

Product Specification

Universal Input Switchers



US100 Series

100 Watt

Key Product Features

- 75% efficiency
- FCC class B EMI filter
- Up to 4 outputs
- 5" x 3.3" x 1.5" size
- CSA and CE approved
- Optional Cover
- Optional power good signal

Description

The US100 series are economical, open frame switchers that deliver up to 100W of continuous or 120W peak power from one to four outputs. The 90-264VAC universal input allows them to be used worldwide.

The US100 is one of the *flexibility* series. In addition to the popular models listed on this sheet, thousands of potential other modified standard models are available that include full safety agency approval and do not require any non-recurring engineering (NRE) charge. Prototype delivery is typically just a few weeks.

Flexibility options include cover, adjustable post regulators on V3 and/or V4 outputs. Output voltage options are given in the table below. Fully custom models are also available. Please contact the factory for information on EN55022-B filtering, and power fail/power good detect.

A cXY`C dhcbg

A cXY`Bi a VYf	Ci hdi h	Ci hdi hJ c`U[Y	A]b ¹	Ci hdi h7i ffYbhFUh[g	A UI ²	A UI ³	DYU ⁴
US100-105	V1	+5V	0A	10.0A	14.0A		20.0A
US100-112	V1	+12V	0A	6.5A	8.0A		10.0A
US100-124	V1	+24V	0A	3.0A	4.0A		4.5A
US100-201	V1	+5V	0.5A	8.0A	14.0A		16.0A
	V2	+12V	0A	4.0A	6.0A		7.0A
US100-301	V1	+5V	0.5A	8.0A	10.0A		12.0A
	V2	+12V	0A	4.0A	6.0A		7.0A
	V3	-12V	0A	1.0A	2.0A		2.5A
US100-303	V1	+5V	0.5A	8.0A	10.0A		12.0A
	V2	+15V	0A	4.0A	6.0A		7.0A
	V3	-15V	0A	1.0A	2.0A		2.5A
US100-401	V1	+5V	0.5A	8.0A	10.0A		12.0A
	V2	+12V	0A	4.0A	6.0A		7.0A
	V3	-12V	0A	1.0A	2.0A		2.5A
	V4 ⁵	-5V	0A	1.0A	2.0A		2.5A
Modified standard	V1	±3.3V to ±48V ⁷	0.5A		15.0A		
<i>flexibility</i> output options ⁶	V2	±2.0V to ±48V ⁸	0A		6.0A		
	V3	±2.0V to ±48V ⁸	0A		2.0A		
	V4 ⁵	±2.0V to ±48V ⁸	0A		2.0A		

¹- At least 20% of max output current is required to maintain stated regulation

²- Convection cooling

³- Forced air cooling

⁴- Peak output, 30 sec max, 50% load required on V1

⁵- Isolated output

⁶- The US100 series allows very fast flexible modified standard designs within these parameters without non-recurring engineering charge and while retaining safety agency approval. Please contact the factory for details.

⁷- Can be specified in 0.1V increments

⁸- Can be specified in 0.75V increments


Note: Specifications are typical at 25°C unless otherwise stated

Specifications

Input	
Input Voltage Range	90-250VAC
Input Frequency	47 to 63Hz
Input Surge Current	25A max, cold start
Efficiency	75% typ at nominal line, full power
Output	
Output Power	80W natural convection cooling ; 100W 28CFM forced air ; 120W peak
Line Regulation	±0.2%, V_{in} (min) to V_{in} (max)
Load Regulation	±3% (V1, 20% to 100% I_0) ; ±5% (V2-V4, 20% to 100% I_0)
Cross Regulation	±0.5% (V1, 20% to 100% I_0 on V2-V4) ; ±5% (V2-V4, 50% to 100% I_0 on V1)
Noise and Ripple	25mV max RMS, 100mV max P-P on V1 with full load. 95-264VAC ; 0.5% max RMS, 1% max P-P, on V2-V4 with full load. 95-264VAC
Overshoot	5% max, all outputs
Transient Response	for 25% to 75% I_0 change, 5% max deviation, with recovery to 1% within 500µS
Hold-Up Time	6mS, 115VAC input, full output power
Overvoltage Protection Threshold	30% V_0 , all outputs
Power Foldback Point	120% of max rated power

Environment

Operating Temperature Range (full power)	0°C to 50°C
Operating Temperature Range (extended range)	0°C to 70°C Derate linearly from full power at 50°C to half power at 70°C
Storage Temperature Range	-25°C to +85°C
Relative Humidity	5% to 95%, non-condensing
Vibration	0.75G peak, 5Hz to 500 Hz. Test three orthogonal axes at 1 octave/min, 5 min dwell at four major resonances

Mechanical Drawing

