APS

Advanced Power Solutions

1/19/2001

UNIVERSAL INPUT AC TO DC PCB OPEN FRAME MULTIPLE OUTPUT INTERNAL SWITCHING POWER SUPPLIES 40-50 WATT APS41VI SERIES

FEATURES:

- **ACCOMMODATES UNIVERSAL AC SOURCES IN THE WORLD**
- **SMALL & COMPACT IN SIZE**
- **DESIGNED TO MEET UNIVERSAL SAFETY STANDARDS**
- **EMI MEET CISPR PUB. 22 / FCC CLASS B**
- **CE MARKING COMPLIANCE**

SPECIFICATIONS

INPUT SPECIFICATIONS:

Input Voltage: Typ. 90-264Vac
Input Connector: Molex V-M
Input Frequency: 47-63Hz
Inrush Current: 25A peak @ 230Vac
Input Current: 0.7 - 1.2A @ 115Vac / 0.3 - 0.4A @ 230Vac
Dielectric Withstand: Meets IEC950
3,000VAC-Output/Input
1,500VAC-Input/GND
500VAC-Output/GND
EMI: Meets CISPR PUB.22 / FCC Class B
Hold-up Time: 18mS @115Vac / 90mS @ 230Vac
Earth Leakage: Less than 0.3mA @ 230Vac

OUTPUTS SPECIFICATIONS:

Output Voltage: See RATINGS CHART
Output Currents: See RATINGS CHART
Output Connector: Molex V-M
Line Regulation: ±0.1% typical
Load Regulation: Main O/P VO1 typ. ±2.0%
Aux. O/P VO2 typ. ±5.0% stacked on VO3 typ. ±5.0% with P.R.
Noise & Ripple: Typ. 1% peak to peak
OVP: 124% ±8% on main output
Adjustability: From –10% of main O/P to OVP
Overload Protection: 125-150% of max. power

GENERAL SPECIFICATIONS:

Efficiency: Typ. 75 – 85%
Switching Frequency: 60KHz
Circuit Topology: Fixed Frequency Flyback Circuit
Transient Response: Output voltage returns in less than 3mS following a 50% load change
Power Density: 3.36 – 3.79 Watt per Cubic Inch
Operating Temperature: 0-50°C convection
Storage Temperature: -20°C to +85°C
Temperature Coefficient: 0.04% per °C
Cooling: Free air convection, or with 20 CFM fan cooling
Safety Standard: IEC950 / UL1950 Class I
Construction: PCB open frame format

IN APPLICATION

OUTPUT VOLTAGE/CURRENT RATINGS CHART

SINGLE OUTPUT

MODEL NO.	MAIN O/P VO1 @ ★			
	TYP.	FAN-C	**VOLT.**	PEAK
APS41VI-10	8.0 A	9.0A	**5 V**	10.0 A
APS41VI-11	3.3 A	4.0A	**12 V**	4.5 A
APS41VI-12	2.6 A	3.3A	**15 V**	3.6 A
APS41VI-13	1.6 A	2.0A	**24 V**	2.5 A
APS41VI-14	1.28 A	1.8A	**30 V**	2.0 A
APS41VI-16	0.8 A	1.0A	**48 V**	1.1 A
APS41VI-19	8.0 A	9.0A	**3.3 V**	10.0 A

DUAL OUTPUT

MODELNO.	MAIN O/P VO1 @ ★				AUX. O/P VO2 † or – VO3			
	TYP.	FAN-C	**VOLT.**	PEAK	TYP.	FAN-C	**VOLT.**	PEAK
APS41VI- 20	6.0A	7.0A	**5.0 V**	8.0A	2.0A	2.5A	**5.0 V**	3.0A
APS41VI- 21	4.0A	4.5A	**5.0 V**	6.0A	2.0A	2.5A	**12.0 V**	3.0A
APS41VI- 22	4.0A	4.5A	**5.0 V**	6.0A	1.5A	2.0A	**15.0 V**	2.0A
APS41VI- 23	4.0A	4.5A	**5.0 V**	6.0A	1.0A	1.5A	**24.0 V**	1.5A
APS41VI- 24	1.8A	2.0A	**12.0 V**	2.2A	1.8A	2.0A	**12.0 V**	2.2A
APS41VI- 290	5.0A	6.0A	**3.3 V**	7.0A	1.8A	2.0A	**5.0 V**	2.2A

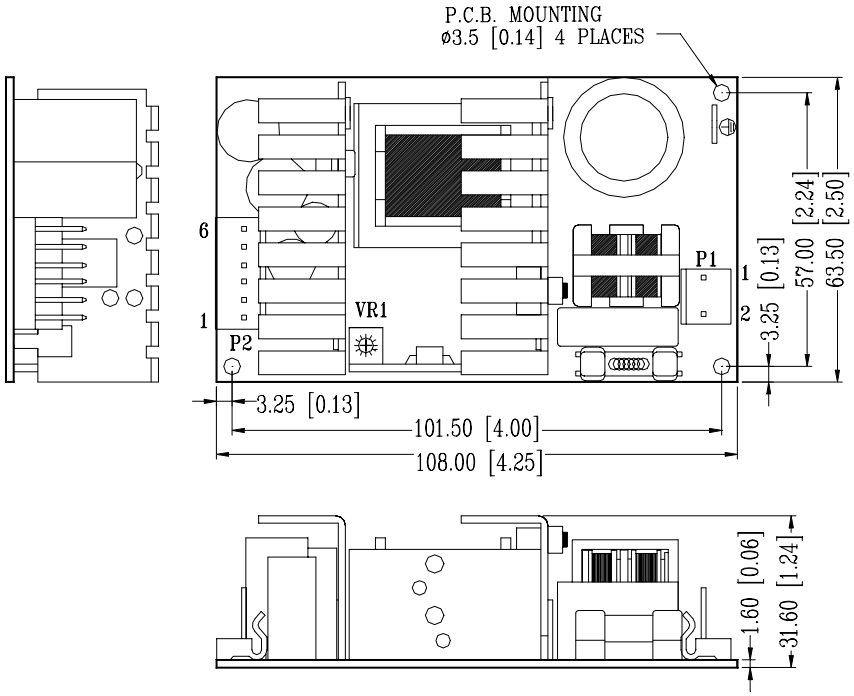
TRIPLE OUTPUT

MODEL NO.	MAIN O/P VO1 @ ★				AUX. O/P VO2 †				AUX. O/P VO3 •			
	TYP.	FAN-C	**VOLT.**	PEAK	TYP.	FAN-C	**VOLT.**	PEAK	TYP.	FAN-C	**VOLT.**	PEAK
APS41VI- 30	4.0A	4.5A	**+5 V**	5.0A	2.0A	3.0A	**+12 V**	3.0A	0.2A	0.5A	**-12 V**	1.0A
APS41VI- 31	4.0A	4.5A	**+5 V**	5.0A	2.0A	3.0A	**+12 V**	3.0A	0.2A	0.5A	**-5 V**	1.0A
APS41VI- 32	4.0A	4.5A	**+5 V**	5.0A	0.5A	1.0A	**+24 V**	1.0A	0.2A	0.5A	**-12 V**	1.0A
APS41VI- 33	4.0A	4.5A	**+5 V**	5.0A	1.6A	2.0A	**+15 V**	2.0A	0.2A	0.5A	**-15 V**	1.0A
APS41VI- 33A	1.0A	1.5A	**+5 V**	2.0A	0.5A	0.8A	**+15 V**	1.0A	0.5A	0.8A	**-15 V**	1.0A
APS41VI- 390	4.0A	4.5A	**+3.3 V**	5.0A	1.8A	2.0A	**+5 V**	2.2A	0.2A	0.5A	**-12 V**	1.0A
APS41VI- 391	4.0A	4.5A	**+3.3 V**	5.0A	1.8A	2.0A	**+5 V**	2.2A	0.2A	0.5A	**-5 V**	1.0A

Symbols: "★" OVP built-in. "@" Adjustable. "† " Stacked on main O/P. "•" Installed with Post Regulator (PR).

Remark: (1) At least 20% of typical main output current is required to maintain stated regulation.
(2) Total available power is 40W convection or 50W with 20CFM fan cooling.
(3) Peak output, less than 60 Sec. with duty cycle < 5%. Peak current can't be drawn from all output at the same time.
(4) Load regulation for APS41VI-290, APS41VI-390 & APS41VI-391 is 10%.

MECHANICAL DIMENSIONS: MM (INCHES) WEIGHT: PCB FORMAT 169g (5.96Oz)



INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

	AC INPUT			SINGLE OUTPUT		DUAL OUTPUT			TRIPLE OUTPUT			
ASSIGNMENT	**AC-LINE**	**AC-NEUTRAL**	**FASTON**	**VO1**	**DC COM**	**VO1**	**VO2**	**DC COM**	**VO1**	**VO2**	**VO3**	**DC COM**
CNTR & PIN #	P1- 1.	P1- 2.	AC-GROUND.	P2-1,2,3.	P2-4,5,6.	P2-2,3.	P2-1.	P2-4,5,6.	P2-2,3.	P2-1.	P2-6.	P2-4,5.

Mating connector: Molex 5195 or equivalent