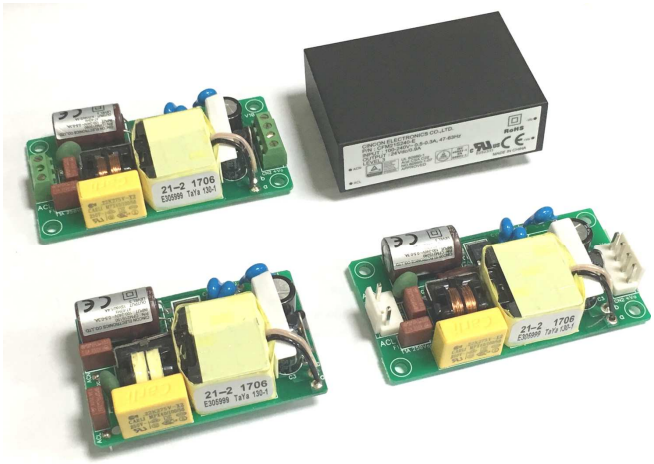
CFM21M SERIES

20 WATT SINGLE OUTPUT AC-DC MODULES

IEC 60601-1 EN 60601-1

E252331

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, Connecter, 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

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE & NOISE NOTE 1	VOLTAGE ACCURACY NOTE2	LINE REGULATION NOTE3	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

INPUT SPECIFICATIONS:

Voltage ..... 90~264Vac
Frequency ..... 47 to 63Hz
Input Current ..... 0.3 to 0.5A
Inrush Current ..... Cold Start@25℃ ..... 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℃(with de-rating)
Storage Temperature ..... -40~85℃
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:

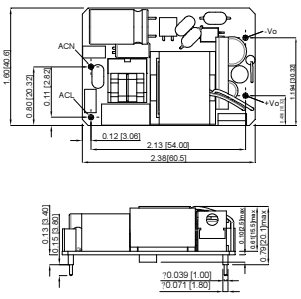
Emissions and Immunity (Ed. 4.0) ..... EN55011 Class B, EN61000-3-2(3)
EN60601-1-2 2015, IEC 61000-4-2(3/4/5/6/8/11)
Safety Approved (Ed.3.1) IEC60601-1
ANSI/AAMI ES 60601-1:2005/A1:2012&C1:2009/(R)2012&2010/(R)2012
CAN/CSA-C22.2 NO. 60601-1:14, EN 60601-1: 2006+A11:2011+A1:2013,
IEC 60601-1:2005+A1:2012

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

CFM21MXXX



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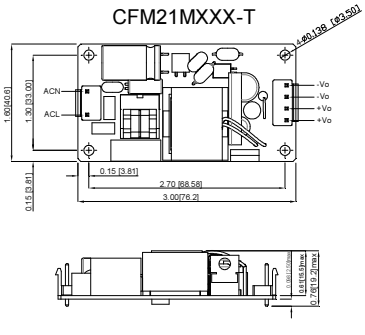

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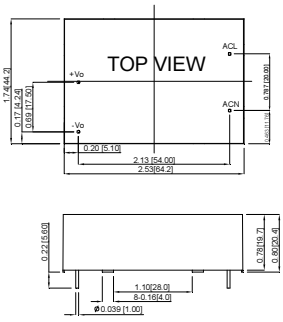
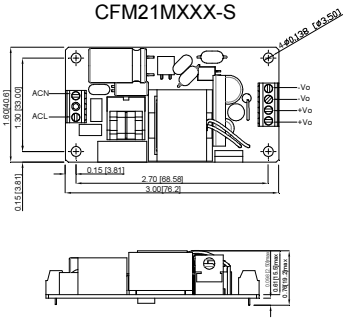
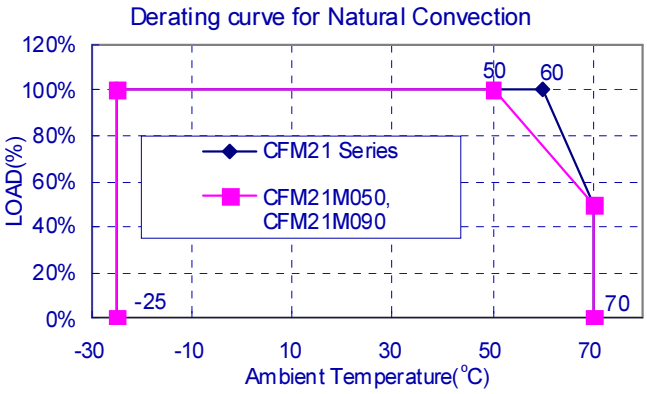


CFM21MXXX-S



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℃.
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