ASB110 series

XP Power

110W Baseplate cooled

AC-DC power supplies

The ASB110 series is a range of complete low profile, full brick, base-plate cooled AC-DC power supplies which require no external components.

The series includes a complete built in EMC filter and AC Fuse as well as bulk storage capacitor providing a complete AC-DC power solution ready for installation into end applications.

The ASB110 offers high efficiency to minimise waste heat and heat sinking requirements and operates from -40°C to +85°C on the module base-plate.



Features

- 110W baseplate cooled
- Complete AC-DC power supply
- No extra components required
- -40 to +85°C baseplate temperature
- Low profile in full brick package
- Universal input 90 to 264VAC
- High efficiency - up to 91%
- Universal input
- <0.3W no load input power
- Optional heat sink available
- Overcurrent, overvoltage and overtemperature protection
- 3 year warranty

Applications

Technology

IoT

COTS

Dimensions

116.8 x 61.0 x 17.0 mm (4.60" x 2.40" x 0.67")
Full Brick

Documentation

For further information click the link or scan the code

→ xppower.com

Models & ratings

Model number[2]	Output power	Output voltage	Output current	Noise and ripple	Efficiency[1]
ASB110PS12	110W	12.0V	9.17A	120mV	90.0%
ASB110PS15		15.0V	7.33A	150mV	90.0%
ASB110PS24		24.0V	4.58A	240mV	91.0%
ASB110PS28		28.0V	3.93A	280mV	91.0%
ASB110PS36		36.0V	3.06A	360mV	91.0%
ASB110PS48		48.0V	2.29A	480mV	90.5%

Notes:

1. Typical efficiency with 230VAC input and full load.
2. Add suffix '-HK' to receive with optional heat-sink fitted, e.g. ASB110PS24-HK.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	85		264	VAC	Derate linearly from 75W load at 100VAC to 70W load at 90VAC
Input frequency	47		63	Hz	
Input current		1.1/0.6		A	Measured at 115/230VAC
Inrush current			70	A	230 VAC, cold start at +25°C
Power factor		>0.9			Full load
Earth leakage current			500	µA	264 VAC, 60Hz
No load input power			0.3	W	
Input protection	Internal T3.15A/250VAC fitted in line				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		48	VDC	See models and ratings table
Initial set accuracy		1		%	At 60% load
Minimum load	No minimum load required				
Start up delay			1.3	s	
Start up rise time			20	ms	
Hold up time	10			ms	Full load and 115VAC
Line regulation			±0.5	%	
Load regulation			±0.5	%	
Transient response			2	%	Maximum deviation, recovering to less than 1% within 300µs for 25% step load
Ripple & noise			1	% pk-pk	20MHz bandwidth, measured with 20MHz Bandwidth and 10µF electrolytic in parallel with 0.1µF ceramic capacitor
Overload protection	130		210	%	
Overvoltage protection	110		140	%	Recycle mains to reset
Short circuit protection	Trip & restart (hiccup), auto resetting				
Thermal protection	Measured internally, auto resetting				
Temperature coefficient		0.02		%/°C	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		90		%	See models and ratings table
Isolation: input to output			3000	VAC	
input to ground			1500	VAC	
output to ground			500	VDC	
Switching frequency		70-130		kHz	PFC
		50-90			PWM
Power density		14.8		W/in³	
Mean time between failure	160			khrs	MIL-HDBK-217F at +25°C GB
Weight		230 (0.51)		g (lb)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+85	°C	Baseplate temperature, see derating curve
Storage temperature	-40		+85	°C	
Cooling	Conduction cooled via baseplate				
Operating humidity	5		90	%RH	Non-condensing
Operating altitude			5000	m	
Shock	IEC68-2-27, 30g, 11ms half sine, 3 times in each of 6 axes				
Vibration	IEC68-2-6, 10-500Hz, 2g 10 mins/sweep, 60 mins for each of 3 axes				

EMC: emissions

Phenomenon	Standard	Test level	Notes & conditions
Emissions	EN55032	Class B	Conducted and radiated
Harmonic currents	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

EMC: immunity

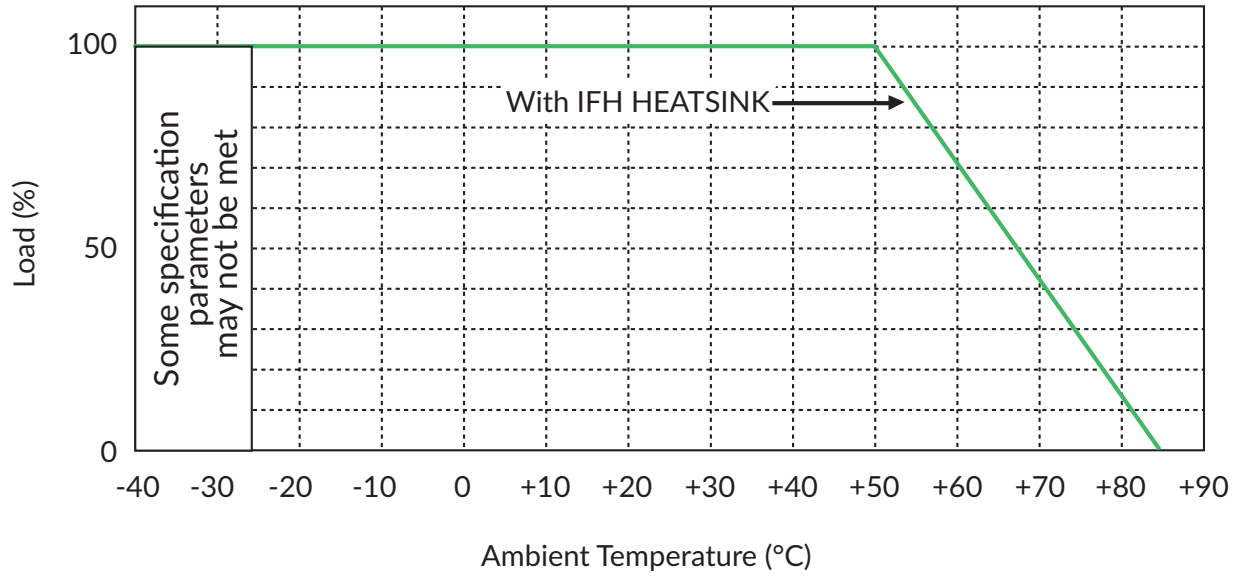
Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD	EN61000-4-2	3/2	A	±8kV air / ±4kV contact
Radiated	EN61000-4-3	3V/m	A	
EFT/burst	EN61000-4-4	3	A	
Surge	EN61000-4-5	Installation class 3	A	
Conducted	EN61000-4-6	3V	A	
Dips and interruptions	EN61000-4-11	Dip: 100% 10ms	A	
		Dip: 30% 500ms	A/B	High line/Low line
		Int: 100% 5000ms	B	

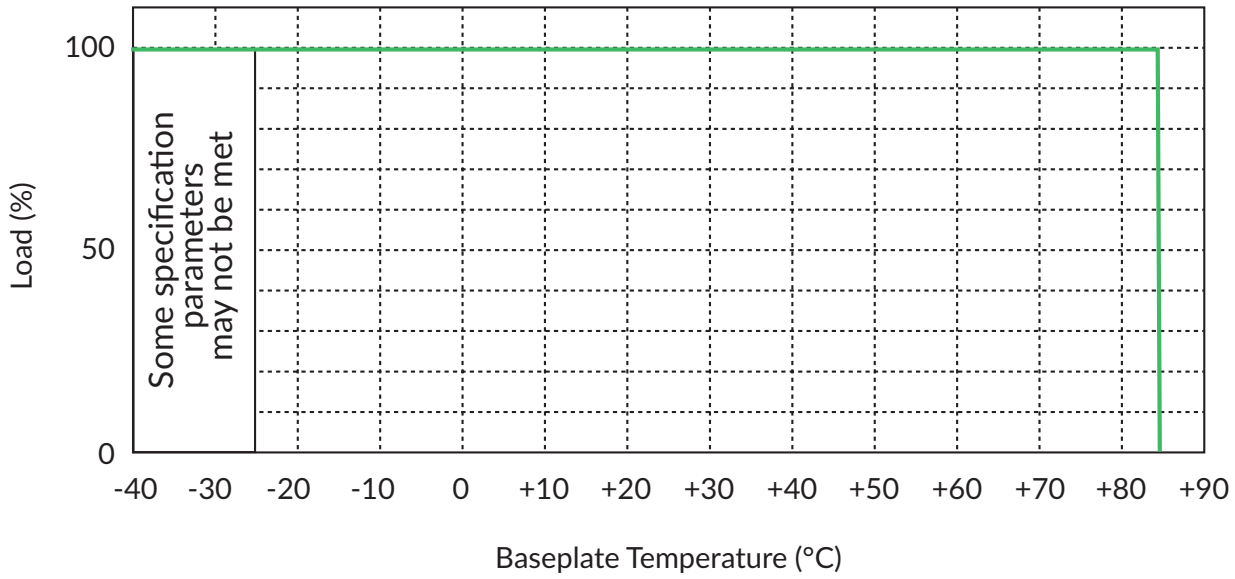
Safety approvals

Safety agency	Standard	Notes & conditions
UL	UL60950-1, UL62368-1	
TUV	EN60950-1, EN62368-1	
CB	IEC60950-1, IEC62368-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Application notes

Derating curves





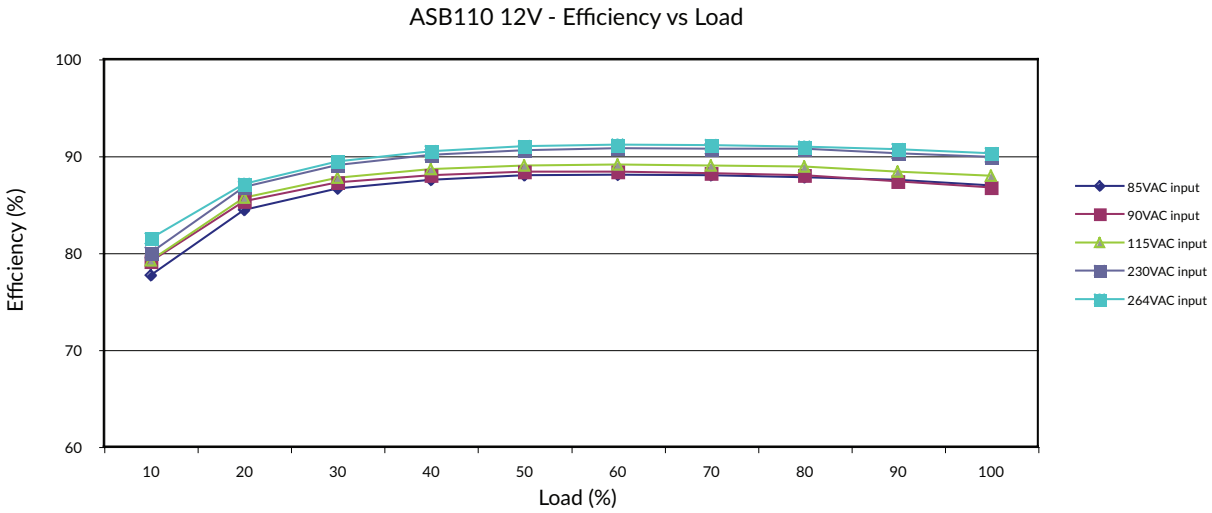
Notes:

When ASB110 is fitted with IFH HEATSINK and mounted in horizontal position with heatsink upper most, the base plate temperature will typically be +85°C in an ambient of +50°C.

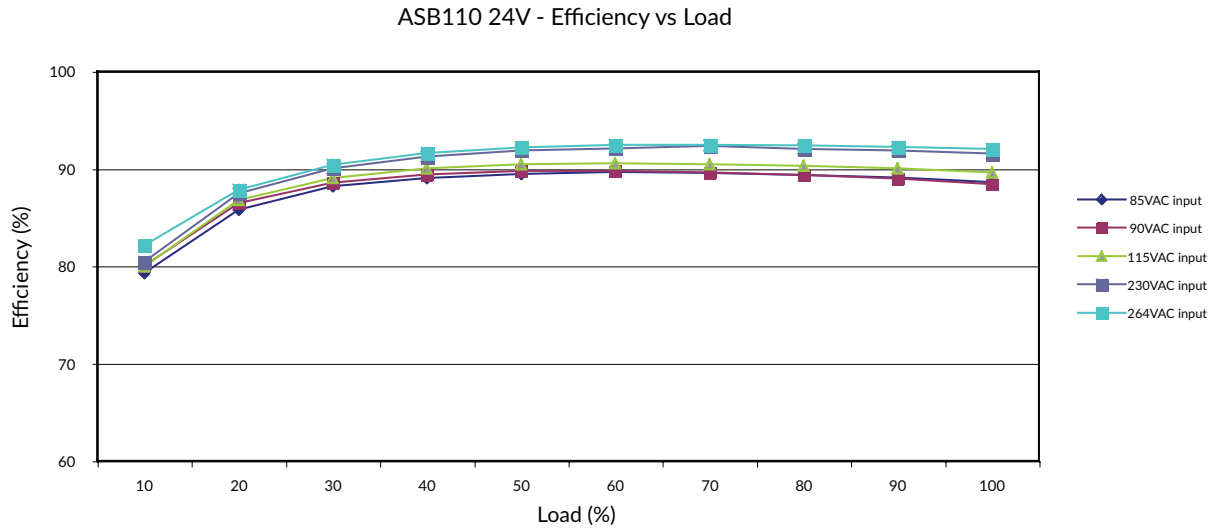
Application notes

Efficiency curves

ASB110PS12

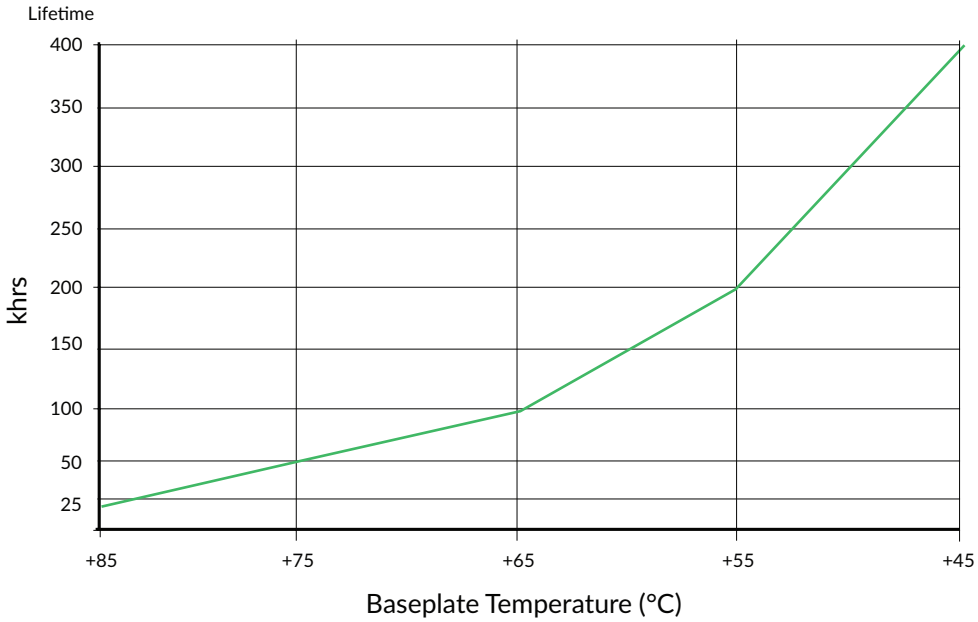


ASB110PS24

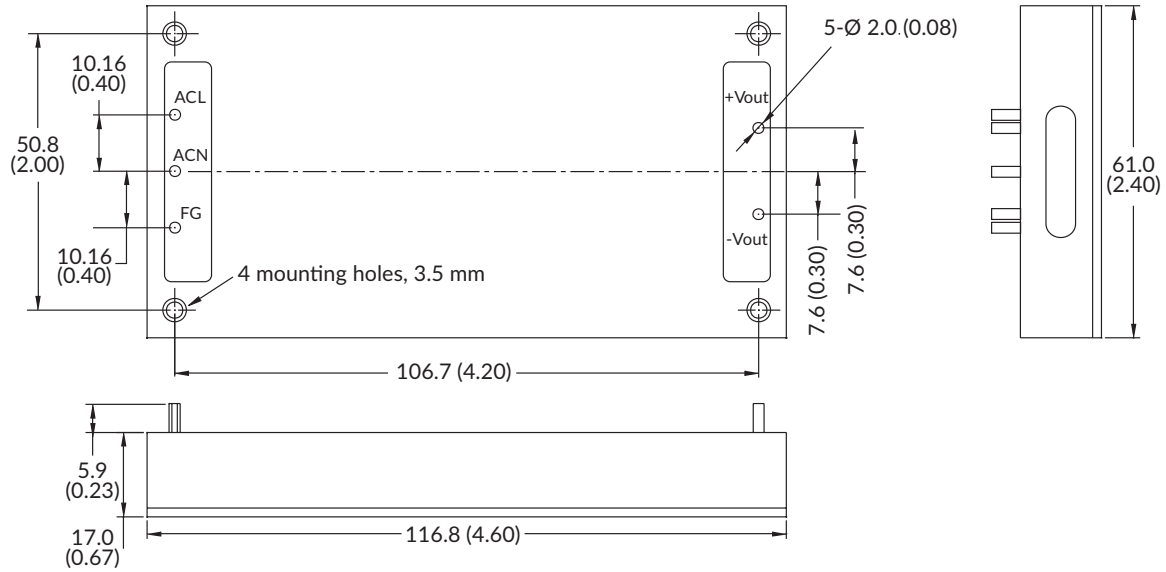


Application notes

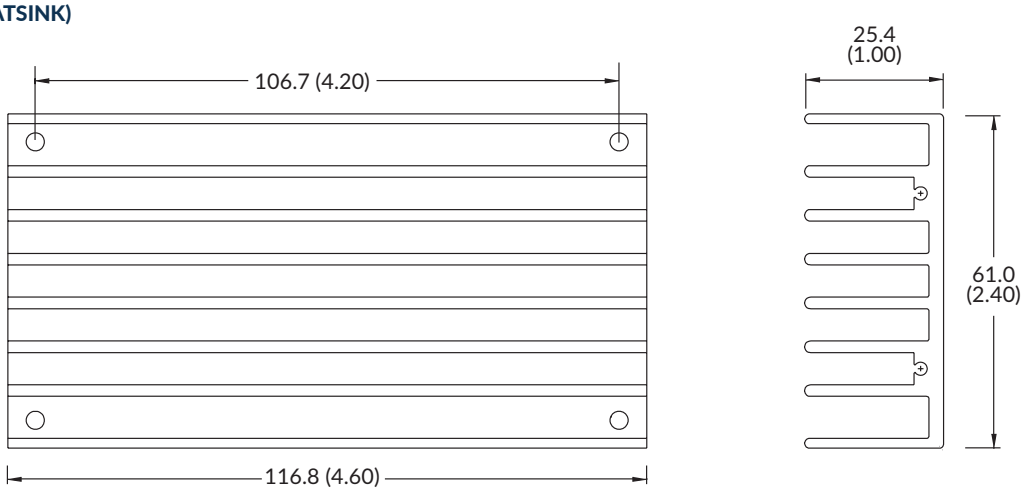
Lifetime



Mechanical details



Optional heatsink (IFH HEATSINK)



Notes:

1. All dimensions shown in mm (inches)
2. Weight 230g (0.51lb) without heat-sink
3. Pin diameter: 2.00 ±0.05 (0.08 ±0.002)
4. Pin pitch tolerance: ±0.35 (±0.014)
5. Case tolerance: ±0.5 (±0.02)
6. Baseplate is connected to FG