

MPU-60S Series

Single Output, 60W Compact, U-Channel AC/DC Power Supplies



Key Features:

- 60W Output Power
- Universal 85-265 AC Input
- EN 60950 Approved
- Low Leakage Current
- Six Single Output Models
- Meets EN 55022 B
- >130 kHour MTBF
- Optional Cover



Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-------------------------------|-------------------------------------|------|------|------|-------|
| Input Voltage Range | Universal | 85 | | 265 | VAC |
| | | | | 370 | VDC |
| Input Frequency | | 47 | | 63 | Hz |
| Input Filter | Meets EN 55022 Class B; FCC Class B | | | | |
| Input Current | See Model Selection Guide | | | | |
| Inrush Current | Cold Start, 115 VAC | | | 30.0 | A Pk |
| | Cold Start, 230 VAC | | | 50.0 | |
| Safety Ground Leakage Current | 264 VAC | | | 0.5 | mA |

Output

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|--------------------------|---------------------------|------|-------|------|-------|
| Output Voltage/Current | See Model Selection Guide | | | | |
| Output Voltage Tolerance | | | ±2.0 | | % |
| Line Regulation | Vin = Min to Max | | ±1.0 | | % |
| Load Regulation | Iout = 5% to 100% | | ±1.0 | | % |
| Ripple & Noise (20 MHz) | See Note 1 | | | | |
| Hold-Up Time | 115 VAC | 10 | | | mSec |
| Temperature Coefficient | | | ±0.02 | | %/°C |
| Short Circuit Protection | Continuous (Autorecovery) | | | | |
| Over Voltage Protection | See Model Selection Guide | | | | |
| Overload Protection | See Note 2 | 130 | | 150 | % |

General

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|--|-------------------------------|-------------------------------|-------|------------------|------------------|
| Isolation Voltage | Input to Output | 3,000 | | | |
| | Input to Ground | 1,500 | | | VAC |
| | Output to Ground | 500 | | | |
| Isolation Resistance | 500 VDC | | 100 | | MΩ |
| Isolation Capacitance | | | 4,700 | | pF |
| EMC Compliance | Conducted | EN 55022; EN 61000-3-2, -3 | | | |
| | | IEC/EN 61000-4-2, -6, -8, -11 | | | |
| | Electrostatic Discharge (ESD) | | | | |
| | RF Field Susceptibility | | | | IEC/EN 61000-4-3 |
| Electrical Fast Transients/Bursts On Mains | | | | IEC/EN 61000-4-4 | |
| | | | | IEC/EN 61000-4-5 | |
| Switching Frequency | Fixed | | 100 | | kHz |

Environmental

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-----------------------------|--|------|------|------|-------|
| Operating Temperature Range | Ambient | -40 | +25 | +70 | °C |
| Storage Temperature Range | | -50 | | +84 | °C |
| Cooling | Free Air Convection (See Derating Curve) | | | | |
| Humidity | RH, Non-condensing | | | 95 | % |

Physical

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|-----------|------------|---|------|------|--------------------|
| Size | | 4.13 x 2.28 x 1.5 Inches (105.0 x 58.0 x 38.1 mm) | | | |
| Weight | U-Channel | | | | 8.34 Oz (0.240 kg) |
| | With Cover | | | | 9.03 Oz (0.260 kg) |

Reliability Specifications

| Parameter | Conditions | Min. | Typ. | Max. | Units |
|------------------|---|------|------|------|--------|
| MTBF | MIL HDBK 217F, 25°C, Gnd Benign | 130 | | | kHours |
| Safety Standards | UL 1950, EN 60950, IEC 60950 | | | | |
| Vibration | 10~500 Hz, 5G 10 min/1 Cycle. Period of 60 min each along X, Y & Z Axis | | | | |

MicroPower Direct

292 Page Street
Suite D
Stoughton, MA 02072
USA

T: (781) 344-8226
F: (781) 344-8481
E: sales@micropowerdirect.com
W: www.micropowerdirect.com



www.micropowerdirect.com

| Model Number | Input | | Output | | | Max Output Power (W) | Over Voltage Protection (VDC) | Efficiency (% Typ) |
|----------------|-------------|---------|---------------|-------------|--------|----------------------|-------------------------------|--------------------|
| | Current (A) | | Voltage (VDC) | Current (A) | | | | |
| | 115 VAC | 230 VAC | | Rated | % Min. | | | |
| MPU-60S-05T(C) | 2.0 | 1.0 | 5.0 | 10.00 | 1.00 | 50 | 6.2 | 82 |
| MPU-60S-09T(C) | 2.0 | 1.0 | 9.0 | 6.66 | 1.00 | 60 | 10.0 | 84 |
| MPU-60S-12T(C) | 2.0 | 1.0 | 12.0 | 5.00 | 1.00 | 60 | 15.0 | 86 |
| MPU-60S-15T(C) | 2.0 | 1.0 | 15.0 | 4.00 | 1.00 | 60 | 18.0 | 86 |
| MPU-60S-24T(C) | 2.0 | 1.0 | 24.0 | 2.50 | 1.00 | 60 | 28.0 | 86 |
| MPU-60S-48T(C) | 2.0 | 1.0 | 48.0 | 1.25 | 1.00 | 60 | 57.0 | 86 |

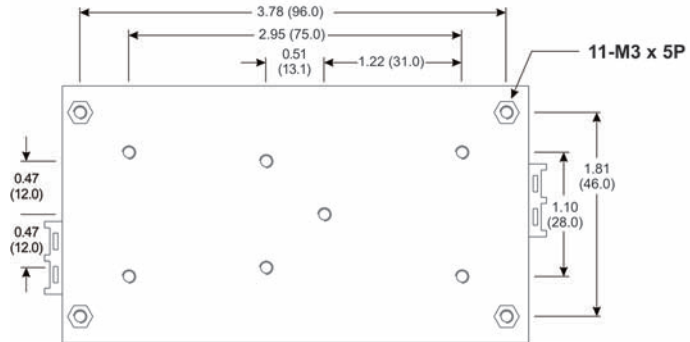
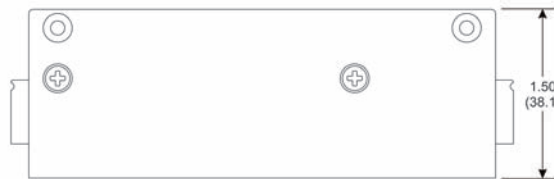
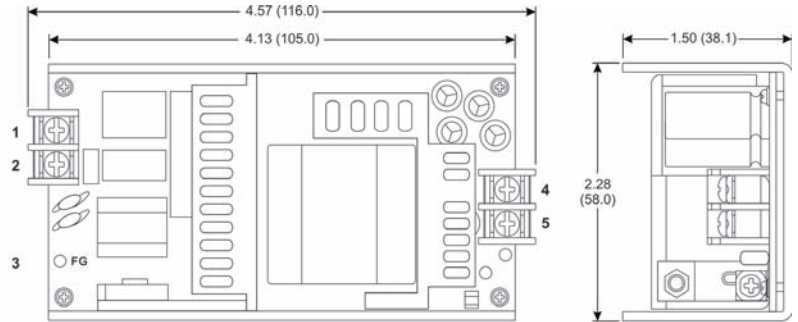
For Cover option, add suffix "C" to model number (i.e. MPU-60S-12TC)

For Open Frame models, see MPO-60S Datasheet

Notes:

- Output ripple is specified as a maximum of $<0.2\%V_{OUT} + 40\text{ mV (Vp-p)}$. Output noise is specified as a maximum of $<0.5\%V_{OUT} + 40\text{ mV (Vp-p)}$. Ripple and noise is measured at 20 MHz bandwidth using a $0.1\ \mu\text{F}$ and $47\ \mu\text{F}$ capacitor connected in parallel as close to the power supply terminals as possible.
- Overload protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
- Over voltage protection is provided by a zener diode clamp.
- These units will operate at no load without damage, however, MPD recommends that a minimum 1% load always be used.
- Each unit includes an input fuse. Since this fuse is not field replaceable, it is recommended that an external fuse be used on the input of the power supply for protection. For these units, a 15A/250V slow blow fuse is recommended.

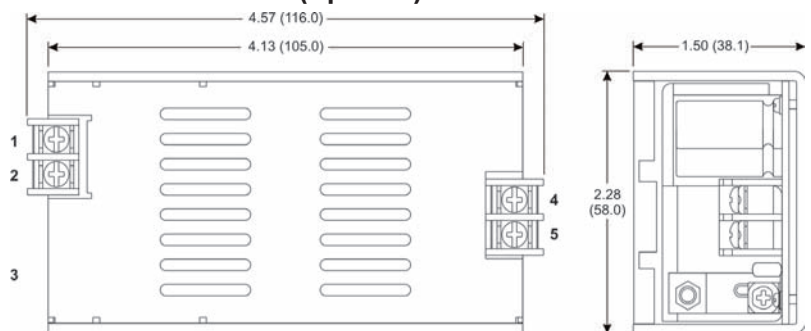
Mechanical Dimensions



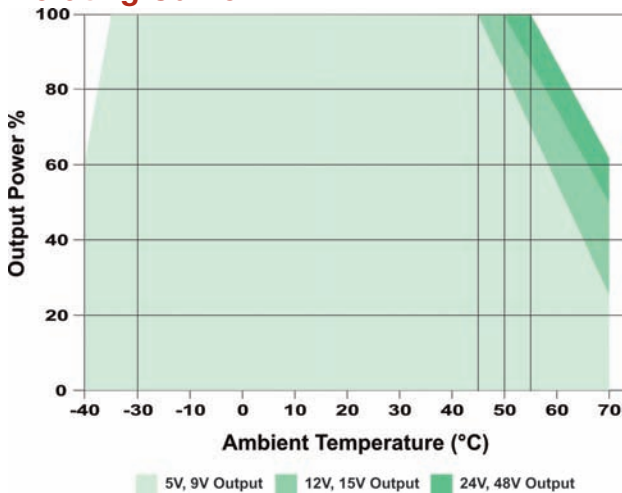
Pin Connections

| Pin | Function | Pin | Function |
|-----|------------|-----|-------------------|
| 1 | AC-Neutral | 4 | +V _{OUT} |
| 2 | AC-Line | 5 | -V _{OUT} |
| 3 | AC-Ground | | |

Cover Dimensions (Optional)



Derating Curve



Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.02 (± 0.50)



MicroPower Direct

We Power Your Success - For Less!

292 Page Street Ste D Stoughton, MA 02072 • TEL: (781) 344-8226 • FAX: (781) 344-8481 • E-Mail: sales@micropowerdirect.com