



CFM260S SERIES 260 WATT OPEN FRAME AC-DC MODULES

Features

- Universal Input Range 85~264Vac
- 220W with Natural Convection
- 260W with Fan-Cooled
- 2"x 4" Compact Size @CFM260SXXX
- No Load Input Power Consumption<0.2W
- High Efficiency up to 93.5% Typical
- 12V Fan Output
- Continuous Short Circuit Protection
- Over Temperature Protection
- Operating Altitude 5000m
- Meets EN55032 (Class B)
- IEC/EN/UL 62368-1 Approval
- Meets IEC/EN 60335-1
- Meets Class I



| MODEL NUMBER | OUTPUT VOLTAGE | OUTPUT CURRENT | | | | VOLTAGE ACCURACY | RIPPLE & NOISE | VOLTAGE ADJ. RANGE | LINE REGULATION | LOAD REGULATION | %EFF. (Typ) |
|---------------------------|----------------|----------------|-------------|--------|--------|------------------|----------------|--------------------|-----------------|-----------------|-------------|
| | | NOTE1 | | | | | | | | | |
| | | With Fan | Without Fan | | | | | | | | |
| | Cover | Base | Open | NOTE2 | NOTE3 | NOTE4 | NOTE5 | | | | |
| CFM260S120 | 12 V | 21.67A | 18.34A | 15.84A | 11.67A | ±1% | 1% | 11.4~12.6 V | ±0.5% | ±1% | 92% |
| CFM260S240 | 24 V | 10.83A | 9.17A | 7.92A | 5.83A | ±1% | 1% | 22.8~25.2 V | ±0.5% | ±1% | 93.5% |
| CFM260S360 | 36 V | 7.22A | 6.11A | 5.28A | 3.89A | ±1% | 1% | 34.2~37.8 V | ±0.5% | ±1% | 93% |
| CFM260S480 | 48 V | 5.42A | 4.58A | 3.96A | 2.92A | ±1% | 1% | 45.6~50.4 V | ±0.5% | ±1% | 93.5% |
| Fan Output Voltage | | | | | | | | | | | |
| All | +12V | 0.3A (NOTE 6) | | | | --- | --- | --- | --- | --- | --- |

Note:

1. Forced Air Convection with Fan. (Open Frame with 19CFM, Base & Case with 10 CFM)
2. Voltage Accuracy is Set at 60% Rated Load.
3. Add a 0.1uF Ceramic Capacitor and a 10uF E.L. Capacitor to Output for Ripple & Noise Measuring @20MHz BW
4. Line Regulation is Measured from High Line to Low Line with Rated Load.
5. Load Regulation is Measured from Full to 10% Rated.
6. Fan Output can only Operate Normal when the main Output is above 1A.

PART NUMBER

| Series | Number of Outputs | Nominal Output Voltage | Type |
|--------|-------------------|--|---|
| CFM260 | O | XXX | Y (Option) |
| CFM260 | S: Single | 120: 12VDC 240: 24VDC 360: 36VDC 480: 48VDC | None: Open Frame B: With Base C: With Cover |

Part Number Example:

- CFM260S120:** Open Frame, 260W, Single 12Vdc Output
- CFM260S120B:** With Base, 260W, Single 12Vdc Output
- CFM260S120C:** With Case, 260W, Single 12Vdc Output



CFM260S Series

TECHNICAL SPECIFICATIONS

(All specifications are typical at nominal input, full load at 25°C unless otherwise noted.)

ABSOLUTE MAXIMUM RATINGS

| PARAMETER | NOTES and CONDITIONS | Device | Min. | Typ. | Max. | Units |
|-----------------------|---------------------------------------|--------|------|------|--------------|------------------------------------|
| Input Voltage | Safety approvals only to the AC input | All | 85 | | 264 | V _{ac} V _{dc} |
| Operating Temperature | See Derating Curve | All | -30 | | 80 | °C |
| Storage Temperature | | All | -40 | | 85 | °C |
| Operating Altitude | IEC/EN/UL 62368-1 Meets EN 60335-1 | All | | | 5000 5000 | m |

INPUT CHARACTERISTICS

| PARAMETER | NOTES and CONDITIONS | Device | Min. | Typ. | Max. | Units |
|-------------------------|--|--------|------|------|------|-----------------|
| Operating Voltage Range | | All | 100 | | 240 | V _{ac} |
| Input Frequency Range | | All | 47 | | 63 | Hz |
| Maximum Input Current | 100% Load, V _{in} =100Vac | All | | | 3.5 | A |
| Leakage Current | | All | | | 3.5 | mA |
| Inrush Current | V _{in} =240Vac, Cold Start at 25°C. | All | | | 150 | A |

OUTPUT CHARACTERISTICS

| PARAMETER | NOTES and CONDITIONS | Device | Min. | Typ. | Max. | Units |
|--------------------------------|---|--|----------------------------------|------------------------------|----------------------------------|-----------------|
| Output Voltage Set Point | V _{in} =Nominal V _{in} , I _o =I _o max., Ambient Temperature=25°C. | CFM260S120 CFM260S240 CFM260S360 CFM260S480 | 11.88 23.76 35.64 47.52 | 12 24 36 48 | 12.12 24.24 36.36 48.48 | V _{dc} |
| Operating Output Current Range | See Derating Curve | CFM260S120 CFM260S240 CFM260S360 CFM260S480 | | | 21.67 10.83 7.22 5.42 | A |
| Holdup Time | V _{in} =115Vac | All | | 16 | | ms |
| Output Voltage Regulation | | | | | | |
| Load Regulation | 10% Load to Full Load | All | | | ±1.0 | % |
| Line Regulation | V _{in} =High Line to Low Line | All | | | ±0.5 | % |
| Over Voltage Protection | Clamp Output Voltage | CFM260S120 CFM260S240 CFM260S360 CFM260S480 | | | 16 35 50 63 | V _{dc} |
| Output Ripple and Noise | 1. Add a 0.1uF Ceramic Capacitor and a 10uF Aluminum Electrolytic Capacitor to Output. 2. Oscilloscope is 20MHz Band Width. 3. Ambient Temperature=25°C | CFM260S120 CFM260S240 CFM260S360 CFM260S480 | | | 120 240 360 480 | mV |
| Load Capacitance | 1. Ambient Temperature=25°C 2. Input Voltage is 115VAC and 230VAC 3. Output is max. Load | CFM260S120 CFM260S240 CFM260S360 CFM260S480 | | | 22000 10880 7220 3960 | uF |
| Efficiency | 1. Output is Rated Load 2. Ambient Temperature=25°C 3. Input Voltage is 230VAC | CFM260S120 CFM260S240 CFM260S360 CFM260S480 | | 92.0 93.5 93.0 93.5 | | % |



CFM260S Series

ISOLATION CHARACTERISTICS

| PARAMETER | NOTES and CONDITIONS | Device | Min. | Typ. | Max. | Units |
|----------------------|----------------------|--------|------|------|------|-----------------|
| Input to Output | 1 minute | All | | | 3000 | V _{ac} |
| Isolation Resistance | Input to Output | All | 100 | | | MΩ |

FEATURE CHARACTERISTICS

| PARAMETER | NOTES and CONDITIONS | Device | Min. | Typ. | Max. | Units |
|---------------------|----------------------|--------|------|------|------|-------|
| Switching Frequency | | All | | 100 | | KHz |

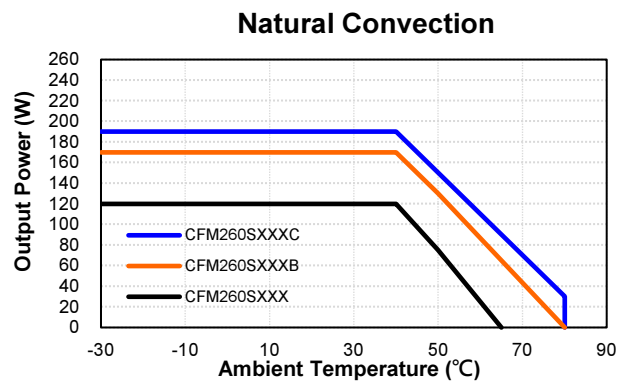
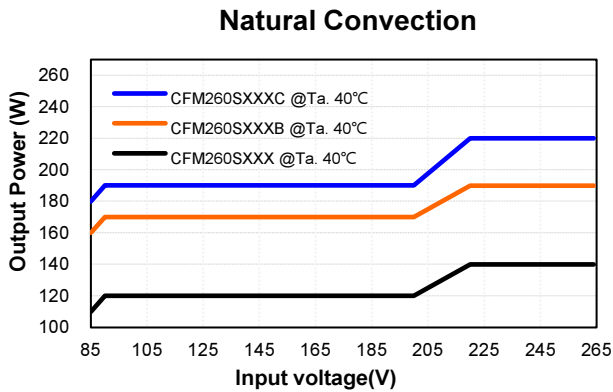
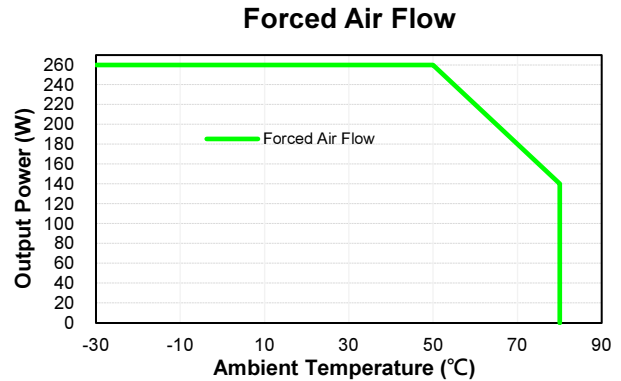
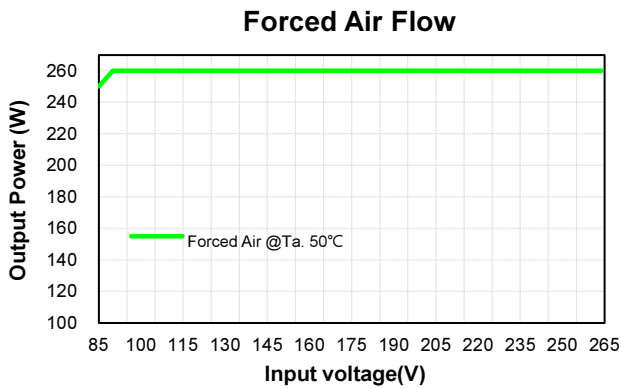
GENERAL SPECIFICATIONS

| PARAMETER | NOTES and CONDITIONS | Device | Min. | Typ. | Max. | Units |
|--|---|--------|---|------|------|-------------|
| MTBF | I _o =100%; T _a =25°C per MIL-HDBK-217F | All | 270 | | | K hours |
| Humidity | Non-condensing | All | | | 93 | % RH |
| Shock | Meets MIL-STD-810F Table 516.5, Table 516.5-I 10ms, each axis 3 times(±X · ±Y · ±Z axis) | All | | 75 | | g |
| Vibration | Meets MIL-STD-810F Table 514.5C-VIII, 15~2000Hz, X · Y · Z axis, 1 hour (each axis), Total 3 hrs. | All | | 4 | | g |
| Weight | Open Frame Versions | All | | 245 | | grams |
| | Baseplate Versions | | | 280 | | |
| | Covered versions | | | 332 | | |
| Dimensions | Open Frame | All | 4.000x2.000x1.441 Inches (101.60x50.8x36.60mm) | | | |
| | B (with Base) | All | 4.598x2.000x1.520 Inches (116.80x50.8x38.60mm) | | | |
| | C (with Cover) | All | 4.598x2.520x1.594 Inches (116.80x64.00x40.50mm) | | | |
| Safety | Class I, IEC/EN/UL62368-1 | | | | | |
| EMC Emission | EN55032 Class B, 47 CFR FCC Part 15 Subpart B, Oct.2014 EN61000-3-2:2014, EN61000-3-3:2013, EN61000-6-3:2012, EN61000-6-4:2011, EN61204-3:2000 | | | | | Class B |
| Conducted Disturbance | EN55032, EN61204-3:2000, EN61000-6-3:2012, EN61000-6-4:2011, Class B, 47 CFR FCC Part 15 Subpart B | | | | | Class B |
| Radiated Disturbance | EN55032, EN61204-3:2000, EN61000-6-3:2012, EN61000-6-4:2011, Class B, 47 CFR FCC Part 15 Subpart B | | | | | Class B |
| Harmonic Current Emissions | EN61000-3-2:2014 | | | | | |
| Voltage Fluctuations & Flicker | EN61000-3-3:2013 | | | | | |
| EMC Immunity | EN55035, EN61204-3:2000, EN61000-6-1:2019, EN61000-6-2:2019 | | | | | |
| Electrostatic Discharge (ESD) | IEC 61000-4-2:2008, Air Discharge: ±8kV, Contact Discharge: ±4kV | | | | | Criterion A |
| Radio-Frequency, Continuous Radiated Disturbance | IEC 61000-4-3:2010 | | | | | Criterion A |
| Electrical Fast Transient (EFT) | IEC61000-4-4:2012, ±1kV, ±2kV | | | | | Criterion A |
| Surge | IEC61000-4-5:2014, L-N: ±0.5kV, ±1kV, L-E(Ground): ±0.5kV, ±1kV, ±2kV | | | | | Criterion A |
| Conducted Disturbances, Induced by RF Fields | IEC 61000-4-6:2013 | | | | | Criterion A |
| Power Frequency Magnetic Field | IEC 61000-4-8:2009 | | | | | Criterion A |
| Voltage Dips | IEC 61000-4-11:2004, Dip: 30% Reduction, Dip >95% Reduction | | | | | Criterion A |
| Voltage Interruptions | IEC 61000-4-11:2004, >95% Reduction | | | | | Criterion B |
| Application Note Link | CFM260S Series App Notes | | | | | |

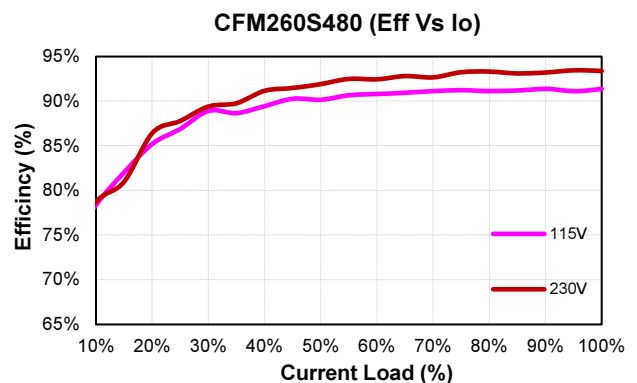
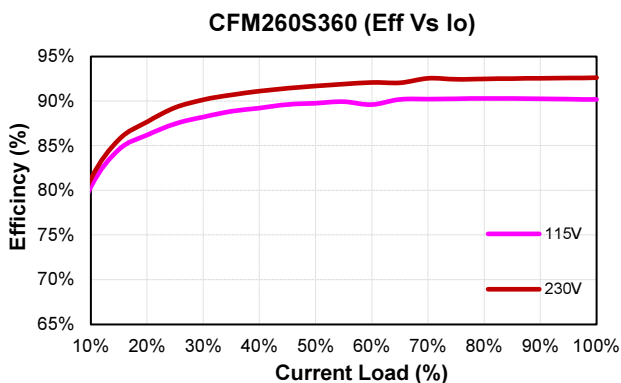
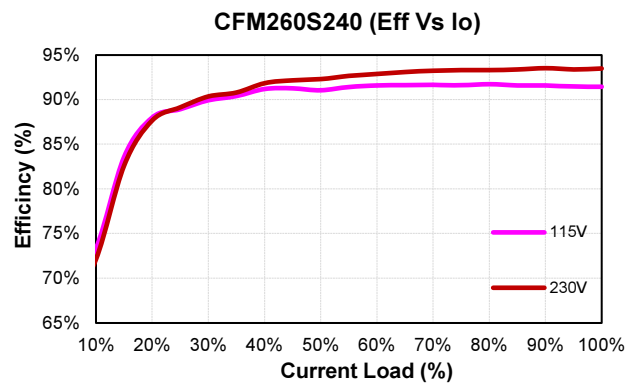
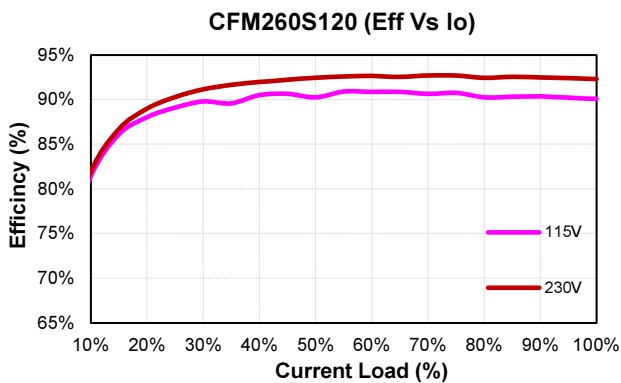


CHARACTERISTIC CURVE

Power Derating Curve



Performance Data

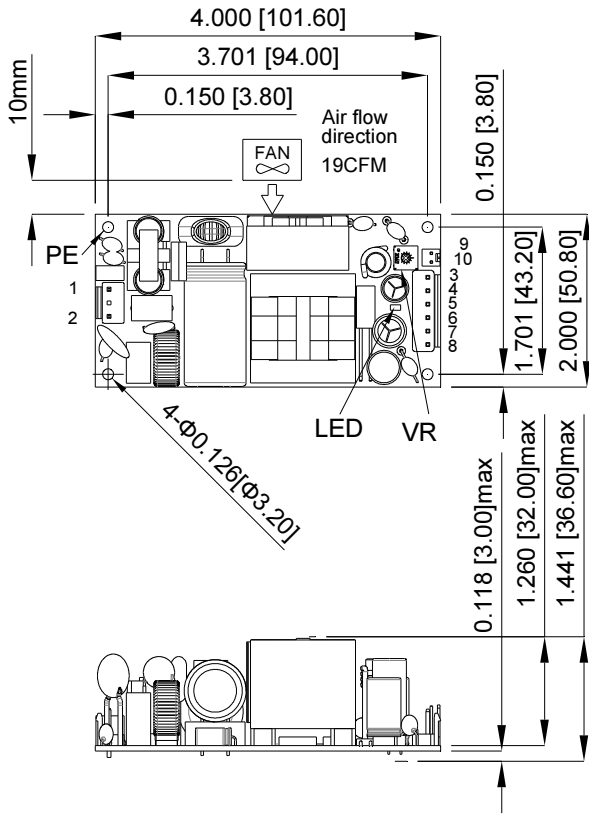




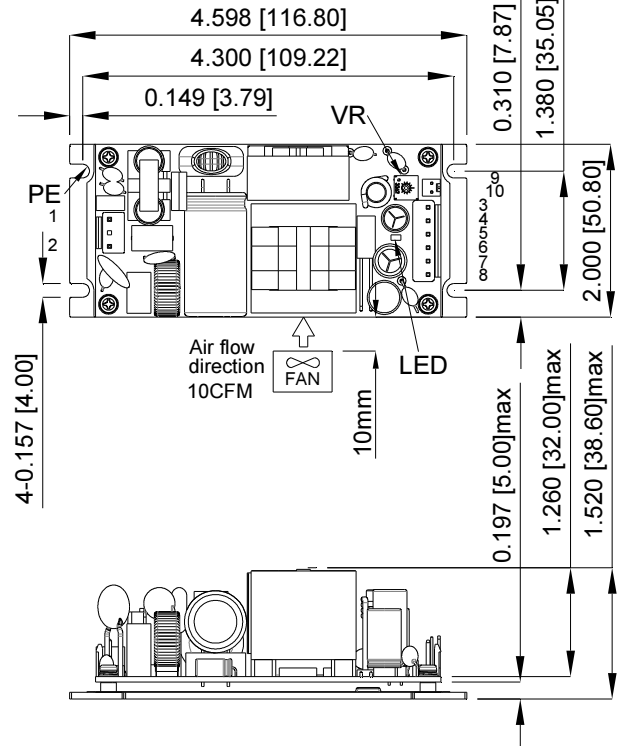
CFM260S Series

MECHANICAL SPECIFICATION

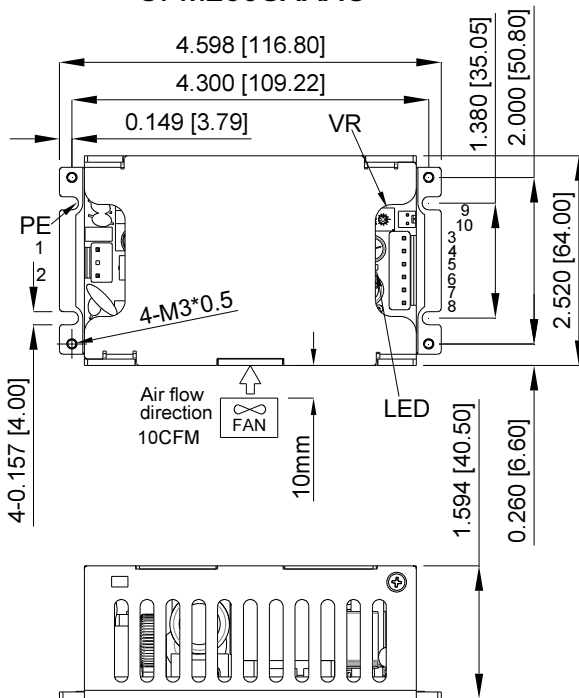
CFM260SXXX



CFM260SXXXB



CFM260SXXXC



| PIN CONNECTION | | | | | |
|----------------|----------|-----|----------|-----|-------------|
| Pin | Function | Pin | Function | Pin | Function |
| 1 | ACL | 5 | +Vout | 9 | +Fan Output |
| 2 | ACN | 6 | -Vout | 10 | -Fan Output |
| 3 | +Vout | 7 | -Vout | | |
| 4 | +Vout | 8 | -Vout | | |

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

