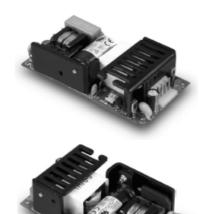


# CFM40/60S SERIES 40/60 WATT OPEN FRAME AC-DC MODULES

# **Features**

- \* Universal Input Range 90~264VAC
- \* 2"x 4" Size
- \* Industry Standard Pin Out
- \* Efficiency to 87%
- \* Meets EN55022 Class B and CISPR/FCC Class B,
- \* Continuous Short Circuit Protection



#### **CFM40 Series**

| MODEL     | OUTPUT  | OUTPUT  | RIPPLE & | VOLTAGE  | LINE       | LOAD       | % EFF. |
|-----------|---------|---------|----------|----------|------------|------------|--------|
| WIODEL    | VOLTAGE | CURRENT | NOISE    | ACCURACY | REGULATION | REGULATION | (Typ.) |
| CFM40S033 | 3.3 V   | 6 A     | 50mV     | ±1%      | ±0.5%      | ±1%        | 70%    |
| CFM40S050 | 5 V     | 6 A     | 1%       | ±1%      | ±0.5%      | ±1%        | 76%    |
| CFM40S090 | 9 V     | 4.45 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 84%    |
| CFM40S120 | 12 V    | 3.34 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 85%    |
| CFM40S150 | 15 V    | 2.67 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 85%    |
| CFM40S240 | 24 V    | 1.67 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 85%    |
| CFM40S300 | 30 V    | 1.33 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 86%    |
| CFM40S360 | 36 V    | 1.11 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 87%    |
| CFM40S480 | 48 V    | 0.834 A | 1%       | ±1%      | ±0.5%      | ±1%        | 87%    |

# **CFM60 Series**

| MODEL     | OUTPUT  | OUTPUT  | RIPPLE & | VOLTAGE  | LINE       | LOAD       | % EFF. |
|-----------|---------|---------|----------|----------|------------|------------|--------|
| WIODEL    | VOLTAGE | CURRENT | NOISE    | ACCURACY | REGULATION | REGULATION | (Тур.) |
| CFM60S033 | 3.3 V   | 8 A     | 50mV     | ±1%      | ±0.5%      | ±1%        | 72%    |
| CFM60S050 | 5 V     | 8 A     | 1%       | ±1%      | ±0.5%      | ±1%        | 77%    |
| CFM60S090 | 9 V     | 6.67 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 84%    |
| CFM60S120 | 12 V    | 5 A     | 1%       | ±1%      | ±0.5%      | ±1%        | 85%    |
| CFM60S150 | 15 V    | 4 A     | 1%       | ±1%      | ±0.5%      | ±1%        | 86%    |
| CFM60S240 | 24 V    | 2.5 A   | 1%       | ±1%      | ±0.5%      | ±1%        | 86%    |
| CFM60S300 | 30 V    | 2 A     | 1%       | ±1%      | ±0.5%      | ±1%        | 86%    |
| CFM60S360 | 36 V    | 1.67 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 88%    |
| CFM60S480 | 48 V    | 1.25 A  | 1%       | ±1%      | ±0.5%      | ±1%        | 88%    |

# **Specifications**

# CFM40/60S Series Derating Curve

#### **INPUT SPECIFICATIONS:**

| Voltage         |                 | 90~264Vac        |
|-----------------|-----------------|------------------|
| Frequency       |                 | 47 to 63Hz       |
| Inrush Current  | Cold Start@25˚ℂ | 50A max. @240Vac |
| Leakage Current |                 | 1mA Typical      |

#### **OUTPUT SPECIFICATIONS:**

| Holdup Time              | 8ms typ. @115Vac           |
|--------------------------|----------------------------|
| Short Circuit Protection | Hiccup Mode (Auto Recover) |
| Over Voltage Protection  | TVS Component to Clamp     |
| Temperature Coefficient  | ±0.05%/°C                  |

# **GENERAL SPECIFICATIONS:**

| Isolation             | Input to Output = 4,242VDC                      |
|-----------------------|---|
| Operating Temperature | e 0 ~ $70^{\circ}$ C (see Derating Curve)       |
| Storage Temperature   | -20~85°C  |
| Humidity              |   |
| Cooling               | Natural Convection                              |
| Switching Frequency . | 66KHz Typical                                   |
| MTBF                  | // IIL-HDBK-217F, GB, 25°C /115VAC 200Khrs min. |
| Altitude              |   |
| Dimensions:           |   |
| CFM40/60 Open Frame   | 4.000x2.000x1.200Inches (101.60x50.80x30.48mm)  |
| CFM40/60 Covered      | 4.606x2.441x1.5750Inches (117.00x62.00x40.00mm) |
| Weight                | CFM40/60: 170g/175g (0.38/0.39 Pounds)          |
|                       | CFM40/60 Covered: 210a/215a (0.46/0.47 Pounds)  |

#### **SAFETY AND EMC:**

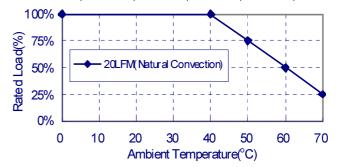
Emission and Immunity ....... EN55022 Class B, FCC Part 15 Class B
EN61000-6-3, EN61000-3-2, EN61000-3-3
EN55024, EN61204-3, EN61000-6-1
Safety ...... IEC60950-1, EN60950-1, UL60950-1

# NOTE:

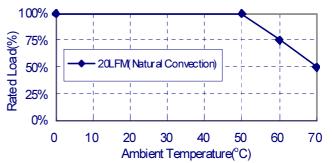
- Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
- 2. Line regulation is measured from high line to low line with full load.
- 3. Load regulation is measured from full to 10% load.
- Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
- 5. Output connector mates with Molex housing 09-50-3041 and Molex 2878 series crimp terminal.
- Safety approvals do not apply to the covered versions, only to the openframe versions.

# **Open Frame versions:**

CFM40S033, 40S050, 40S090, 60S033, 60S050, 60S090

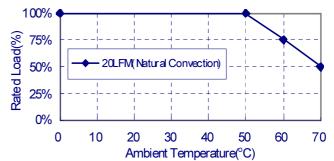


CFM40S120, 40S150, 40S240, 40S300, 40S360, 40S480 CFM60S120, 60S150, 60S240, 60S300, 60S360, 60S480

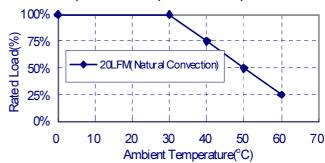


### Covered versions: CFM40/60XXX-CA

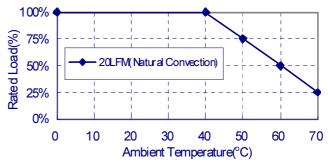
CFM40S120, 40S150, 40S240, 40S300, 40S360, 40S480



#### CFM40S033, CFM40S050, CFM60S033, CFM60S050



CFM40S090, 60S090, 60S120, 60S150, 60S240, 60S300 CFM60S360, 60S480



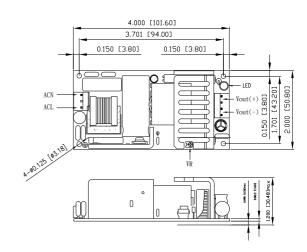
# CFM40/60S Series

All Dimensions are in inches(mm)
Tolerance:Inches:X.XXX±0.02
Millimeters:X.XX±0.5

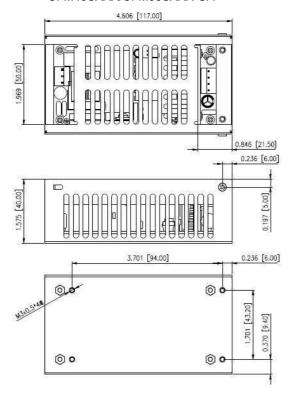
# CFM40SXXX-P/CFM60SXXX-P (Input and Output connector with PIN)

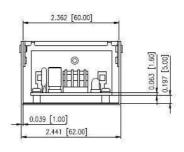
#### 4.000 [101.60] 1.657 [16.69] 0.150 [3.80] 0.614 [15.60] 0.246 [6.25] 0.311 [7.90] 3.520 [89.40] 0.150 [3.80] 0.150 [3.80] [43.20] 2.000 [50.80] 1.701 0.17 [4.40] 1.27 [32.38]ma 0.071 [1.80] 0.039 [1.00]

#### CFM40SXXX/CFM60SXXX



#### CFM40SXXX/CFM60SXXX-CA





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