ECE80 series

XP Power

80W Convection cooled

AC-DC power supplies

The ECE80 series as standard is an encapsulated PCB mount device, it can also be supplied in an encapsulated chassis mount package with screw terminals (-S option), also available with a DIN rail mounting (-SD option).

With approvals to world-wide safety standards, compliance with class B for conducted & radiated emissions and a 20%, 30s peak load capability.

Not requiring any external components, these class II isolation parts benefit system designers with easy integration into a wide range of applications.



Features

- 80W convection cooled
- Regulated single outputs 12 to 48VDC
- Input range 85 to 264VAC
- Encapsulated PCB or chassis/DIN rail mount package
- Peak load capability
- 4.0kVAC input to output isolation
- No external components required
- -25°C to +70°C operating temperature
- Full load to +50°C
- 3 year warranty

Applications

Instrumentation

Robotics

IoT

Process control

Dimensions

ECE80

91.4 x 45.72 x 28.0mm (3.60 x 1.80 x 1.10")

ECE80-S

113.0 x 47.5 x 28.5mm (4.45 x 1.87 x 1.12)

Documentation

For further information click the link or scan the code

→ xppower.com

Models & ratings

Model number[2,3]	Output voltage	Output current		Efficiency[4]	Output power
		Nominal	Peak[1]		
ECE80US12	12.0VDC	6.67A	8.67A	88%	80W
ECE80US15	15.0VDC	5.33A	6.93A	88%	80W
ECE80US24	24.0VDC	3.33A	4.33A	87%	80W
ECE80US36	36.0VDC	2.22A	2.89A	87%	80W
ECE80US48	48.0VDC	1.67A	2.17A	87%	80W

Notes:

1. Peak load lasting <30s with a maximum duty cycle of 10%, average output power not to exceed nominal power.
2. Add suffix -S to model number to denote chassis mount with screw terminal type, e.g. ECE80US12-S.
3. A screw terminal version (-S) is available with DIN Clip attached. Add suffix 'D', e.g. ECE80US24-SD. DIN Rail mounting clip is available as a separate item, order code ECE80 DIN CLIP.
4. Average of efficiencies measured at 25%, 50%, 75% & 100% load with 230VAC input.

ECE80 series

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	85		264	VAC	Derate load from 100% at 90VAC to 90% at 85VAC
Input frequency	47		63	Hz	
Power factor					EN61000-3-2 class A compliant
Input current		1.4/0.87		A rms	At 115/230VAC
No load input power			0.3	W	12-36VAC versions
			0.5		48VAC versions
Inrush current		60/120		A	115/230VAC cold start at +25°C
Earth leakage current					Class II construction no earth
Input protection	Internal T2A/250 VAC fuse				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		48	VDC	See models and ratings table
Initial set accuracy			1	%	
Minimum load	No minimum load required				
Start Up Delay			0.6	s	
Start Up Rise Time			30	ms	
Hold up time	8.4	15		ms	At full load and 115VAC
Line regulation			±0.5	%	
Load regulation			±1	%	ECE80US03/05-S
Transient response			4	%	Recovery within 1% in less than 500µs for a 25% load change
Ripple & noise			1	% pk-pk	ECE80 models, 20MHz bandwidth
			2		ECE80-S models, 20MHz bandwidth
Overvoltage protection	115		140	% Vnom	ECE80US03 models
Overload protection	110		185	%	
Short circuit protection	Trip & restart (hiccup mode)				
Temperature coefficient			0.02	%/°C	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	86	87	88	%	See models and ratings table
Isolation: input to output	3000			VAC	Input to output
Switching frequency		65		kHz	
Power density			0.68 (11.2)	W/cm³ (W/in³)	
Mean time between failure		>300		khrs	MIL-HDBK-217F, +25°C GB
Weight		260 (0.57)		g (lbs)	ECE80
		280 (0.62)			ECE80-S

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+70	°C	Some specification parameters may not met below -25°C. Derate linearly from 100% load at +50°C to 50% load at +70°C.
Storage temperature	-40		+85	°C	
Cooling	Convection-cooled				
Humidity			95	%RH	Non-condensing
Operating altitude			5000	m	
Vibration	2g, 10Hz to 500Hz, 10 mins/cycle, 60 mins each cycle				

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Class B	
Radiated	EN55032	Class B	
Harmonic current	EN61000-3-2		
Voltage flicker	EN61000-3-3		

Emissions - Immunity

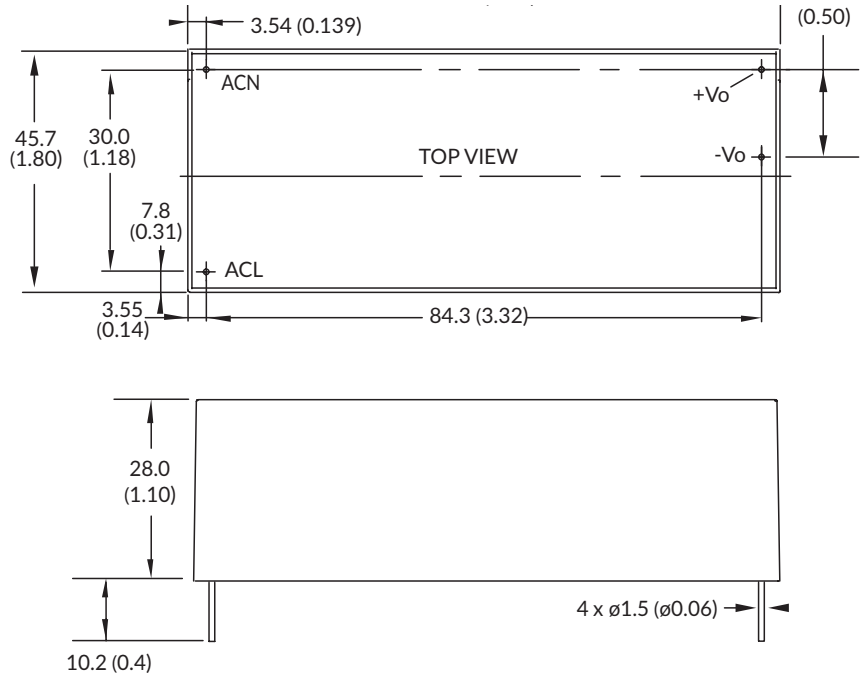
Phenomenon	Standard	Test Level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	±6kV/±8kV	A	Contact/air discharge
Radiated immunity	EN61000-4-3	10 V/m, 80% mod	A	
EFT/burst	EN61000-4-4	3	A	
Surge	EN61000-4-5	2	A	
Conducted	EN61000-4-6	3	A	
Magnetic fields	EN61000-4-8	3		
Dips and interruptions	EN61000-4-11	>95% for 10ms	A	DIP (100VAC and 230VAC)
		30% for 500ms	A	DIP (100VAC and 230VAC)
		>95% for 5000ms	B	INT (100VAC and 230VAC)

Safety approvals

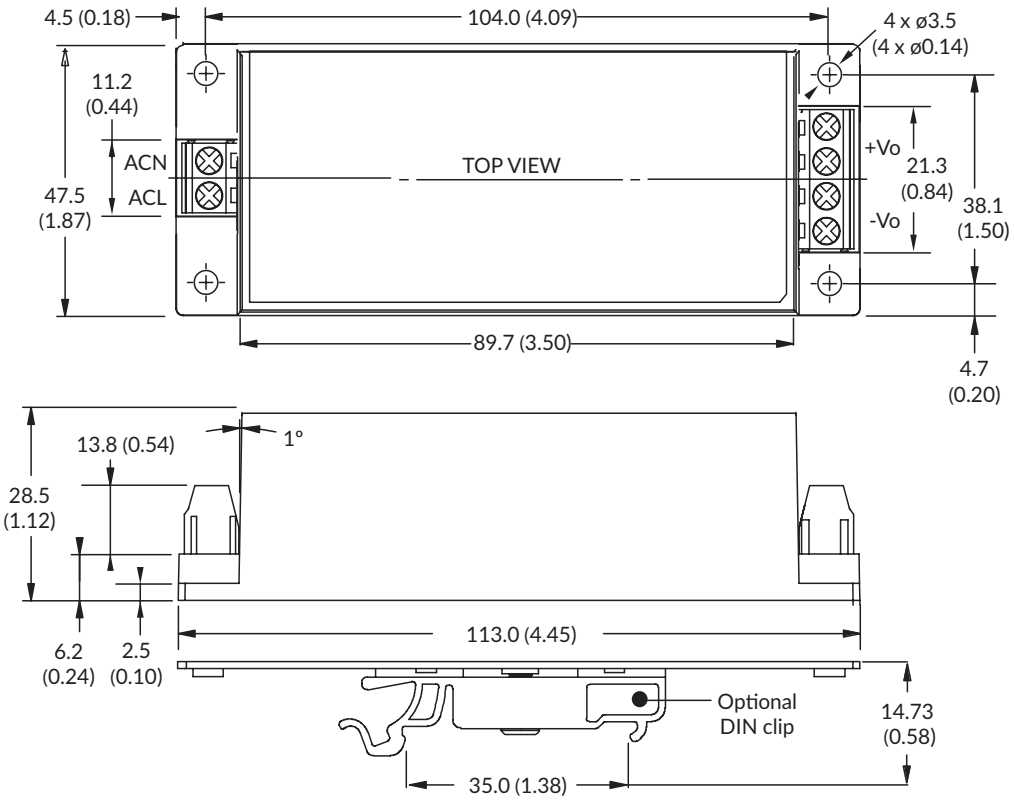
Certification	Standard	Notes & Ccnditions
CB	IEC62368-1, IEC60950-1	
UL	UL62368-1, UL60950-1, CSA 22.2 No.234 per cUL	
EN	EN60950-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details

Encapsulated (-E)



Screw terminal (-S)



Notes:

1. All dimensions in mm (inches).
2. Weight: ECE80: 260g (0.57lbs) ECE80-S: 280g (0.62lbs)
3. Tolerances: x.xx (x.x) = ±0.5 (±0.02). x.xxx (x.xx) = ±0.25 (±0.01)