TDK·Lambda CPFE1000F Series

720-1000W Conduction Cooled Power Supplies

Features

- Base plate cooled, no fan required
- High efficiency
- Protective coating
- MIL STD 461/462D CE102 EMC
- I²C Interface
- Wide range AC Input

Key Market Segments & Applications

Industrial COTS COMM LED Broadcast

RoHS

Specifications

Model			
AC Input		-	90 to 265VAC, 47-63Hz (up to 440Hz) (3)
Input Current	(1)	A	13.6 / 6.6 (Model dependant)
Inrush Current (115 / 230VAC)		A	20 / 40 peak
Power Factor		-	Meets EN61000-3-2
Efficiency (typical)		%	79 to 86% (Model dependant)
Output Voltage Setpoint Accuracy		-	±2% at 50% load
Line Regulation		mV	12V: 48mV, 28V: 56mV, 48V: 96mV
Load Regulation		mV	12V: 48mV, 28V: 56mV, 48V: 96mV
Ripple and Noise (20MHz BW)		-	1% (2% below 0°C)
Over Current Protection		%	105 - 140% (Automatic recovery)
Over Voltage Protection		-	125 - 145% (Automatic recovery)
Parallel Operation		-	Yes (Single wire)
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		-	<0.02%/°C
Overtemperature		°C	Shuts down between 90 - 115°C (Auto recovery)
Hold Up Time (230VAC)		ms	25ms
Leakage Current (@230VAC,50Hz)		mA	< 1.5mA
Remote Sense		-	Yes, compensates up to 500mV cable drop
I²C Interface		-	Provides manufacturing location, date, serial number, part number, unit revision, output voltage & current read back, base plate temperature, remote on/off, IOG, DC good and over temperature warning
Operating Temperature (Base plate)		-	12V: -40 to +85°C, 28V & 48V: -40 to +70 / 85°C (See reverse side for derating)(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-810F, Method 514.5, Figure 514.5C US (Category IV) and Figure 514.5C-15 (Category X)
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 & Radiated EMI		-	EN55022/EN55011 Class B, MIL STD 461/462D CE102
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	2,400
Size (L x W x H)		mm	270 x 190 x 61mm
Warranty		yrs	2 years

(1) 100/200VAC
(2) CPFE1000F-28, -48: -40 to +70°C below 170VAC input voltage
(3) Reduced PFC above 63Hz. Contact technical support for 440Hz operation.

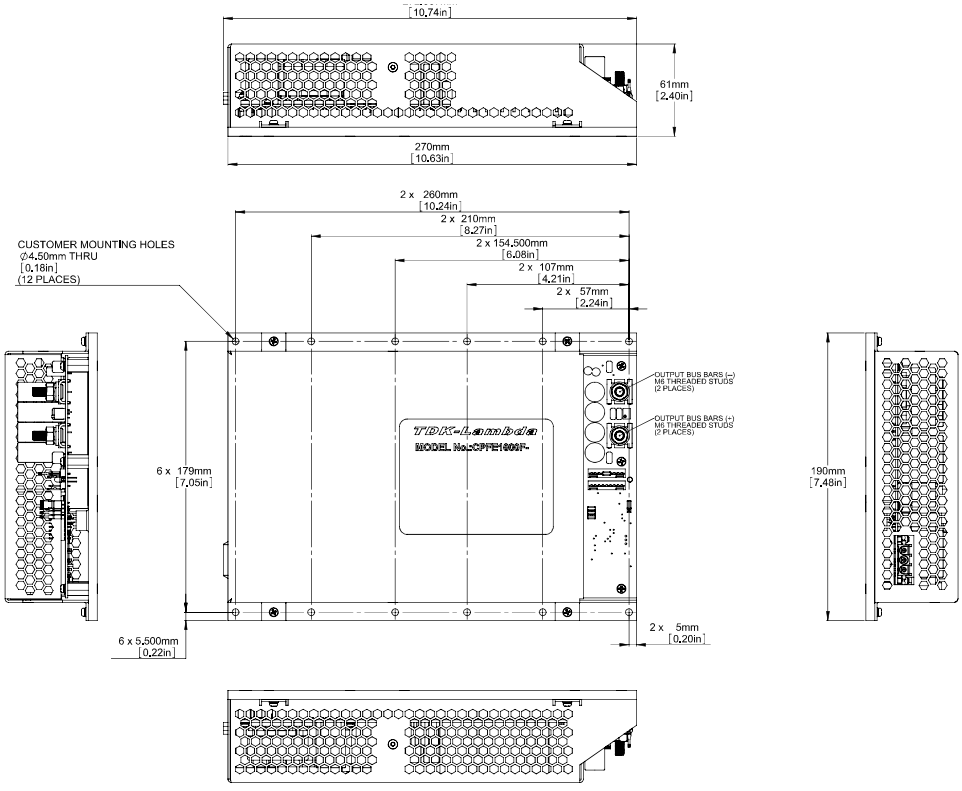
Model Selector

Model	Output Voltage (V)	Adjust Range (V)	Maximum Current	Efficiency (%) (110/220VAC)
CPFE1000F-12	12	9.6 - 14.4	60	79 / 81
CPFE1000F-28	28	22.4 - 33.6	36	83 / 86
CPFE1000F-48	48	38.4 - 57.6	21	83 / 86

Derating (Ambient Temperature)

Model	Input Voltage	Output Power (W) 50°C	60°C	70°C	85°C
CPFE1000F-12	85VAC to 170VAC	720	720	576	360
	170VAC to 265VAC	720	720	670	595
CPFE1000F-28	85VAC to 170VAC	1008	864	720	-
	170VAC to 265VAC	1008	1008	958	883
CPFE1000F-48	85VAC to 170VAC	1008	864	720	-
	170VAC to 265VAC	1008	1008	958	883

Outline Drawings



For Additional Information, please visit
https://product.tdk.com/info/en/products/power/index.html