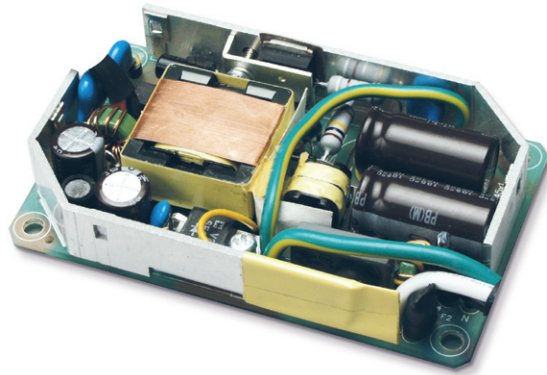




**Elpac Power Systems**  
Higher Efficiency, Higher Power Density, Uncompromised Reliability



### TECHNICAL SUPPORT

WORLDWIDE  
1-888-357-2280  
saleselpac@iccus.com  
www.iccus.com

EUROPE  
+44.1383.432920  
saleseurope@iccus.com

- High Efficiency
- Wide Range AC Input
- Fully Regulated DC Output
- Lifetime Expectation >5 years
- Hold-up Time >16ms at full load
- Output Floating
- Safety Approval - EN60601-1 Class I

**5-YEAR LIMITED WARRANTY\***

| Input                       |                                     |
|-----------------------------|-------------------------------------|
| Input Voltage               | 85 – 264VAC<br>100 – 240VAC Nominal |
| Input Frequency             | 50 – 60Hz                           |
| Input Current               | <0.3A rms                           |
| Inrush Current              | 37A@230VAC Cold Start               |
| Zero Load Power Consumption | <0.8W                               |
| Earth Leakage Current       | <90µA @ 132VAC @ 60Hz               |
|                             | <150µA @ 264VAC @ 60Hz              |

| Output                      |                                      |
|-----------------------------|--------------------------------------|
| Output Voltage              | See Table                            |
| Total Regulation            | +/-5%                                |
| Minimum Load                | No minimum load required             |
| Start-Up Delay              | <210ms                               |
| Hold-Up Time                | >16ms                                |
| Ripple & Noise              | <1% pk-pk **                         |
| Over Voltage Protection     | 110 – 135%                           |
| Over Temperature Protection | Active - Recoverable                 |
| Over Current Protection     | 120 – 180%                           |
| Short Circuit Protection    | Shutdown, auto restart (hiccup mode) |

Notes

\*visit [www.iccus.com](http://www.iccus.com) for complete details

\*\*Ripple and noise measured with 20MHz bandwidth; 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor.





| Model Number | Output Voltage | Output Current | Peak Current <sup>1</sup> | Total Regulation <sup>2</sup> | Typical Efficiency <sup>3</sup> |
|--------------|----------------|----------------|---------------------------|-------------------------------|---------------------------------|
| MSM2012      | 12.0V          | 1.67A          | 2.00A                     | ±5%                           | 77.8%                           |
| MSM2015      | 15.0V          | 1.34A          | 1.60A                     | ±5%                           | 79.0%                           |
| MSM2024      | 24.0V          | 0.84A          | 1.00A                     | ±5%                           | 79.9%                           |

Notes

- 1) Maximum peak load (24W) lasting 500ms with a maximum 10% duty cycle.
- 2) Includes initial setting, line regulation, load regulation, and thermal drift.
- 3) Typical at 115VAC at full load.

| General       |   |
|---------------|---|
| Efficiency    | Avg Efficiency 78.9% @ 115VAC;<br>80.6% @ 230VAC        |
| MTBF          | min. 200,000 hours demonstrated                         |
| Size          | 2.17" (54.99mm) x 3.543"<br>(89.98mm) x 0.71" (18.00mm) |
| Weight        | 0.30 lbs (0.14 kg)                                      |
| Power Density | 3.67W/in <sup>3</sup>                                   |

| Environmental         |   |
|-----------------------|---|
| Operating Temperature | 0 – 50°C (Full load to 50°C, derate linearly to 50% load at 70°C) |
| Storage Temperature   | -40°C to +85°   |
| Relative Humidity     | 5-95%, non-condensing   |
| Cooling               | Natural Convection  |
| Vibration             | All units production tested to 19.6m/s <sup>2</sup>               |

| EMC & Safety                      |  |
|-----------------------------------|--|
| Emissions                         | FCC Part 15, Class B, EN55011<br>EN61000-3-2, -3 |
| Immunity                          | EN61000-4-2, -3, -4, -5, -6, -8, -11             |
| Certified by UL to the following: | cRUus  |
|                                   | UL 60601-1                                       |
|                                   | CAN/CSA-22.2 No.601.1-M90                        |
|                                   | CB per IEC60601-1                                |
|                                   | CE marked to LVD                                 |

| Input Configuration |                                   |
|---------------------|-----------------------------------|
| Ground Connection   | 8.0" min green/yellow UL1015 Wire |
| Line Connection     | 8.0" min white UL1015 Wire        |
| Neutral Connection  | 8.0" min black UL1015 Wire        |

| Output Configuration |                            |
|----------------------|----------------------------|
| +V Connection        | 8.0" min red UL1015 Wire   |
| Common Connection    | 8.0" min black UL1015 Wire |

