

70W Medical and ICT Class I and II External AC-DC Power Supplies

<https://product.tdk.com/en/power/dtm>
www.emea.lambda.tdk.com/dtm



The DTM70 Class I and DTM70-C8 Class II (no ground connection) 70W external power supplies are certified to IEC/ES/CSA/EN60601-1, IEC60601-1-11 (DTM70-C8 model) and are compliant to IEC60601-1-2 (Ed4) and IEC/BS/EN62368-1. With an average efficiency of up to 91% and an off-load power consumption of less than 0.15W, this series also complies with DoE Level VI standards. The DTM70 series is suitable for a variety of medical, clinical, healthcare, industrial, test and measurement applications.

Features	Benefits
• Wide Range AC Input (Class I or Class II Input Options)	• Supports Medical and Industrial Applications Globally
• Locking Output Connector	• Avoids Accidental Disconnection
• DoE Level VI Efficiency	• Meets US Energy Saving Legislation
• 60601-1 Medical Certifications (2xMOPP)	• Suitable for B & BF Rated Equipment
• 62368-1 Compliant for ICT and Industrial Applications	• Suitable for Industrial Applications
• < 0.15W Off-load Power Draw	• Consumes Less Energy, ErP Compliant

Model Selector							
Model	Output Voltage (V)	Maximum Current (A)	Maximum Power (W)	Overvoltage Protection (V)	Ripple & Noise (mV pk-pk)	Efficiency at 230Vac (%)	Max. Load Capacitance (µF)
DTM70CN120	12	5.8	70	13.5	120	89	5,800
DTM70CN150	15	4.65	70	16.5	150	89	4,650
DTM70CN180	18	3.9	70	19.5	180	89	3,900
DTM70CN240	24	3	70	26	240	90	3,000
DTM70CN360	36	1.9	70	40	360	90	1,900
DTM70CN480	48	1.5	70	53.5	480	91	1,500
DTM70CN120C8	12	5.8	70	13.5	120	89	5,800
DTM70CN150C8	15	4.65	70	16.5	150	89	4,650
DTM70CN180C8	18	3.9	70	19.5	180	89	3,900
DTM70CN240C8	24	3	70	26	240	90	3,000
DTM70CN360C8	36	1.9	70	40	360	90	1,900
DTM70CN480C8	48	1.5	70	53.5	480	91	1,500

DTM70CN	120	C8	-xxx
Series	120 = 12V Output Voltage 150 = 15V Output Voltage 180 = 18V Output Voltage 240 = 24V Output Voltage 360 = 36V Output Voltage 480 = 48V Output Voltage	Blank = Class I (IEC320/C14) inlet C8 = Class II (IEC320/C8) inlet	Modified standard designator for alternative connectors, cables and other non-safety file impacting changes*

* Contact Sales, MOQs may apply

Related Products		
Type	Part Number	Description
Power supply	DTM and WMM	30 to 300W external power supplies

Specifications		
Model		
Input		
AC Input Voltage Range (Operating)	Vac	80 - 264 - Derate output power linearly to 80% load from 80Vac to 90Vac input
Nominal Input Voltage Range	Vac	100 - 240 (Note: Safety certified for 90-264Vac only)
Input Frequency	Hz	47 - 63
Input Current (115/230Vac)	A	1.5 / 0.75
Power Factor (115/230Vac)	-	0.54 / 0.46
Harmonic Compliance	-	Meets EN61000-3-2 Class A
Inrush Current at 240Vac (Cold Start)	A	<100 (25°C ambient)
Earth Leakage Current	uA	<300 (DTM70)
Touch Current	uA	<90 (DTM70, DTM70-C8)
No Load Power Consumption	mW	<150
Hold Up Time (min. / typ.) at 115Vac Input	ms	8 / 10
Line Regulation	%	1
Efficiency	%	See Model Selector Table
Low Input Voltage Protection	Vac	60 - 70
Conducted & Radiated EMI	-	IEC/EN61000-6-1, IEC/EN61000-6-2, EN55011 (Class B), EN55032 (Class B), FCC 47 Part 18, IEC60601-1-2; IEC/EN 61000-3-2, IEC/EN 61000-3-3
Immunity	-	IEC/EN61000-6-3, IEC/EN61000-6-4, IEC60601-1-2
Insulation Class	-	DTM70: Class I, DTM70-C8: Class II
Safety Certifications and Markings	-	IEC/UL/CSA/EN60601-1, IEC60601-1-11 (Class II models) Compliant to IEC/BS/EN62368-1, CE Mark and UKCA Mark
Output		
Voltage Accuracy	%	±2 (at 115/230Vac, 60% load and 25°C ambient)
Output Voltage Adjustment	-	None
Switching Frequency (Full Load)	kHz	65
Ripple & Noise (1)	-	See Model Selector Table
Minimum Load	-	No minimum load required
Overcurrent Protection	%	130 - 150 (Auto-Recovery)
Overvoltage Protection	-	See Model Selector Table (Auto-Recovery)
Short Circuit Protection	-	Continuous - Hiccup Mode (Auto-Recovery)
Indicators	-	LED indicates DC output is on
Parallel Operation	-	Not possible
Environmental		
Operating Temperature	°C	-30 to +60, derate linearly to 50% load from +40 to +60
Storage Temperature	°C	-40 to +85
Humidity (non condensing)	%RH	93 (max.)
Overvoltage Category	-	II
Pollution Degree	-	PD2
Cooling	-	Convection
Altitude	m	5,000
Withstand Voltage (For 1 minute)	Vac	DTM70: Input to Output 4,400 (2x MOPP), Input and Output to Ground 1,800 (1x MOPP) DTM70-C8: Input to Output 4,400 (2x MOPP)
Isolation Resistance	MΩ	20
IP Rating	-	IP21
Other		
Weight (Typ)	g	300
Size (LxWxH)	mm	120 x 52 x 31
Size (LxWxH)	Inches	4.72 x 2.05 x 1.22
AC Input Connector	-	Class I: IEC 320-C14, Class II: IEC320-C18. AC line cord not included.
DC Output Connector	-	Kycon KPPx-4P or equivalent Pins 1 & 2: -Vout, Pins 3 & 4: +Vout. Locking type.
Cable Length & Thickness	-	See Outline Drawing
MTBF (MIL HDBK 217F at full load, GB25°C)	Hours	500,000
Warranty	Years	3

Notes

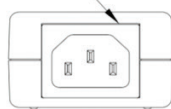
See website for detailed specifications, test methods and installation manual

(1) Ripple and noise is measured at 20MHz bandwidth. Add 100nF ceramic capacitor and 10uF electrolytic capacitor in parallel across the output

Mechanical Specification

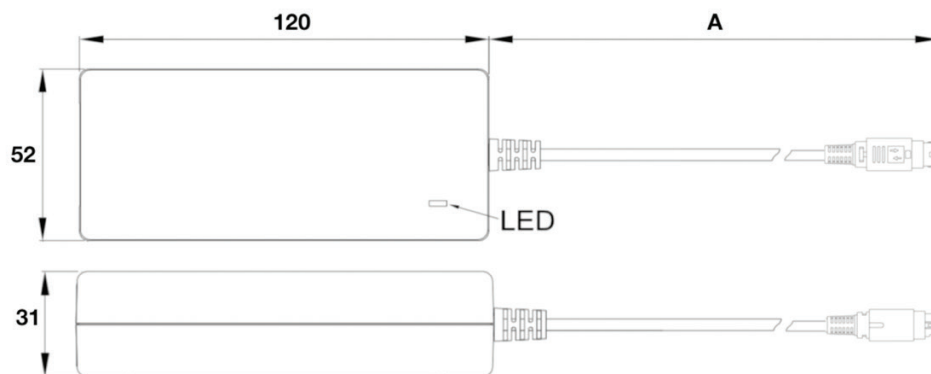
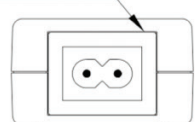
DTM70:

IEC320/C14



DTM70-C8:

IEC320/C8



All dimensions in mm

A	Wire Size	For models
1220mm	16AWG	12V and 15V
1800mm	16AWG	18V
1800mm	18AWG	24V, 36V and 48V

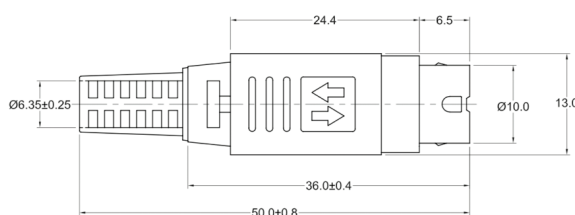
Output Connector

Output Connector

Kycon KPPx-4P
(or equivalent)

P1, P2: -Vout

P3, P4: +Vout



Alternative output connectors are available
Please contact sales for further information (minimum quantities apply)

