10 Watts
VEB10 Series

- Energy Efficiency Level V
- CEC2008 & EISA2007 Compliant
- +70 °C Operating Temperature
- Universal Input
- Output Voltages from 5.0 V to 48.0 V Available
- Class II Construction
- Low Cost

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 0.3 A max at 90 VAC
Inrush Current	• 80 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 T1.0A/250 V fuse in line

Output

Output Voltage	• See table
Minimum Load	• No minimum load required
Start Up Delay	• 3 s max
Start Up Rise Time	• 100 ms typical
Hold Up Time	• 5 ms typical at full load and 100 VAC
Total Regulation	• See table
Transient Response	• 4% max. deviation, recovery to <1% within 500 µs for a 50% step load change at 0.2 A/µs
Ripple & Noise	• 1.0% pk-pk max, 20 MHz bandwidth
Overvoltage Protection	• Not fitted
Overload Protection	• 120-280%, auto recovery
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• 0.04 %/°C

General

Efficiency	• See table
Energy Efficiency	• Level V
Isolation	• 3000 VAC Input to Output
Switching Frequency	• 80 kHz typical
MTBF	• >330 kHrs per MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• 0 °C to +70 °C, derate linearly from 100% load at 40 °C to 50% load at 70 °C
Cooling	• Natural convection
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Shock	• Able to survive 1 m drop onto concrete on each of 6 axes
Vibration	• 10-300 Hz, 2 g 15 mins/sweep, 30 mins for each of 3 axes

EMC & Safety

Emissions	• EN55022, level B conducted & radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, ±4 kV contact, ±8 kV 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 for EU and UK models UL60950-1 for US models

Models and Ratings

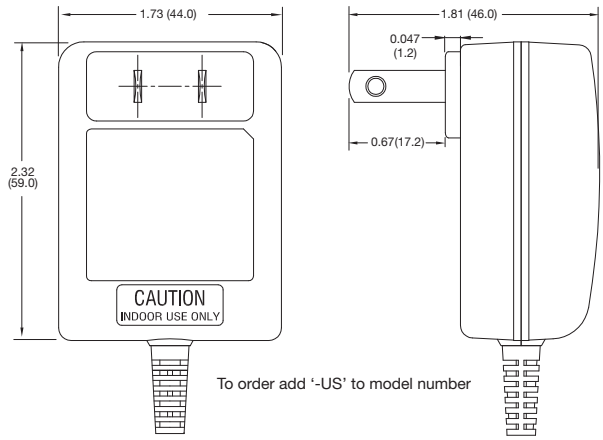
Output Power	Output Voltage[1]	Output Current	Total Regulation[2]	Efficiency[4]	Model Number[3]
8 W	5.0 V	1.60 A	5%	73%	VEB10US05
10 W	9.0 V	1.11 A	5%	77%	VEB10US09
10 W	12.0 V	0.83 A	5%	78%	VEB10US12
10 W	15.0 V	0.66 A	5%	77%	VEB10US15
10 W	24.0 V	0.42 A	5%	77%	VEB10US24
10 W	48.0 V	0.21 A	5%	80%	VEB10US48

Notes

1. Other output voltages available, contact sales for details.
2. Total regulation includes initial set accuracy, line and load regulation.
3. Add suffix to model number to define input plug type, add '-US' for US plug, '-UK' for UK plug or '-EU for European plug.
4. Average of efficiencies measured at 25%, 50%, 75% & 100% load and 230 VAC input.

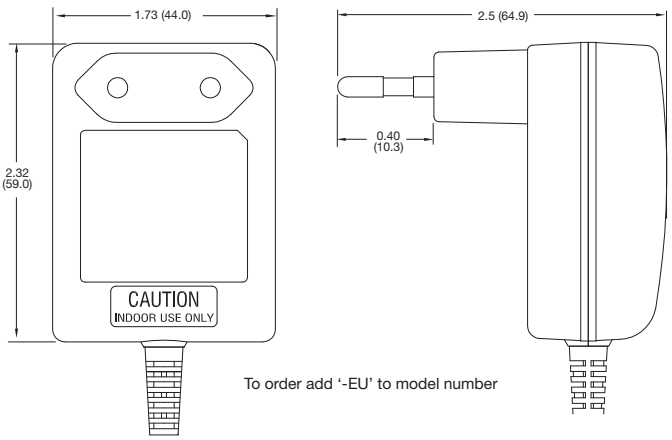
Mechanical Details

-US Version



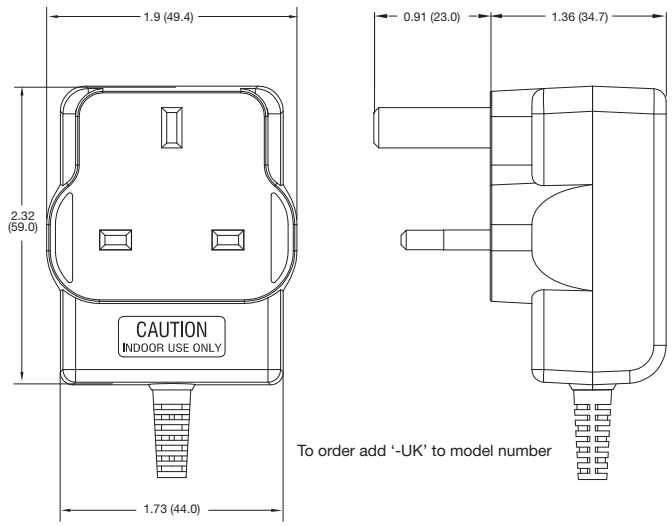
To order add '-US' to model number

-EU Version

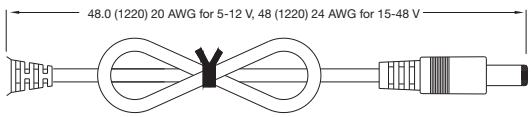


To order add '-EU' to model number

-UK Version



To order add '-UK' to model number



Output plug 0.22 (5.5) x 0.1 (2.5) x 0.433 (11.0) Centre Positive

Notes

1. All dimensions are in inches (mm). Tolerance is ±0.04 (±1.0), except output cable length is +4, -0 (+100, -0)
2. Weight: US Version 70 g, EU Version 70 g, UK Version 90 g
3. Output connector is 0.22 (5.5) outer diameter barrel, 0.10 (2.5) inner diameter barrel with centre positive (+) and outer negative (-). Length is 0.433 (11.0)