VEL36 series

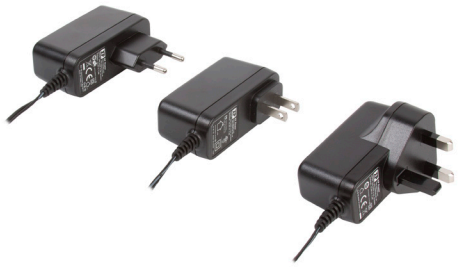
XP Power

36W

AC-DC power supplies

The VEL36 series of wall plug adaptors comply with energy efficiency VI standards, have high active mode efficiency and extremely low no load power consumption.

Available in US, UK & EU plug formats, the DC lead has a 5.5mm x 2.1mm centre positive barrel jack plug connector, these adaptors suit a wide variety of cost sensitive applications while maintaining industry leading performance.



Features

- Regulated single outputs 12.0V to 24.0VDC
- Energy efficiency level VI
- European CoC tier 2
- Fixed mains connectors
- Universal input
- Class II construction
- 1 year warranty

Applications

Industrial electronics

Instrumentation

Security

Technology

Dimensions

Body only:

-US: 94.0 x 35.0 x 46.6mm (3.70" x 1.38" x 1.83")

-EU: 94.0 x 35.0 x 64.8mm (3.70" x 1.38" x 2.55")

-UK: 94.0 x 49.6 x 53.6mm (3.70" x 1.95" x 2.11"")

Documentation

For further information click the link or scan the code

⟶ xppower.com

Models & ratings

Model number[3]	Output voltage	Output current	Total regulation[2]	Output connector	Output power
VEL36US120-XX-JA[4]	12.0VDC	3000mA	5%	5.5 x 2.1 x 12mm DC Jack	36W
VEL36US150-XX-JA	15.0VDC	2400mA		5.5 x 2.1 x 12mm DC Jack	
VEL36US180-XX-JA	18.0VDC	2000mA		5.5 x 2.1 x 12mm DC Jack	
VEL36US240-XX-JA	24.0VDC	1500mA		5.5 x 2.1 x 12mm DC Jack	

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.
4. Meets DOE efficiency level VI and CoC tier 1, not tier 2.

VEL36 series

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	90		264	VAC	
Input frequency	47		63	Hz	
Power factor	EN61000-3-2 class A				
Input current			0.8	A	100VAC
Inrush current			120	A	240VAC cold start, +25°C
No load input power			75	mW	
Input protection	Internal T1.0A/250VAC fuse				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		24	VDC	See models & ratings table
Minimum load	No minimum load required				
Start up delay			4	s	
Start up rise time		30		ms	
Hold up time	8			ms	Full load and 100VAC
Total regulation			5	%	See models & ratings
Transient response			5	% deviation	Recovery within <1% within 500µs for a 60% step load change at 0.15A/µs
Ripple & noise			180	mV pk-pk	Measured with 20MHz bandwidth and 47µF electrolytic in parallel with 0.1µF ceramic capacitor
Temperature coefficient			0.05	%/°C	
Short circuit protection	Continuous, trip and restart (hiccup mode) with auto recovery				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		87		%	Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 115VAC 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, 25°C GB
Weight		147.0 (0.32)		g (lb)	EU and US versions
		155.0 (0.34)			UK versions

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	
Cooling	Natural convection				
Operating humidity	5		95	%	RH, non-condensing
Shock	1m drop onto concrete on each of 6 axes				
Vibration	10		300	Hz	2g 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 currents	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

EMC: Immunity

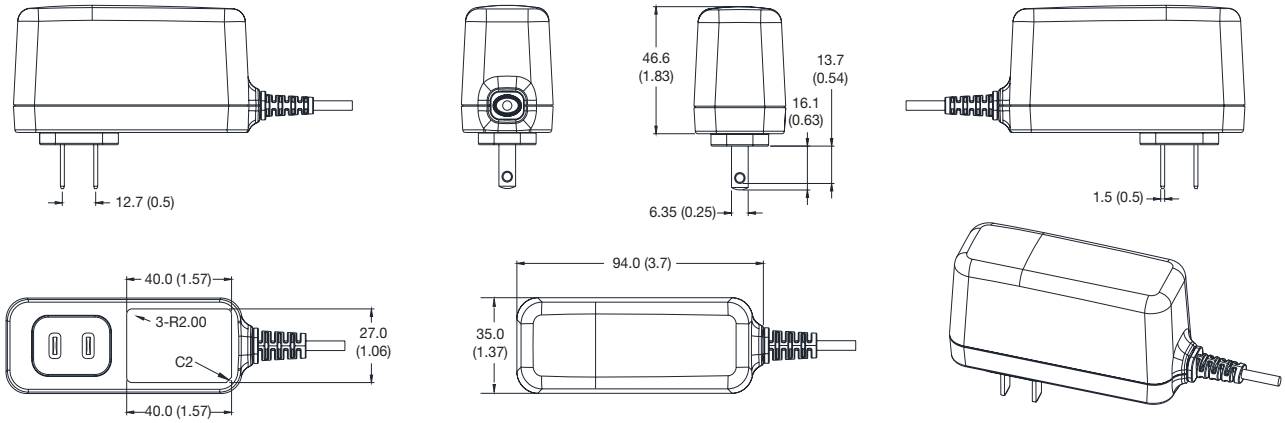
Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	±4kV contact, ±8kV air	A	
Radiated immunity	EN61000-4-3	3V/m	A	
EFT/burst	EN61000-4-4	Level 2	A	
Surge	EN61000-4-5	Level 2	A	
Conducted	EN61000-4-6	3V	A	
Magnetic field	EN61000-4-8	1A/m	A	
Dips and interruptions	EN55035 100% 10 ms, 30% 500 ms, 100% 5000 ms, Perf Criteria A, A, B			

Safety approvals

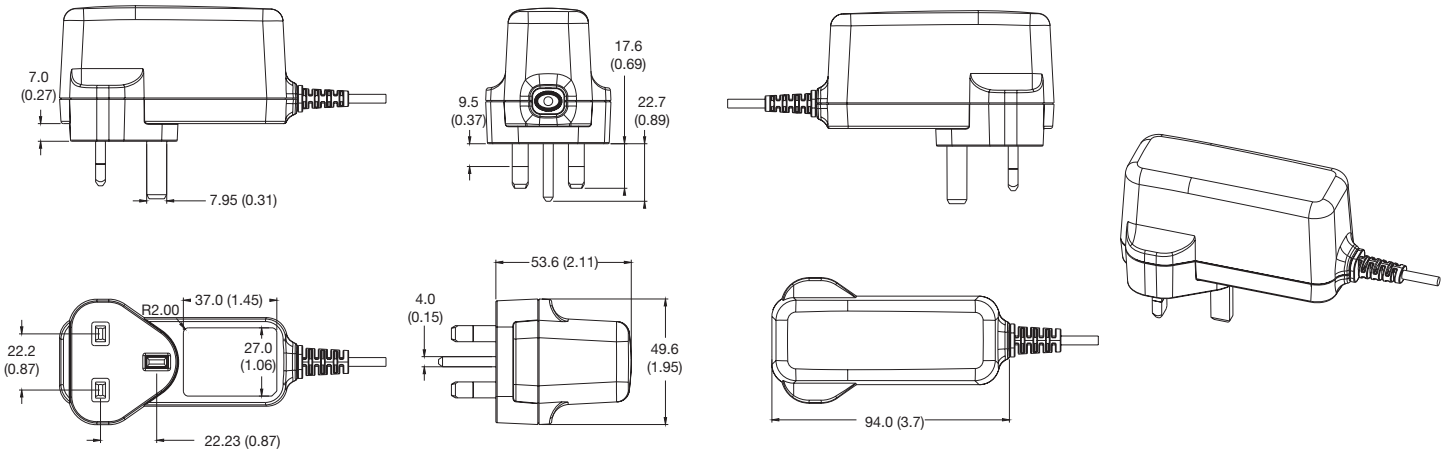
Certification	Standard	Notes & conditions
UL	UL/cUL60950-1	Approved as limited power source (LPS), UL62368-1
EN	EN60950-1, EN62368-1	
CB	IEC60950-1, IEC62368-1	
CCC	China Compulsory Certification, GB4943	
AU/NZ	AU/NZS62368.1, AU/NZS3112	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details

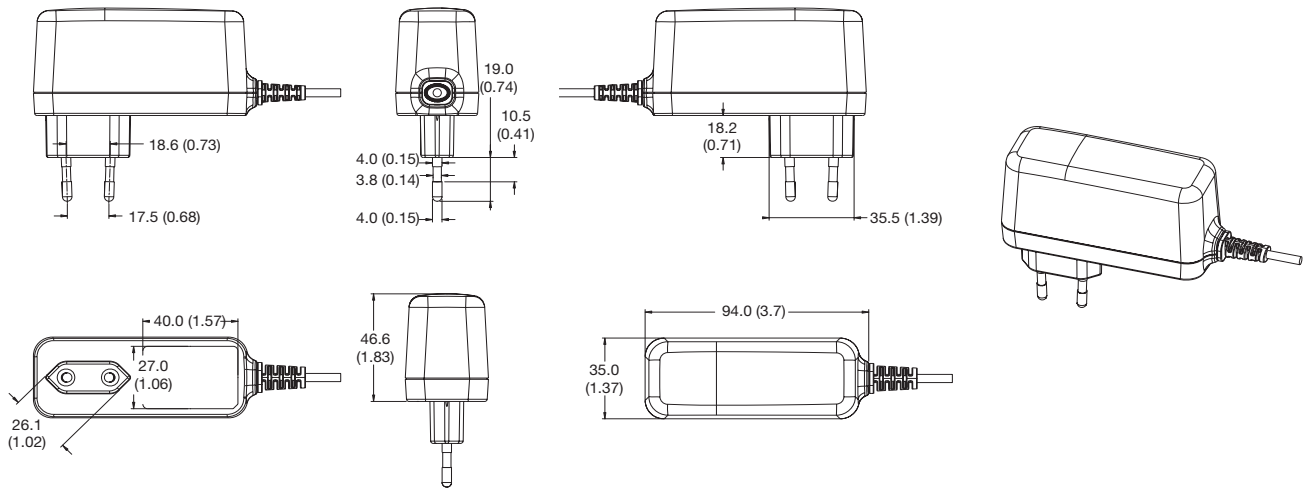
VEL36US-US-JA



VEL36US-UK-JA



VEL36US-EU-JA

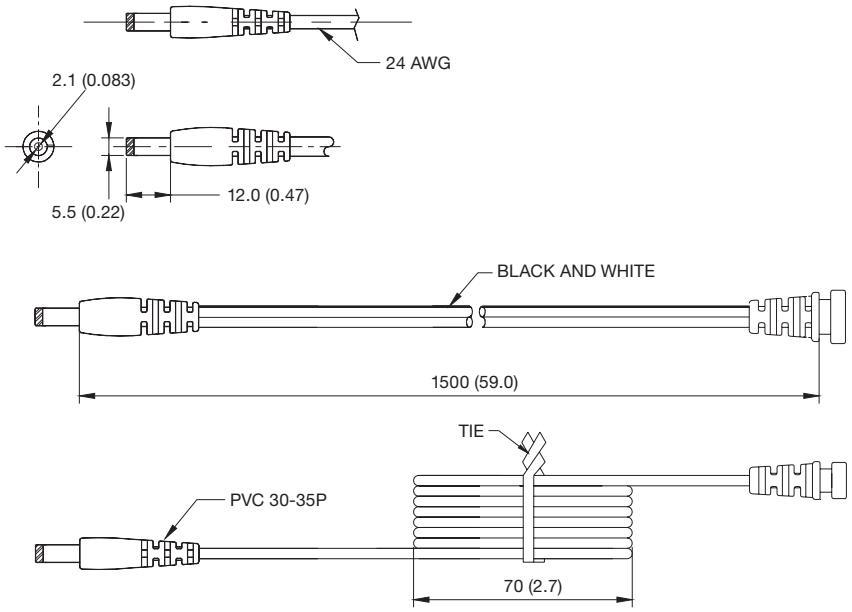


Notes:

1. Dimensions in mm (inches).

Mechanical details

Output lead and connection



Wire type: VW-1 80°C 300V L=1500 mm 2468, 18 AWG for 12V output, 20 AWG for 15V ouput, 22 AWG for 18 and 24V output, 2C Black and White. Black - Negative, White - Positive

Polarity

Notes:

1. Dimensions in mm (inches).