**FCM400 SERIES**

**AC/DC Single Output: 400 Watts**

### Features
- 400 W Continuous, 600 W Peak
- IT and Medical Approvals
- 80 V – 275 VAC Operation
- Low Noise Fan
- Screw Terminals
- 5 V Standby, AC OK and Remote On/Off

### Specification

**Input**
- **Input Voltage**: 80-275 VAC, derate output power <90 VAC (see derating curve)
- **Input Frequency**: 47-63 Hz
- **Input Current**: 4.1 A at 115 VAC typical, 2.1 A at 230 VAC with 400 W load
- **Inrush Current**: 60 A max at 264 VAC, cold start 25 °C
- **Power Factor**: >0.9
- **Earth Leakage Current**: 260 µA max, 264 VAC, 60 Hz
- **Input Protection**: F10 A / 250 V internal fuse in line and neutral

**Output**
- **Output Voltage**: 12-48 VDC (see tables)
- **Output Voltage Trim**: ±10% V1, ±5% V2
- **Initial Set Accuracy**: No minimum load required
- **Minimum Load**: 1 s typical
- **Start Up Delay**: 50 ms
- **Start Up Rise Time**: 20 ms minimum
- **Hold Up Time**: ±0.5% maximum
- **Load Regulation**: ±1% V1, ±5% V2
- **Transient Response**: 4% max. deviation, recovery to within 1% in 500 µs for a 50-75-50% load change
- **Ripple & Noise**: 1% pk-pk, 20 MHz bandwidth
- **Overvoltage Protection**: 115-140% Vnom, recycle input to reset
- **Overtemperature Protection**: Auto reset
- **Overload Protection**: 150-165%, V1 only
- **Short Circuit Protection**: Continuous, approximately constant current
- **Temperature Coefficient**: 0.05% / °C
- **Remote On/Off**: Uncommitted isolated optocoupler diode, powered diode inhibits V1 & Fan

### General
- **Efficiency**: 85% typical
- **Isolation**: 4000 VAC input to output, 1500 VAC input to ground, 500 VAC output to ground
- **Switching Frequency**: PFC 70 kHz, main converter 65 kHz typical
- **Power Density**: 8.6 W/in³
- **Signals**: AC OK, remote on/off, 5 V standby
- **MTBF**: 236 kHrs to MIL-HDBK-217F at 25 °C, GB

### Environmental
- **Operating Temperature**: -10 °C to +70 °C, derate linearly from +50 °C at 2.5% / °C to 50% load at +70 °C
- **Cooling**: Forced cooled with integral fan
- **Operating Humidity**: 95% RH, non-condensing
- **Storage Temperature**: -40 °C to +85 °C
- **Operating Altitude**: 3000 m
- **Shock**: 30 g pk, half sine, 6 axes
- **Vibration**: 2 g rms, 5 Hz to 500 kHz, 3 axes

### EMC & Safety
- **Emissions**: EN55011/22 level B conducted, EN55011/22 level A radiated
- **Harmonic Currents**: EN61000-3-2, class A, EN61000-3-2, class C for loads ≥50%
- **Voltage Flicker**: EN61000-3-3
- **Radiated Immunity**: EN61000-4-3, level 3 Perf Criteria A
- **EFT/Burst**: EN61000-4-4, level 3 Perf Criteria A
- **Surge**: EN61000-4-5, installation class 3, Perf Criteria A
- **Conducted Immunity**: EN61000-4-6, level 3, Perf Criteria A
- **Dips & Interruptions**: EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B, EN60601-1-2, 30% 500 ms, 60% 100 ms, 10% 10 ms, 100% 5000 ms, Perf Criteria A, B, B - 230 VAC. Consult longform datasheet for 115 V operation
- **Safety Approvals**: IEC60950-1 CB report, UL60950-1, TUV, EN60950-1, IEC60601-1 CB report, UL60601-1, TUV60601-1

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Models and Ratings

### FCM400

<table>
<thead>
<tr>
<th>Output Voltage V1</th>
<th>Output Current V1</th>
<th>Standby Supply V2</th>
<th>Output Power</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 V</td>
<td>33.3 A</td>
<td>5 V / 0.5 A</td>
<td>400 W</td>
<td>FCM400P S12†</td>
</tr>
<tr>
<td>15 V</td>
<td>26.6 A</td>
<td>5 V / 0.5 A</td>
<td>400 W</td>
<td>FCM400P S15†</td>
</tr>
<tr>
<td>24 V</td>
<td>16.6 A</td>
<td>5 V / 0.5 A</td>
<td>400 W</td>
<td>FCM400P S24†</td>
</tr>
<tr>
<td>28 V</td>
<td>14.2 A</td>
<td>5 V / 0.5 A</td>
<td>400 W</td>
<td>FCM400P S28†</td>
</tr>
<tr>
<td>36 V</td>
<td>11.1 A</td>
<td>5 V / 0.5 A</td>
<td>400 W</td>
<td>FCM400P S36†</td>
</tr>
<tr>
<td>48 V</td>
<td>8.3 A</td>
<td>5 V / 0.5 A</td>
<td>400 W</td>
<td>FCM400P S48†</td>
</tr>
</tbody>
</table>

### Notes

1. Peak Output Power - The peak duration is 500 ms maximum, average power must not exceed 400 W.

### Mechanical Details

#### Input Connector

- Pin 1: Line
- Pin 2: Neutral
- Pin 3: Earth

#### Signals Connector

- Pin 1: 5 V Standby Return
- Pin 2: 5 V Standby
- Pin 3: 5 V Standby Return
- Pin 4: 5 V Standby
- Pin 5: 5 V Standby Return
- Pin 6: 5 V Standby
- Pin 7: Power Fail (Collector)
- Pin 8: Power Fail (Emitter)
- Pin 9: Remote On / Off (Cathode)
- Pin 10: Remote On / Off (Anode)

### Input Voltage & Temperature Derating

- **Ambient Temperature (°C)**
- **Input Voltage (VAC)**
- **Peak Power Availability (W)**

#### Notes

1. Dimensions shown in inches (mm).
2. Weight: 1.8 lb (800 g).