

60 Watts

ECP Series



GREEN XP POWER

Specification

Input

| | |
|-----------------------|---|
| Input Voltage | <ul style="list-style-type: none"> 85-264 VAC, derate from 100% load at 90 VAC to 90% load at 85 VAC |
| Input Frequency | <ul style="list-style-type: none"> 47-63 Hz |
| Input Current | <ul style="list-style-type: none"> 0.85 A max at 115 VAC |
| Inrush Current | <ul style="list-style-type: none"> 100 A max at 230 VAC, cold start at 25 °C |
| Power Factor | <ul style="list-style-type: none"> EN61000-3-2, class A |
| No Load Input Power | <ul style="list-style-type: none"> <0.5 W |
| Earth Leakage Current | <ul style="list-style-type: none"> <250 µA at 264 VAC, 60 Hz |
| Input Protection | <ul style="list-style-type: none"> Internal T2 A/250 V fuse in both line and neutral |

Output

| | |
|--------------------------|--|
| Output Voltage | <ul style="list-style-type: none"> See table |
| Output Voltage Trim | <ul style="list-style-type: none"> ±10% on V1 only, output 2 on multi output models will track by the same percentage |
| Minimum Load | <ul style="list-style-type: none"> 10% minimum load required on all outputs of multi output models |
| Start Up Delay | <ul style="list-style-type: none"> 1.3 s max |
| Start Up Rise Time | <ul style="list-style-type: none"> 15 ms typical |
| Hold Up Time | <ul style="list-style-type: none"> 16 ms min at full load at 115 VAC |
| Total Regulation | <ul style="list-style-type: none"> Output 1: 2% from 0% load to 100% load Output 2: 5% from 20% load to 100% load Output 3: 5% from 10% load to 100% load |
| Transient Response | <ul style="list-style-type: none"> 4% max deviation, recovering to less than 1% within 500 µs for 50% step load change at 1 A/µs |
| Ripple & Noise | <ul style="list-style-type: none"> 1% pk-pk (2% for US05 version), measured with 20 MHz bandwidth |
| Overvoltage Protection | <ul style="list-style-type: none"> 115-140% of nominal output voltage on V1 only, recycle input to reset |
| Overload Protection | <ul style="list-style-type: none"> 120-160% of nominal power |
| Short Circuit Protection | <ul style="list-style-type: none"> Trip and restart (hiccup mode) |
| Temperature Coefficient | <ul style="list-style-type: none"> ±0.02%/°C max |

- Low Profile Design
- Compact Size, 4" x 2"
- IT & Medical Approvals
- Dual and Triple Output
- <0.5 W No Load Input Power
- Peak Load Capability
- 3 Year Warranty

General

| | |
|---------------------|--|
| Efficiency | <ul style="list-style-type: none"> 88% typical at 230 VAC and full load |
| Isolation | <ul style="list-style-type: none"> 4000 VAC Input to Output 1500 VAC Input to Ground 500 VDC Output to Ground |
| Switching Frequency | <ul style="list-style-type: none"> 30-130 kHz variable |
| MTBF | <ul style="list-style-type: none"> >400 kHrs to MIL-HDBK-217F at 25 °C, GB |

Environmental

| | |
|-----------------------|---|
| Operating Temperature | <ul style="list-style-type: none"> -20 °C to +70 °C, derate from 100% load at 50 °C to 50% load at 70 °C |
| Cooling | <ul style="list-style-type: none"> Natural convection |
| Operating Humidity | <ul style="list-style-type: none"> 5% to 95% RH, non condensing |
| Operating Altitude | <ul style="list-style-type: none"> 3000 m max |
| Storage Temperature | <ul style="list-style-type: none"> -40 °C to +85 °C |
| Shock | <ul style="list-style-type: none"> 30 g pk, half sine, 6 axes |
| Vibration | <ul style="list-style-type: none"> 2 g rms, 5 Hz to 500 Hz, 3 axes |

EMC & Safety

| | |
|----------------------|---|
| Emissions | <ul style="list-style-type: none"> EN55011/32, level B conducted & level A radiated |
| Harmonic Currents | <ul style="list-style-type: none"> EN61000-3-2, class A |
| Voltage Flicker | <ul style="list-style-type: none"> EN61000-3-3 |
| ESD Immunity | <ul style="list-style-type: none"> EN61000-4-2, ±4 kV indirect contact, Perf Criteria A |
| Radiated Immunity | <ul style="list-style-type: none"> EN61000-4-3, 3 V/m, Perf Criteria A |
| EFT / Burst | <ul style="list-style-type: none"> EN61000-4-4, level 3 Perf Criteria A |
| Surge | <ul style="list-style-type: none"> EN61000-4-5, installation class 3, Perf Criteria A |
| Conducted Immunity | <ul style="list-style-type: none"> EN61000-4-6, 3 V Perf Criteria A |
| Dips & Interruptions | <ul style="list-style-type: none"> EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B EN60601-1-2, 30% 500 ms, 60% 100 ms, 100% 10 ms, 100% 5000 ms, Perf Criteria A, A, A, B |
| Safety Approvals | <ul style="list-style-type: none"> UL62368-1, IEC62368-1, EN62368-1, ANSI/AAMI ES 60601-1, IEC60601-1, EN60601-1, CE & UKCA meets all applicable directives & legislation. |

Models and Ratings

| Output Power | Output 1 | | | Output 2 | | | Output 3 | | Model Number |
|--------------|----------|---------|---------------------|-----------|---------|---------------------|----------|---------|--------------|
| | Voltage | Current | Peak ⁽¹⁾ | Voltage | Current | Peak ⁽¹⁾ | Voltage | Current | |
| 60 W | +5.0 VDC | 7.0 A | 9.1 A | +12.0 VDC | 3.0 A | 3.90 A | | | ECP60UD01 |
| 60 W | +5.0 VDC | 7.0 A | 9.1 A | +15.0 VDC | 2.0 A | 2.60 A | | | ECP60UD02 |
| 60 W | +5.0 VDC | 7.0 A | 9.1 A | +24.0 VDC | 1.5 A | 1.95 A | | | ECP60UD03 |
| 60 W | +5.0 VDC | 7.0 A | 9.1 A | +15.0 VDC | 2.0 A | 2.60 A | -15.0 V | 0.30 A | ECP60UT02 |
| 60 W | +5.0 VDC | 7.0 A | 9.1 A | +24.0 VDC | 1.5 A | 1.95 A | -12.0 V | 0.30 A | ECP60UT04 |

Notes

1. Peak load lasting <30 s with a maximum duty cycle of 10%, average output power not to exceed nominal.

Mechanical Details

| CN1 - Input Connector | |
|-----------------------|------------|
| Pin 1 | Neutral |
| Pin 2 | Not Fitted |
| Pin 3 | Line |

Mates with JST housing VHR-3N and JST Series SVH-21T-P1.1 crimp terminals

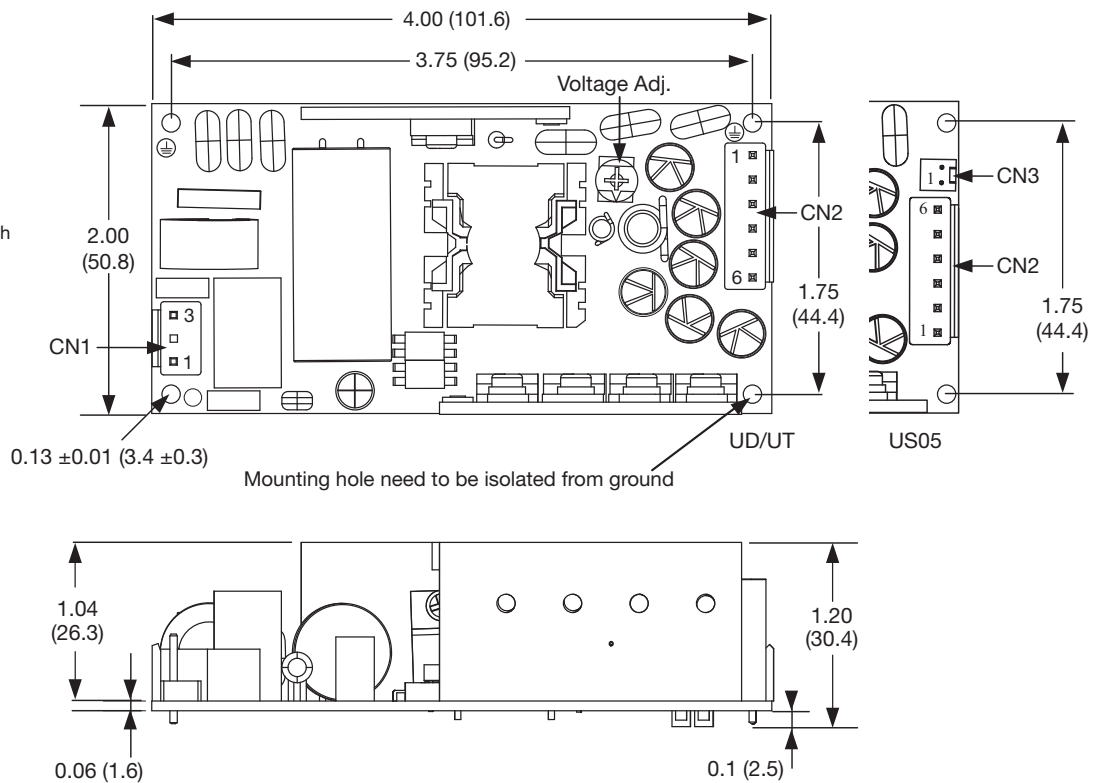
Mounting holes marked with \oplus must be connected to safety earth

| CN2 Output Connector | | |
|----------------------|-------|------|
| | UD/UT | US05 |
| Pin 1 | V2 | +5V |
| Pin 2 | V1 | +5V |
| Pin 3 | V1 | +5V |
| Pin 4 | RTN | RTN |
| Pin 5 | RTN | RTN |
| Pin 6 | V3 | RTN |

Mates with JST housing VHR-6N and JST Series SVH-21T-P1.1 crimp terminals

| CN3 Sense Connector | |
|---------------------|--------|
| Pin 1 | -Sense |
| Pin 2 | +Sense |

Fitted to ECP60US05 only. Mates with Molex Housing 22-01-1022 and 2759 crimp terminals



Notes

1. All dimensions are in inches (mm).
2. Weight: 0.34 lbs (155 g) approx.

3. Tolerance: ±0.02 (±0.5) unless stated

Derating Curve

