

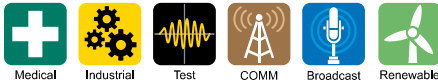
300W Convection / 400W Fan Cooled Medical Power Supplies

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



| Specifications | | |
|---|---------|--|
| Model | CFE400M | |
| Input Voltage range | VAC | 85 - 264VAC |
| Input Frequency | Hz | 47 - 63Hz, 440Hz with reduced PFC |
| Inrush Current | A | <25A 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) | % | Up to 94% (48V & 24V), up to 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 (minimum) | ms | 13ms minimum 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 | V | Compensates for cable drops of up to 0.5V total |
| 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 Output 4kVAC (Reinforced) ⁽³⁾ (2 x MOPPs (3rd edition 60601)), Input to Ground 1500VAC, 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⁾ | - | UL/CSA/IEC/EN 60601-1, ANSI/AAMI ES60601-1, IEC/EN 61010-1, IEC/UL/EN/CSA 60950-1, CE Mark |
| 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 61010-1 Edition 2

(3) Type tested to 4kVAC (equivalent to 5.7kVDC). Production tested to 4.3 kVDC.

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

NN = None
5C = 5V 80mA
5H = 5V 2A

N = None
E = Enable
T = Inhibit

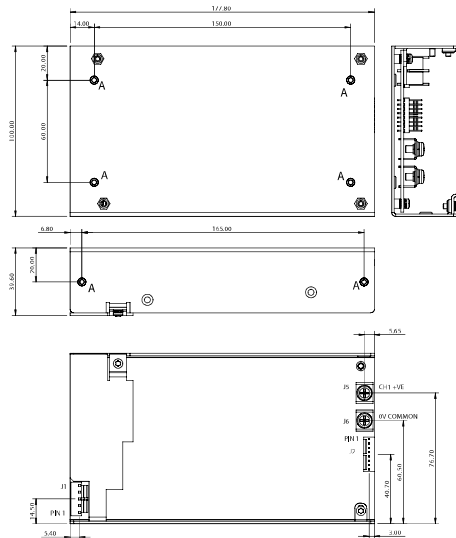
| | | | | | | | |
|---------|----------|---|-----------------|---|--------------------|-----------|---------------|
| CFE400M | Output V | - | Standby Voltage | - | Fan & Cover Option | ORing FET | Remote On/Off |
|---------|----------|---|-----------------|---|--------------------|-----------|---------------|

NN-U = No fan, no fan supply, no cover
NN-C = No fan, no fan supply, cover

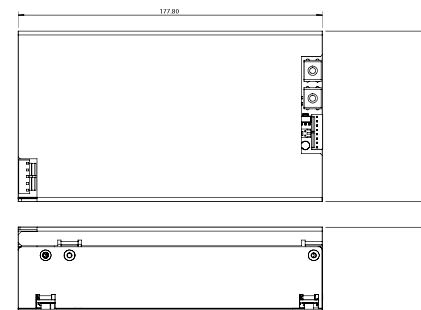
N1-U = 12V fan supply, no cover
N1-C = 12V fan supply, cover
TF-C = Top fan & cover

ML-Y = FET fitted
ML-N = No FET fitted

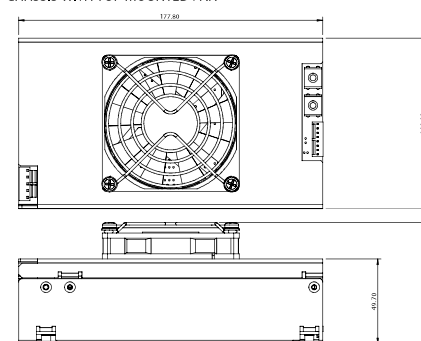
Outline Drawing



CHASSIS WITH COVER



CHASSIS WITH TOP MOUNTED FAN



| PIN CONNECTION | CONNECTION | CONNECTOR | HOUSING | CIRCUIT PART | MANUFACTURER |
|------------------|----------------|------------|------------|--------------|--------------|
| 1. GND | FAN SUPPLY V | 09-040001 | 09-040001 | 09-040001 | MOLEX |
| 2. NOT CONNECTED | PROTECT GROUND | 22-01-2085 | 22-01-2085 | 0104-0012 | MOLEX |
| 3. 5V | NC | 25 9, 30 | N/A | AL-100/50100 | MOLEX |
| 4. NOT CONNECTED | STANDBY/RTN | | | | |
| 5. NEUTRAL | IN/ON/FF | | | | |
| | SENSE | | | | |
| | 1-SENSE | | | | |

NOTE:
A: 6 OFF FIXING HOLES FOR M3, MAXIMUM PENETRATION 4.0mm.
MAXIMUM TORQUE 0.9Nm.
ALL TOLERANCES +/-0.5mm.

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
<https://product.tdk.com/info/en/products/power/index.html>



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[U7Y028C](#)