SM80D1R – SM130D1R Series

UL, EN, IEC 60601-1 3rd Edition Medical 80 - 130 Watt AC - DC Power Supply

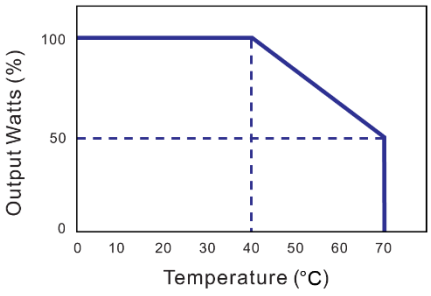
The SM80D1R – SM130D1R Series medical switch mode power supply offers 80 Watts to 130 Watts output power, with an output voltage range 12 Vdc - 56 Vdc. Case style is a desktop enclosure with choice of IEC-320 C6, C8, C14, or C18 input socket, with UL, cUL, IEC and EN60601-1, 3rd Edition safety approvals, and Energy Efficiency Level 5 & 6.

Input Voltage	*90 to 264 Vac*
Input Frequency	*47 to 63 Hz*
Input Current (Low Line)	*2 A Max at 110 Vac*
Input Current (High Line)	*1 A Max at 230 Vac*
Safety Ground Leakage Current	*5 mA (NC) & 10 mA (SFC) Max*
Touch Leakage Current	*100 µA (NC) & 500 µA (SFC) Max*
Power Factor Correction	*0.9 Min* *Meets IEC 61000-3-2 Class D harmonic standard*
Output Voltage & Current	*See Table on Page 2*
Ripple & Noise (P-P)	*2% Max* *Measured w/ 0.1 µF ceramic capacitor & 47 µF electrolytic capacitor in parallel*
Over-Voltage Protection	*150% Max, Latch-off circuit with manual AC reset*
Over-Current Protection	*110 - 150% Max, Auto-Recover when fault is removed*
Temperature Coefficient	*±0.04% / °C Max*
Dynamic Load Regulation	*Load Change from 100% - 50%: ±5%*
Efficiency	*Meets Energy Efficiency Level V & VI Criteria*
No Load Power Consumption	*Level V: ≤ 0.5 Watts* *Level VI: ≤ 0.21 Watts*
Line Regulation	*±1% Max at Full Load*
Load Regulation	*±5% Max*
Start-Up Time	*3 s Max*
Hold-Up Time	*10 ms Min*
Inrush Current	*60 A @ 110 Vac Max at 25°C Cold Start* *120 A @ 220 Vac 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	*-20 to 85 °C*
Industry Compliance	*RoHS, Energy Efficiency Level V & VI*
EMI Requirements	*Meets Conduction Limits of:* *FCC Part 15 Class B, 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), CB, CE, FCC*

Features:

- Universal Input 100 - 240 Vac
- IEC 320 C6, C8, C14, C18 Input
- Over-Voltage Protection
- Over-Current Protection
- Short Circuit Protection
- 100% Burn-In
- RoHS 2 Compliant
- 2 MOPP Protection
- Energy Efficiency Level: V & VI

Derating Curve



Derate Linearly from 100% at 40°C to 50% at 70°C

Output Voltage and Current Table

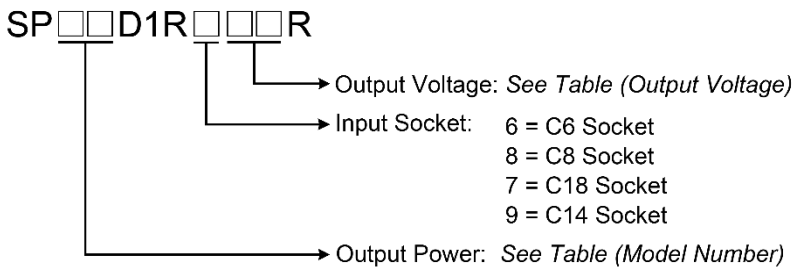
Model Number	Output Voltage Range *	Output Current *Limited to Output Power* †	Maximum Output Power
SM80D1R_ _ _ R	12 – 16 Vdc	6.66 – 5.00 A	80 W
SM90D1R_ _ _ R	12 - 16 Vdc	7.50 – 5.62 A	90 W
SM90D1R_ _ _ R	19 – 24 Vdc	4.73 - 3.75 A	90 W
SM100D1R_ _ _ R	12 - 16 Vdc	8.33 – 6.25 A	100 W
SM100D1R_ _ _ R	19 - 24 Vdc	5.26 – 4.16 A	100 W
SM100D1R_ _ _ R	48 - 56 Vdc	2.08 – 1.78 A	100 W
SM110D1R_ _ _ R	12 - 16 Vdc	9.16 – 6.87 A	110 W
SM110D1R_ _ _ R	19 - 24 Vdc	5.78 – 4.58 A	110 W
SM120D1R_ _ _ R	12 - 16 Vdc	10.0 – 7.50 A	120 W
SM120D1R_ _ _ R	19 - 24 Vdc	6.31 – 5.00 A	120 W
SM130D1R_ _ _ R	48 -56 Vdc	2.70 – 2.32 A	130 W

***** Output Voltages between ranges are also available.

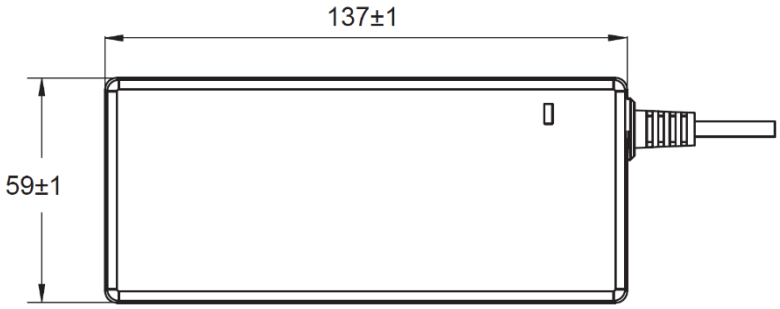
† To find Output Current:
Output Current = Max Power ÷ Output Voltage

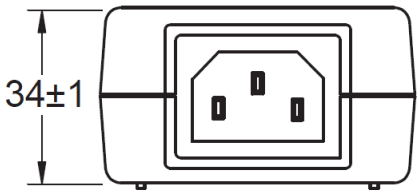
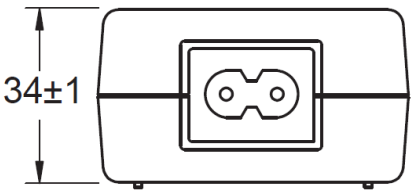
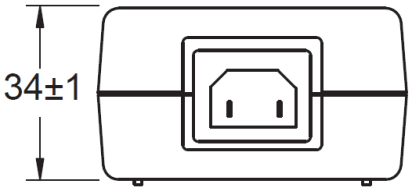
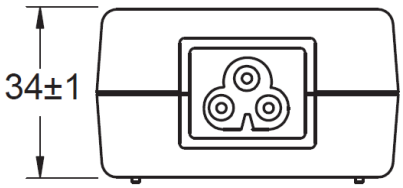
Example: Output Current for SM100D1R _12R *(12 Vdc Output)*

Output Current = 100 W ÷ 12 V
Output Current = 8.33 A



Mechanical Specification *(mm)*



SM___D9: *C-14*	**SM___D8:** *C-8*
	
SM___D7: *C-18*	**SM___D6:** *C-6*
	

Note: Output connecter to be specified.
The cable length, wire gauge, and output connector will be dependent on the Energy Efficiency level requirements.