

## JPM Series



- Low Cost
- High Reliability
- Power Factor Corrected
- Suitable for Battery Charging Applications
- Low Ripple & Noise
- 125% Rating at 230 VAC
- Optional Remote On/Off

## Specification

## Input

|                       |   |
|-----------------------|---|
| Input Voltage         | • 85-264 VAC (120-370 VDC)  |
| Input Frequency       | • 47-63 Hz  |
| Input Current         | • JPM80: 0.7 A max at 230 VAC<br>JPM120: 1.1 A max at 230 VAC<br>JPM160: 1.4 A max at 230 VAC |
| Inrush Current        | • 40 A at 230 VAC cold start  |
| Power Factor          | • >0.9  |
| Earth Leakage Current | • <2 mA at 230 VAC  |

## Output

|                            |  |
|----------------------------|--|
| Output Voltage             | • See tables   |
| Output Voltage Trim        | • +10%, -5%  |
| Initial Set Accuracy       | • $\pm 2\%$  |
| Start Up Delay             | • 600 ms max   |
| Start Up Rise Time         | • 30 ms max  |
| Hold Up Time               | • 25 ms min  |
| Line Regulation            | • $\pm 0.5\%$  |
| Load Regulation            | • See tables   |
| Ripple & Noise             | • See tables   |
| Overvoltage Protection     | • 110-135% $V_{nom}$ , recycle input to reset  |
| Overtemperature Protection | • Shuts down at $95\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ (measured internally) with auto recovery, only on JPM120 & JPM160 |
| Overload Protection        | • 105-150% constant current, auto recovery   |
| Temperature Coefficient    | • $\pm 0.05\%/^{\circ}\text{C}$  |
| Remote On/Off              | • 4-10 VDC On, <0.8 VDC Off, optional. Add suffix 'R' to model number  |

## General

|            |  |
|------------|--|
| Efficiency | • See tables   |
| Isolation  | • 3000 VAC Input to Output<br>1500 VAC Input to Ground<br>500 VAC Output to Ground |
| MTBF       | • >183 kHrs per MIL-HDBK-217F  |

## Environmental

|                       |  |
|-----------------------|--|
| Operating Temperature | • $-10\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$ , see derating curves |
| Cooling               | • JPM80 & JPM120 convection-cooled, JPM160 includes internal fan                       |
| Operating Humidity    | • 20-90% RH, non-condensing  |
| Storage Temperature   | • $-20\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$                       |
| Vibration             | • 2 G, 10-500 kHz, 10 min/cycle for 60 minutes each axis                               |

## EMC &amp; Safety

|                      |  |
|----------------------|--|
| Emissions            | • EN55022 (CISPR22), level B conducted<br>EN55022 (CISPR22), level B radiated    |
| Harmonic Currents    | • EN61000-3-2, class 3   |
| ESD Immunity         | • EN61000-4-2, level 3 Perf Criteria B   |
| Radiated Immunity    | • EN61000-4-3, 3 V/m Perf Criteria A   |
| EFT/Burst            | • EN61000-4-4, level 2 Perf Criteria B   |
| Surge                | • EN61000-4-5, level 3 Perf Criteria B   |
| Conducted Immunity   | • EN61000-4-6, level 2 Perf Criteria B   |
| Magnetic Field       | • EN61000-4-8, 3 A/m Perf Criteria A   |
| Dips & Interruptions | • EN61000-4-11, 30% 10 ms,<br>60% 100 ms, 100% 5000 ms,<br>Perf Criteria A, B, B |
| Safety Approvals     | • EN60950, UL1950, TUV, CSA22.2 No. 234,<br>CE Mark LVD                          |

**Models and Ratings**

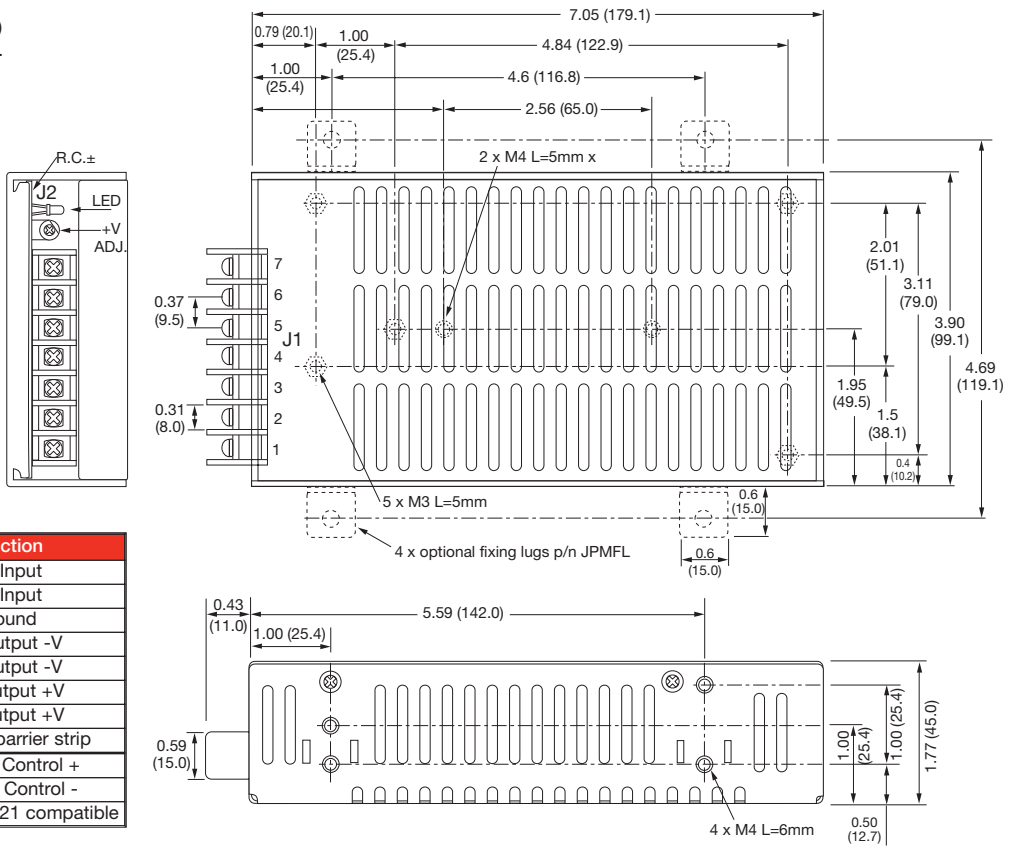
| Output Power <sup>1,2</sup> | Output Voltage | Output Current | Ripple & Noise (pk-pk) | Load Regulation | Efficiency | Model Number |
|-----------------------------|----------------|----------------|------------------------|-----------------|------------|--------------|
| 53 W                        | 3.3 V          | 16.0 A         | 100 mV                 | ±1.0%           | 70%        | JPM80PS03†   |
| 80 W                        | 5.0 V          | 16.0 A         | 100 mV                 | ±1.0%           | 76%        | JPM80PS05†   |
| 80 W                        | 7.5 V          | 10.7 A         | 100 mV                 | ±1.0%           | 78%        | JPM80PS07†   |
| 80 W                        | 12.0 V         | 6.8 A          | 100 mV                 | ±0.5%           | 80%        | JPM80PS12†   |
| 80 W                        | 13.5 V         | 6.0 A          | 100 mV                 | ±0.5%           | 82%        | JPM80PS13†   |
| 80 W                        | 15.0 V         | 5.3 A          | 100 mV                 | ±0.5%           | 83%        | JPM80PS15†   |
| 80 W                        | 24.0 V         | 3.4 A          | 150 mV                 | ±0.5%           | 84%        | JPM80PS24†   |
| 80 W                        | 27.0 V         | 3.0 A          | 150 mV                 | ±0.5%           | 85%        | JPM80PS27†   |
| 80 W                        | 48.0 V         | 1.7 A          | 250 mV                 | ±0.5%           | 85%        | JPM80PS48†   |

**Notes**

1. Max output increases to 125% of rated power when input voltage is between 180 VAC and 264 VAC - see derating curve below.
  2. Maximum output power derates to 80% when input voltage is below 100 VAC.
  3. Mounting vertically increases max ambient temperature. See derating curve.
  4. To attach the power supply to a DIN rail, order 2 x DIN CLIP.
- † Available from Farnell InOne.

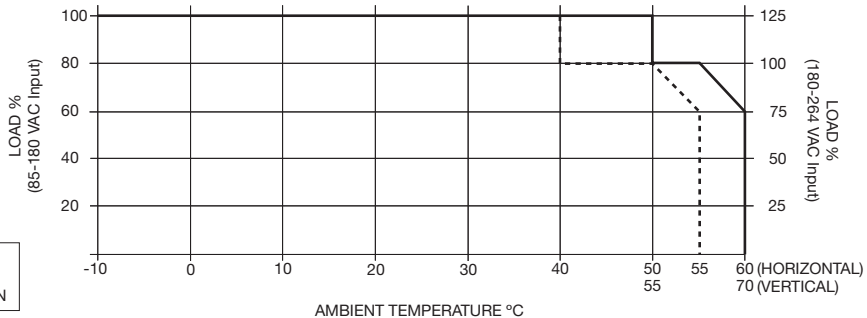
**Mechanical Details**

All dimensions in inches (mm)  
 Weight: 1.3 lb (600 g) approx.



| Conn                             | Pin | Function         |
|----------------------------------|-----|------------------|
| J1                               | 1   | AC Input         |
|                                  | 2   | AC Input         |
|                                  | 3   | Ground           |
|                                  | 4   | DC Output -V     |
|                                  | 5   | DC Output -V     |
|                                  | 6   | DC Output +V     |
|                                  | 7   | DC Output +V     |
| 9.5mm pitch M4 barrier strip     |     |                  |
| Opt J2                           | 1   | Remote Control + |
|                                  | 2   | Remote Control - |
| Molex type 22-23-2021 compatible |     |                  |

**Derating Curve**



Models and Ratings

| Output Power <sup>1,2</sup> | Output Voltage | Output Current | Ripple & Noise (pk-pk) | Load Regulation | Efficiency | Model Number |
|-----------------------------|----------------|----------------|------------------------|-----------------|------------|--------------|
| 79 W                        | 3.3 V          | 24.0 A         | 100 mV                 | ±1.0%           | 67%        | JPM120PS03†  |
| 120 W                       | 5.0 V          | 24.0 A         | 100 mV                 | ±1.0%           | 75%        | JPM120PS05†  |
| 120 W                       | 7.5 V          | 16.0 A         | 100 mV                 | ±1.0%           | 79%        | JPM120PS07†  |
| 120 W                       | 12.0 V         | 10.0 A         | 100 mV                 | ±0.5%           | 80%        | JPM120PS12†  |
| 120 W                       | 13.5 V         | 8.9 A          | 100 mV                 | ±0.5%           | 80%        | JPM120PS13†  |
| 120 W                       | 15.0 V         | 8.0 A          | 100 mV                 | ±0.5%           | 81%        | JPM120PS15†  |
| 120 W                       | 24.0 V         | 5.0 A          | 150 mV                 | ±0.5%           | 83%        | JPM120PS24†  |
| 120 W                       | 27.0 V         | 4.4 A          | 150 mV                 | ±0.5%           | 84%        | JPM120PS27†  |
| 120 W                       | 48.0 V         | 2.5 A          | 250 mV                 | ±0.5%           | 84%        | JPM120PS48†  |

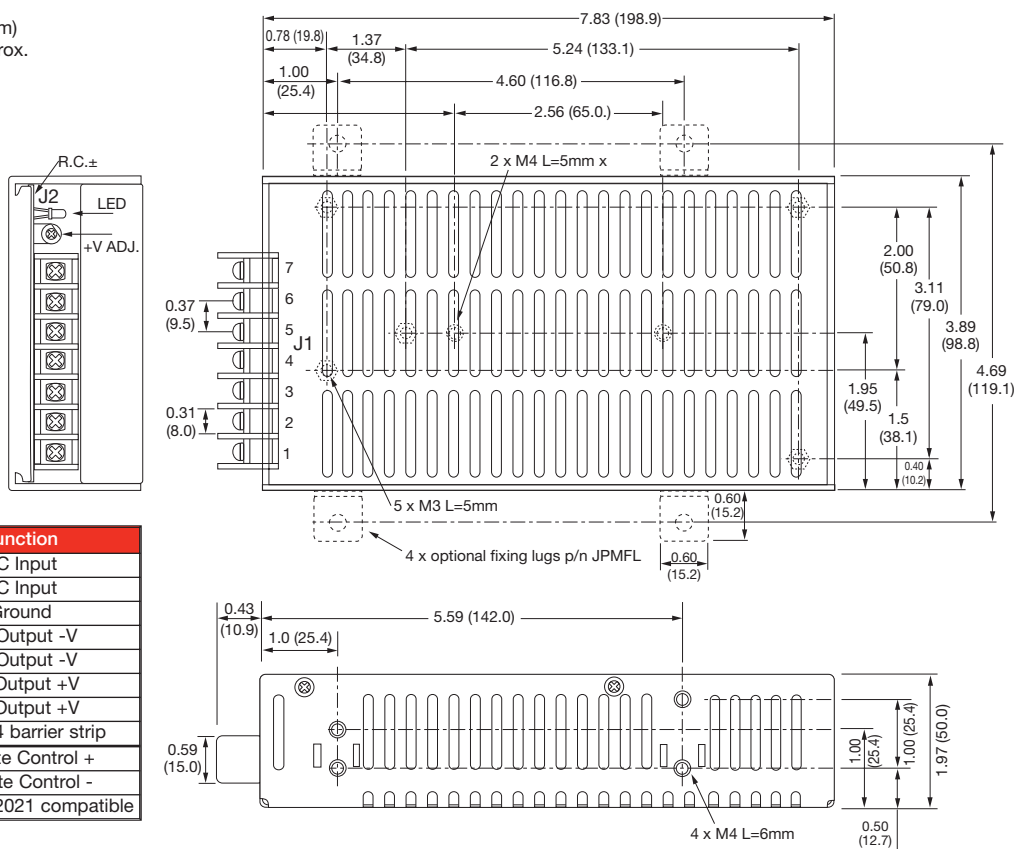
Notes

1. Max output increases to 125% of rated power when input voltage is between 180 VAC and 264 VAC - see derating curve below.
2. Maximum output power derates to 80% when input voltage is below 115 VAC.
3. Mounting vertically increases max ambient temperature. See derating curve.
4. To attach the power supply to a DIN rail, order 2 x DIN CLIP

† Available from Farnell InOne.

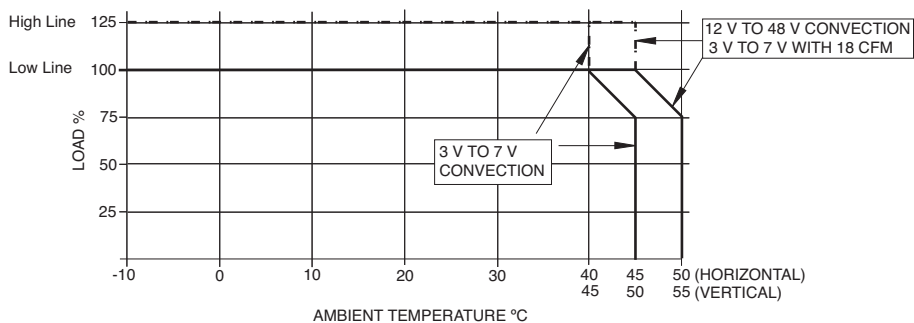
Mechanical Details

All dimensions in inches (mm)  
Weight: 1.54 lb (700 g) approx.



| Conn                             | Pin | Function         |
|----------------------------------|-----|------------------|
| J1                               | 1   | AC Input         |
|                                  | 2   | AC Input         |
|                                  | 3   | Ground           |
|                                  | 4   | DC Output -V     |
|                                  | 5   | DC Output -V     |
|                                  | 6   | DC Output +V     |
|                                  | 7   | DC Output +V     |
| 9.5mm pitch M4 barrier strip     |     |                  |
| Opt J2                           | 1   | Remote Control + |
|                                  | 2   | Remote Control - |
| Molex type 22-23-2021 compatible |     |                  |

Derating Curve



**Models and Ratings**

| Output Power <sup>1,2</sup> | Output Voltage | Output Current | Ripple & Noise (pk-pk) | Load Regulation | Efficiency | Model Number |
|-----------------------------|----------------|----------------|------------------------|-----------------|------------|--------------|
| 105 W                       | 3.3 V          | 32.0 A         | 100 mV                 | ±1.0%           | 65%        | JPM160PS03†  |
| 160 W                       | 5.0 V          | 32.0 A         | 100 mV                 | ±1.0%           | 71%        | JPM160PS05†  |
| 160 W                       | 7.5 V          | 21.0 A         | 100 mV                 | ±1.0%           | 77%        | JPM160PS07†  |
| 160 W                       | 12.0 V         | 13.4 A         | 100 mV                 | ±0.5%           | 79%        | JPM160PS12†  |
| 160 W                       | 13.5 V         | 11.8 A         | 100 mV                 | ±0.5%           | 81%        | JPM160PS13†  |
| 160 W                       | 15.0 V         | 10.6 A         | 100 mV                 | ±0.5%           | 81%        | JPM160PS15†  |
| 160 W                       | 24.0 V         | 6.7 A          | 150 mV                 | ±0.5%           | 83%        | JPM160PS24†  |
| 160 W                       | 27.0 V         | 6.0 A          | 150 mV                 | ±0.5%           | 83%        | JPM160PS27†  |
| 160 W                       | 48.0 V         | 3.3 A          | 250 mV                 | ±0.5%           | 84%        | JPM160PS48†  |

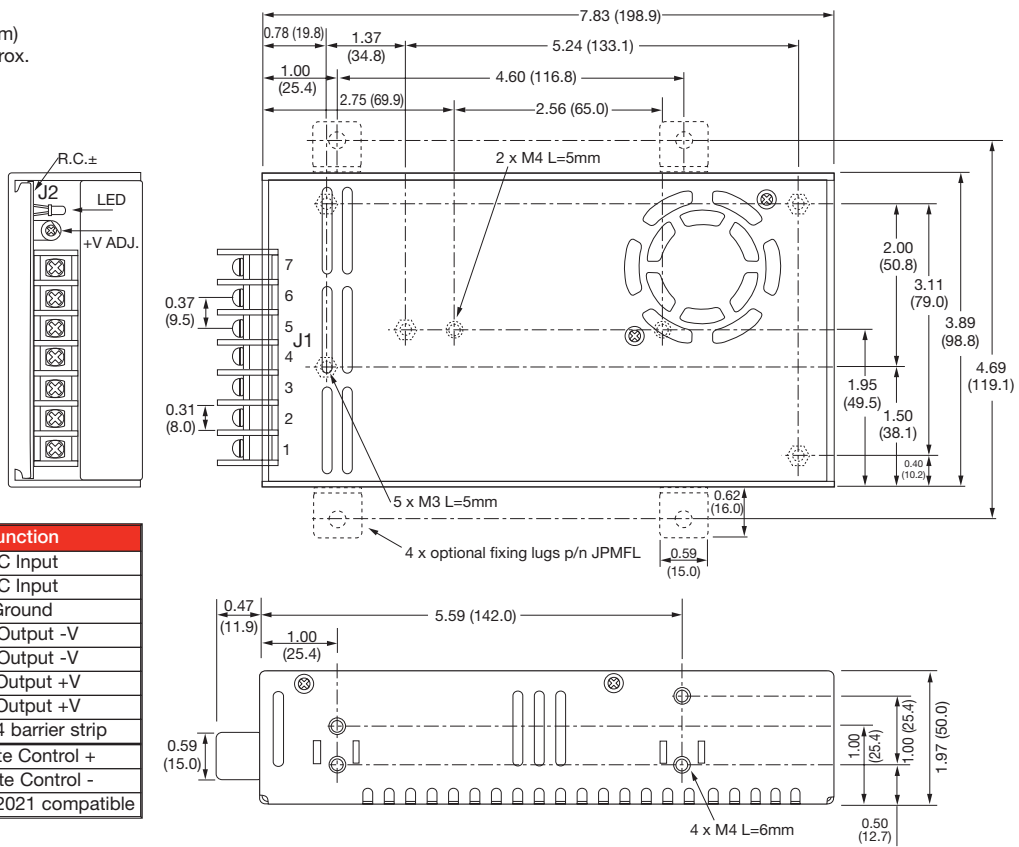
**Notes**

1. Max output increases to 125% of rated power when input voltage is between 180 VAC and 264 VAC and ambient temperature is less than 50 °C.
2. Maximum output power derates to 80% when input voltage is below 100 VAC.
3. To attach the power supply to a DIN rail, order 2 x DIN CLIP.

† Available from Farnell InOne.

**Mechanical Details**

All dimensions in inches (mm)  
Weight: 1.76 lb (800 g) approx.



| Conn                             | Pin | Function         |
|----------------------------------|-----|------------------|
| J1                               | 1   | AC Input         |
|                                  | 2   | AC Input         |
|                                  | 3   | Ground           |
|                                  | 4   | DC Output -V     |
|                                  | 5   | DC Output -V     |
|                                  | 6   | DC Output +V     |
|                                  | 7   | DC Output +V     |
| 9.5mm pitch M4 barrier strip     |     |                  |
| Opt J2                           | 1   | Remote Control + |
|                                  | 2   | Remote Control - |
| Molex type 22-23-2021 compatible |     |                  |

**Derating Curve**

