



# SMF31P Series

UL, EN, IEC 60601-1 3<sup>rd</sup> Edition Medical  
30 Watt AC - DC Open Frame Power Supply

Date: 2/11/16

Rev: 021116

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The SMF31P Series open frame medical switch mode power supply has 30 Watts convection cooled output in a 2" x 4" size, with UL/ C-UL, IEC and EN 60601-1, 3<sup>rd</sup> Edition safety approvals.

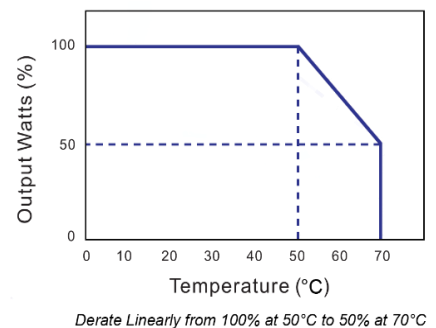


Input Voltage	90 to 264 Vac
Input Frequency	47 to 63 Hz
Input Current (Low Line)	0.7 A Max at 100 Vac
Input Current (High Line)	0.3 A Max at 240 Vac
Safety Ground Leakage Current	0.1 mA Max at 240 Vac, Full Load
Output Voltage & Current	See Table on Page 2
Ripple & Noise (P-P)	1% Max., Full Load at 90 Vac Input
Over-Voltage Protection	112 – 132%
Over-Current Protection	110 – 150%
Temperature Coefficient	± 0.04% / °C Max
Transient Response	50% Load Change at 100 Vac Input: 4 ms Max
Efficiency	76.4 - 85%
No Load Power Consumption	≤ 0.5 Watts
Line Regulation	± 1% Max at Full Load
Load Regulation	± 5% Max at 230 Vac
Start-Up Time	0.3 - 2 s
Hold-Up Time	10 ms Min
Withstanding Voltage	Primary to Secondary: 6,578 Vdc Primary to Ground: 2121 Vdc
Insulation Resistance	50 MΩ Min
Inrush Current	15 A @ 115 Vac Max at 25°C Cold Start 30 A @ 230Vac Max at 25°C Cold Start
Mean Time Between Failure	Full Load at 25°C Ambient: 100,000 Hours Min
Operating Temperature	See Derating Curve
Storage Temperature	-40 to 85 °C
Industry Compliance	Directive 2011/65/EU (RoHS 2)
EMI Requirements	Meets Conduction Limits of: CISPR-11 Class B and EN 55011 Class B
Safety Compliance	ANSI/AAMI ES 60601-1:2005 (UR Listed 3rd Edition), EN 60601-1:2006 (TUV/T-mark 3rd Edition), CE, CB

## Features:

- Universal Input 100 - 240 Vac
- 5 - 36 VDC, Single Output
- Internal EMI Filter
- Over-Voltage Protection
- Over-Current Protection
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- 2 MOPP Protection
- Class I

## Derating Curve





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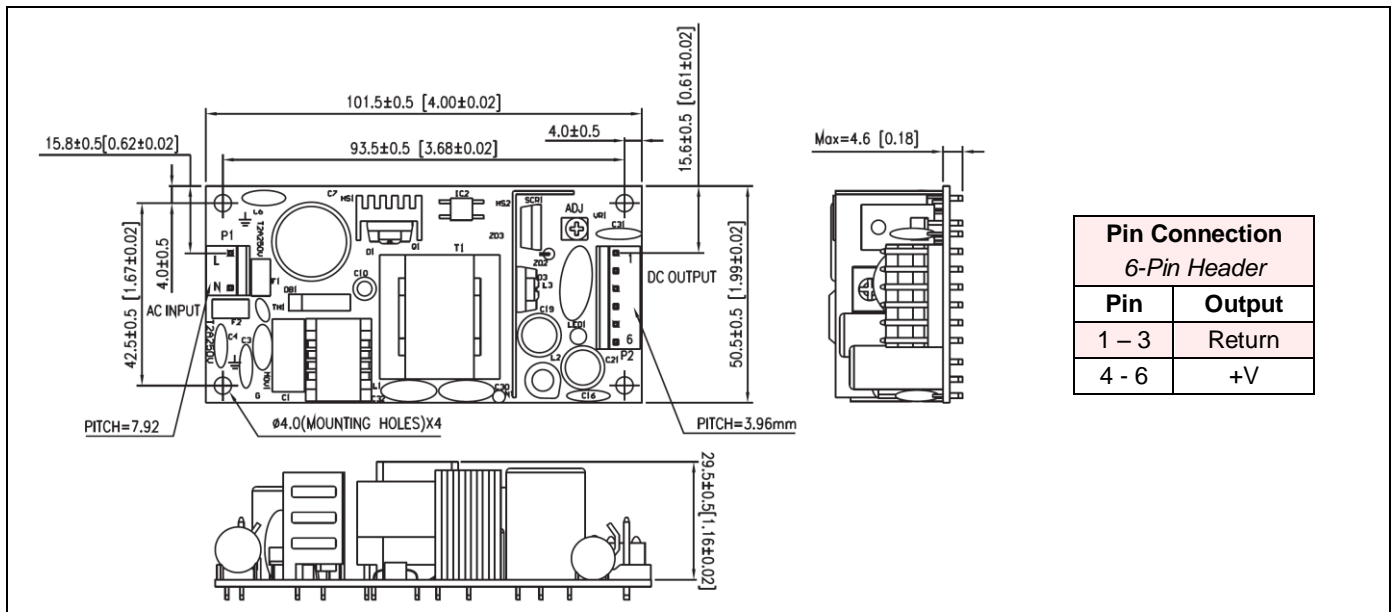
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## Output Voltage and Current Table

Model Number	Output Voltage Range	Max. Output Current Limited to Output Power	Total Regulation	Maximum Output Power
SMF31P105R	5 Vdc	6.00 A	5%	30 W
SMF31P107R	7 Vdc	4.28 A	5%	30 W
SMF31P109R	9 Vdc	3.33 A	5%	30 W
SMF31P112R	12 Vdc	2.50 A	5%	30 W
SMF31P115R	15 Vdc	2.00 A	5%	30 W
SMF31P118R	18 Vdc	1.66 A	5%	30 W
SMF31P124R	24 Vdc	1.25 A	3%	30 W
SMF31P130R	30 Vdc	1.00 A	3%	30 W
SMF31P136R	36 Vdc	0.83 A	3%	30 W

## Mechanical Specification



Pin Connection 6-Pin Header	
Pin	Output
1 - 3	Return
4 - 6	+V

- Input Connector Mating:
  - Molex Housing 09-50-3031 and Molex 2478 Series Crimp Terminals
- Output Connector Mating:
  - Pin Header: Molex Housing 09-50-3061 and Molex 2478 Series Crimp Terminals