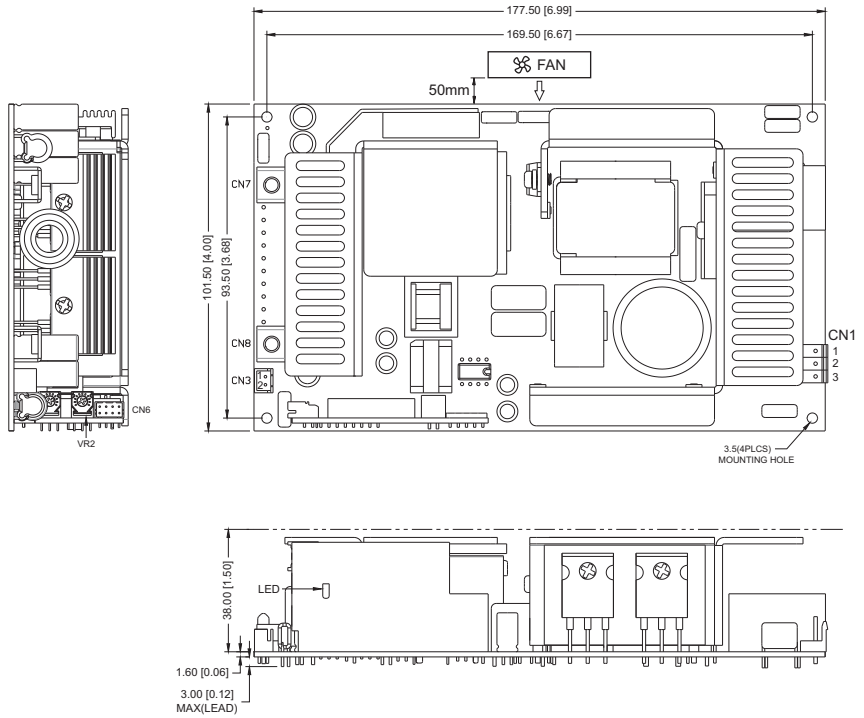
Pin No.	Assignment	Mating Housing / Contact	
1	GND	JST XHP-2 or equivalent	JST SXH-001T-P0.6 or equivalent
2	+12V		

DC Output Connector (CN7 / CN8):

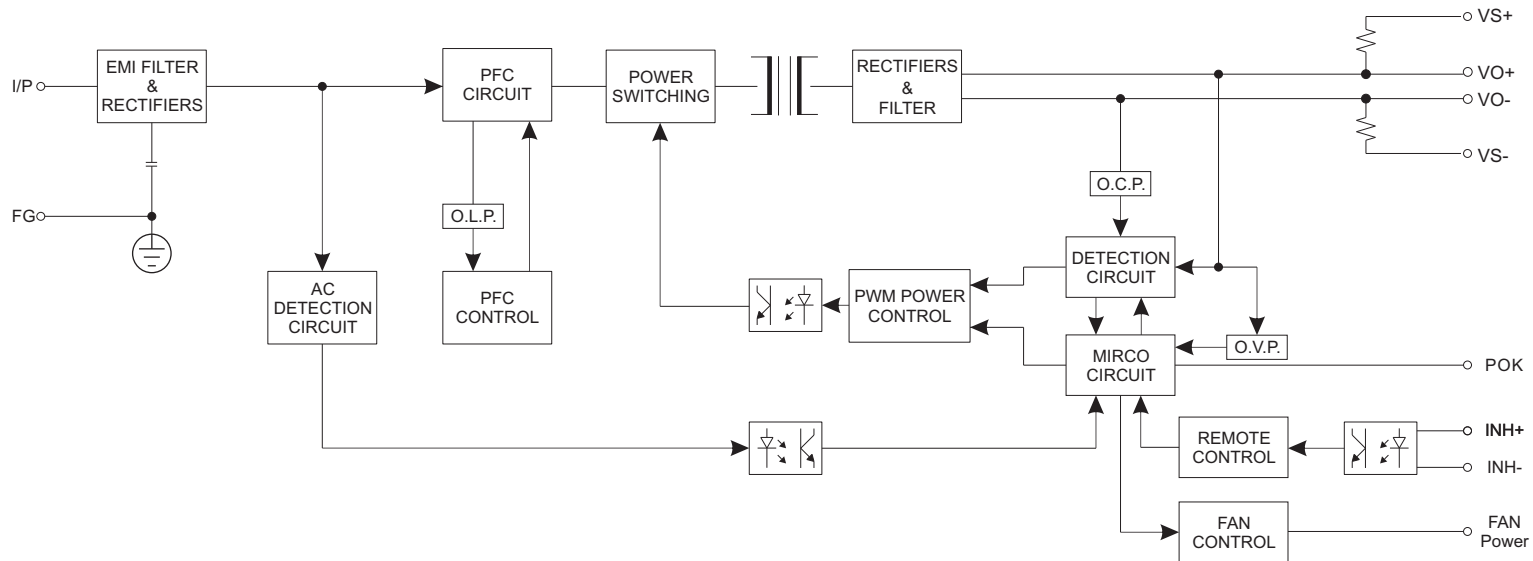
Pin No.	Assignment	Mating Contact
CN7	VO+	COTEK PART NO. : 58-2201-0013 (JH - 4L - CXS)
CN8	VO-	

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

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

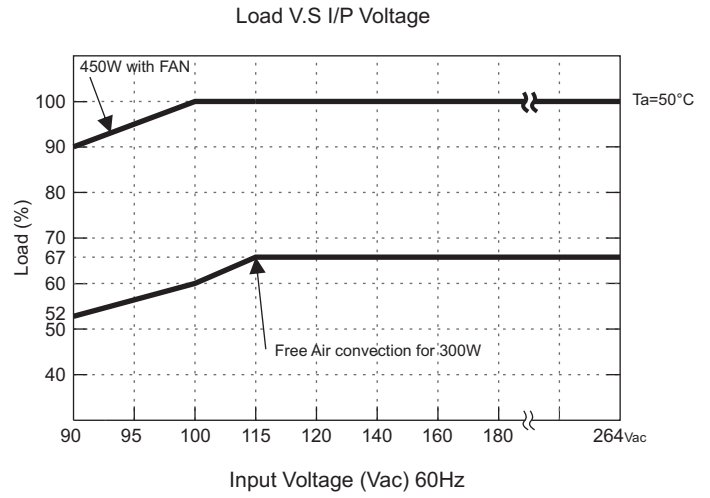
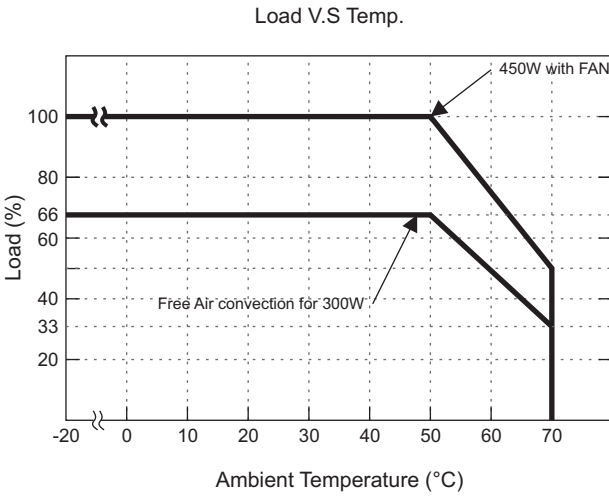


## Block Diagram:



\*Note: The specifications are subject to change without notice.

### 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)

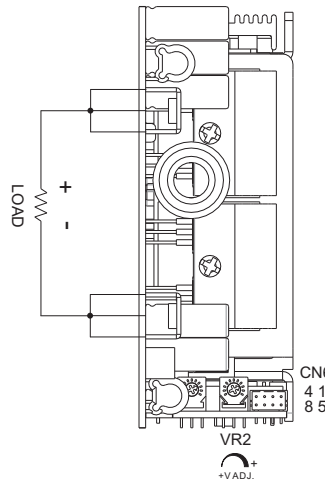
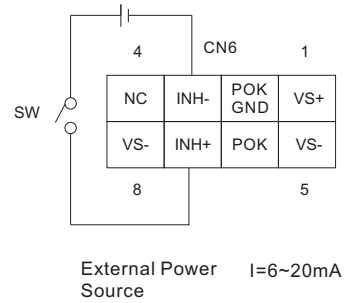


Fig 1.1



### Function Description of CN6:

#### 2. P-OK CONTROL

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

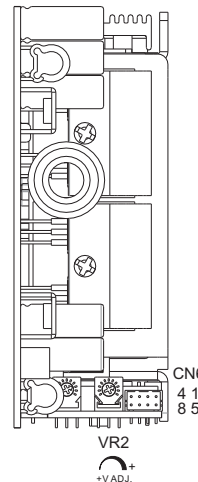
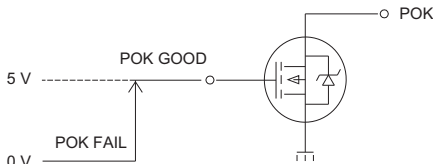
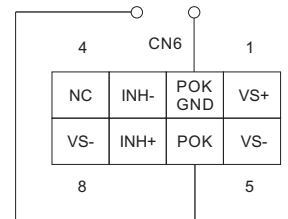


Fig 2.1



### 3. Remote Sense

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

