

500W Conduction Cooled Power Supplies

Features

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



Key Market Segments & Applications



Specifications

Model		
AC Input	VAC/Hz	90 to 265VAC, 47-63Hz (up to 440Hz) (3)
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)	mA	< 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 - 95%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	yrs	2 years

(1) 100/200VAC

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

(3) Reduced PFC above 63Hz. Contact technical support for 440Hz operation.

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

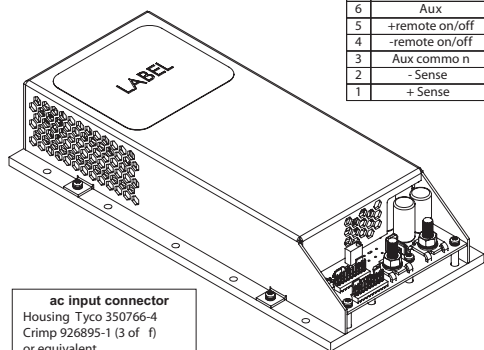
3) Reduces maximum output adjustment range by 1V
Preferred stocking part highlighted in green.

Outline Drawing

CPFE500F

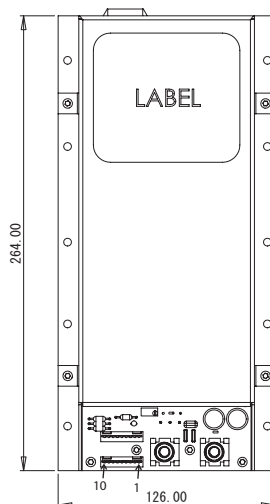
Signals Connections
Housing - Molex 22-01-1 102
Crimp - Molex 50802 series
(or equivalents)

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

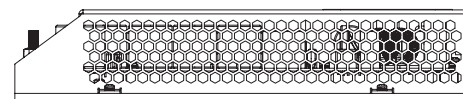
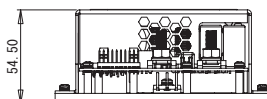
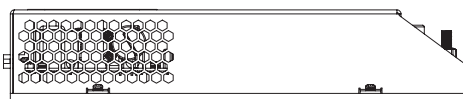
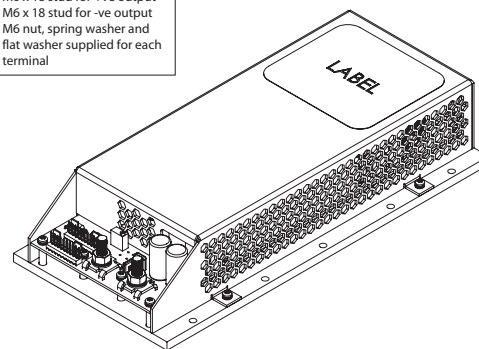


ac input connector
Housing Tyco 350766-4
Crimp 926895-1 (3 of 4)
or equivalent

Live Earth Neutral



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 +/-0.5mm

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

