

The 50W VEC50 are energy efficiency level VI with 0.15W 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 VEC50 are fitted with an IEC320-C14 inlet or optional IEC320-C6 and have a voltage input range of 90 to 264VAC.

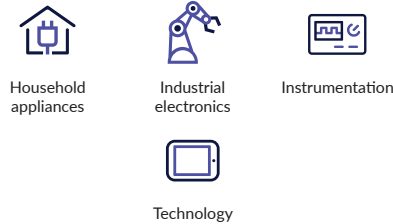
The DC lead is fitted with a centre positive 5.5 x 2.5mm barrel jack connector.



Features

- ▶ Regulated single outputs 12V to 24VDC
- ▶ Energy efficiency level VI
- ▶ CoC Tier 2
- ▶ Limited power source approved
- ▶ <0.15W standby power
- ▶ Optional inlet connector
- ▶ China compulsory certification (CCC) qualified
- ▶ High power density
- ▶ Low cost
- ▶ 0°C to +65°C operation
- ▶ 1 year warranty

Applications



Dimensions

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

Models & ratings

Model number	Output voltage	Output current	Total regulation	Efficiency ⁽¹⁾	Output power
VEC50US12	12.0VDC	4.16A	±5%	85%	50W
VEC50US15	15.0VDC	3.33A		86%	
VEC50US19	19.0VDC	2.63A		88%	
VEC50US24	24.0VDC	2.08A		88%	

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. VEC50US24-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		1.0/0.7		A	Measured at 115/230 VAC
Inrush current			110		230VAC, cold start at +25°C
Power factor	EN61000-3-2 Class A				
Earth leakage current			0.7	mA	264 VAC, 60 Hz
No load input power			0.15	W	
Input protection	T3.15A/250V, fuse fitted in live 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	Full load and 115VAC
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
Ripple & noise			240	mV pk-pk	Measured with 20MHz Bandwidth and 22µF electrolytic in parallel with 0.1µF ceramic capacitor.
Temperature coefficient		±0.004		%/°C	
Short circuit protection	Trip and restart (hiccup), auto resetting				
Overshoot		5		%	At turn on / turn off
Overload protection	110		170	%	
Overvoltage protection		175			Recycle mains to reset

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		89		%	
Isolation		3000		VAC	Input to output
		1500			Input to ground
	Negative output is connected to ground				Output to ground
Switching frequency		65		kHz	±10kHz
Mean time between failure		>200		khrs	MIL-HDBK-217F, 25°C GB
Weight		245 (0.54)		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				
Operating humidity	5		90	%	RH, non-condensing
Shock	IEC68-2-27, 30g, 11ms half sine, 3 times in each of 6 axes				
Vibration	IEC68-2-6, 10-500 Hz, 2g 10 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

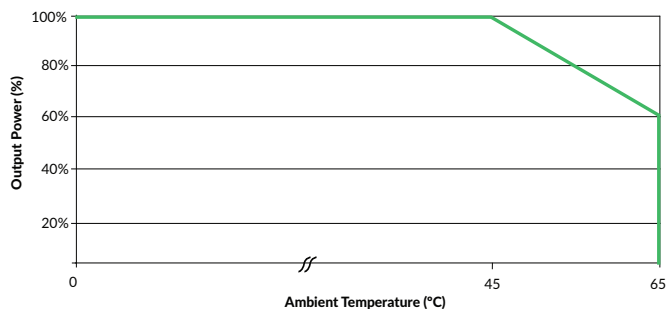
Phenomenon	Standard	Test Level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	±8kV Air, ±4kV contact	A	
Radiated immunity	EN61000-4-3	3V/m	A	
EFT/burst	EN61000-4-4	Level 3	A	
Surge	EN61000-4-5	Inst. Class 3	A	
Conducted	EN61000-4-6	3V	A	
Magnetic fields				
Dips and interruptions	EN61000-4-11	Dip: 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
UL	UL60950-1, UL62368-1	Approved at Limited Power Source (LPS)
EN	EN60950-1, EN62368-1	
CB	IEC60950-1, IEC62368-1	
AU/NZ	AU/NZ 60950.1	
CCC	China Compulsory Certification, GB4943	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

VEC50 series

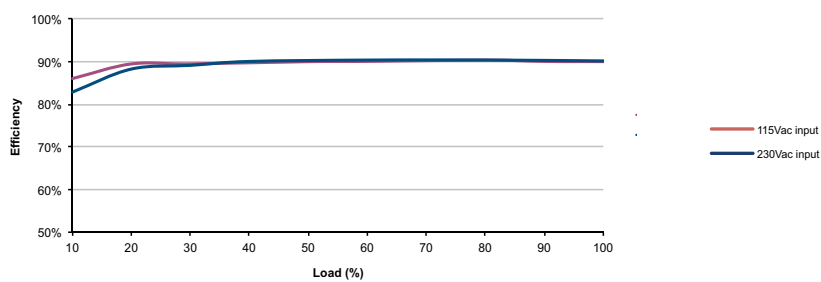
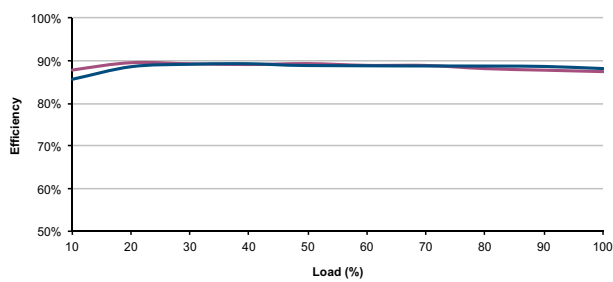
Derating curve



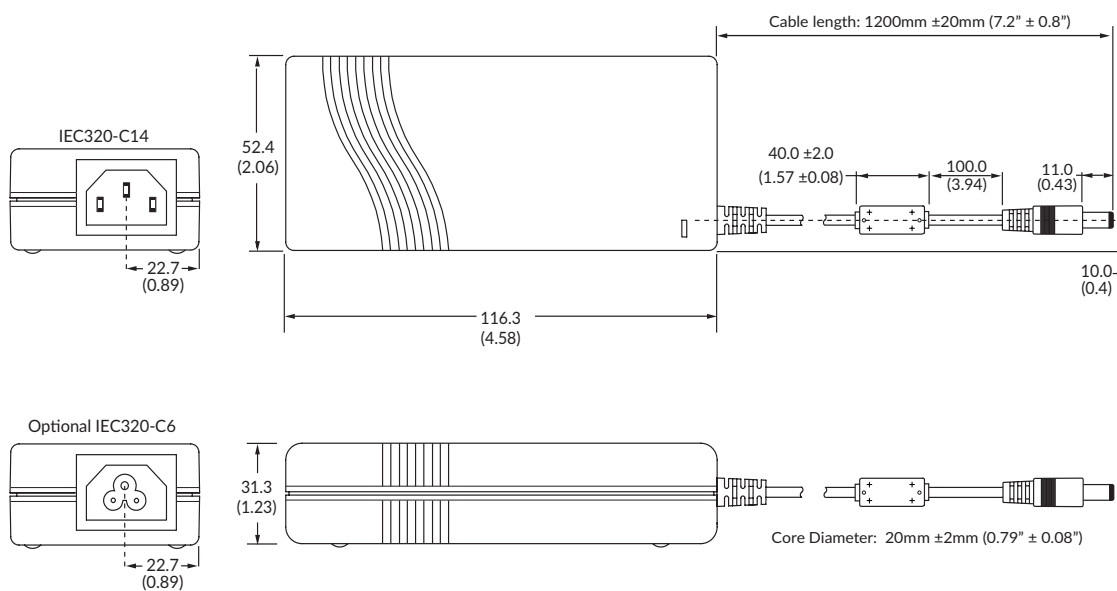
Efficiency curve

VEC50US12

VEC50US24



Mechanical details



Power Cord for C14 inlet, Order Part:
 UK - UK-MAINS-IEC
 European - EU-MAINS-IEC
 US - US-MAINS-IEC

Power Cord for C6 inlet, Order Part:
 UK - UK-MAINS-5
 European - EU-MAINS-5
 US - US-MAINS-5

Notes:

- All dimensions are shown in mm (inches), Tolerance is ±1.0 (0.04") max except output lead.
- Weight: 245g (0.54lbs) approx.
- Output connector is barrel type with 11mm length, 5.5mm dia. outer, 2.5mm dia. inner with center + and outer shell - polarity.

Specifications subject to change without notice.