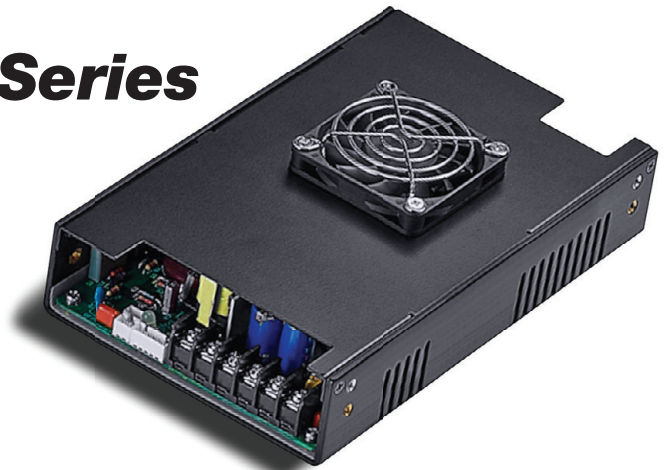


# MPU-600CD Series

## Dual Output 600W Power Factor Corrected AC/DC Power Supplies



### Key Features:

- Compact 600W Supply
- PFC to EN 61000-3-2 "D"
- EN 60950 Approved (UL)
- CE Certified
- FCC Class B Emissions
- Universal AC Input
- 3 Packaging Options
- 900W Peak Power



### MicroPower Direct

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USA

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### 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                                                         | 90   |      | 264  | VAC   |
| Input Frequency               |                                                                   | 47   |      | 63   | Hz    |
| Input Current, Full Load      | 90 VAC                                                            |      | 8.5  |      | A     |
| Inrush Current, Cold Start    | 230 VAC                                                           |      |      | 70   | A     |
| Leakage Current               | 264 VAC                                                           |      |      | 3.5  | mA    |
| Power Factor Correction       | Meets EN61000-3-2 Class D                                         |      |      |      |       |
| Input Protection              | T10A/250V Fuse Inserted In Primary                                |      |      |      |       |
| Input Undervoltage Protection | Under 80 VAC (±10 VAC) Unit Shuts Down; Unit Recovers Over 90 VAC |      |      |      |       |

#### Output

| Parameter                           | Conditions                                       | Min. | Typ.  | Max. | Units |
|-------------------------------------|--------------------------------------------------|------|-------|------|-------|
| Output Voltage Adjustment           | By Trim Pot, U-Channel Model Only                |      | ±5.0  |      | %     |
| Output Regulation, See Note 1       |                                                  |      | ±1.0  |      | %     |
| Hold Time                           | 115 VAC, 75% Load                                | 16   |       |      | mSec  |
| Ripple & Noise (20 MHz), See Note 2 | See Model Selection Guide                        |      |       |      |       |
| Overload Protection                 | Foldback Circuit, Autorecovery                   | 110  |       | 140  | %     |
| Over Voltage Protection             | >130% of Rated Output Voltage. Recycle AC Input. |      |       |      |       |
| Over Temperature Protection         | Autorecovery                                     | +105 | +110  | +115 | °C    |
| Temperature Coefficient             |                                                  |      | ±0.04 |      | %/°C  |
| Transient Recovery Time, See Note 4 | 50% Load Change                                  |      | 2.5   |      | mS    |
| Transient Response Deviation        |                                                  |      | 5.0   |      | %     |
| Overshoot/Undershoot                | At Turn On/Off                                   |      |       | ±5.0 | %     |
| Turn On Delay                       | 115 VAC                                          |      |       | 2.0  | S     |
| Output Short Circuit                | Continuous With Autorecovery                     |      |       |      |       |

#### General

| Parameter                     | Conditions                | Min.  | Typ. | Max. | Units |
|-------------------------------|---------------------------|-------|------|------|-------|
| Isolation Voltage, See Note 5 | Input - Output            | 3,000 |      |      | VAC   |
|                               | Input - FG (Frame Ground) | 1,500 |      |      |       |
|                               | Primary - Core            | 1,500 |      |      |       |
| Switching Frequency           | Fixed                     |       | 28   |      | kHz   |

#### Environmental

| Parameter                   | Conditions                | Min. | Typ. | Max. | Units |
|-----------------------------|---------------------------|------|------|------|-------|
| Operating Temperature Range | Ambient                   | 0    | +25  | +50  | °C    |
| Storage Temperature Range   |                           | -20  |      | +80  | °C    |
| Cooling                     | See Model Selection Guide |      |      |      |       |
| Operating Humidity          | RH, Non-condensing        |      |      | 90   | %     |

#### EMI Characteristics

| Parameter           | Standard      | Criteria | Level                    |
|---------------------|---------------|----------|--------------------------|
| Radiated Emissions  | EN 55022      |          | B                        |
| Conducted Emissions | EN 55022      |          | B                        |
| ESD                 | EN 61000-4-2  | A        | ±4 kV Contact            |
| RS                  | EN 61000-4-3  | A        | 3V/m                     |
| EFT                 | EN 61000-4-4  | A        | ±1 kV                    |
| Surge               | EN 61000-4-5  | A        | ±1 kV (L-L), ±2 kV (L-G) |
| CS                  | EN 61000-4-6  | A        | 3V/rms                   |
| PFM                 | EN 61000-4-8  | A        | 1A/m                     |
| Voltage Dips        | EN 61000-4-11 | A        | >95% 10 mS, 30% 500 mS   |
|                     |               | B        | >95%, 500 mS             |

#### Reliability Specifications

| Parameter        | Conditions                                                   | Min. | Typ. | Max. | Units  |
|------------------|--------------------------------------------------------------|------|------|------|--------|
| MTBF             | MIL HDBK 217F, 30°C, Gnd Benign                              | 100  |      |      | kHours |
| Safety Standards | UL 60950, EN 60950                                           |      |      |      |        |
| Vibration        | Sinusoidal 5~50 Hz, Acceleration ±7.35 m/s² on X, Y & Z Axis |      |      |      |        |

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| Model Number      | Output Voltage Factory |         | Output Current With 25 CFM (Max A) | Max. Output Power (W) | Regulation (Note 3) | Ripple & Noise (Note 2) | Efficiency (Note 6) |
|-------------------|------------------------|---------|------------------------------------|-----------------------|---------------------|-------------------------|---------------------|
| MPU-600CD-0512YYZ | V1                     | +5 VDC  | 50.00A                             | 600                   | ±5.0%               | 1.0%                    | 80%                 |
|                   | V2                     | +12 VDC | 33.33A                             |                       |                     |                         |                     |
| MPU-600CD-0524YYZ | V1                     | +5 VDC  | 50.00A                             | 600                   | ±5.0%               | 1.0%                    | 80%                 |
|                   | V2                     | +24 VDC | 16.67A                             |                       |                     |                         |                     |
| MPU-600CD-1224YYZ | V1                     | +12 VDC | 33.33A                             | 600                   | ±5.0%               | 1.0%                    | 80%                 |
|                   | V2                     | +24 VDC | 16.67A                             |                       |                     |                         |                     |

Some models may require a minimum order quantity.  
Contact the factory for details at:  
[sales@micropowerdirect.com](mailto:sales@micropowerdirect.com)

**Notes:**

- Output regulation includes line & load.
- Ripple & noise is measured from 10 Hz to 20 MHz. Connection to the unit is made with a 0.1 µF ceramic capacitor & a 22 µF electrolytic capacitor connected in parallel.
- A 1% minimum load is required to maintain regulation & ripple specifications.
- Transient recovery is measured to within a 1% error band for a load step change of 50% to 100%.
- Isolation specifications are production HI-Pot tested for 3 seconds.
- Efficiency is measured with a 115 VAC input and full load.
- Output power is given for the factory preset voltage. The maximum continuous output power level is 600W with 25 CFM airflow. All models provide a peak power level of 900W for a maximum duration of 500 µS. For more information, contact the factory.
- Each unit includes an input fuse (250V/10A). Since this fuse is not field replaceable, it is recommended that an external fuse of the same size be used on the input of the power supply for protection.
- The Fan Drive output (at connector CN4) provides 12V/300 mA to drive an external fan.

**Model Number****MPU-600CD-XXXXYYZ**

**Mechanical Configuration**  
U = U-Chassis

**Approval Level**  
C (or Blank) = EN 60950

**Outputs**  
S = Single  
D = Dual

**Output Voltage Selection**

**Output Connector**  
A = Molex  
T = Terminal Block

**Input Connector**  
A = Molex  
T = Terminal Block  
P = IEC320 (E Case Only)

**Case Options (If Available)**  
Blank = No Fan  
E = End Fan  
F = Top Fan

**Connections****Input Connector (CN1):**

- Terminal Block:  
Howder HD-121-3P: M3.5 Screws  
3 terminals, 9.5 mm Centers

| Pin | Function     |
|-----|--------------|
| 1   | Field Ground |
| 2   | AC-Line      |
| 3   | AC Neutral   |

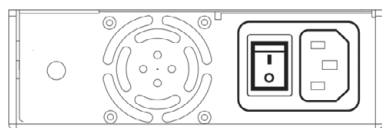
**Input Connector (CN1):**

- Molex Mating Part No:  
Molex 09-50-3071 or equivalent  
(7 pins, 2 removed)

| Pin | Function     |
|-----|--------------|
| 1   | Field Ground |
| 2   | Field Ground |
| 3   | Missing      |
| 4   | AC-Line      |
| 5   | AC-Line      |
| 6   | Missing      |
| 7   | AC-Neutral   |

**Input Connector (CN1):**

- IEC320 or equivalent  
Available on "End Fan" models only

**Output Connector (CN2):**

- Terminal Block:  
Howder HD-121-6P: M3.5 Screws  
6 terminals, 9.5 mm Centers

| Pin | Function |
|-----|----------|
| 1   | +V1 OUT  |
| 2   | +V1 OUT  |
| 3   | +VOUT    |
| 4   | -VOUT    |
| 5   | +V2 OUT  |
| 6   | +V2 OUT  |

**Output Connector (CN2):**

- Molex Mating Part No:  
Molex 09-50-3141 or equivalent

| Pin | Function |
|-----|----------|
| 1   | +V1 OUT  |
| 2   | +V1 OUT  |
| 3   | +V1 OUT  |
| 4   | +V1 OUT  |
| 5   | +V1 OUT  |
| 6   | -VOUT    |
| 7   | -VOUT    |
| 8   | -VOUT    |
| 9   | -VOUT    |
| 10  | -VOUT    |
| 11  | -VOUT    |
| 12  | +V2 OUT  |
| 13  | +V2 OUT  |
| 14  | +V2 OUT  |

**Logic Signal Connector (CN3):**

- Mating Part No:  
JST XHP-3 or equivalent  
(CHYAO SHIUNN JS-1001-03)

| Pin | Function      |
|-----|---------------|
| 1   | Remote On/Off |
| 2   | Common        |
| 3   | Power Good    |

**Interface Signals**

|                   |                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------|
| Power Supply On   | Bi-color LED Is green for "power on"; orange when protection enabled                                                  |
| Remote Sense      | Compensates for up to a 0.5V line drop                                                                                |
| Power Good Signal | Goes TTL high 100 to 500 mS after regulation. Goes low at least 1 mS before the loss of regulation. Will sink 100 mA. |
| Remote On/Off     | A TTL low signal inhibits the output. Hiccup mode.                                                                    |

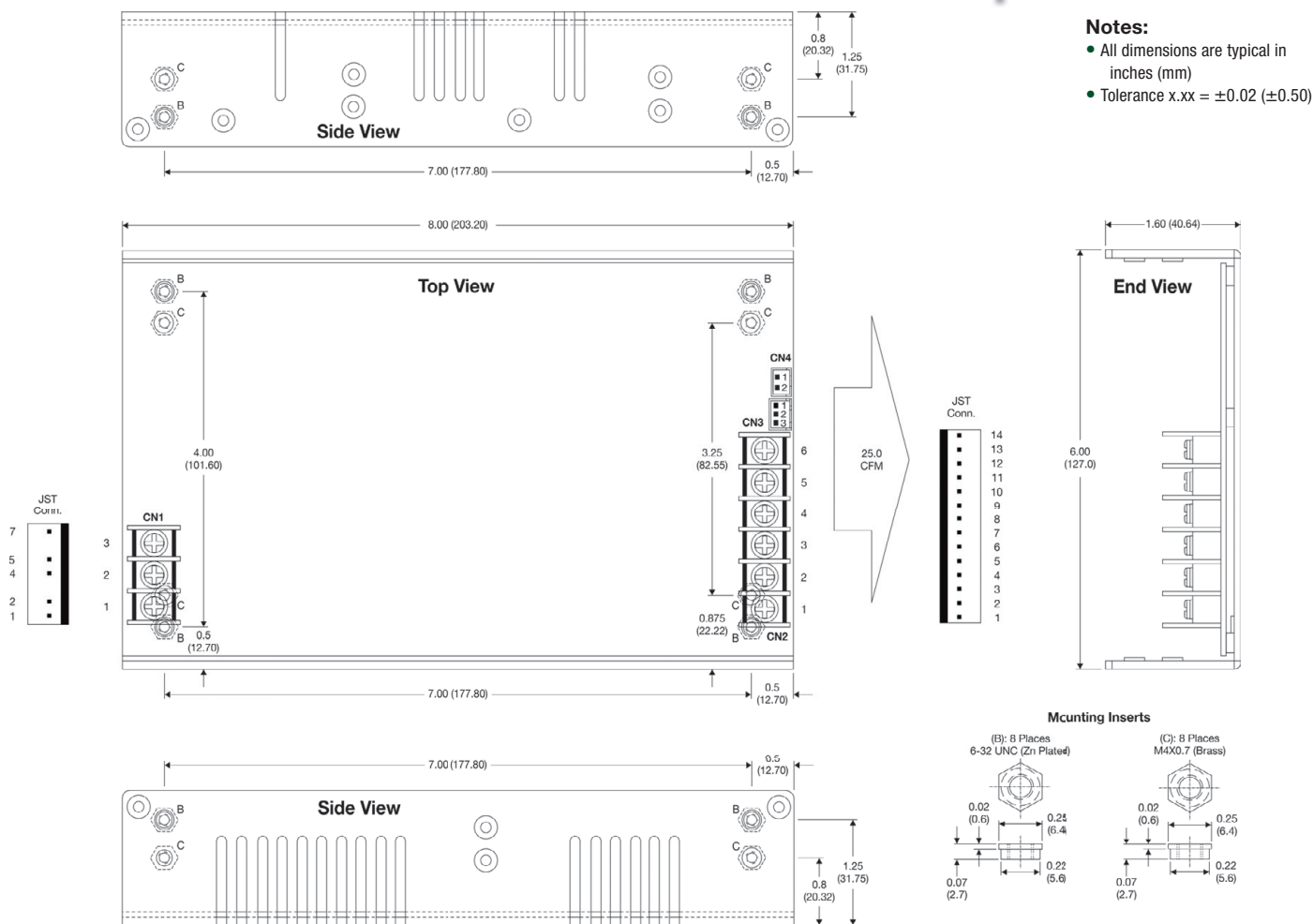
**Fan Driver Connector (CN4):**

- Mating Part No:  
JST XHP-2 or equivalent  
(CHYAO SHIUNN JS-2001-2)

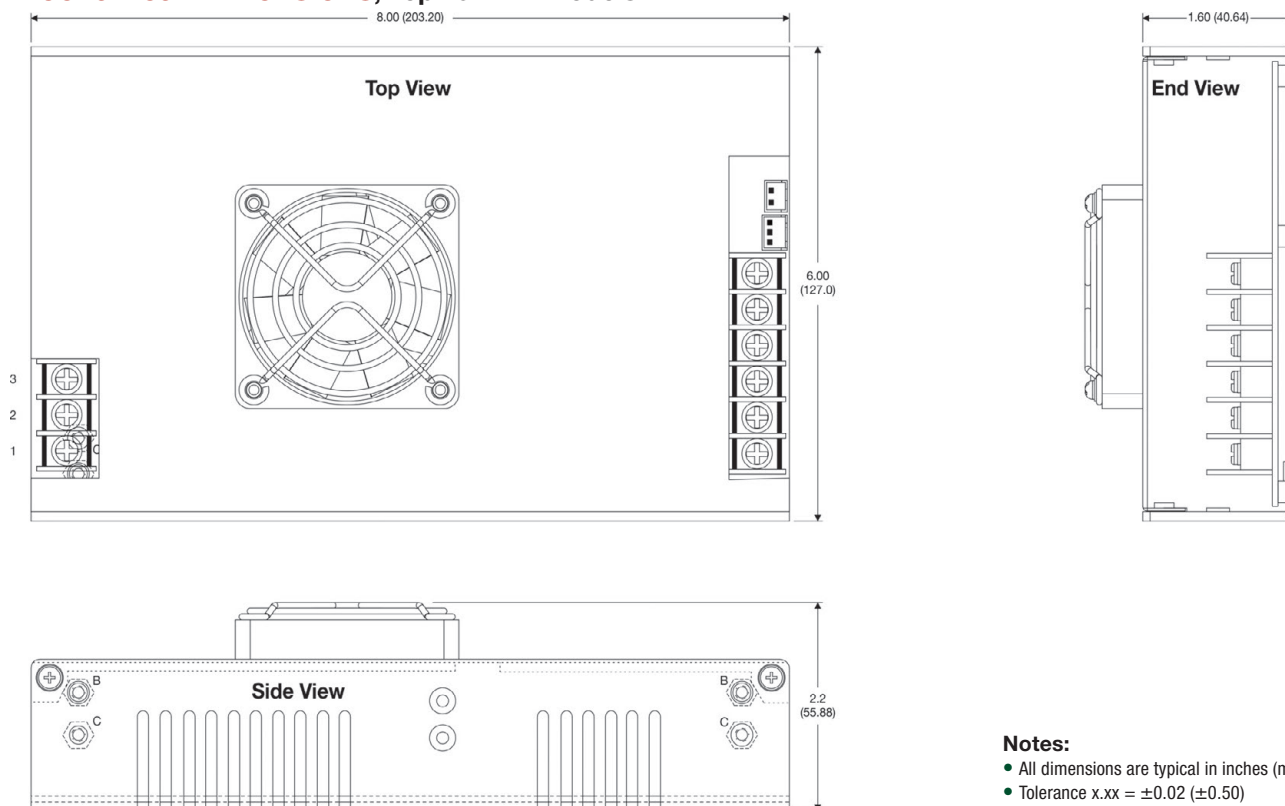
| Pin | Function |
|-----|----------|
| 1   | Minus    |
| 2   | Plus     |

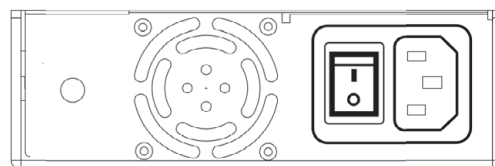
## Mechanical Dimensions

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## Mechanical Dimensions, Top Fan "F" Models





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