300W Convection / 400W Fan Cooled Medical Power Supplies

Features

- Medical & ITE Safety Certifications (BF Rated)
- 94% Efficient
- 0.5W Standby Power
- Meets ERP/Eco-Design (2009/125/EC)
- Meets Climate Savers Gold Level
- 450W Peak Loading (10s)
- High Power Density (7” x 4” x 1.6”)
- Suitable for 1U applications
- Five Year Warranty

Key Market Segments & Applications

Medical Industrial Test COMM Broadcast

RoHS

Specifications

Model		CFE400M
Input Voltage range	VAC	85 - 264VAC
Input Frequency	Hz	47 - 63Hz, 440Hz with reduced PFC
Inrush Current	A	<20A at 25°C and 230VAC input, Cold Start
Power Factor Harmonics	-	EN61000-3-2 Compliant. Class A (Class C >100W output power)
Voltage Setting Accuracy	%	±1% at 50% Load
Regulation	%	Line: 0.25%; Load: 1%; Thermal Coefficient: 0.02%/°C
Ripple & Noise	mV	1% peak-peak
Efficiency (230VAC, 80% load)	%	94% typical (48V & 24V), 91% (12V), 0.5W power draw in standby mode
Overcurrent Protection	-	Automatic recovery upon overload removal
Overvoltage Protection	V	Cycle AC line to reset
Overtemperature Protection	-	Yes
Hold Up Time (Typ)	ms	15ms at full load
Leakage Current (max)	µA	140µA 120VAC 60Hz, 280µA 240VAC 60hz, <300µA 240VAC 63Hz (Type Test results)
Fan Supply	-	12V 0.25A (Not available if the top fan option is selected)
Standby Voltage	-	5V 80mA or 5V 2A (chosen at time of ordering)
Remote Sense	-	None
Signals & Features	-	Remote on/off - Inhibit or Enable operation (chosen at time of ordering) Power Good - High indicates DC output & AC input is good. ORing FET - (Option)
Operating Temperature (1)	°C	Convection cooled: 0 to +60°C. Derate linearly to 50% load from 40°C to 60°C Forced air cooled: 0 to +70°C. Derate linearly to 50% load from 50°C to 70°C
Storage Temperature	°C	-40 to +70°C
Humidity (non condensing)	%RH	5 - 95%RH
Cooling	-	Convection, internal fan or external 1.5m/s forced air , approx. 12 CFM (see oper. temp.)
Isolation	-	Input to Ground 1500VAC, Input to Output 4kVAC (Reinforced), Output to Ground 1500VAC
Vibration (non operating)	-	2G, 10-500Hz in all 3 planes. MIL-STD-810E, Method 514.4, Pro I, Cat 1, 9
Shock	-	30G per IEC68-2-27, MIL-STD-810E/F, Method 516.5, Pro I, IV, VI
Safety Agency Certifications (2)	-	IEC/UL/EN/CSA22.2 60601-1, IEC/UL/EN 61010-1, IEC/UL/EN/CSA22.2 No 60950-1, CE for LVD
Immunity	-	EN61000-4-2, -3, -4, -5, -6, -8, -11, -12, -14
Conducted Emissions and Flicker	-	EN55011, EN55022 Class B (per CISPR.11/22), EN61000-3-3
Radiated Emissions	-	EN55011, EN55022 Class B (per CISPR.11/22)
Weight (open frame)	kg	U Channel: 0.71kg, Top fan: 0.86kg
Size	in	U channel: 7 x 3.94 x 1.6, With cover: 7 x 3.94 x 2, Top Fan: 7 x 3.94 x 2.8
Warranty	yrs	Five Years

(1) -20°C cold start

(2) Designed to meet IEC/EN/UL/CSA 61010-1 Edition 2

Model Selector (Standard Models*)

Product Code	Part Description	Style	Output Voltage	Current (Convection)	Current (Forced Air or Fan)	Peak Output Current (2)
U7Y0010	CFE400M-12-5H-N1-UML-NT	U Chassis	12V	25A	33.3A	37.5A
U7Y0043	CFE400M-12-5H-TF-CML-NT	Cover & Top Fan	12V	-	33.3A	37.5A
U7Y0269	CFE400M-24-5H-N1-UML-NT	U Chassis	24V	12.5A	16.67A	18.75A
U7Y028C	CFE400M-24-5H-TF-CML-NT	Cover & Top Fan	24V	-	16.67A	18.75A
U7Y027B	CFE400M-48-5H-N1-UML-NT	U Chassis	48V	6.25A	8.33A	9.375A
U7Y029D	CFE400M-48-5H-TF-CML-NT	Cover & Top Fan	48V	-	8.33A	9.375A

Notes:
(*) Additional variants available, see Option Selection below.
(2) For up to 10s without exceeding Average Output Power rating (300W convection, 400W with forced air or fan)

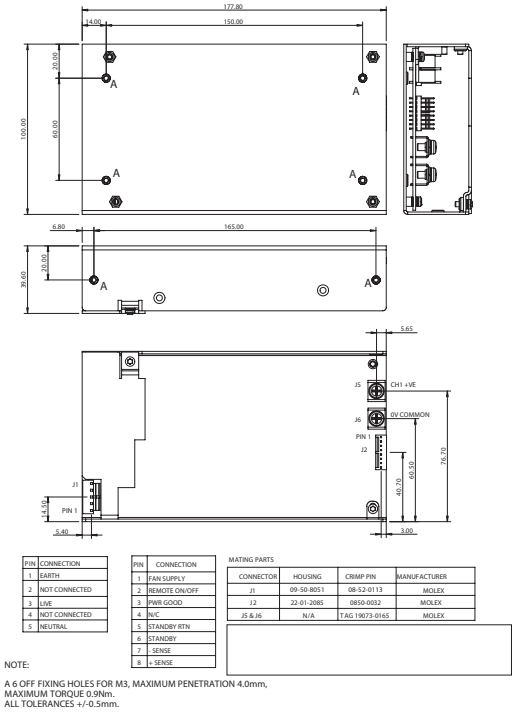
Option Selection

Output	Adjustment Range
12	10.8 - 14.4V
24	21.6 - 28.8V
48	43.2 - 50V

*Adjustable by potentiometer

CFE400M	Output V	-	Standby Voltage	-	Fan & Cover Option	ORing FET	Remote On/Off
			NN = None 5C = 5V 80mA 5H = 5V 2A		N1-U = 12V fan supply, no cover N1-C = 12V fan supply, cover TF-C = Top fan & cover	ML-Y = FET fitted ML-N = No FET fitted	N = None E = Enable T = Inhibit

Outline Drawing



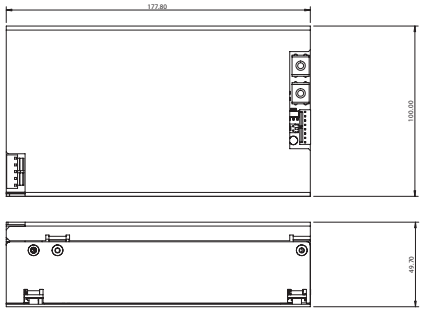
PIN	CONNECTION
1	EARTH
2	NOT CONNECTED
3	LIVE
4	NOT CONNECTED
5	NEUTRAL

PIN	CONNECTION
1	FAN SUPPLY
2	REMOTE ON/OFF
3	PWR GOOD
4	N/C
5	STANDBY RTN
6	STANDBY
7	- SENSE
8	+ SENSE

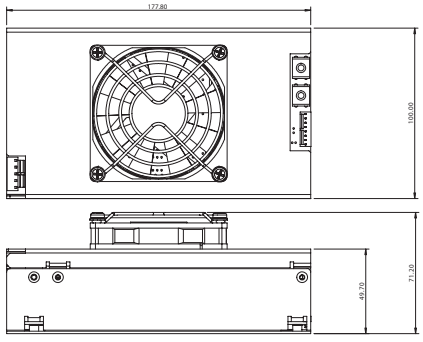
MATING PARTS

CONNECTOR	HOUSING	CRIMP PIN	MANUFACTURER
J1	09-50-8051	08-52-0113	MOLEX
J2	22-01-2085	0850-0032	MOLEX
J5 & J6	N/A	TAG 19073-0165	MOLEX

CHASSIS WITH COVER



CHASSIS WITH TOP MOUNTED FAN



Other TDK-Lambda Products

EFE Series	300 to 400W 1U single output power supply
CSS Series	65 to 500W 1U single output power supply
NV Series	175 to 900W 1U power supply 1-8 outputs

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