VEC40 series

XP Power

40W External desktop

AC-DC power supplies

The 40W VEC40 are energy efficiency level VI with <0.75mW standby power, these desktop/external AC-DC power supplies are limited power source (LPS) approved and are designed for high volume/low cost applications.

With class I construction the VEC40 are fitted with an IEC320-C14 inlet or optional IEC320-C6 and have a voltage input range of 90 to 264VAC.

The DC lead is fitted with a centre positive 5.5 x 2.5mm barrel jack connector.



Features

- Energy efficiency level VI
- CoC tier 2
- Limited power source approved
- <75mW standby power
- Optional inlet connector
- China compulsory certficiation (CCC) qualified
- 0°C to +65°C operation
- High power density
- 1 year warranty

Applications

Analytical instrumentation

Display systems

Industrial electronics

Process control

Dimensions

116.3 x 52.4 x 31.3mm (4.58" x 2.06" x 1.23")

Documentation

For further information click the link or scan the code

→ xppower.com

Models & ratings

Model number[2]	Output voltage	Output current	Total regulation	Efficiency[1]	Output power
VEC40US12	12.0VDC	3.33A	±5%	89%	40W
VEC40US15	15.0VDC	2.67A		89%	
VEC40US24	24.0VDC	1.67A		89%	

Notes:

1. Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230 VAC input.
2. For optional IEC320-C6 inlet add suffix -C6 to the part number, e.g. VEC40US24-C6. MOQs apply, contact sales for details.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	90		264	VAC	
Input frequency	47		63	Hz	
Input current		0.8/0.6			Measured at 115VAC/240VAC
Inrush current			110	A	230VAC, cold start, +25°C
Power factor	EN61000-3-2 Class A				
Earth leakage current			0.7	mA	264VAC, 60 Hz
No load input power			0.1	W	
Input protection	T3.15A/250VAC internal fuse in line				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		24	VDC	See models & ratings
Minimum load	No minimum load required				
Start up delay			4	s	
Start up rise time			50	ms	
Hold up time	8			ms	115VAC full load
Line regulation			±0.5	%	
Total regulation			±5	%	Including initial set accuracy
Transient response			4	%	Maximum deviation, recovering to less than 1% within 500µs for 25% step load
Overshoot		5		%	At turn on/turn off
Ripple & noise			240	mV pk-pk	Measured with 20 MHz Bandwidth and 22µF electrolytic in parallel with 0.1µF ceramic capacitor.
Overvoltage protection		175		%	Recycle mains to reset
Overload protection	110		170	%	
Temperature coefficient		±0.04		%/°C	
Short circuit protection	Trip and restart (hiccup mode), auto resetting				

General

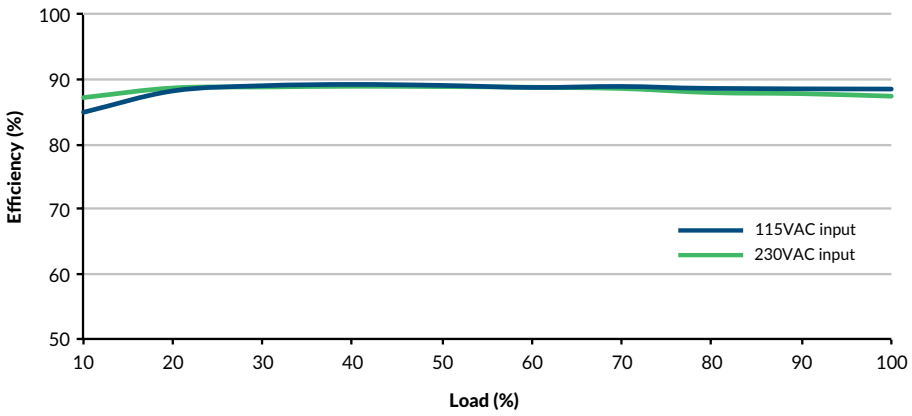
Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		89		%	See Models and Ratings and Efficiency Curves
Isolation: input to output			3000	VAC	
input to ground			1500	VAC	
output to ground				VDC	Negative output is connected to ground
Switching frequency		65		kHz	±10kHz
Power density			0.191 (3.14)	W/cm³ (W/in³)	
Mean time between failure		>200		khrs	MIL-HDBK-217F, +25°C GB
Weight		240 (0.52)		g (lb)	

Environmental

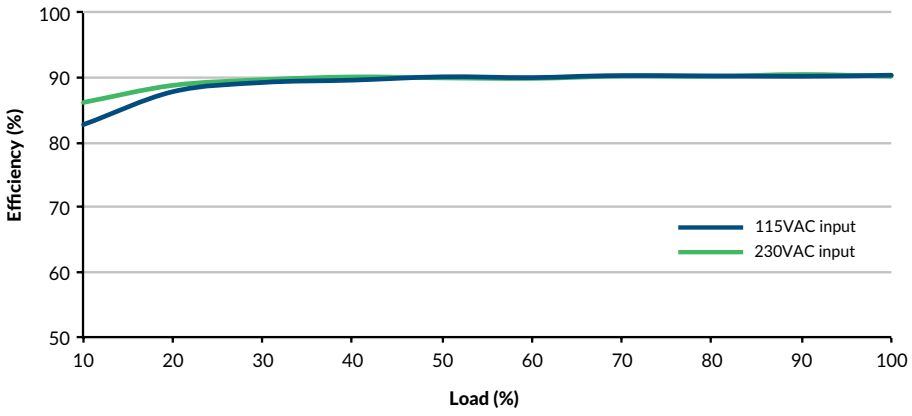
Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	0		+65	°C	Derate from 100% load at +45°C to 50% load at +65°C
Storage temperature	-20		+85	°C	
Cooling	Natural convection				
Humidity	5		90	%RH	Non-condensing
Operating altitude			5000	m	
Vibration	IEC68-2-6, 10-500 Hz, 2g 10 mins/sweep, 60 mins for each of 3 axes				
Shock	IEC68-2-27, 30g, 11ms half sine, 3 times in each of 6 axes				

Efficiency curve

VEC40US12



VEC40US24



EMC: emissions

Phenomenon	Standard	Test Level	Notes & conditions
Conducted	EN55032	Level B	
Radiated	EN55032	Level B	
Voltage flicker	EN61000-3-3		

EMC: immunity

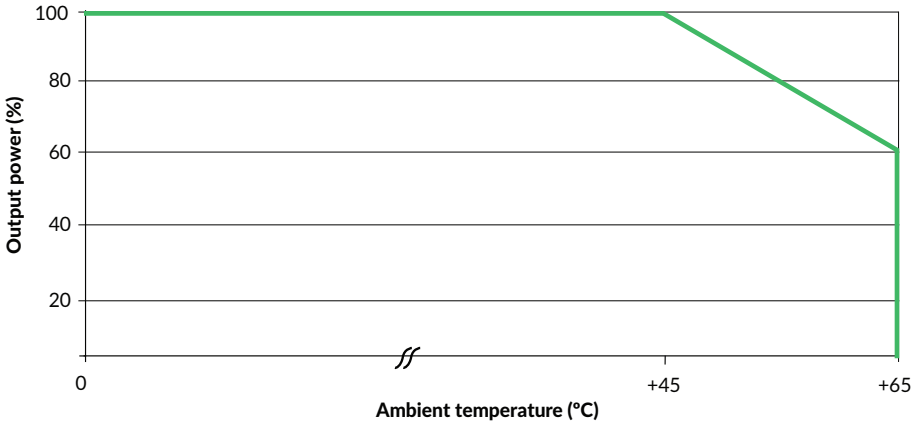
Phenomenon	Standard	Test Level	Criteria	Notes & conditions
Harmonic current	EN61000-3-2	Class A		
ESD immunity	EN61000-4-2	±8kV Air, ±4kV contact	A	
Radiated immunity	EN61000-4-3	3V/m	A	
EFT/burst	EN61000-4-4	3	A	
Surge	EN61000-4-5	Installation class 3	A	
Conducted	EN61000-4-6	3V	A	
Magnetic fields	EN61000-4-8	3A/m	A	
Dips and interruptions	EN61000-4-11	Dip: 30% 500ms	A/B	High line/low line
		Dip: 60% 200ms	A/B	High line/low line
		Int:100% 5000ms	B	

Safety approvals

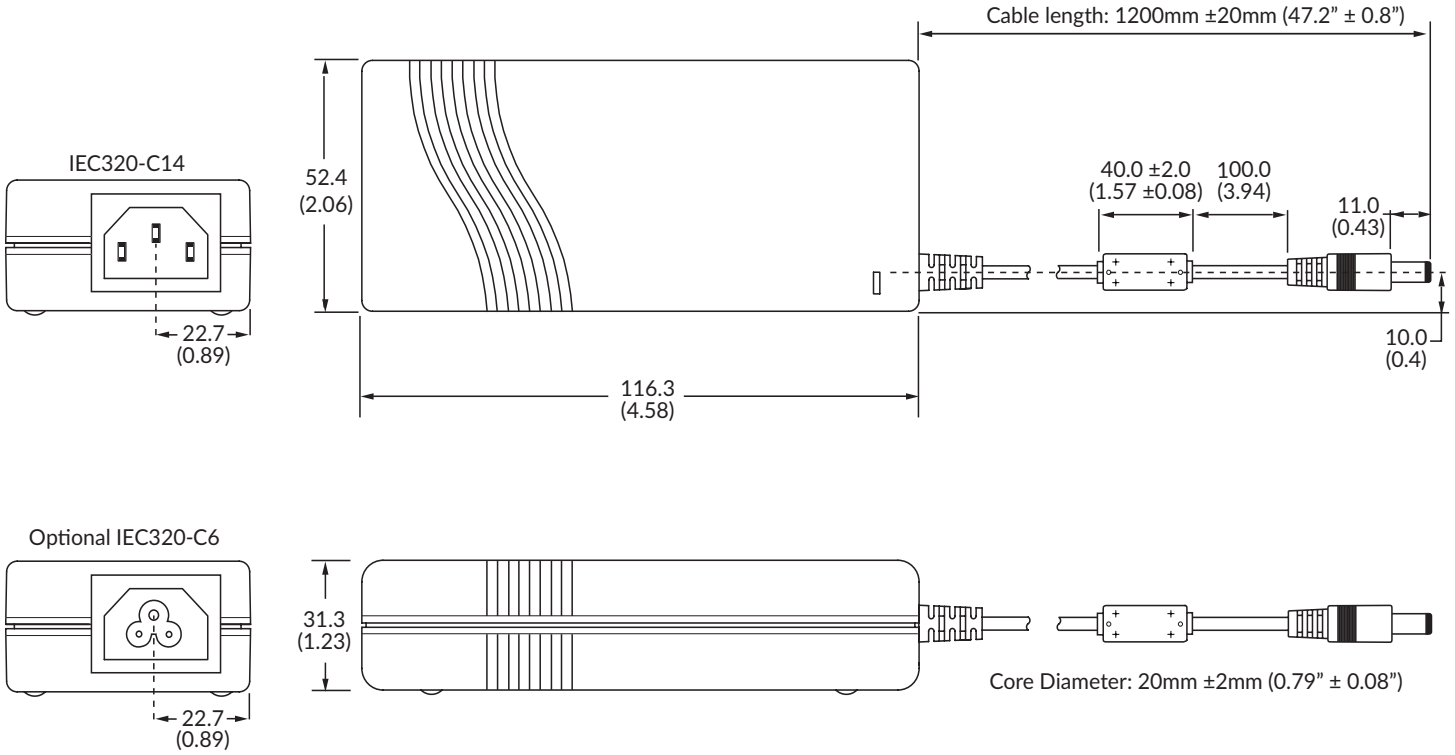
Certification	Standard	Notes & conditions
CB	IEC60950-1, IEC62368-1	Approved at Limited Power Source (LPS)
UL/CSA	UL60950-1, UL62368-1	
EN	EN60950-1, EN62368-1	
CCC	China Compulsory Certification, GB4943	
AU/NZ	AU/NZ 60950.1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Application notes

Derating curve



Mechanical details



Notes:

1. All dimensions are shown in mm (inches), Tolerance is ±1.0 (0.04") max except output lead.
2. Weight: 240g (0.52lbs) approx.
3. Output connector is barrel type with 11mm length, 5.5mm dia. outer, 2.5mm dia. inner with center + and outer shell - polarity.