

30 Watts

- Latest Medical Approvals
- 4th Edition Medical EMC
- Universal input
- Class II with C18 or C8 inlet options
- Single outputs 5 to 48V
- Level B conducted & radiated emissions
- 5 Year warranty



Medical

Dimensions:

4.21 x 1.85 x 1.17" (107.0 x 47.0 x 29.6mm)

The MDT30 range of 30W external power supplies are designed and approved for use in medical applications complete with 4th edition medical EMC certification. The units offer up to 30 watts of output power in a slim package with output voltages available between 5 and 48VDC. The MDT30 provides customer applications with 2 means of patient protection (MOPP), is reliable, cost competitive, and comes with an impressive FiDUS 5 year warranty.

Models & Ratings

SELECT YOUR CONNECTOR PG5

Model Number ⁽¹⁾⁽²⁾⁽³⁾	Output Power	Output voltage	Output Current	Efficiency
MDT3005-C2	20W	5V	4A	80%
MDT3007-C2	23W	7V	3.28A	80%
MDT3009-C2	27W	9V	3.00A	81%
MDT3012-C2	30W	12V	2.50A	81%
MDT3015-C2	30W	15V	2.00A	83%
MDT3018-C2	30W	18V	1.66A	83%
MDT3024-C2	30W	24V	1.25A	85%
MDT3030-C2	30W	30V	1.00A	85%
MDT3036-C2	30W	36V	0.83A	86%
MDT3048-C2	30W	48V	0.62A	86%

Notes

1. '-C2' stands for Class II version, with IEC-320-C8 Input Inlet
2. Replace with '-C18' for Class II version, with IEC-320-C18 Input Inlet
3. Optional DC output connectors available please see page 5 for options
4. For UK/ US/ EU mains power cable please order UK-C14/C8, US-C14/C8 or EU-C14/C8 separately (C14 fits C18)

Key specifications

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
AC Input range	80		275	VAC	Derates to 80% at 80VAC from 100% at 90VAC
Operating temperature	-10		70	°C	Derate linearly from 100% load at 40°C to 50% load at 70°C
Efficiency	80		86	%	Taken at 230VAC at 100% load
Dimensions	4.21 x 1.85 x 1.17" ±0.04 (107.0 x 47.0 x 29.6mm ±1.0)				
EMC	EN55011/ EN60601-1-2 Level B Conducted and Radiated. IEC60601-1-2 2014 4th edition. EN61000-3 and EN61000-4, harmonics, flicker, Surge, EFT, ESD, conducted and radiated. CISPR-11 and FCC Part-18.				
Safety	IEC60601-1 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	80		275	VAC	No derating
Input frequency	47		63	Hz	
Power factor					EN61000-3-2 class A compliant
Input current		0.6		A	Low line. Full load, VIN=100VAC
		0.4			High line. Full load, VIN=240VAC
Inrush current			67	A	High line. Full load, 25°C, cool start, max current Vin=230VAC, min current Vin=100VAC
No load input power			0.3	W	

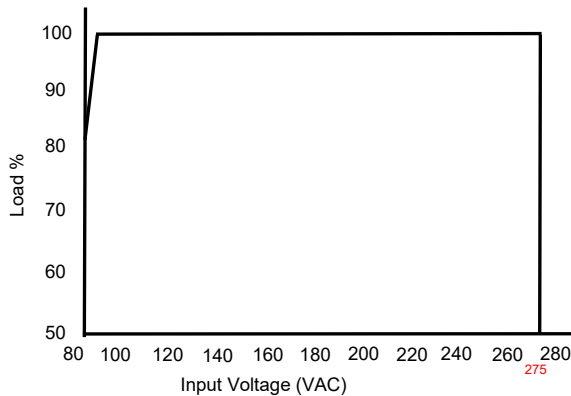
Output					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	5		48	VDC	
Total regulation	±3		±5	%	Includes set accuracy & load regulation. ≤18V: ±5%, 24-48V: ±3%
Line regulation			1	%	Changing +/-10% input voltage from nominal at rated load
Load regulation			5	%	Changing +/-40% from 60% rated load
Minimum load	0			%	
Time of Transient response			4	ms	Full load, Vin=110VAC
Ripple & Noise	50		100	mVp-p	5V model 50mV, 7V model 60mV, 9V model 80mV. ≥12 models 100mV. Measured at 20MHz bandwidth, with 0.47uF capacitor.
Hold up time	12			ms	
Over Load protection	110		150	%	Hiccup, auto recovering
Over Voltage protection	112		132	%	Crowbar mode
Short circuit protection					Automatic recovery

General					
Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	80		86	%	See models & ratings table
Isolation		4000		VAC	
Power density			3.3	W/In ³	
MTBF	100			KHrs	As per MIL-HDBK-217F, 25°C GB
Weight	265		280	g	

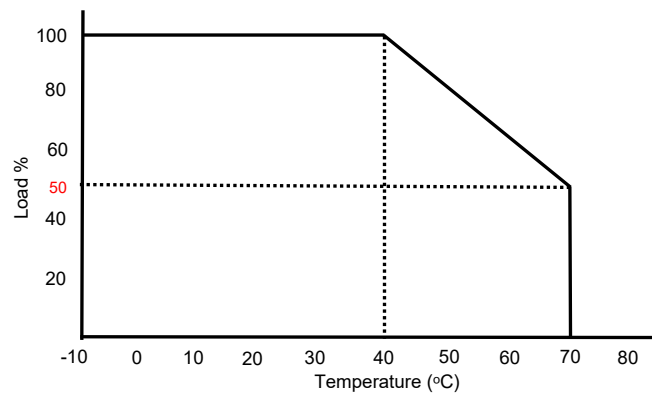
Environmental

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	Non-condensing
Vibration			5	G	10-500Hz, 10min/1cycle, 60 mins, each along X,Y,Z axes

Input Voltage Derating Curve



Temperature Derating Curve



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			

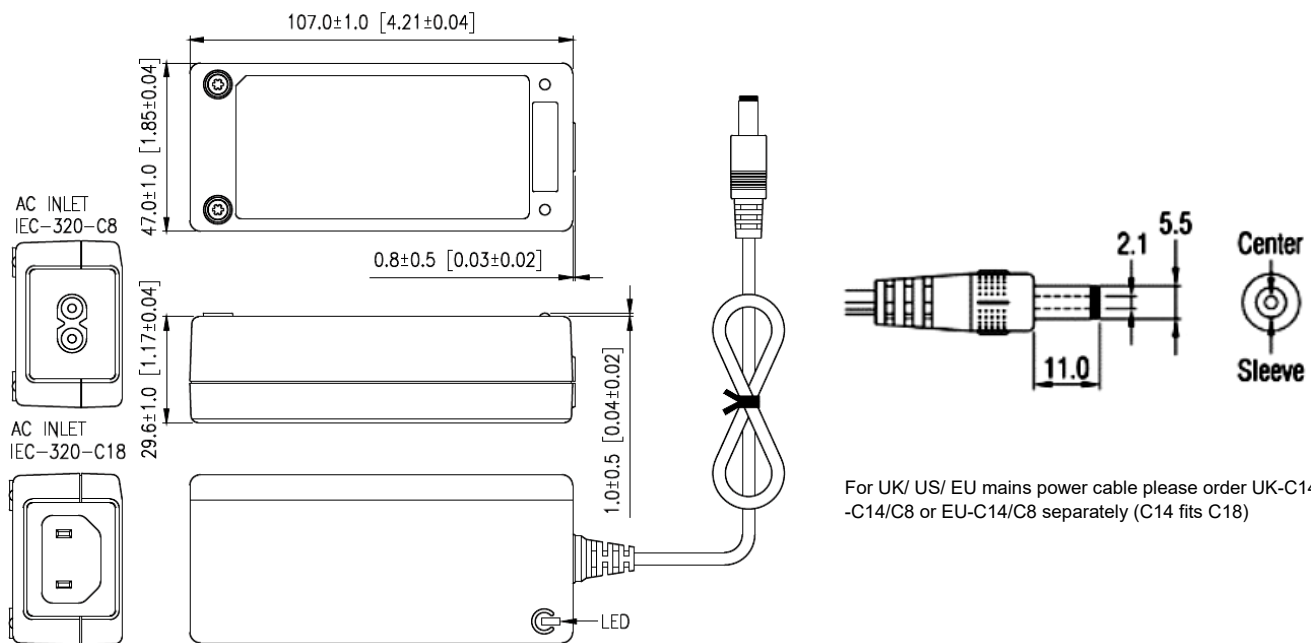
EMC: Immunity

	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
Power frequency magnetic field	EN61000-4-8		A	30A/m
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 II

Mechanical Details

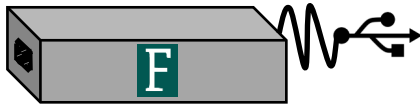


For UK/ US/ EU mains power cable please order UK-C14/C8, US-C14/C8 or EU-C14/C8 separately (C14 fits C18)

Notes

1. All dimensions in mm (inches)
2. Output cable 1219.2mm in length for 5 to 9V outputs –AWG16. 1828.8mm in length for 12 to 48V outputs AWG18
3. Output connector : Barrel female plug: OD: 5.5mm, ID: 2.1mm, L: 11mm. Other connectors available for production quantities, contact sales
4. IEC-320-C8 Input Inlet for '-C2' version. IEC-320-C18 Input Inlet for '-C18' version

Connector Selection



The MDT30 series is available with an range of output connectors, allowing customers to use the connector that best fits their industry and product.

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

MDT3012-C2 - [CONNECTOR SELECTOR]

	Universal	5.5mm/2.5mm Straight Barrel Jack (11mm length)			All models	-P01N
	Universal	5.5mm/2.1mm Straight Barrel Jack (9.5mm length)			All models	-P01J
	Universal	5.5mm/2.5mm Straight Barrel Jack (9.5mm length)			All models	-P01M
	Compact Tight to enclosure	5.5mm/2.1mm Right Angle Jack (11mm length)			All models	-P02K
	Compact Tight to enclosure	5.5mm/2.5mm Right Angle Jack (9mm length)			All models	-P02M
	Simple Durable	DIN-5 plug Male			All models	-P05B
	Locking Perfect for AV	Kycon plug Locking, male			All models	-P09B
	Modern Globally recognised	Micro USB Male			18V-48V models	-P88D

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

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