

MPC500-□ Series



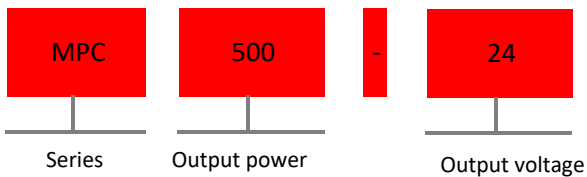
▲ Features

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 90.5%
- Forced air cooling by built-in DC fan*6
- Protections: Short circuit/Overload/Over voltage/Over temp.
- Remote ON/OFF control, remote sense, DC OK signal
- 3-year warranty

▲ Applications

- Industrial automation control system
- Test and measurement instruments
- Laser related machine
- Burn-in facility
- RF application

▲ Model encoding



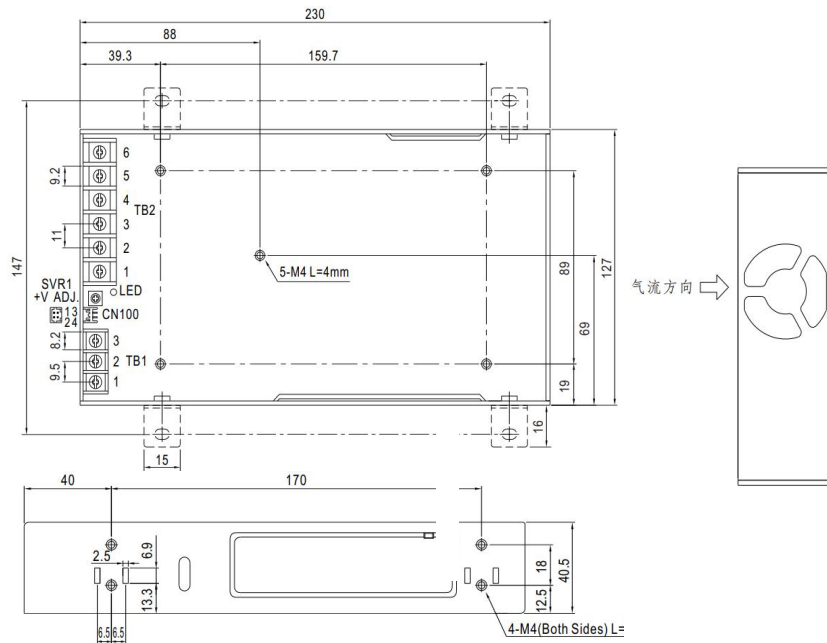


Specification

Input					
Inpout voltage *1	85-264VAC 120-370VDC				
Frequency range	47-63Hz				
Power factor (typ)	PF>0.95/230VAC PF>0.98/115VAC (@Full load)				
AC current (typ)	4.2A/115VAC 2.1A/230VAC 5.3A/115VAC 2.65A/230VAC				
Inrush current (typ)	20A/115VAC 40A/230VAC				
Leakage current	<2.0mA/240VAC				
Output					
DC voltage	3.3V	5V	12V	24V	48V
Rated current	90A	90A	41.7A	21A	10.5A
Current range	0-90A	0-90A	0-41.7A	0-21A	0-10.5A
Rated power	297W	450W	500.4W	504W	504W
Efficiency (typ)	81.0%	84.0%	88.0%	89.0%	90.5%
Rippl & noise(max.) *3	120mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
Voltage ADJ. range	2.8-3.6V	4.5-5.5V	10-13.2V	20-26.4V	41-56V
Voltage tolerance *4	±2%	±2%	±1%	±1%	±1%
Line regulation	±0.5%	±0.5%	±0.3%	±0.2%	±0.2%
Load regulation	±1%	±1%	±0.5%	±0.5%	±0.5%
Start up, rise time	1500ms 80ms/230VAC 3000ms 80ms/115VAC (@Full load)				
Hold up time	18ms/230VAC 14ms/115VAC (@Full load)				
Protection					
Overload	105%~130% of rated output power				
	Constant current limiting, recover automatically after the fault condition is removed				
Over voltage (V)	3.8-4.5V	5.75-6.75V	13.8-16.2V	27.6-32.4V	58.4-68V
	Shut down o/p voltage. Re-power on to recover				
Over temperature	Shut down O/P voltage, automatically recover after the temperature goes down				
Remote ON/OFF control	RC+/RC-:0-0.8V:Power ON: 4-10V:Power OFF				
Remote sense	Compensate voltage drop on the load wire up to 0.3V				
Fan control (typ)	RTH2≥50℃±10℃ Fan ON; RTH2≤40℃±10℃ Fan OFF (3.3V-5V Fan keeps ON, Fan ON/OFF control for12V,24V,48V models)				
Environment					
Operating temperature	-30~+70℃ (Refer to "Derating curve")				
Operating humidity	20~90%RH, Non-condensing				
Storage temp & humidity	-40~+85℃, 10~95%RH				
Temperature coefficient	±0.03%℃ (0-50℃)				
Vibration	10-500Hz,2G 10min/1 cycle, 60 min along with each X,Y,Z axes				
Safety & EMC					
Withstand voltage	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC				
Isolation resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC/25℃/70%RH				
Safety standards	Design refer to EN IEC 62368-1、GB4943.1				
EMC emission	Parameter	Standard			Test level
	Conducted	EN 55032			Class B
	Radiated	EN 55032			Class A
	Voltage Flicker	EN 61000-3-3			Design refer to Class A
	Harmonic Current	EN IEC 61000-3-2			Class A
EMC immunity	Parameter	Standard			Test level
	ESD	EN 61000-4-2			Level 3 8KV air;Level 2 4KV contact
	Radiated Susceptibility	EN 61000-4-3			Level 3 10V/m
	EFT/Burest	EN 61000-4-4			Level 3 2KV
	Surge	EN 61000-4-5			Level 3 2KV/Line-Line;Level3 4kV/Line-Line-FG
	Conducted	EN 61000-4-6			Level 3 10V
	Magnetic Field	EN 61000-4-8			Level 4 30A/m
	Voltage Dips and interruptions	EN 61000-4-11			<5% residual voltage for 0.5 cycles .70% residual voltage for 25 cycles ,<5% residual voltage for 250 cycles

Others		
MTBF	≥187.7Khrs MIL-HDBK-217F(25°C)	
Dimension(L*W*H)	230*127*40.5mm	
Weight	1.3Kg	
Ordering	Description	Model
	MPC 297W 90A/3.3V	MPC500-3.3
	MPC 450W 90A/05V	MPC500-05
	MPC 500.4W 41.7A/12V	MPC500-12
	MPC 504W 21A/24V	MPC500-24
	MPC 504W 10.5A/48V	MPC500-48

Installation instruction



AC input terminal PIN NO.assignment(TB1)

PIN NO.	assignment
1	AC/L
2	AC/N
3	FG \perp

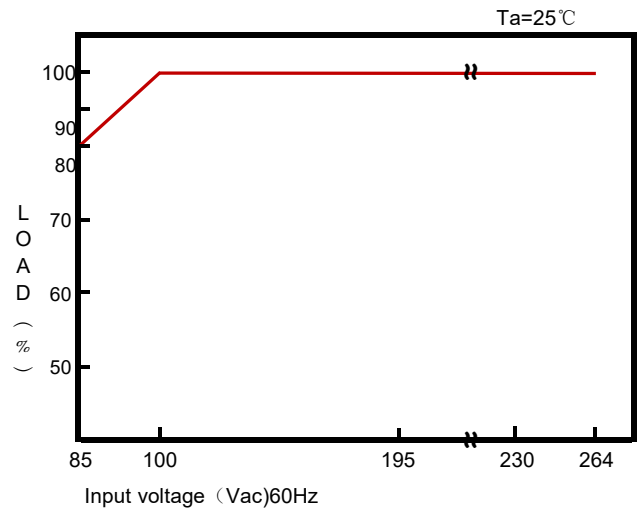
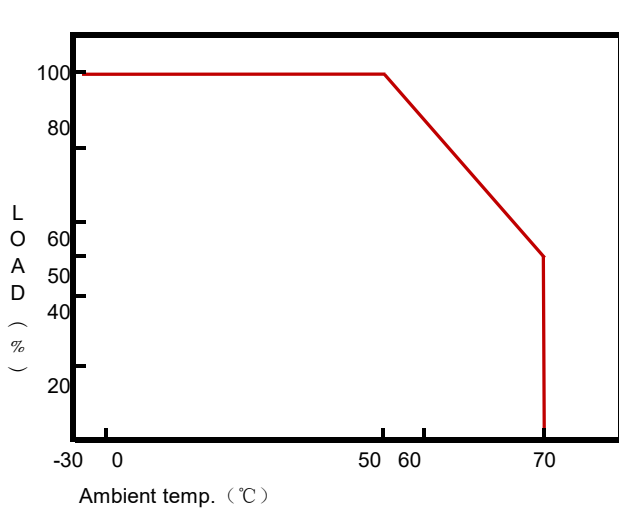
DC output terminal PIN NO. assignment(TB2)

PIN NO.	assignment
1~3	DC OUTPUT -V
4~6	DC OUTPUT +V

Control Pin No.(CN100)HRS DF11-14DP-2DS or equivalent

PIN NO.	assignment	Connector	Terminal
1	-S	HRS DF11-4DS or equivalent	HRS DF11-**SC or equivalent
2	+S		
3	RC-		
4	RC+		

Derating curve



Note:

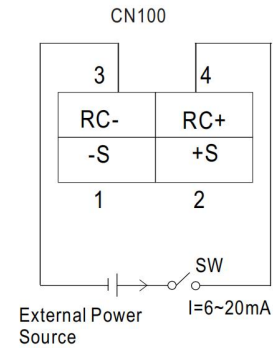
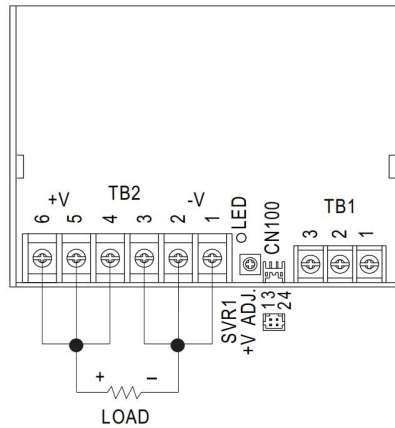
1. Derating may be needed under low input voltages. Please check the derating curve for more details.
2. All parameters are measured at 230VAC input, rated load and 25°C of ambient temperature unless otherwise specified.
3. Ripple & noise are measured at 20MHZ of bandwidth by using a 12' twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
4. Tolerance: includes set up tolerance, line regulation and load regulation.
5. 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 the EMC directives
6. The fan keeps ON for 3.3V, 5V models and it's ON/OFF control for 12~48V models

Function Manual

1. Remote ON/OFF control

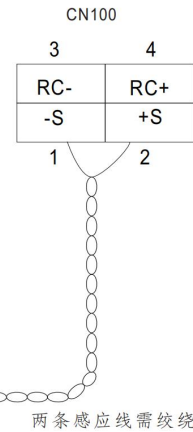
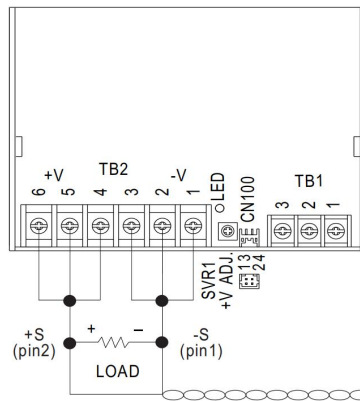
PSU can be turned ON/OFF individually by using "Remote ON/OFF control" function

Between RC+(Pin3) & RC-(Pin4)	Output
OFF (0-0.8V) or open	ON
ON (4-10V)	OFF



2. Remote sense

The Remote Sense compensates voltage drop on the load wiring up to 0.3V



CN100 Function description

Pin No.	Assignment	Description
1	-S	Negative sensing signal, -S should be connected to the negative terminal of the load, +S, -S leads should be twisted in pair to minimize the noise effect. The Max line voltage drop compensation is 0.3V.
2	+S	Positive sensing signal, +S should be connected to the positive terminal of the load, +S, -S leads should be twisted in pair to minimize the noise effect. The Max line voltage drop compensation is 0.3V.
3	RC-	Return for RC+ signal input
4	RC+	Turn the output ON/OFF by electrical or dry contact between pin 4(RC+) and pin 3 (RC-). 0~0.8V: power ON, and 4~10V: power OFF