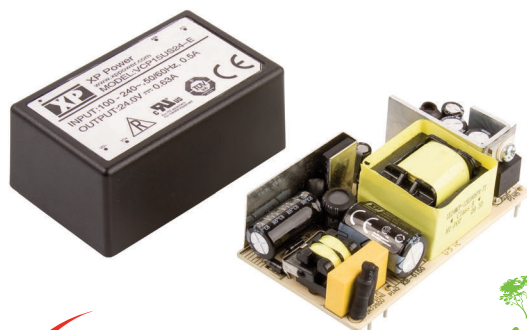


24 Watts

VCP Series



- Low Cost
- Output Voltages from 5 to 24 V
- PCB Mount
- Open Frame & Encapsulated Versions
- IT & Medical Approvals
- Class II Construction
- No Load Input Power <0.3 W

Specification

Input

| | |
|---------------------|--|
| Input Voltage | • 90-264 VAC |
| Input Frequency | • 47-63 Hz |
| Input Current | • 0.6 A max at 90 VAC |
| Inrush Current | • 40 A max at 240 VAC, cold start at 25 °C |
| Power Factor | • EN61000-3-2, class A |
| No Load Input Power | • <0.3 W |
| Input Protection | • Internal T2.0A/250 V fuse in line |

Output

| | |
|--------------------------|--|
| Output Voltage | • See table |
| Initial Set Accuracy | • ±2% at 50% load |
| Minimum Load | • No minimum load required |
| Start Up Delay | • 2 s max |
| Start Up Rise Time | • 50 ms typical |
| Hold Up Time | • 5 ms typical at full load and 115 VAC |
| Line Regulation | • ±0.5% max |
| Load Regulation | • 2% max, 0-100% load |
| Transient Response | • 10% max. deviation, recovery to <1% within 500 µs for a 50% step load change at 0.2 A/µs |
| Ripple & Noise | • See table |
| Overvoltage Protection | • See table |
| Overload Protection | • 120-280 %, auto recovery |
| Short Circuit Protection | • Trip and restart (hiccup mode) |
| Temperature Coefficient | • 0.2 %/°C |

General

| | |
|---------------------|--|
| Efficiency | • See table |
| Isolation | • 4000 VAC Input to Output |
| Switching Frequency | • 65 kHz typical |
| MTBF | • 250 kHrs to MIL-HDBK-217F at 25 °C, GB |

Environmental

| | |
|-----------------------|---|
| Operating Temperature | • 0 °C to +70 °C, derate from 100% load at 50 °C to 50% load at 70 °C |
| Cooling | • Natural convection |
| Operating Humidity | • 5-90% RH, non-condensing |
| Storage Temperature | • -20 °C to +80 °C |
| Vibration | • 10-300 Hz, 2 g 15 mins/sweep. 30 mins for each of 3 axes |

EMC & Safety

| | |
|----------------------|--|
| Emissions | • EN55011/22, level B conducted & radiated |
| Harmonic Currents | • EN61000-3-2, class A |
| Voltage Flicker | • EN61000-3-3 |
| ESD Immunity | • EN61000-4-2, ±4kV indirect contact, ±8kV air, Perf Criteria A |
| Radiated Immunity | • EN61000-4-3, 3 V/m, Perf Criteria A |
| EFT/Burst | • EN61000-4-4, level 2, Perf Criteria A |
| Surge | • EN61000-4-5, installation class 3, Perf Criteria A |
| Conducted Immunity | • EN61000-4-6, 3 V, Perf Criteria A |
| Magnetic Field | • EN61000-4-8, 1 A/m, Perf Criteria A |
| Dips & Interruptions | • EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B |
| Safety Approvals | • EN60950-1, cUL60950-1, IEC60950-1, EN60601-1, cUL60601-1, IEC60601-1 |

Models and Ratings

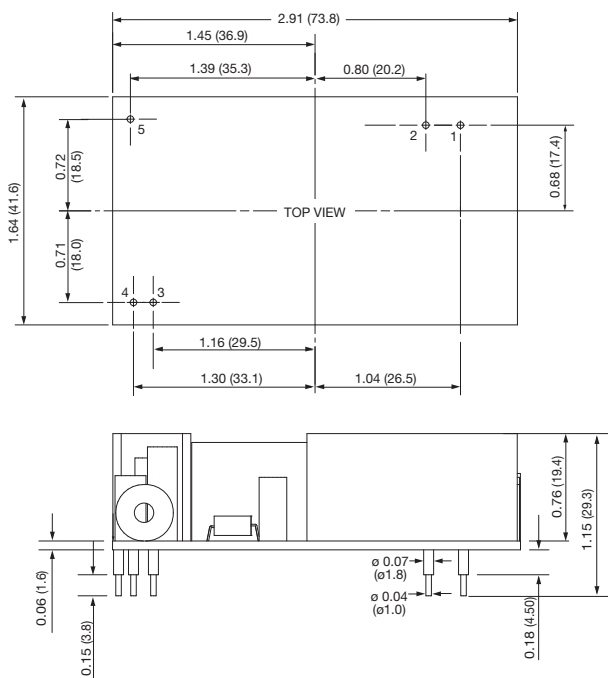
| Output Power | Output Voltage ⁽²⁾ | Output Current | Ripple & Noise ⁽¹⁾ | OVP Setting ⁽³⁾ | Efficiency ⁽⁵⁾ | Model Number ⁽⁴⁾ |
|--------------|-------------------------------|----------------|-------------------------------|----------------------------|---------------------------|-----------------------------|
| 12.5 W | 5.0 V | 2.5 A | 100 mV | 10.0 V | 73% | VCP24US05 |
| 24.0 W | 12.0 V | 2.0 A | 100 mV | 20.0 V | 80% | VCP24US12 |
| 24.0 W | 15.0 V | 1.6 A | 150 mV | 25.0 V | 81% | VCP24US15 |
| 24.0 W | 24.0 V | 1.0 A | 200 mV | 35.0 V | 82% | VCP24US24 |

Notes

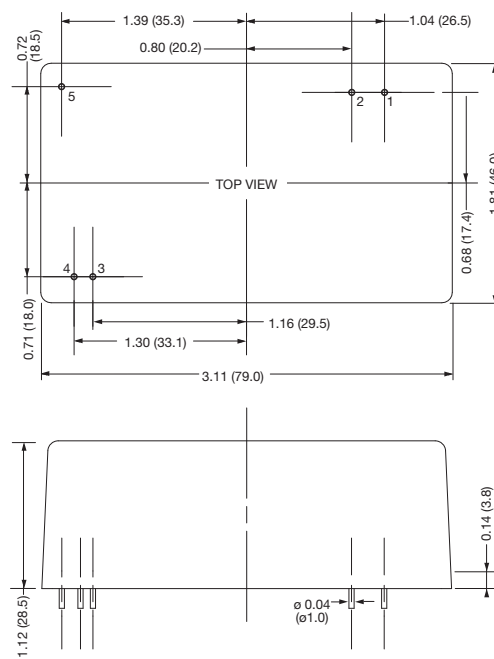
1. Measured at DC output connectors using 20 MHz bandwidth and 0.1 μ F ceramic capacitor in parallel with 10 μ F electrolytic capacitor placed at connector terminals.
2. Other voltages between 5.0 V and 24.0 V are available, consult sales for details.
3. Typical trip point.
4. For encapsulated versions, add suffix '-E' to the model number, e.g. VCP24US12-E
5. Average of efficiencies measured at 25%, 50%, 75% & 100% load and 230 VAC input.

Mechanical Details

Open Frame Version



Encapsulated Version (-E)



| Pin | Designation |
|-----|-------------|
| 1 | Live |
| 2 | Neutral |
| 3 | Output +VE |
| 4 | Output -VE |
| 5 | N/C |

Notes

1. All dimensions are in inches (mm).
2. Weight: open frame versions: 0.165 lbs (75 g) approx, encapsulated versions 0.32 lbs (150 g) approx.
3. Tolerance: x.xx = ± 0.04 (x.x = ± 0.1); x.xxx = ± 0.2 (x.xx = ± 0.5)

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