

CPFE500F Series



500W Conduction Cooled Power Supplies

- ◆ Base plate cooled, no fan required
- ◆ High efficiency
- ◆ Protective coating option
- ◆ MIL STD 461/462D CE102 Conducted EMC

RoHS

Key Market Segments & Applications

Outdoor Electronics LED Signage COTS

Specifications		
ITEMS		
AC Input		90 to 265VAC, 47-440Hz (Reduced PFC above 63Hz)
Input Current Model dependant (1)	A	6.8 / 3.4
Inrush Current (115 / 230VAC)	A	20 / 40 peak
Power Factor	-	Meets EN61000-3-2
Efficiency (typical)	%	85% at 75% loading (Non ORing diode versions)
Output Voltage Setpoint Accuracy	-	±2% at 50% load
Total Regulation	%	< 4%. (ORing diode option, adds 1V to load regulation)
Ripple and Noise (20MHz BW)	-	1% (1.5% below -10°C)
Over Current Protection	%	105 - 140% (Automatic Recovery)
Over Voltage Protection	-	125 - 145% (Cycle AC to reset)
Series Operation	-	Yes
Parallel Operation	-	Yes (Single wire, up to 6 units)
ORing Diodes/FETs	-	Yes (option)
Power On Signal (ENA)	-	Open collector (10mA sink current). Low (on) when output is present
Auxiliary Supply	-	10 - 14V, 20mA
Remote On/Off (Opto isolated)	-	High = On
Temperature Coefficient	-	<0.01%/°C
Overtemperature	°C	Shuts down between 90 - 130°C (Cycle AC to reset)
Hold Up Time (230VAC)	ms	10ms
Leakage Curr. (at 230VAC, 50Hz)	uA	< 1.5mA
Remote Sense	-	Yes, compensates up to 500mV cable drop
Operating Temp. (Base plate)	°C	-40 to +85°C (2)
Storage Temperature	°C	-40 to +100°C
Humidity	-	Operating: 20 - 90%RH, Non operating 10 - 95%RH (Pcb assembly protective coated)
Cooling	-	Conduction cooled through 6mm base plate
Withstand Voltage	-	Input to Output 4242VDC, Input to Ground 2121VDC, Output to ground 500VDC
Vibration (non operating)	-	MIL-STD-810E, Method 514.4, Proc 1, Category 1, 9
Shock	-	MIL-STD-810E, Method 516.5, Proc. I, IV, VI
Safety Agency Approvals	-	UL60950-1, CSA 22.2 No 60950-1, EN60950-1 (Ed 2), CE Mark
Line Dip	-	Complies with SEMI F47 (200VAC line only)
Conducted EMI	-	EN55011, EN55022 (as per CISPR, 11/22) Class B, FCC47 part 15 subpart B) MIL STD 461E/461E/462D CE102, 115V and 220V
Radiated EMI	-	EN55011, EN55022 (as per CISPR, 11/22) Class B, FCC47 part 15 subpart B) see app. note for details
Immunity	-	IEC61000-4-2 (Contact Level 2, Air discharge Lvl 3), -3 (Lvl 3), -4(Lvl 3), -5 (Lvl 4), -6 (Lvl 3), -8 (Lvl 4), -11 (Class 3), -12 (Lvl 3), -14 (Class 3)
Weight (Typ)	g	with cover 1400g, without cover 1200g
Size (L x W x D)	mm	270 x 126 x 55mm
Warranty	-	2 years

1) 100/200VAC

2) CPFE500F-12: -40 to 80°C. See instruction manuals for derating curves

Model Selector

Model	Output Volt (V)	Adjust Range (V)	Max Curr (A)	Max Watt (W)
CPFE500F-12-NLC	12	9.6 - 14.4	42	504
CPFE500F-24-NLC	24	22.4 - 33.6	18	504
CPFE500F-28-NLC	28	22.4 - 33.6	18	504
CPFE500F-48-NLC	48	38.4 - 57.6	10.5	504

Options

Part Number	Desc.	Suffix	ORing Diode (3)	Cover	Protective Coating
-DLC			Y	Y	Y
-NLC			N	Y	Y

3) Reduces maximum output adjustment range by 1V

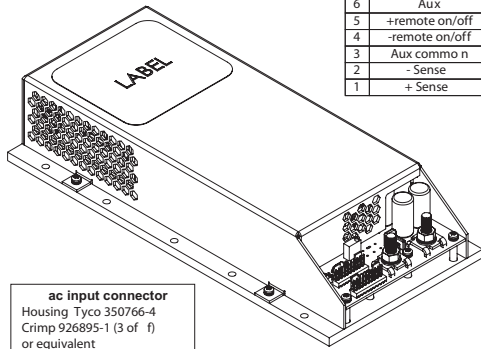
Preferred stocking part highlighted in green.

Outline Drawing

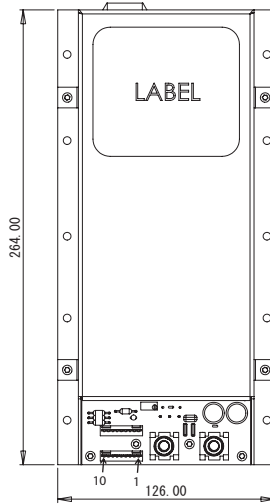
CPFE500F

Signals Connections
Housing - Molex 22-01-1 102
Crimp - Molex 50802 series
(or equivalents)

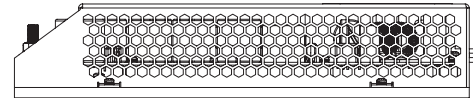
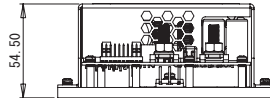
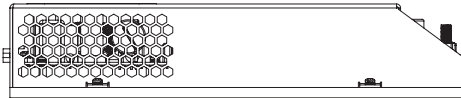
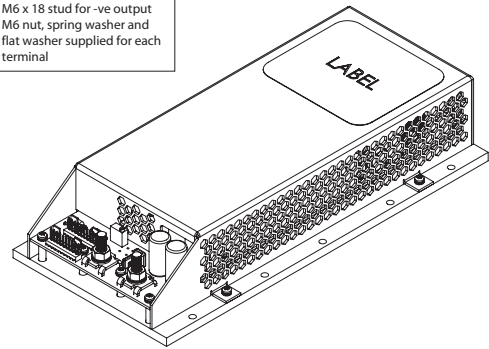
Pin	Function
10	Do not connect
9	Output good - ENA
8	Trim
7	Current share
6	Aux
5	+remote on/off
4	-remote on/off
3	Aux common
2	- Sense
1	+ Sense



ac input connector
Housing Tyco 350766-4
Crimp 926895-1 (3 of 4)
or equivalent



dc output
M6 x 18 stud for +ve output
M6 x 18 stud for -ve output
M6 nut, spring washer and flat washer supplied for each terminal



Notes 1. All customer fixings 10 x M4 clearance holes 2. All tolerances +/-0.5m m

For Additional Information, please visit
<http://us.tdk-lambda.com/lp/products/cpfe-series.htm>