

UNIVERSAL INPUT

FEATURES

- ◆ Low safety ground leakage current
- ◆ Wide input range 85 to 264 VAC
- ◆ Input surge current protection
- ◆ Overvoltage & overcurrent protection
- ◆ Open PCB construction
- ◆ 100% burn-in

DESCRIPTION

The SM41P series of compact, open PCB constructed, AC-DC switching power supplies are capable of delivering 40 watts of continuous output power. They operate at 85 to 264 VAC input voltage without the need of voltage selection. They are ideally suited for use in medical equipment, safety systems and monitoring equipment, not for patient contact.

INPUT SPECIFICATIONS

Input Voltage:	85 to 264 VAC; 110 to 280 VDC
Input Frequency:	47 to 63Hz
Input Current:	1.10A (rms) for 115 VAC
Leakage Current:	0.60A (rms) for 230 VAC 90µA max. at 110 VAC, 60Hz 150µA max. at 230 VAC, 50Hz

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature:	0°C to +70°C
Storage Temperature:	-40°C to +85°C
Relative Humidity:	5% to 95% non-condensing
Derating:	Derate from 100% at +50° C linearly to 50% at +70° C

SM41P SERIES 40 WATT MEDICAL SWITCHING POWER SUPPLY

GENERAL SPECIFICATIONS

Switching Frequency:	42kHz ± 5kHz
Efficiency:	70% min. on single output models with $V_o \geq 12V$, 68% minimum on all others
Hold-up Time:	20mS min. at 110 VAC
Line Regulation:	± 0.5% max. at full load
Inrush Current:	12 amps at 115 VAC 24 amps at 230 VAC
Withstand Voltage:	4000 VAC input to output 1500 VAC input to ground 500 VAC output to ground
MTBF (25°C ambient):	600,000 hours min. full load calculated per MIL-HDBK-217F
Safety Requirements:	Meets: <ul style="list-style-type: none"> a) UL: UL 2601-1 b) CUL: CSA C22.2 No. 60601.1 c) TUV: EN 60601-1 d) CB: IEC 60601-1

EMI/EMC compliance:	EN55011 class B EN61000-3-2 class D EN61000-4-2: 6KV contact, 8KV air EN61000-4-3: 3V/meter EN61000-4-4: 1KV EN61000-4-5: 1KV diff., 2KV com.	Conducted and Radiated Emissions Current Harmonic Static Discharge RF Field Susceptibility Fast Transient/Bursts Surge Immunity
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OUTPUT SPECIFICATIONS

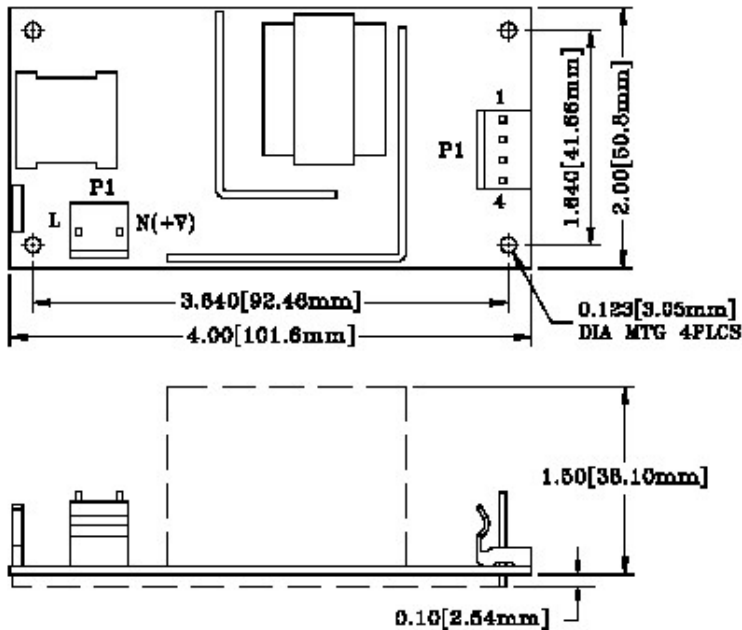
Output Voltage/Current:	See Rating Chart
Total Output Power:	See Rating Chart
Ripple and Noise:	1% peak to peak max.
Overvoltage Protection:	Provided on output; set at 112-132% of its nominal output voltage
Overcurrent Protection:	The output protected to short circuit conditions
Temp. Coefficient:	All outputs, ± 0.04%/°C max.
Transient Response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500µs after a 25% step load change



Model	Vnom	Output			Tol.	Max. Power
		Imin	Imax			
SM41P10	5.1V	0A	6.0A		2%	30W
SM41P12	12V	0A	3.3A		2%	40W
SM41P13	15V	0A	2.7A		2%	40W
SM41P13-1	18V	0A	2.3A		2%	40W
SM41P14	24V	0A	1.7A		2%	40W
SM41P15	28V	0A	1.4A		2%	40W

Notes: Ripple and noise: Peak-to-peak with 20MHz bandwidth and 10μF in parallel with a 0.1μF capacitor at rated line voltage and load ranges.

MECHANICAL SPECIFICATIONS



Notes:

1. Dimensions shown in inch (mm)
2. Tolerance 0.03 [0.76] maximum
3. Input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal
4. Output connector mates with Molex housing 09-50-3040 and Molex 2878 series crimp terminal
5. Weight: 190 grams (PCB format)

PIN CHART

MODEL	PIN		1	2	3	4
SM41P10	SM41P12	SM41P13	OUTPUT	OUTPUT	RETURN	RETURN
SM41P13-1	SM41P14	SM41P15				

Note: All data are subject to change without notice