



CFM60M SERIES

60W MEDICAL OPEN FRAME AC-DC MODULES



Features

- Universal Input Range 90~264V_{ac}
- 2" x 4" Size
- Efficiency to 90%
- Continuous Short Circuit Protection
- No Load Power Consumption < 0.5W
- Approval EN 55011, FCC CFR 47 Part 18 Class B
- Approval IEC/EN/UL 60601-1 2MOPP
- Meets Class I



MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE & NOISE NOTE 2	VOLTAGE ACCURACY NOTE 1	VOLTAGE ADJ. Range	LINE REGULATION NOTE 3	LOAD REGULATION NOTE 4	% EFF (Typ.) NOTE 5
CFM60M050	5 V	8 A	1%	±1%	4.75~5.25	±0.5%	±1%	82%
CFM60M120	12 V	5 A	1%	±1%	11.4~12.6	±0.5%	±1%	87%
CFM60M150	15 V	4 A	1%	±1%	14.25~15.75	±0.5%	±1%	88%
CFM60M240	24 V	2.5 A	1%	±1%	22.8~25.2	±0.5%	±1%	89%
CFM60M480	48 V	1.25 A	1%	±1%	45.6~50.4	±0.5%	±1%	90%

Specifications

INPUT SPECIFICATIONS:

Voltage	90~264V _{ac}
	120~370V _{dc}
Frequency	47 to 63Hz
Inrush Current	Cold Start@25°C 75A max. @240V _{ac}
Input Current	100V _{ac} /1.6A max., 240V _{ac} /0.8A max.
Leakage Current	100uA max.

OUTPUT SPECIFICATIONS:

Hold-up Time	16ms typ. @115V _{ac}
Short Circuit Protection	Hiccup Mode (Auto Recover)
Over Voltage Protection	TVS Component to Clamp
Temperature Coefficient	±0.05%/°C max.

GENERAL SPECIFICATIONS:

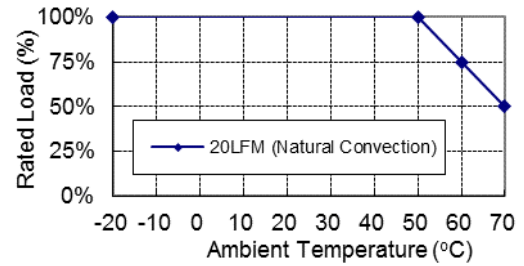
Isolation	Input to Output = 4000V _{ac} (5,656V _{dc})
Operating Temperature (note9)	-20 ~ 70°C (See Derating Curve)
Storage Temperature	-20~85°C
Humidity	93% RH max. Non-Condensing
Cooling	Natural Convection
Switching Frequency	65kHz Typical
MTBF	MIL-HDBK-217F, GB, 25°C/115V _{ac} 200khrs min.
Altitude	3000m
Dimensions	4.000x2.000x1.100 inches (101.60x50.80x27.94 mm)
CFM60MXXX-CA	4.606x2.362x1.575 inches (117.00x50.80x40.00 mm)
Weight	125g

SAFETY AND EMC:

Emission and Immunity	EN60601-1-2:2015 ed. 4.0 EN55011, FCC CFR 47 Part 18 Class B, EN61000-3-2, 3
Safety	Class I, IEC60601-1:2005+A1:2012 ed. 3.1 EN60601-1:2006/A1:2003 ed. 3.1, UL ANSI/AAMI ES60601-1:2005

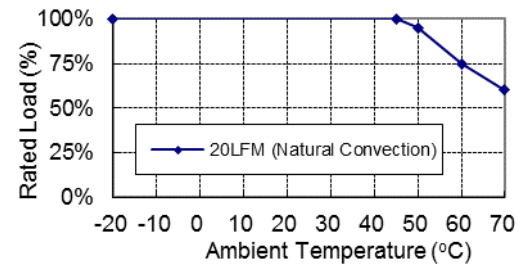
CFM60M Series Derating Curve

Open Frame Versions:



Covered Versions:

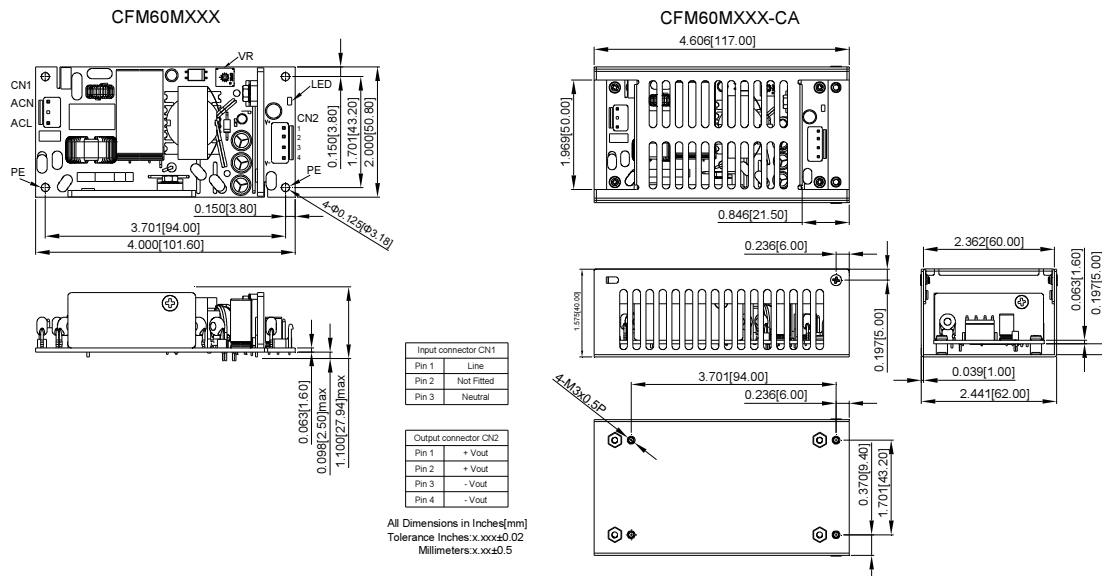
CFM60M050-CA



NOTE:

1. Voltage accuracy is set at full load and 25°C Ta.
2. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for ripple&noise measuring @20MHz BW.
3. Line regulation is measured from 100Vac to 240V_{ac} with full load.
4. Load regulation is measured from 10% to 100% full load.
5. Typical efficiency at 230 V_{ac} and full load at 25°C.
6. Standard input and output connectors (CN1 and CN2) wafer with TAIWAN KING PIN TERMINAL PVHI series and mate with JST housing VHR series and JST SVH-21/41T-P1.1 series crimp terminal or Equivalent.
7. Optional Input and output connectors (CN1 and CN2) wafer with LONG CHU P3060 series and mate with MOLEX housing 5195 series and MOLEX 5194 series crimp terminal or equivalent.
8. Safety approvals do not apply to the covered versions, only to the open frame versions.
9. Others model refer to application note.

Mechanical Specification



Typical at 25°C, nominal line and 75% load, unless otherwise Specified