



CFM21M SERIES

20 WATT SINGLE OUTPUT AC-DC MODULES



IEC
60601-1
EN
60601-1



Features

- * Universal Input Range 90~264VAC
- * Class II
- * Miniature Size Low Profile 0.8"
- * Industry-Standard Pin Out
- * Efficiency to 85%
- * Option for On-Board, Connector, Screw Terminal or Encapsulated type
- * Continuous Short Circuit Protection
- * Over Voltage Protection
- * No Load Input Power < 0.1W
- * Leakage Current < 100uA
- * UL60601-1/IEC60601-1/EN60601-1 Ed.3.1 Medical Safety Approved
- * 2 MOPP
- * Peak Load 130% (note 8)
- * Meet UL62368/IEC62368/EN62368
- * Meet UL60335-1/IEC60335-1/EN60335-1



| MODEL | OUTPUT VOLTAGE | OUTPUT CURRENT | RIPPLE & NOISE NOTE 1 | VOLTAGE ACCURACY NOTE2 | LINE REGULATION NOTE 3 | LOAD REGULATION NOTE4 | OUTPUT RATED POWER | % EFF. |
|-----------|----------------|----------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------|--------|
| CFM21M050 | 5.0 V | 4.0 A | 50 mV | ±1% | ±0.5% | ±1.0% | 20.0 W | 81% |
| CFM21M090 | 9.0 V | 2.3 A | 90 mV | ±1% | ±0.5% | ±1.0% | 20.7 W | 83% |
| CFM21M120 | 12 V | 1.7 A | 100 mV | ±1% | ±0.5% | ±1.0% | 20.4 W | 85% |
| CFM21M150 | 15 V | 1.4 A | 100 mV | ±1% | ±0.5% | ±1.0% | 21.0 W | 85% |
| CFM21M240 | 24 V | 0.9 A | 100 mV | ±1% | ±0.5% | ±1.0% | 21.6 W | 86% |

Specifications are subject to change without notice.

Specifications

INPUT SPECIFICATIONS:

Voltage 90~264Vac
 Frequency 47 to 63Hz
 Input Current 0.3 to 0.5A
 Inrush Current Cold Start@25°C 40A max. @230Vac
 Leakage Current 70uA Typical - 100uA max.

OUTPUT SPECIFICATIONS:

Isolation Input to output = 4000VAC
 Hold-up Time 10ms typ. @115Vac
 Short Circuit Protection Continuous
 Over Voltage Protection(TVS) 110%-140% of Nominal Output Voltage

GENERAL SPECIFICATIONS:

Efficiency see Table
 Switching Frequency 65KHz typ.
 Operating Temperature -25 ~ 70°C (with de-rating)
 Storage Temperature -40~85°C
 Cooling Natural Convection
 Humidity 93% RH max. Non condensing
 Operating Altitude..... 5000m
 MTBF MIL-HDBK-217F, GB 500Khrs min.
 Dimensions 2.38x1.60x0.80inches (60.5x40.6x20.4mm)
 -T: 3.00x1.60x0.77inches (76.2x40.6x19.5mm)
 -E: 2.53x1.74x0.80inches (64.2x44.2x20.4mm)
 -S: 3.00x1.60x0.77inches (76.2x40.6x19.5mm)
 Weight 55g, 60g(-T, -S), 110g(-E)

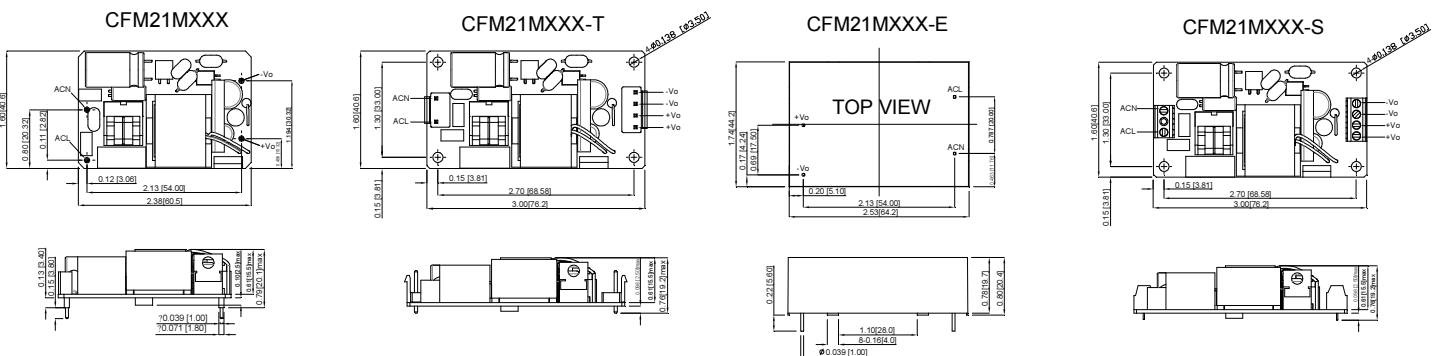
SAFETY AND EMISSION:

Emissions and Immunity (Ed. 4.0) EN55011 Class B, EN61000-3-2(3)
 EN60601-1-2 2015, IEC 61000-4-2(3/4/5/6/8/11)
 Safety Approved (Ed.3.1) IEC60601-1
 ANSI/AAMI ES 60601-1:2005/A1:2012&C1:2009/(R)2012&2010/(R)2012
 CAN/CSA-C22.2 NO. 60601-1:14, EN 60601-1: 2006+A11:2011+A1:2013,
 IEC 60601-1:2005+A1:2012

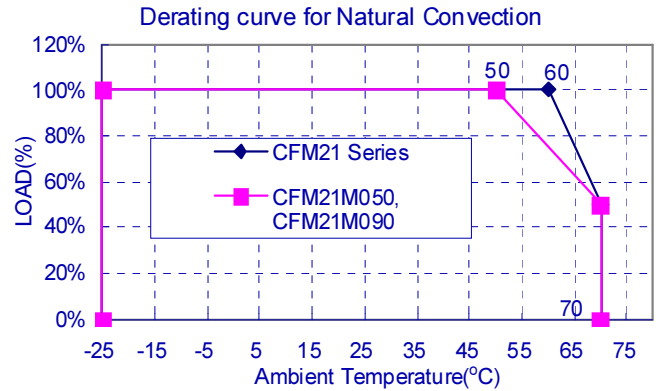
Mechanical Specification

Annotations: For all models, height does not exceed 34mm max.

All Dimensions In Inches[mm]
 Tolerance: Inches:x.xx= ±0.02,x.xxx= ±0.01
 Millimeters:x.x= ±0.5,x.xx= ±0.25



CFM21M Series De-rating Curve



NOTE:

1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
2. Voltage accuracy is set of 100% rated load.
3. Line regulation is measured from high line to low line with full load.
4. Load regulation is measured from 10% to 100% full load.
5. T Version Connection: JST B3P-VH / B4P-VH or equivalent.
6. S Version Connection: DECA MB332-381A or equivalent.
7. Typical efficiency at 230VAC and 100% load at 25°C.
8. Peak load 130% lasting < 10 seconds with a maximum duty cycle of 10% at nominal Line.

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