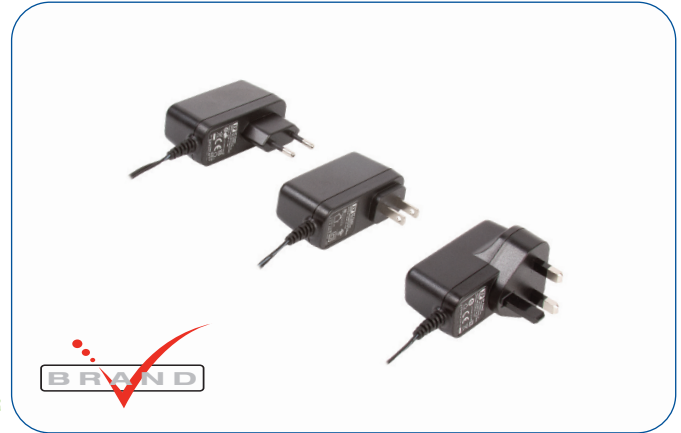


### 18 Watt

- Energy Efficiency Level VI
- European CoC Tier 2
- Fixed Mains Connectors
- Universal Input
- Output Voltages from 9 V to 24 V
- Class II Construction
- Low Cost



The VEL18 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 <sup>(2)</sup> | Output Connector          | Model Number <sup>(3)</sup> |
|--------------|----------------|----------------|---------------------------------|---------------------------|-----------------------------|
| 18 W         | 9.0V           | 2000 mA        | 5%                              | 5.5 x 2.1 x 12 mm DC Jack | VEL18US090-XX-JA            |
|              | 12.0V          | 1500 mA        | 5%                              | 5.5 x 2.1 x 12 mm DC Jack | VEL18US120-XX-JA            |
|              | 15.0V          | 1250 mA        | 5%                              | 5.5 x 2.1 x 12 mm DC Jack | VEL18US150-XX-JA            |
|              | 18.0V          | 1000 mA        | 5%                              | 5.5 x 2.1 x 12 mm DC Jack | VEL18US180-XX-JA            |
|              | 24.0V          | 750 mA         | 5%                              | 5.5 x 2.1 x 12 mm DC Jack | VEL18US240-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           | 9       |         | 24      | V           | See Models and Ratings table  |
| Minimum Load             | 0       |         |         | A           | No minimum load required  |
| Start Up Delay           |         |         | 4       | s           |   |
| Start Up Rise Time       |         | 30      |         | ms          |   |
| Hold Up Time             | 8       |         |         | ms          | Full load and 100 VAC   |
| Total Regulation         |         |         | 5       | %           | See Models and Ratings table  |
| Transient Response       |         |         | 4       | % deviation | Recovery 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 recovery                                   |
| 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                    |         | 0.19 (85) |         | lb (g) |   |

### 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

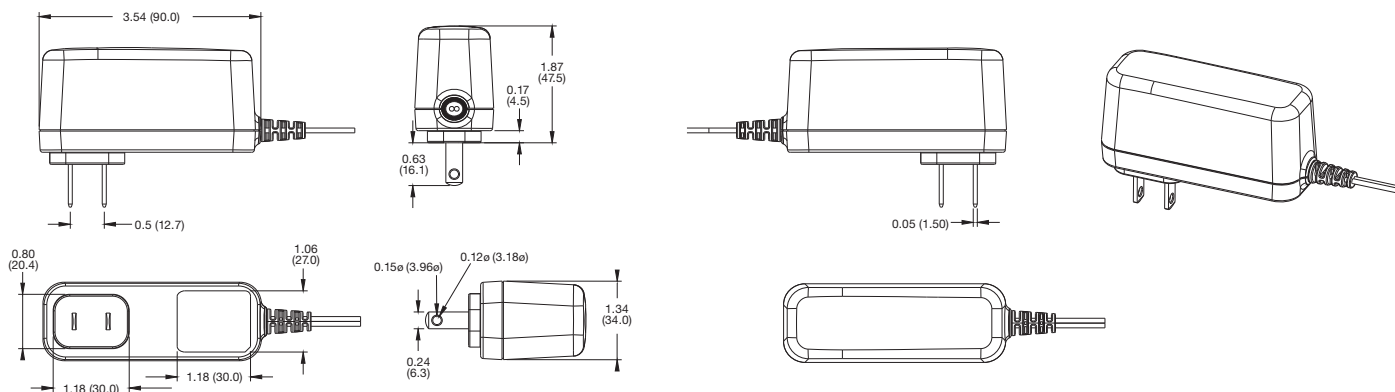
| Phenomenon             | Standard  | Test Level               | Criteria | Notes & Conditions |
|------------------------|---|--------------------------|----------|--------------------|
| ESD Immunity           | EN61000-4-2   | ±4 kV contact, ±8 kV air | A        |                    |
| Radiated 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

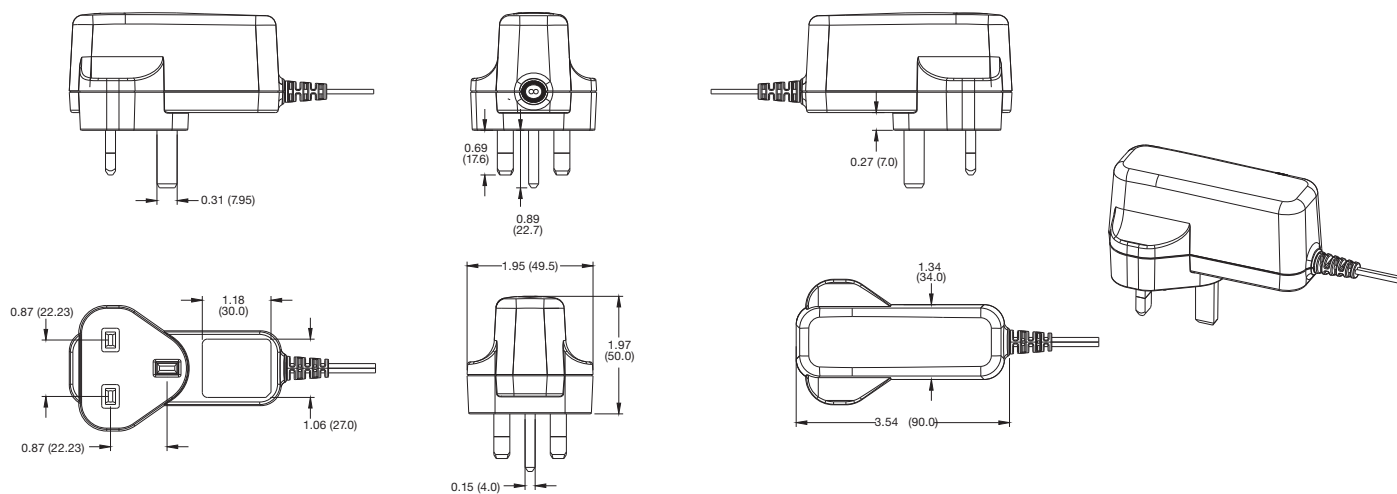
| Phenomenon | Standard  |
|------------|---|
| CB Report  | IEC60950-1  |
| UL         | UL/cUL60950-1, approved as limited power source (LPS) |
| TUV        | EN60950-1   |
| CCC        | China Compulsory Certification, GB4943                |
| AU/NZ      | AU/NZ 60950.1   |

### Mechanical Details

#### VEL18US-US-JA



#### VEL18US-UK-JA



### Mechanical Details

#### VEL18US-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 output, 24 AWG for 12 V output, 2C Black and White. Black - Negative, White - Positive

Polarity  $\ominus$   $\oplus$



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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