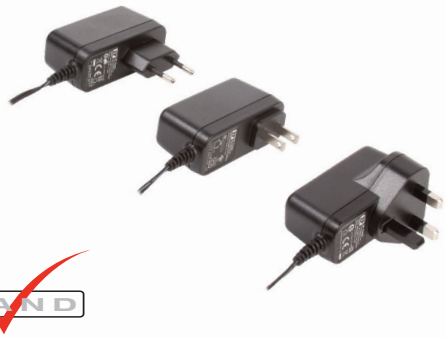
# VEL24 Series

AC-DC Power Supplies

XP Power

## 24 Watt

- Energy Efficiency Level VI
- European CoC Tier 2
- Fixed Mains Connectors
- Universal Input
- Output Voltages from 12 V to 24 V
- Class II Construction
- Low Cost



The VEL24 series of wall plug adaptors comply with the very latest energy efficiency VI standards with high active mode efficiency and extremely low no load power consumption. Available with a standard jack plug connector these adaptors suit a wide variety of cost sensitive applications while maintaining industry leading performance.

**Dimensions:**

**VEL (body only):**
**-US:** 3.54 x 1.34 x 1.87" (90.0 x 34.0 x 47.5 mm)
**-EU:** 3.54 x 1.34 x 2.26" (90.0 x 34.0 x 57.57 mm)
**-UK:** 3.54 x 1.95 x 1.96" (90.0 x 49.5 x 50.0 mm)

## Models & Ratings

| Output Power | Output Voltage | Output Current | Total Regulation[2] | Output Connector | Model Number[3] |
|---|---|---|---|---|---|
| 24 W | 12.0 V | 2000 mA | 5% | 5.5 x 2.1 x 12 mm DC Jack | VEL24US120-XX-JA |
| | 15.0 V | 1600 mA | 5% | 5.5 x 2.1 x 12 mm DC Jack | VEL24US150-XX-JA |
| | 18.0 V | 1320 mA | 5% | 5.5 x 2.1 x 12 mm DC Jack | VEL24US180-XX-JA |
| | 24.0 V | 1000 mA | 5% | 5.5 x 2.1 x 12 mm DC Jack | VEL24US240-XX-JA |

### Notes

*1. Other output voltages available, contact sales for details.*
*2. Total regulation includes initial set accuracy, line and load regulation.*
*3. Replace 'XX' in model number with 'US' for US mains plug, 'UK' for UK mains plug or 'EU' for European mains plug.*

## Input

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---|---|---|---|---|---|
| Input Voltage | 90 | | 264 | VAC | |
| Input Frequency | 47 | | 63 | Hz | |
| Input Current | | | 0.6 | A | 100 VAC |
| Inrush Current | | | 60 | A | 240 VAC, cold start at 25 °C |
| Power Factor | | | | | EN61000-3-2, class A |
| No Load Input Power | | | 75 | mW | |
| Input Protection | Internal T1.0A/250 VAC fuse | | | | |

## Output

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---|---|---|---|---|---|
| Output Voltage | 12 | | 24 | V | See Models and Ratings table |
| Minimum Load | 0 | | | A | No minimum load required |
| Start Up Delay | | | 4 | s | |
| Start Up Rise Time | | 55 | | ms | |
| Hold Up Time | 8 | | | ms | Full load and 100 VAC |
| Total Regulation | | | 5 | % | See Models and Ratings table |
| Transient Response | | | 4 | % deviation | Recovely within <1% within 500 µs for a 60% step load change at 0.15 A/µs |
| Ripple & Noise | | | 200 | mV pk-pk | Measured with 20 MHz bandwidth and 47 µF electrolytic in parallel with 0.1 µF ceramic capacitor |
| Short Circuit Protection | | | | | Continuous, trip and restart (hiccup mode) with auto recovely |
| Temperature Coefficient | | | 0.05 | %/°C | |

## General

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---|---|---|---|---|---|
| Efficiency | | 85 | | % | Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 115 VAC input |
| Energy Efficiency | | | | | Level VI |
| Isolation | 3000 | | | VAC | Input to Output |
| Switching Frequency | 24 | | 70 | kHz | Variable |
| Mean Time Between Failure | 250 | | | kHrs | MIL-HDBK-217F at 25 °C GB |
| Weight | | 0.29 (130) | | lb (g) | For UK Plug Version |

## Environmental

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---|---|---|---|---|---|
| Operating Temperature | 0 | | +60 | °C | Derate from 100% load at 40 °C to 50% load at 60 °C |
| Storage Temperature | -40 | | +85 | °C | |
| Operating Humidity | 5 | | 95 | % | RH, non-condensing |
| Cooling | | | | | Natural convection |
| Shock | | | | | 1 m drop onto concrete on each of 6 axes |
| Vibration | 10 | | 300 | Hz | 2 g 15 mins/sweep, 60 mins for each of 3 axes |

## EMC: Emissions

| Phenomenon | Standard | Test Level | Notes & Conditions |
|---|---|---|---|
| Conducted | EN55032 | Level B | |
| Radiated | EN55032 | Level B | |
| Harmonic Current | EN61000-3-2 | Class A | |
| Voltage Flicker | EN61000-3-3 | | |

## EMC: Immunity

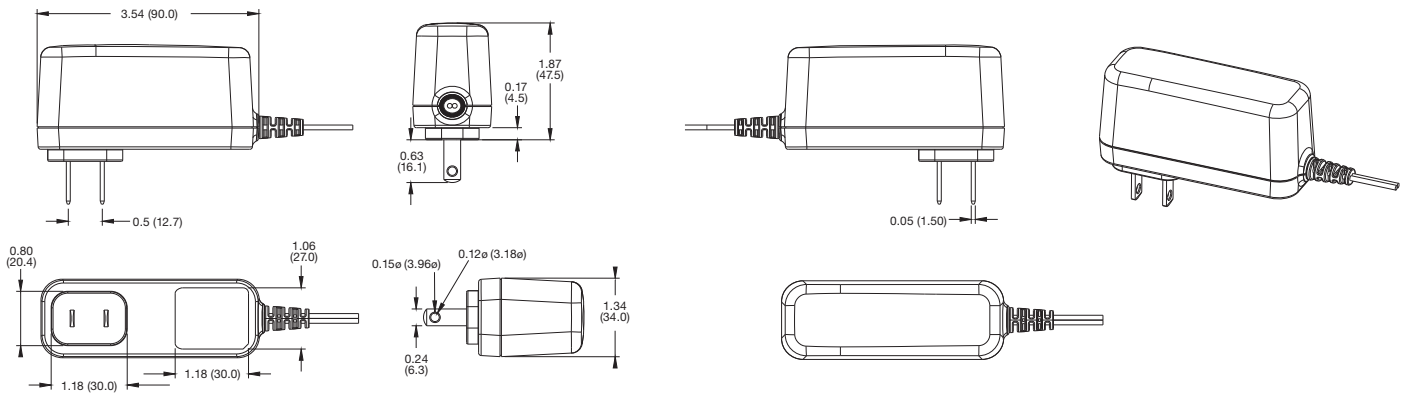
| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|---|---|---|---|---|
| ESD Immunity | EN61000-4-2 | ±4 kV contact, ±8 kV air | A | |
| Radiated Immunity | EN61000-4-3 | 3 V/m | A | |
| EFT/Burst | EN61000-4-4 | Level 2 | A | |
| Surge | EN61000-4-5 | Level 2 | A | |
| Conducted Immunity | EN61000-4-6 | 3 V | A | |
| Magnetic Fields | EN61000-4-8 | 1 A/m | A | |
| Dips and Interruptions | EN55024 100% 10 ms, 30% 500 ms, 100% 5000 ms, Perf Criteria A, A, B | | | |

## Safety Approvals

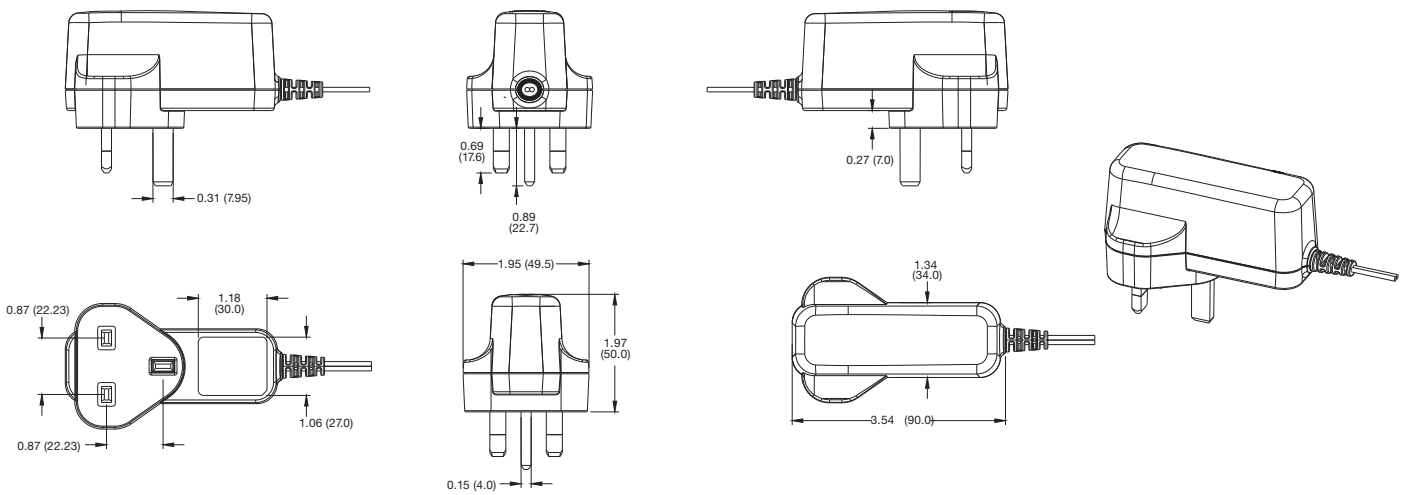
| Phenomenon | Standard |
|---|---|
| CB Report | IEC60950-1 |
| UL | UL/cUL60950-1, approved as limited power source (LPS) |
| TUV | EN60950-1 |
| CCC | China Compulsory Certification, GB4943 |
| AU/NZ | AU/NZ 60950.1 |

## Mechanical Details

### VEL24US-US-JA

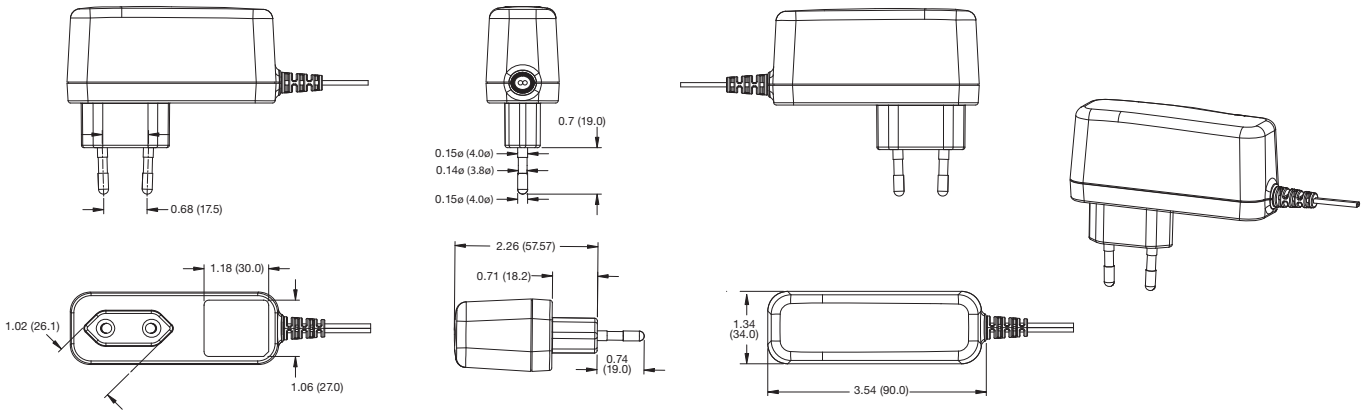



### VEL24US-UK-JA

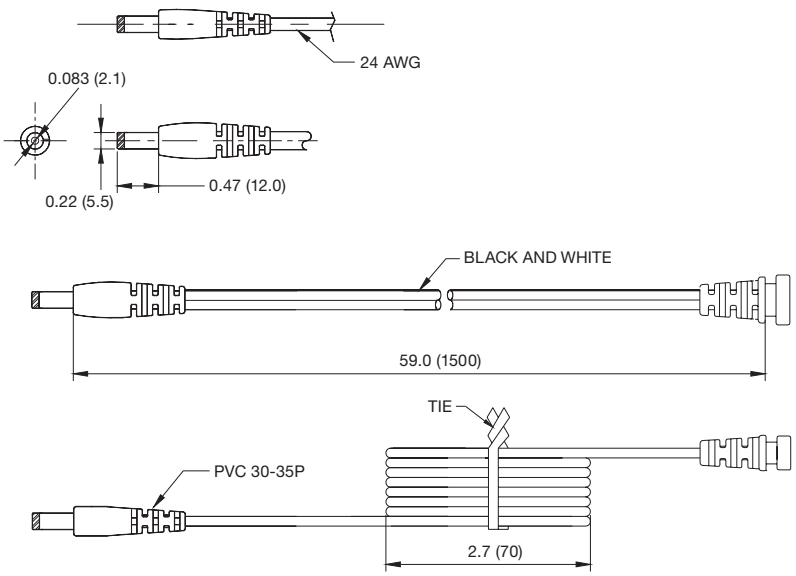


## Mechanical Details

### VEL24US-EU-JA




### Output Lead and Connection




Wire type: VW-1 80°C 300 V L=1500 mm 2468 20 AWG for 5 V output, 22 AWG for 9 V ouput, 24 AWG for 12 V output, 2C Black and White. Black - Negative, White - Positive

Polarity

Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

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С нами вы становитесь еще успешнее!

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