Industrial Test Broadcast Comms Renewable

500W single output, conduction/ baseplate cooled power supply

Features	Benefits
• Fanless	Longer field life and no fan noise
• Baseplate cooled	Conducts heat outside of the system
• Wide range ac input	Supports global use
• Diode ORing + share option	Increase system reliability
• 2 Year Warranty	Low cost of ownership

Input

Input Voltage	90-265Vac	Input Frequency	47 - 63Hz (440Hz with reduced PFC - consult sales office)
Input Harmonics	EN61000-3-2 compliant	Power Factor	0.95 typical
Input Fuse	Fast acting (not user accessible)	Inrush Current	<40A at 25°C and 230Vac (cold start) (meets EN61000-3-3)
Earth Leakage Current	1.5mA at 23Vac (50Hz)		

QUICK SELECTOR - example configurations

Additional variants available, see "How to Create a Product Description"

Output Voltage	Max Output Current	ORing diode?	Units with cover	
			Description	Order Code
12V	42A	Yes	CPFE500F-12-DL-C	T800097
		No	CPFE500F-12-NL-C	T800100
24V	18A	Yes	CPFE500F-24-DL-C	T800111
		No	CPFE500F-24-NL-C	T800122
28V	18A	Yes	CPFE500F-28-DL-C	T800133
		No	CPFE500F-28-NL-C	T800144
48V	10.5A	Yes	CPFE500F-48-DL-C	T800155
		No	CPFE500F-48-NL-C	T800166

How To Create A Product Description

Output	Adjustment range	Maximum Current
12	9.6 - 14.4V	42A
24	22.4 - 33.6V	18A
28	22.4 - 33.6V	18A
48	38.4 - 57.6V	10.5A

N	No ORing diode
D	ORing diode included Note: reduces maximum output voltage by 1V

CPFE500F	Vout	-	ORing diode	Cover Option	-	Coating Option

C	Protective coating applied

-L	Supplied with cover fitted
-N	Open frame

Confirm availability of created product with TDK-Lambda

Isolation

Input to Output	4.24kVdc		
Input to Earth	2.12kVdc	Output to Earth	500Vdc

Output Specification

Total Output Power	504W	Continuous. Do not exceed maximum output current in 'How to create a product description'
Turn on time	1.5s max	at 90Vac and 100% rated output power
Efficiency	85%	typical (at 75% load, without ORing diodes, 230Vac input)
Hold up	10ms	typcial at 230Vac, 100% load
Ripple and Noise	<1%	pk-pk, using EIAJ test method & 20MHz bandwidth (1.5% below -10°C)
Voltage Setting Accuracy	±2%	at 50% load
Remote Sense	Yes	Max 0.5V total line drop
Minimum Load	No	
Total Regulation	<4%	Including Line (for 90-264Vac input change), Load (for 0-100% load change) and Temperature (0-50°C). The ORing diode option adds 1V to the load regulation specification.
Transient Response	<10%	of set voltage for 50% load change (in 50µs within the range 25-100% load)
Recovery	500µs	for recovery to 2% of set voltage
Over Voltage Protection	Yes	Latching, need to cycle ac to restart unit
Short Circuit Protection	Yes	Auto recovery after removal of short circuit
Over Temperature Protection	Yes	Latching, need to cycle ac to restart unit
Series Operation	Yes	
Parallel Operation	Yes	Single wire, current share, up to 6 units

Global Signals

Remote on/off	Opto isolated, 2.5mA (10-14V) to enable power supply, less than 0.15mA (0.5V) to disable or fit supplied links to permanently enable (see handbook for details)
Standby supply	12V±2V / 20mA isolated supply, not affected by remote on/off.
Output good (ENA)	Open collector (10mA sink current). Low (on) when output is in regulation
ORing diode	(option) - Allows redundant connection of power supplies with no additional diodes required.

Environment

Baseplate Temperature	-40°C to 85°C operational (12V version 80°C max), -40°C to 85°C storage (max 12 months).
Low Temp Startup	-40°C
Humidity	20 - 95% RH non condensing
Shock	±3 x 30g shocks in each plane, total 18 shocks 30g shock = 11ms (+/-0.5msec), half sine Conforms to EN60068-2-27, EN60068-2-47, IEC68-2-27, IEC68-2-47, JIS C0041-1987. Conforms to MIL-STD-810E/F, Method 516.5, Pro I, IV, VI
Vibration	Single axis 10 - 500 Hz at 2g (sweep and endurance at resonance) in all 3 planes Conforms to EN60068-2-6, IEC68-2-6 Conforms to MIL-STD-810E, Method 514.4, Pro I, Cat 1,9
Altitude	-200 to 2000 metres operational (-200 to 5000m storage/transportation)
Weights	With lid = 1.4kg, no lid = 1.2kg
Pollution	Degree 2, Material group IIIb

Immunity EN61000-6-2:2005

				Criteria
Electrostatic Discharge	EN61000-4-2	Level 2	Air discharge level 3, Contact discharge level 2. Not applicable to units without cover fitted	A
Electromagnetic Field	EN61000-4-3	Level 3	12V/m	A
Fast / Burst Transient	EN61000-4-4	Level 3		A
Surge Immunity	EN61000-4-5	Level 4	Common mode - 4.4kVac, Differential - 2.2kVac	A
Conducted RF Immunity	EN61000-4-6	Level 3	12V	A
Power Frequency Magnetic Field	EN61000-4-8	Level 4	30A/m	A
Voltage Dips, Variations, Interruptions	EN61000-4-11	Class 3	Criteria B for 5 sec interruption and dips to 40% for 5 cycles.	A
Ring Wave	EN61000-4-12	Level 3	Common mode - 2.2kV, Differential - 1.1kV	A
Voltage Fluctuations	EN61000-4-14	Class 3		A

Emissions EN61000-6-3:2007

Radiated Electric Field	EN55011, EN55022	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B see application note for details.
Conducted Emissions	EN55011, EN55022 MIL STD 461E/462D CE102	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B 115V and 220V
Conducted Harmonics	EN61000-3-2	Class A, Class C at full load
Flicker	EN61000-3-3	Compliant - d_{max} <4% only

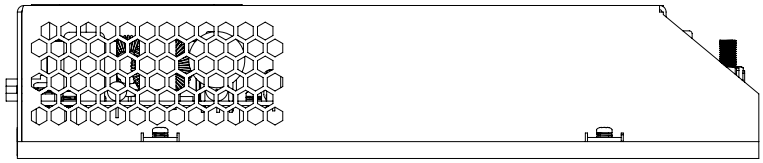
Safety Approvals	Notes
IEC/EN 60950-1, UL60950-1 / CSA 22.2 No 60950-1	File E135494
CE Mark (EN60950-1)	LV Directive 2006/95/EC
CB certificate and Report available on request	*Please check with technical sales for status of approvals*

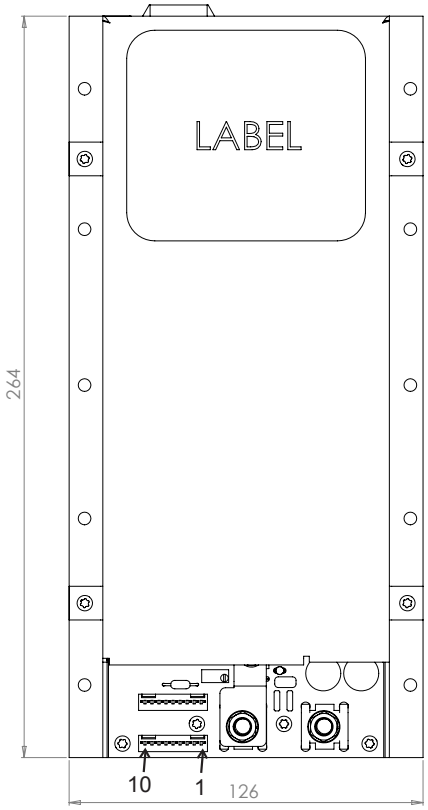
Outline & Connection Drawings

Signals Connections
Housing - Molex 22-01-1102
Crimp - Molex 08 70 0064
(or equivalents)

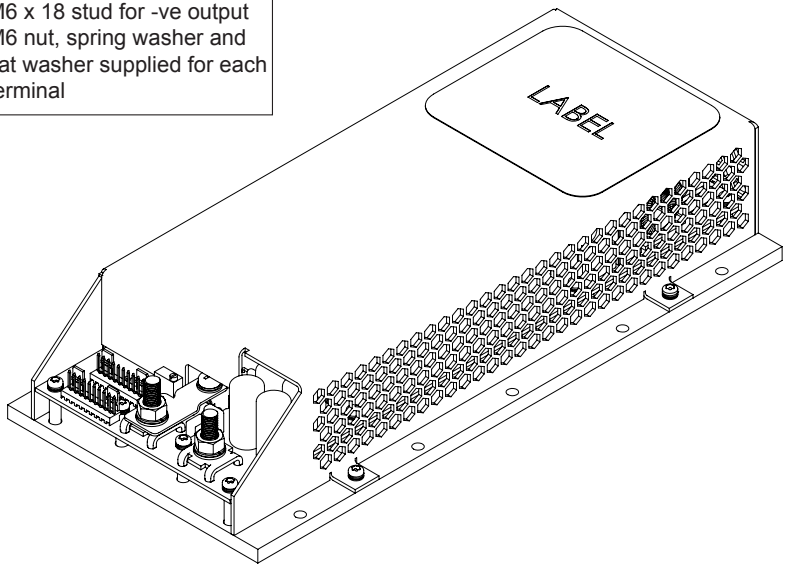
Pin	Function
10	Do not connect
9	Output good - ENA
8	Trim
7	Current share
6	Aux
5	+remote on/off
4	-remote on/off
3	Aux common
2	- Sense
1	+ Sense

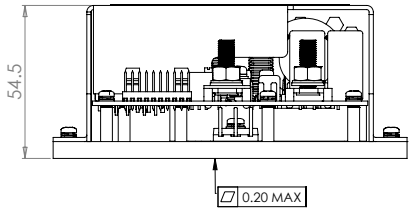
ac input connector
Housing Tyco 350766-4
Crimp 926895-1 (3 off)
or equivalent

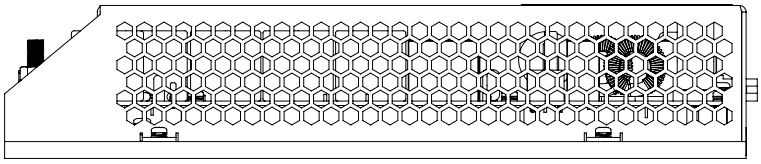




dc output
M6 x 18 stud for +ve output
M6 x 18 stud for -ve output
M6 nut, spring washer and flat washer supplied for each terminal







Notes: 1. Customer fixings 10 x M4 clearance holes 2. All tolerances ±0.5mm

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CPFE500F_Datasheet_71643-8

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