



# CFM200M SERIES

## 200 WATT AC-DC POWER SUPPLY WITH PFC

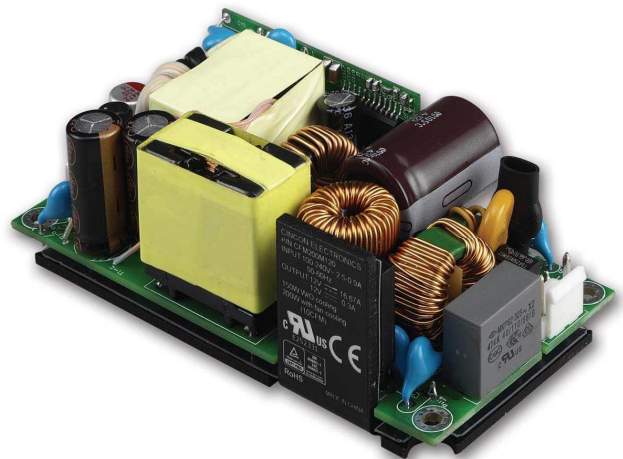


### Features

- \* Universal Input Range 90~264Vac
- \* 2"x 4" Open Frame/CFM200M
- \* 180W with Natural Convection @220Vac/CFM200M
- \* 200W with Natural Convection @220Vac/CFM200MXXXC
- \* Active PFC Meets EN61000-3-2
- \* No Load Power Consumption<0.3W
- \* High Power Density Up to 16.9W/Inch<sup>3</sup>/CFM200M
- \* +12V Fan Output
- \* High Efficiency up to 93.5%
- \* IEC/EN/UL 60601-1 2MOPP Approval
- \* Meets IEC/EN 60335-1
- \* Meets Class I & Class II



CFM200MXXXC (Covered type)



CFM200MXXX (Open Frame type)

MODEL	VOLTAGE OUTPUT	OUTPUT CURRENT	RIPPLE & NOISE NOTE 1	VOLTAGE ACCURACY NOTE 2	LINE REG. NOTE 3	LOAD REG. NOTE 4	% EFF. (Typ.) NOTE 5
<b>Main Output Voltage</b>							
CFM200M120	+12V	16.67A	150mVp-p	±2.0%	±0.5%	±1%	92%
CFM200M240	+24V	8.33A	240mVp-p	±2.0%	±0.5%	±1%	93.5%
CFM200M480	+48V	4.17A	480mVp-p	±2.0%	±0.5%	±1%	93%
<b>Fan Output Voltage</b>							
All	+12V	0.5A NOTE 6	—	—	—	—	—

Typical at 25°C, 230Vac and 60% rated load, unless otherwise specified

## Specifications

### INPUT SPECIFICATIONS:

Voltage	90~264Vac 120~370Vdc
Frequency	47 to 63Hz
Inrush Current	100A max. @240Vac
Leakage Current (Earth)	260uA typ., 300uA max.
Touch Current (CFM200MXXXC)	75uA typ., 100uA max.

### OUTPUT SPECIFICATIONS:

Total Rated Output Power	200W
Hold-up Time	10ms typ.
Over Voltage Protection	Recycle AC input to restart
Short Circuit Protection	Hiccup mode(Auto Recovery)
Temperature Coefficient	$\pm 0.05\%/^{\circ}\text{C}$

### GENERAL SPECIFICATIONS:

Isolation	Input to output = 4000VAC
Over Temperature Protection	Auto Recovery
Operating Temperature	- 20 ~ 80 $^{\circ}\text{C}$ (see Derating Curve)
Storage Temperature	-40~85 $^{\circ}\text{C}$
Humidity	93% RH max. Non condensing
Switching Frequency	85KHz Typical
MTBF	MIL-HDBK-217F, GB, 25 $^{\circ}\text{C}$ /115VAC ..... 279Khrs typ.
Altitude	3000m
Dimensions	
Open frame versions	4.000x2.000x1.480 Inches(101.60x50.80x37.60mm)
Covered versions	4.606x2.441x1.594 Inches (117.00x62.00x40.50mm)
Weight	
Open frame Versions	253g (0.558 Pounds)
Covered Versions	314g (0.692 Pounds)

### SAFETY AND EMC:

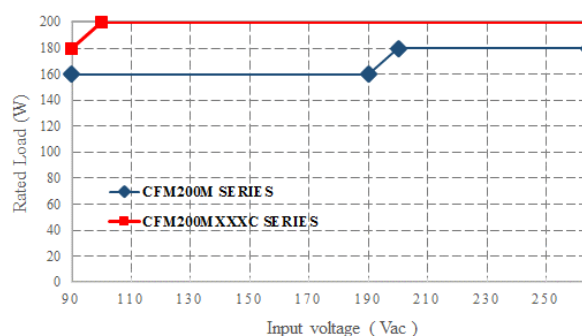
Emission and Immunity (Ed. 4.0)	EN55011 Class B, FCC CFR 47 pat 18 IEC61000-3-2, 3, IEC61000-4-2, 3, 4, 5, 6, 8, 11
Safety (Ed. 3.1)	Class I & Class II, IEC60601-1:2005+A1:2012 EN60601-1:2006+A11:2011+A1+A12, UL ANSI/AAMI ES60601-1

### NOTE:

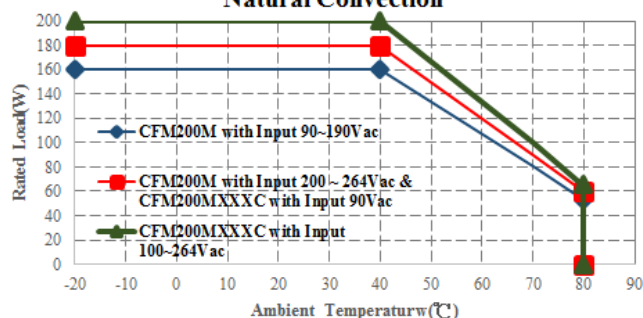
1. Add a 0.1uF ceramic capacitor and a 47uF E.L. capacitor to output for ripple&noise measuring @20MHz BW.
2. Voltage accuracy is set at 60% rated load and 25 $^{\circ}\text{C}$  Ta.
3. Line regulation is measured from High Line to Low Line with rated load.
4. Load regulation is measured from full to 10% rated.
5. Typical efficiency at 230 VAC and full load at 25 $^{\circ}\text{C}$ .
6. 12V/0.3A with nature convection; 12V/0.5A with 10 CFM air flow, tolerance  $\pm 10\%$  at main output 10-100% full load.
7. Need an external 1mH choke at input for Class II type to pass EN55011 Class B.
8. Input connectors (CN1) wafer with TAIWAN KING PIN TERMINAL PVHI series and mate with JST Housing VHR series or equivalent.
9. Fan output connector wafer with TOWNES ENTERPRISE 2001BW series and mate with JST Housing PHR series and JST SPH series crimp terminal or equivalent.
10. Output connectors (Vo+ & Vo- with M3 screw) mate with round terminal and round terminal of the max outer diameter is 6.75mm, max inner diameter is 3.9mm.

## CFM200M Series De-rating Curve

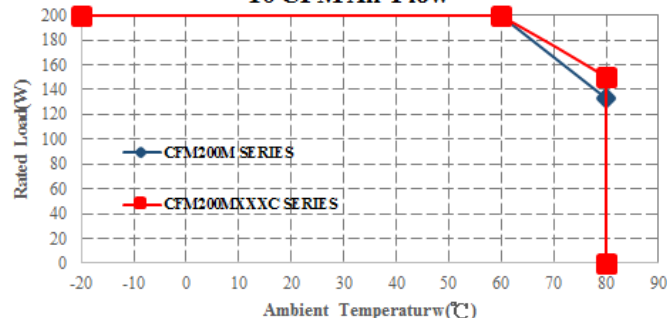
Output Power vs. Input Voltage  
Natural Convection



Output Power vs. Ambient Temperature  
Natural Convection

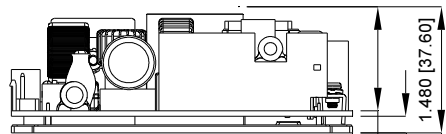
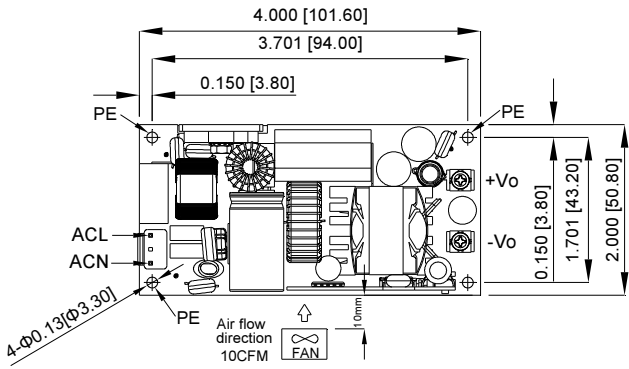


Output Power vs. Ambient Temperature  
10 CFM Air Flow

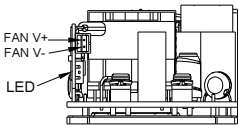


# Mechanical Specification

CFM200MXXX



All Dimensions In Inches(mm)  
 Tolerance Inches:x,xxx=±0.02  
 Millimeters:x,xx=±0.5



CFM200MXXXC

