MDT180 Series

FiDUS
power in motion...

180 Watts

- Latest Medical Approvals
- 4th Edition Medical EMC
- Class I and II versions available
- Single outputs 12 to 48V
- Earth leakage current <250mA
- EN55011 Level B conducted & radiated emissions
- 3 Year warranty

The MDT180 range of 180W external power supplies are designed and approved for use in medical applications. The units offer 180 watts of output power in a slim package with output voltages available between 12 and 48VDC. Class I and Class II versions are available. The MDT180 confirms to the latest 4th edition EMC medical standard, has high efficiency up to 93%, is reliable, cost competitive, and comes with an impressive FiDUS 3 year warranty.

Dimensions:

7.4 x 3.52 x 1.94" (188.0 x 89.5 x 49.3mm)

Models & Ratings

SELECT YOUR CONNECTOR PG5

Model Number	Output Power	Output voltage	Output Current	Efficiency
MDT18012	168W	12V	14A	89%
MDT18019	180W	19V	9.47A	91%
MDT18024	180W	24V	7.5A	91%
MDT18030	180W	30V	6A	92%
MDT18033	180W	33V	5.46A	93%
MDT18048	180W	48V	3.75A	93%
MDT18012-C2(1)	168W	12V	14A	89%
MDT18019-C2(1)	180W	19V	9.47A	91%
MDT18024-C2(1)	180W	24V	7.5A	91%
MDT18030-C2(1)	180W	30V	6A	92%
MDT18033-C2(1)	180W	33V	5.46A	93%
MDT18048-C2(1)	180W	48V	3.75A	93%

Notes

1. -C2 for Class II version
2. Alternative output connectors available for production quantities. Contact sales for details
3. For UK/ US/ EU mains power cable please order UK-C14/C8, US-C14/C8 or EU-C14/C8 separately

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	90		260	VAC	No derating
Operating temperature	-10		70	°C	Derate linearly from 100% load at 40°C to 50% load at 70°C
Efficiency	89		93	%	
Dimensions	7.4 x 3.52 x 1.94" (188.0 x 89.5 x 49.3mm)				
EMC	EN55011/EN60601-1-2 Level B Conducted and Radiated. EN60601-1-2 4th Edition				
Safety	IEC 60601-1 3.1, EN60601-1 A12 2014 ES60601-1:2005(R2012), CSAC22.2 No60601-1:14 No 234 as per cUL, CE, CB.				

Input

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Input voltage	90		260	VAC	No derating
Input frequency	47		63	Hz	
Power factor		0.95			EN61000-3-2 Class A
Input current			2.2	A	Low line. Full load, Vin=100VAC.
			0.9		High line. Full load, Vin=100VAC.
Inrush current			60	A	Low line. Full load, 25°C cool start. Vin=100VAC
			120		High line. Full load, 25°C cool start. Vin=240VAC
No load input power		0.5		W	

Output

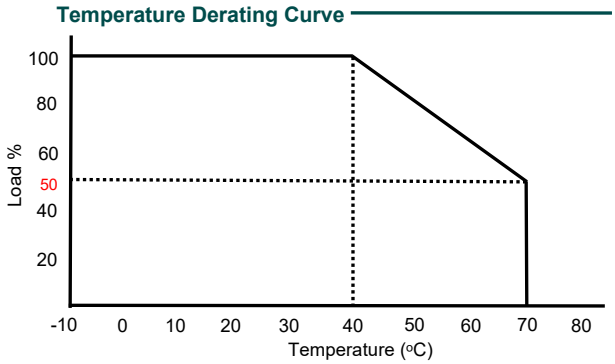
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	12		48	VDC	
Total regulation	±5% for 12 and 19V outputs. ±4% for 24V. ±3% for 30, ±3% and 48V outputs.			%	
Line Regulation			1	%	
Load Regulation	2		5	%	Measured at 230Vac. 10-90% load change
Minimum Load	0			%	
Ripple & Noise		100		mVp-p	Min-max. load.
	12V models 120mV, 19V models 190mV, 24V models 240mV, 30V models 300mV, 33V models 330mV and 48V models 480mV				No minimum load. Ripple & Noise is measured at 20MHz bandwidth, with 0.47uF capacitor.
Hold up time		20		ms	At full load
Overload protection	110		150	%	Automatic recovery
Short circuit protection					Automatic recovery
Over voltage protection	112		132	%	Shutdown and latch off, AC recycle

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	89		93	%	
Isolation	Input to Output: 4000, Input to Ground: 1500			VAC	
Earth Leakage Current		<0.25		mA	
Power density			3.6	W/In^3	
MTBF		100		KHrs	Calculated as per MIL-HDBK-217F. At 25°C
Weight	894		952	g	

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-10		70	°C	Derate linearly from 100% load at 40°C to 50% load at 70°C
Storage temperature	-40		85	°C	
Cooling					Convection cooled
Temperature coefficient			±0.04	%/°C	
Humidity			95	% RH	



EMC: Emissions

	Standard	Test level	Criteria	Notes & Conditions
Conducted	EN55011	B		
Radiated	EN55011	B		
Harmonic current	EN61000-3-2	Class A		
Voltage flicker	EN61000-3-3			

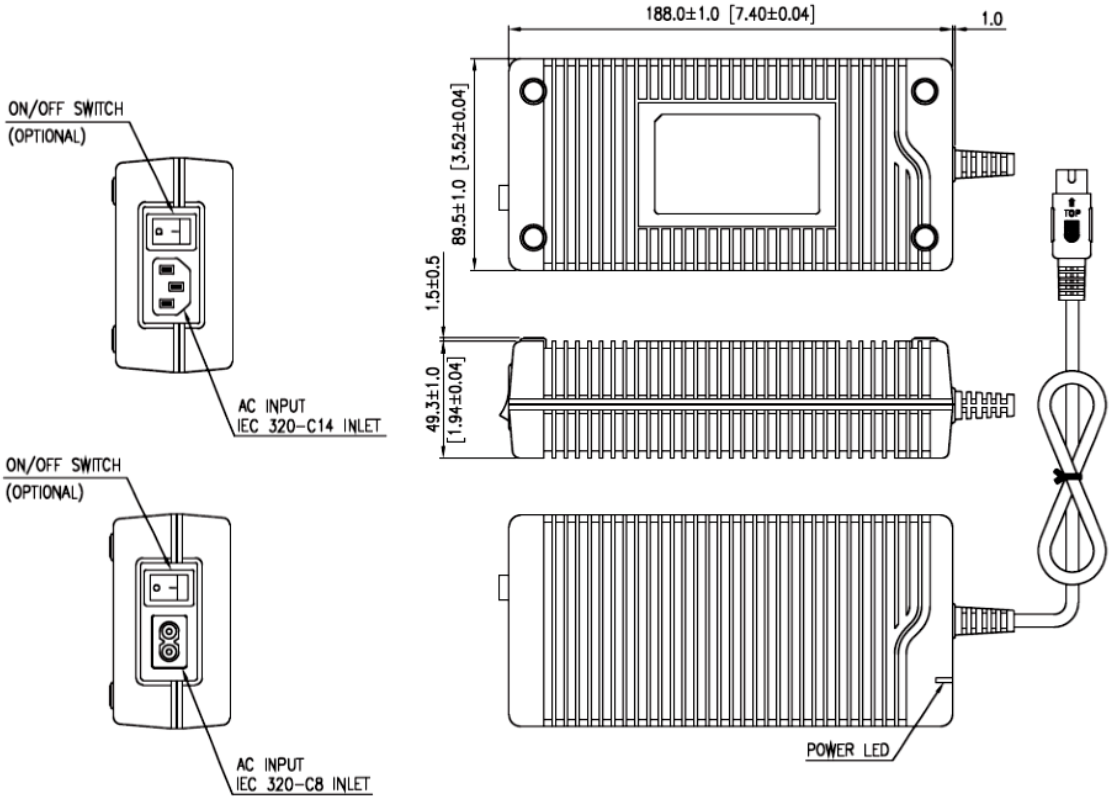
EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	3	A	8kV contact, 15kV air
Radiated	EN61000-4-3		A	3-28V/m, 80MHz-2700MHz, 1KHz 80% AM Modulation
EFT	EN61000-4-4	3	A	2kV 100KHz
Surges	EN61000-4-5	Installation Class 3	A	2KV L/N to GND, 1KV L to N both at 0°,90°,180°,270°
Conducted	EN61000-4-6		A	3/6Vrms, 1KHz 80 AM Modulation 150KHZ-80MHz
Voltage Dips / Interruptions	EN61000-4-11	100% for 0.5 & 1 cycle, 30% for 25/30 cycles, interrupt 250/300 cycles -performance criteria B,C,C		

Safety Approvals

	Safety standard	Notes & Conditions
UL	ES60601-1:2005(R2012), CSA22.2 No. 60601-1:14	
CB	IEC 60601-1, 3.1 edition	
TUV	EN60601-1:2006/A12:2014	
CE		2011/65/EU RoHS Directive and 2014/35/EU Low voltage directive
Equipment protection class		Class I & Class II models

Mechanical Details



Pin Connections	
1	-DC
2	-DC
3	+DC
4	-DC
5	+DC
Shield	AC GND (Class I)

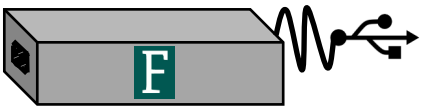
For UK/ US/ EU mains power cable please order UK-C14/C8, US-C14/C8 or EU-C14/C8 separately

Notes

1. All dimensions in mm (inches)
2. Tolerance: ±1mm
3. 16 AWG 4FT DC output cable
4. Output connector PIN DIN-5 plug,
5. Class I models: IEC-320-C14. Class II models: IEC-320-C8

MDT180 Series

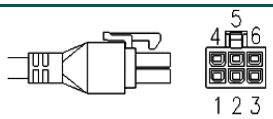
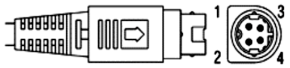
Connector Selector



The MDT180 series from FiDUS Power is available with a wide range of standard output connector options, allowing customers the flexibility to use the connector that best fits their industry and product type.

+ Rapid prototypes for evaluation
+ Available for high & low volume applications

MDT180 SERIES - **[CONNECTOR SELECTOR]**

	**Locking**	Molex 43025-0600 or CVILUX CP35006S0010			All models	**-P35C**
	**Friction locking**	Kycon friction locking Male			All models	**-P09B**

Still can't find your ideal connector? Contact sales for assistance

+44 (0)1183 420 730 sales@fiduspower.com