

### **UNIVERSAL INPUT AC-DC SINGLE & MULTIPLE OUTPUT 100 WATTS INTERNAL SWITCHING POWER SUPPLIES APS102VI**



#### **FEATURES:**

- ACCOMMODATE UNIVERSAL AC SOURCES
- LOW-PROFILE U-BRACKET FORMAT
- DESIGNED TO MEET UNIVERSAL SAFETY STANDARDS
- EMI MEET CISPR EN55022 / FCC CLASS B
- CE MARKING COMPLIANCE

#### **SPECIFICATIONS:**

##### **INPUT SPECIFICATIONS:**

**Input Voltage:** Typical 90-264Vac  
**Input Connector:** V-M connector  
**Input Frequency:** 47-63Hz  
**Inrush Current:** 65A peak @ 230Vac  
**Input Current:** 1.7A @115Vac / 0.75A @ 230Vac  
**Dielectric Withstand:** Meet IEC950  
3,000Vac-Output/Input  
1,500Vac-Input/GND  
500Vac-Output/GND  
**EMI:** Meet CISPR PUB.22 / FCC Class B  
**Hold-up Time:** 11mS @115Vac / 60mS @ 230Vac  
**Power Fail Signal:** Optional  
**Earth Leakage:** Less than 0.4mA @ 230Vac

##### **OUTPUT SPECIFICATIONS:**

**Output Voltage:** See Ratings Chart  
**Output Current:** See Ratings Chart  
**Output Connector:** V-M connector  
**Line Regulation:** Main O/P  $\pm 0.5\%$  typical  
**Load Regulation:** Main O/P VO1  $\pm 1.0\%$  typical  
Aux. O/P VO2, VO3 & VO4  $\pm 5.0\%$  typical  
**Noise & Ripple:** Typical 2.0% peak to peak  
**OVP:** Built-in on main output  
**Remote Sensing:** Available  
**Adjustability:** From -10% of main O/P to OVP point  
**Overload Protection:** If output power over 135% of max power, OLP reduce all outputs voltage to a safe dissipation level & protect against short circuit at any O/P

##### **GENERAL SPECIFICATIONS:**

**Efficiency:** Typical 82%  
**Switching Frequency:** 63KHz  
**Circuit Topology:** Fixed Frequency Forward Circuit  
**Transient Response:** Output voltage returns in less than 3mS following a 50% load change  
**Safety Standard:** IEC950/ UL1950 Class I  
**Power Density:** 4.10 Watts / Cubic Inch

**Operating Temperature:** 0 to 50°C at full load & 50-70° at half load by derating linearly  
**Storage Temperature:** -20°C to +85°C  
**Temperature Coefficient:** 0.04% per °C  
**Cooling:** At least 25 cfm direct forward air flow is required to achieve full power rating  
**Construction:** U-bracket format **Industrial Grade**



BAUART  
GEPRÜFT  
TYPE  
APPROVED  
IN APPLICATION

# OUTPUT VOLTAGE / CURRENT RATINGS CHART

## SINGLE OUTPUT

MODEL NO.	MAIN O/P VO1 ★@ #		
	TYP.	VOLT.	PEAK
APS102VI-10	20.0A	5.0V	24.0A
APS102VI-11	8.5A	12.0V	10.0A
APS102VI-12	6.8A	15.0V	8.0A
APS102VI-13	4.2A	24.0V	5.0A
APS102VI-13B	3.0A	24.0V	5.0A
APS102VI-14	3.6A	28.0V	4.3A
APS102VI-15	2.8A	36.0V	3.3A
APS102VI-16	2.0A	48.0V	2.5A
APS102VI-19	25.0A	3.3V	30.0A

## DUAL OUTPUT

MODEL NO.	MAIN O/P VO1 ★@ #			AUX. O/P ±VO2 ■		
	TYP.	VOLT.	PEAK	TYP.	VOLT.	PEAK
APS102VI- 20	10.0A	5.0V	12.0A	10.0A	5.0V	12.0A
APS102VI- 21	10.0A	5.0V	12.0A	4.0A	12.0V	5.0A
APS102VI- 22	10.0A	5.0V	12.0A	3.0A	15.0V	4.0A
APS102VI- 23	10.0A	5.0V	12.0A	2.0A	24.0V	2.5A
APS102VI- 23E	7.5A	6.5V	10.0A	2.0A	24.0V	3.0A
APS102VI- 24	4.0A	12.0V	5.0A	4.0A	12.0V	5.0A
APS102VI- 25	3.4A	15.0V	4.0A	3.4A	15.0V	4.0A
APS102VI- 290	10.0A	3.3V	12.0A	10.0A	5.0V	12.0A
APS102VI- 291	12.0A	3.3V	15.0A	4.0A	12.0V	5.0A
APS102VI- 292	12.0A	3.3V	15.0A	3.0A	15.0V	4.0A
APS102VI- 293	12.0A	3.3V	15.0A	2.0A	24.0V	2.5A

## TRIPLE OUTPUT

MODEL NO.	MAIN O/P VO1 ★@ #			AUX. O/P VO2 ■			AUX. O/P VO3 ■		
	TYP.	VOLT.	PEAK	TYP.	VOLT.	PEAK	TYP.	VOLT.	PEAK
APS102VI- 30	10.0A	+5.0V	15.0A	3.4A	+12.0V	4.0A	0.6A	-12.0V	1.0A
APS102VI- 31	10.0A	+5.0V	15.0A	3.4A	+12.0V	4.0A	0.6A	- 5.0V	1.0A
APS102VI- 32	10.0A	+5.0V	15.0A	1.5A	+24.0V	2.0A	0.6A	-12.0V	1.0A
APS102VI- 33	10.0A	+5.0V	15.0A	2.5A	+15.0V	3.0A	0.6A	-15.0V	1.0A
APS102VI- 393	12.0A	+3.3V	15.0A	3.4A	+12.0V	4.0A	0.6A	-12.0V	1.0A
APS102VI- 394	12.0A	+3.3V	15.0A	2.8A	+15.0V	3.0A	0.6A	-15.0V	1.0A
APS102VI- 390B	18.0A	+3.3V	20.0A	4.0A	+5.0V	5.0A	1.0A	+12.0V	1.0A

## QUAD. OUTPUT

MODEL NO	MIAN O/P VO1 ★@ #			AUX. O/P VO2 ■			AUX. O/P VO3 ■			AUX. O/P ±VO4 ■		
	TYP.	VOLT.	PEAK	TYP.	VOLT.	PEAK	TYP.	VOLT.	PEAK	TYP.	VOLT.	PEAK
APS102VI- 40	10.0A	+5.0V	12.0A	3.0A	+12.0V	4.0A	0.6A	-12.0V	1.0A	0.6A	5.0V	1.0A
APS102VI- 41	10.0A	+5.0V	12.0A	3.0A	+12.0V	4.0A	0.6A	-5.0V	1.0A	0.6A	5.0V	1.0A
APS102VI- 42	10.0A	+5.0V	12.0A	1.5A	+24.0V	2.0A	0.6A	-12.0V	1.0A	0.6A	12.0V	1.0A
APS102VI- 43	10.0A	+5.0V	12.0A	2.5A	+15.0V	3.0A	0.6A	-15.0V	1.0A	0.6A	12.0V	1.0A
APS102VI- 44	10.0A	+5.0V	12.0A	1.5A	+24.0V	2.0A	0.5A	-15.0V	1.0A	0.5A	15.0V	1.0A
APS102VI- 44E	3.0A	+5.0V	12.0A	1.5A	+24.0V	2.0A	0.5A	-15.0V	1.0A	0.5A	15.0V	1.0A
APS102VI- 490	12.0A	+3.3V	15.0A	3.0A	+12.0V	4.0A	0.6A	-12.0V	1.0A	0.6A	5.0V	1.0A
APS102VI- 490B	12.0A	+3.3V	15.0A	4.0A	+5.0V	5.0A	0.6A	-12.0V	1.0A	0.6A	12.0V	1.0A
APS102VI- 491	12.0A	+3.3V	15.0A	2.5A	+15.0V	3.0A	0.6A	-15.0V	1.0A	0.6A	5.0V	1.0A
APS102VI- 491B	12.0A	+3.3V	15.0A	4.0A	5.0V	5.0A	0.6A	-15.0V	1.0A	0.6A	15.0V	1.0A
APS102VI- 492	12.0A	+3.3V	15.0A	3.0A	+12.0V	4.0A	0.6A	-12.0V	1.0A	0.6A	12.0V	1.0A
APS102VI- 493	12.0A	+3.3V	15.0A	2.5A	+15.0V	3.0A	0.6A	-15.0V	1.0A	0.6A	12.0V	1.0A
APS102VI- 494	12.0A	+3.3V	15.0A	1.5A	+24.0V	2.0A	0.6A	-12.0V	1.0A	0.6A	12.0V	1.0A
APS102VI- 495	7.0A	+3.3V	15.0A	1.0A	+5.0V	2.0A	1.0A	-5.0V	1.0A	2.5A	24.0V	3.0A
APS102VI- 496E	15.0A	+3.3V	18.0A	1.1A	+5.0V	2.0A	12.5A	-48.0V	1.5A	0.3A	6.25V	0.5A

Symbols: ★ OVP built-in. "▲" Adjustable. "#" Remote sensing. ■ Coupled filter inductor.

Remark: (1) At least 20% of typical main output current is required to maintain stated regulations.

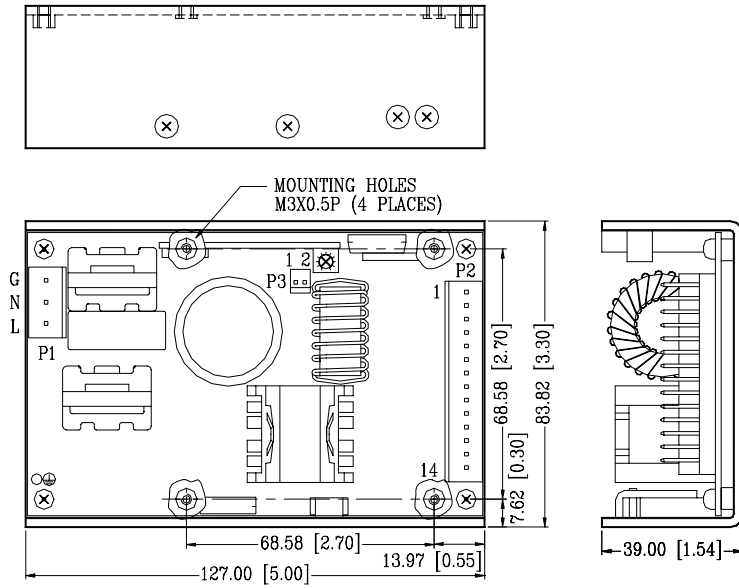
(2) Peak output, less than 60sec with duty cycle < 5%., Peak current can't be drawn from all output at the same time.

(3) The aux. output VO2 for APS102VI-2xx (Dual Output) can be "POSITIVE" or "NEGATIVE".

e.g. APS102VI-20 is for main output VO1 "POSITIVE", aux. Output VO2 "NEGATIVE", APS102VI-20P is for both outputs "POSITIVE".

**MECHANICAL DIMENSION: MM [INCHES]**

**WEIGHT: U-B 448.5g (15.82Oz)**



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

ASSIGNMENT	AC INPUT			SINGLE OUTPUT		DUAL OUTPUT			TRIPLE OUTPUT				QUAD. OUTPUT				ASSORTED SIGNAL			
	AC-L	AC-N	AC-G	VO1	DC-COM	VO1	VO2	DC-COM	VO1	VO2	VO3	DC-COM	VO1	VO2	VO3	+VO4	DC-COM	S	-S	PFS
CNTR & PIN#	P1-3.	P1-2.	P1-1.	P2-1,2,3,4,5.	P2-6,7,8,9,10,11.	P2-1,2,3.	P2-8,9.	P2-4,5,6,7,10,11,3.	P2-1,2,3.	P2-8,9.	P2-11.	P2-4,5,6,7,10,11,3.	P2-1,2,3.	P2-8,9.	P2-11	P2-14	P2-4,5,6,7,10,11,3.	P3-1.	P3-2.	P2-12.