



TRUMPower

200 WATT SWITCHING POWER SUPPLIES

DESCRIPTION

The PU200 series comprises single and multiple output models for 200 watts of continuous output power. Auto-ranging input allows them to operate from any line voltage throughout the world without a selector strap. All auxiliary outputs are with magnetic amplifier or linear regulator to keep regulation. The units are constructed on a printed circuit board with a U-bracket for mechanical support and heat sinking. A cover-and-fan assembly can be added during manufacturing.

FEATURES

- Auto-ranging input
- Overvoltage protection
- Short-circuit protection with auto-recovery
- Power Fail Detect (PFD) signal
- 100% burn-in at full rated load
- Optional cover-and-fan assembly

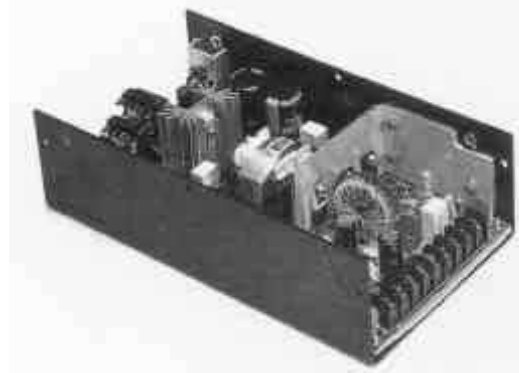
INPUT SPECIFICATIONS

Input voltage: 90 to 130 VAC, or 180 to 264 VAC (auto-ranging)
Input frequency: 47 to 63 Hz
Input current: 4.5A (rms) for 115VAC
 2.6A (rms) for 230VAC
Leakage current: 0.4mA max. @115VAC, 60Hz
 0.8mA max. @230VAC, 50Hz

OUTPUT SPECIFICATIONS

Output voltage/current : See rating chart
Total output power: 200 watts maximum
Ripple and noise : 2% peak to peak maximum
Overvoltage protection : Provided on output #1 only; set at 112 - 132 % of its nominal output voltage
Overcurrent protection: All outputs protected to short circuit conditions
Temperature coefficient: All outputs +/-0.04%/ °C maximum
Transient response : Maximum excursion of 4% or better on all models; recovering to 1% of final value within 500us after a 25% step load change
PFD signal : TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1 ms prior to +5V output dropping 5% below its nominal value. This signal also provides a minimum delay of 100 ms after +5V is within regulation.

PU200 SERIES



Safety Standard Approvals:



UL 1950
File No. E137410



C22.2 No. 950
File No. LR93632



EN 60950
Certificate No. R9452561

ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0°C to +70°C
Storage temperature: -40°C to +85°C
Relative humidity: 5% to 95% non-condensing
Derating: Derate from 100% at +50 °C linearly to 50% at +70 °C
Cooling: 25 CFM forced air, provided on "C" version, to be provided for "B" version by user

GENERAL SPECIFICATIONS

Switching frequency: 75KHz +/-5KHz
Efficiency : 70% minimum on all models
Hold-up time : 12 msec minimum at 110VAC
Line regulation : +/-0.5% maximum at full load
Inrush current : 20 amps @ 115VAC, or 40 amps @ 230VAC, at 25 °C cold start
Withstand voltage : 3000VAC from input to output
 1500VAC from input to ground
 500VAC from output to ground
MTBF : 450,000 hours minimum at full load at 25°C ambient, calculated per MIL-HDBK-217F
EMI requirements : Meets conducted limits of
 (a) FCC Level B
 (b) EN 55022 Class B
Safety requirements : Meets or exceeds:
 (a) UL 1950
 (b) CSA C22.2 No. 950
 (c) IEC 950 (EN 60950)

AUTORANGING INPUT

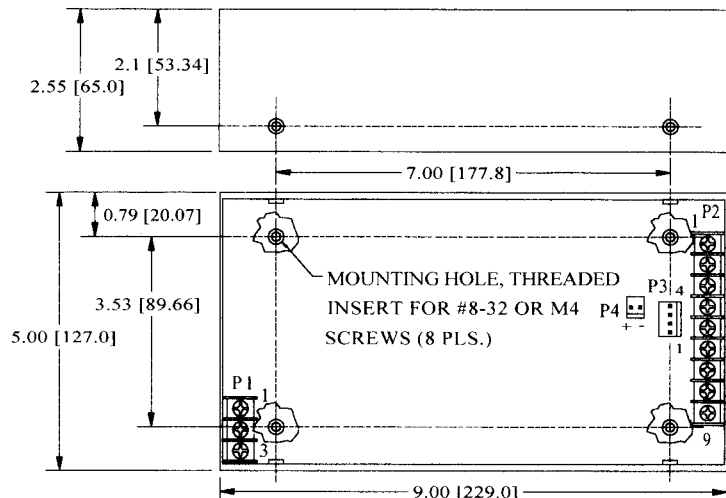
PU200 SERIES

OUTPUT VOLTAGE/CURRENT RATING CHART

| (1)(5)(6) Model | Output #1 | | | | Output #2 (2) | | | | Output #3 | | | | Output #4 (3) | | | | Maximum Output Power (4) |
|--------------------|-----------|-------|--------------------|------|---------------|-------|--------------------|------|-----------|-------|--------------------|------|---------------|-------|--------------------|------|--------------------------------|
| | Vnom. | Imin. | I _{max} . | Tol. | Vnom. | Imin. | I _{max} . | Tol. | Vnom. | Imin. | I _{max} . | Tol. | Vnom. | Imin. | I _{max} . | Tol. | |
| PU200-10 | 5V | 3.0A | 40A | 2% | (N/A) | | | | (N/A) | | | | (N/A) | | | | 200W |
| PU200-12 | 12V | 1.2A | 16.7A | 2% | (N/A) | | | | (N/A) | | | | (N/A) | | | | 200W |
| PU200-13 | 15V | 1.0A | 13.4A | 2% | (N/A) | | | | (N/A) | | | | (N/A) | | | | 200W |
| PU200-14 | 24V | 0.6A | 8.4A | 2% | (N/A) | | | | (N/A) | | | | (N/A) | | | | 200W |
| PU200-16 | 30V | 0.5A | 6.7A | 2% | (N/A) | | | | (N/A) | | | | (N/A) | | | | 200W |
| PU200-18 | 48V | 0.5A | 4.2A | 2% | (N/A) | | | | (N/A) | | | | (N/A) | | | | 200W |
| PU200-23 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | (N/A) | | | | (N/A) | | | | 200W |
| PU200-24 | +5V | 3.0A | 30A | 2% | +15V | 0A | 6A | 4% | (N/A) | | | | (N/A) | | | | 200W |
| PU200-25 | +5V | 3.0A | 30A | 2% | +24V | 0A | 4A | 4% | (N/A) | | | | (N/A) | | | | 200W |
| PU200-30 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | -5V | 0A | 6A | 4% | (N/A) | | | | 200W |
| PU200-31 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | -12V | 0A | 4A | 4% | (N/A) | | | | 200W |
| PU200-32 | +5V | 3.0A | 30A | 2% | +15V | 0A | 6A | 4% | -15V | 0A | 4A | 4% | (N/A) | | | | 200W |
| PU200-33 | +5V | 3.0A | 30A | 2% | +15V | 0A | 6A | 4% | -12V | 0A | 4A | 4% | (N/A) | | | | 200W |
| PU200-40 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | -12V | 0A | 4A | 4% | 5V | 0A | 6A | 4% | 200W |
| PU200-41 | +5V | 3.0A | 30A | 2% | +15V | 0A | 6A | 4% | -15V | 0A | 4A | 4% | 24V | 0A | 4A | 4% | 200W |
| PU200-42 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | -12V | 0A | 4A | 4% | 12V | 0A | 4A | 4% | 200W |
| PU200-44 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | -15V | 0A | 4A | 4% | 15V | 0A | 4A | 4% | 200W |
| PU200-45 | +5V | 3.0A | 30A | 2% | +12V | 0A | 8A | 4% | -12V | 0A | 4A | 4% | 24V | 0A | 4A | 4% | 200W |

- Notes: (1) Add suffix "B" for U-bracket format and "C" for enclosed format, e.g. PU200-45C.
 (2) Peak current is 12A on +12V, 9A on +15V and 6A on +24V.
 (3) Output #4 is floating. It can be connected externally for positive or negative output.
 (4) 200 watts for "C" version with a cover-and-fan assembly. 150 watts for "B" version without moving air (maximum current of output #1 & #2 derated to 70%), or 200 watts with 25 CFM forced air provided by user.
 (5) When the remote Sense facility is not used, +Sense must be connected to +V, and -Sense to return, on P2 connector.
 (6) All models may be operated at no-load. At no-load, output voltage tolerance increases to 10%.

MECHANICAL SPECIFICATIONS



- NOTES:
 1. Dimensions shown in inch [mm]
 2. Tolerance 0.02 [0.5] maximum
 3. Input connector P1 is Beau Inc. P/N 72-5-03C, output connector P2 is Beau Inc. P/N 72-5-09C. Screws are #6-32 on 0.375 inch centers.
 4. Connector P3 mates with Molex housing 22-01-1043 and Molex 40445 series crimp terminal
 5. Connector P4 mates with Molex housing 22-01-1023 and Molex 40445 series crimp terminal
 6. P4 is for DC fan rated 24V/0.12A (models PU200-14, -16, -25), or 12V/0.2A (other models).
 7. Weight:
 1.2 Kgs (2.65 Lbs.) approx. for "B" version
 1.5 Kgs (3.31 Lbs.) approx. for "C" version

PIN CHART

| MODEL | CONN PIN | P1 | | | P2 | | | | | | P3 | | | |
|--|-------------|------------|---------------|--------------|--------------|--------------|--------------|--------------|------------------------|--------------|-----|--------------|--------------|-----|
| | | 1 | 2 | 3 | 1,2 | 3,4,5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 |
| PU200-10 PU200-12 PU200-13 PU200-14 PU200-16 PU200-18 | | AC LIVE | AC NEUTRAL | AC GROUND | -SENSE | RET. | OUTPUT #1 | OUTPUT #1 | OUTPUT #1 | +SENSE | FAN | COM. RET. | COM. RET. | PFD |
| PU200-23 PU200-24 PU200-25 | | AC LIVE | AC NEUTRAL | AC GROUND | OUTPUT #1 | COM. RET. | OUTPUT #2 | N.C. | N.C. | N.C. | FAN | COM. RET. | COM. RET. | PFD |
| PU200-30 PU200-31 PU200-32 PU200-33 | | AC LIVE | AC NEUTRAL | AC GROUND | OUTPUT #1 | COM. RET. | OUTPUT #2 | OUTPUT #3 | N.C. | N.C. | FAN | COM. RET. | COM. RET. | PFD |
| PU200-40 PU200-41 PU200-42 PU200-44 PU200-45 | | AC LIVE | AC NEUTRAL | AC GROUND | OUTPUT #1 | COM. RET. | OUTPUT #2 | OUTPUT #3 | OUTPUT #4 RETURN | OUTPUT #4 | FAN | COM. RET. | COM. RET. | PFD |