



## 15 Watt MEDICAL Switching Adapter Wall Mount, Series DVTR15RAM



### Features

- Universal Input: 90 – 264Vac
- Efficiency up to 82%
- Continuous Short Circuit Protection
- Approval EN60601-1 2 MOPP and EN55011 Class B
- Interchangeable AC Plugs
- Over Voltage Protection
- Meet Level V ( Output cable length  $\leq$  1800mm )
- Meet ErP Level V
- Operating Altitude 3000m

MODEL NUMBER	OUTPUT VOLTAGE [ VDC ]	OUTPUT CURRENT MAX. [ A ]	OUTPUT CURRENT MIN. [ A ]	VOLTAGE ACCURACY [ % ]	LINE REGULATION [ % ]	LOAD REGULATION [ % ]	EFF. [ % ]
TR15RAM050	5	2,0	0	$\pm 3$	$\pm 1$	$\pm 4$	75
TR15RAM120	12	1,1	0	$\pm 2$	$\pm 1$	$\pm 2$	81
TR15RAM150	15	1,0	0	$\pm 2$	$\pm 1$	$\pm 2$	82
TR15RAM240	24	0,625	0	$\pm 2$	$\pm 1$	$\pm 2$	80

Typical at 25°C , nominal line and 75% load, unless otherwise specified.

- NOTE:
1. Voltage setpoints at 60% full load.
  2. Add a 0,1 $\mu$ F ceramic capacitor and a 10 $\mu$ F E.L. capacitor to output for ripple & noise measurement @20MHz BW
  3. Line regulation measured from 100Vac to 240Vac, full load.
  4. Load regulation measured from 60% to full load and from 60% to 20% load ( 60%+/-40% load )

Ordering Information						
Model	Output	AC Plug Type	DC Plug Type	Cable	DC Cable Length	Case Color
TR15RAM	XXX	-XXXX	-XX	X	XX	-XX-BK
	050 : 5V	-ASUE : Include 4 Type Blank : Order Separately AC Adapter A: American type S: Australian type U: U.K. type E: European type	STANDARD OUTPUT DC PLUG	E: UL1185 with OVP	01: 720mm	BE-BK :
	120 : 12V				02: 1220mm	Blue-Black
	150 : 15V				03: 1800mm	GY-BK:
					11: 720mm with Ferrite Core	Gray-Black
	12: 1220mm with Ferrite Core				RD-BK :	
	240 : 24V				13: 1800mm with Ferrite Core	Red-Black
						PE-BK :
						Purple-Black
						OR-BK :
						Orange-Black

Example:

TR15RAM050-01E03-GY-BK, 5Vdc Output, DC Jack Type, Cable Length 1800mm, Case Color Gray-Black

TR15RAM050-ASUE-01E03-GY-BK, 5Vdc Output, Include 4 Type AC Plug, DC Jack Type, Cable Length 1800mm, Case Color Gray-Black

## INPUT SPECIFICATIONS:

Input Voltage Range.....	90-264Vac
	120-370Vdc
Input Frequency Range.....	47 to 63Hz
Input Current.....	100% Load, Vin=100Vac
	0,4A max.
Leakage Current.....	100µA max.
Inrush Current.....	Vin=240Vac, Cold start at 25°C
	50A max.

## OUTPUT SPECIFICATIONS:

Hold-up Time.....	Vin 115Vac	10mS typ.
Line Regulation.....	Vin=High line to low line, full load	±1.0% max.
Load Regulation (60%±40% Full load change).....	Vo 5V	±4.0% max
	Vo 12V/15V/24V	±2.0% max
Over Voltage Protection.....	TVS Component to Clamp	
Over Current Protection.....	Auto recovery	110% min. - 160% max.
Short Circuit Protection.....	Auto recovery	Continuous

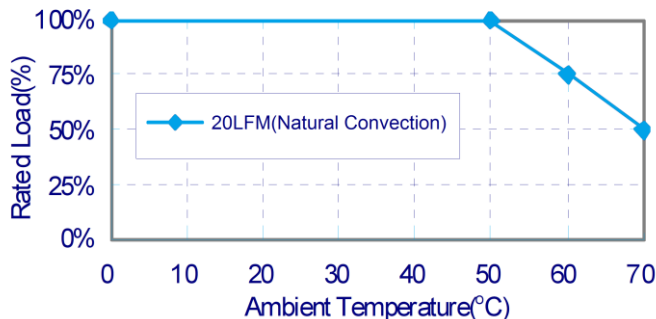
## GENERAL SPECIFICATIONS:

Isolation Input to Output.....	1 minute	4000VAC max.
Isolation Resistance.....	Input to Output	100 MΩ min.
Switching Frequency.....		95KHz typ.
Operating Case Temperature Range.....	see derating curve	-20°C to +70°C
Storage Temperature Range.....		-20°C to +85°C
Humidity.....	Non condensing	93% RH max.
Cooling.....		Natural Convection
MTBF.....	Io=100%; Ta=25°C per MIL-HDBK-217F	200Khrs min.
Altitude.....		3000m max.
Shock.....	MIL-STD-810F Table 516.5	75g typ.
Vibration.....	MIL-STD-810F Table 514.5C-VIII	4g typ
Dimensions.....		80,60 x 47,90 x 43,30 mm
Weight.....		130g typ.

## SAFETY & EMC:

Safety.....	Class II, IEC 60601-1:2005+CORR.1:2006+CORR.2:2007+A1:2012
	EN 60601-1:2006+A11:2011+A1:2013+A12:2014, ANSI/AAMI ES 60601-1:2005 (Ed.3.0)
EMC Emission.....	EN 55011:2009+A1:2010, Class B, EN 61000-3-2:2014 and EN 61000-3-3:2013, FCC 47 CFR Part 15
Conducted Disturbance.....	EN 55011:2009+A1:2010, Class B, FCC 47 CFR Part 15
Radiated Disturbance.....	EN 55011:2009+A1:2010, Class B, FCC 47 CFR Part 15
Harmonic Current Emissions.....	EN 61000-3-2
Voltage Fluctuations & Flicker.....	EN 61000-3-3
EMC Immunity.....	EN 60601-1-2:2015, IEC 61000-4-2, 3, 4, 5, 6, 8, 11
Electrostatic Discharge (ESD).....	IEC 61000-4-2:2008, Air Discharge: ±15kV, Contact Discharge: ±8kV
Radio-Frequency, Continuous, Radiated Disturbance.....	IEC 61000-4-3
Electrical Fast Transient (EFT).....	IEC 61000-4-4
Surge.....	IEC 61000-4-5:2014, L-N: ±1kV
Conducted Disturbances, Induced by RF Fields.....	IEC 61000-4-6
Power Frequency Magnetic Field.....	IEC 61000-4-8
Voltage Dips.....	IEC 61000-4-11, Dips:30% reduction, Dips: 100% Reduction
Voltage Interruptions.....	IEC 61000-4-11, 100% Reduction

## Derating Curve



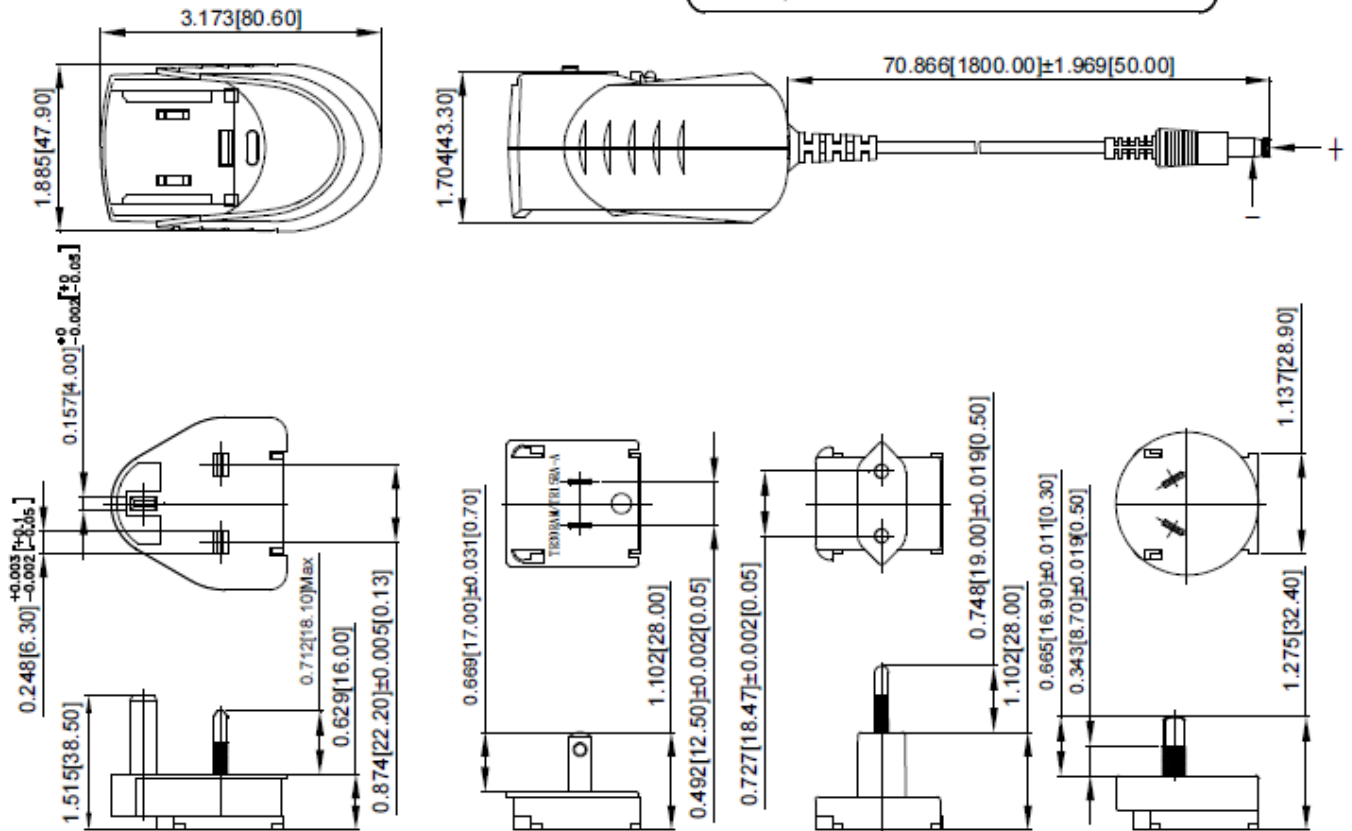
# MECHANICAL SPECIFICATION

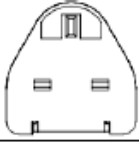

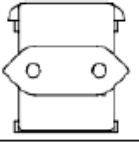
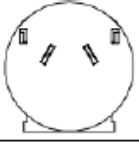
# Series DVTR15RAM

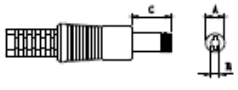
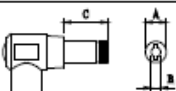
Tolerance: inches: x.xxx±0.02, mm: x.xx±0.5

All Dimensions are in inches[mm]  
Tolerance: Inches: X.XXX±0.02  
Millimeters: X.XX±0.5

DC Plug type: V+ —●— V-  
DC Plug : Straight (φ5.5/φ2.1) L12mm  
18AWG/1800mm



TYPE				
	U.K type (U)	American type (A)	European type (E)	Australian type (S)
ORDER NO.	P/N: 17IP.015.002 / UK	P/N: 17IP.015.004 / USA	P/N: 17IP.015.001 / Europe	P/N: 17IP.015.003 / AUS

DC Plug Type	Cable Number-XXXX	A	B	C	Cable Type	Cable Length	Cable AWG
		OD (mm)	ID (mm)	L (mm)			
 Straight/Inner+Outer- + ● -	11E03	Φ5.5	Φ2.1	12	UL1185	1800mm without Core	18AWG for Vo: 5V, 12V, 15V, 24V
	12E03	Φ5.5	Φ2.5	12			
	23E03	Φ5.5	Φ2.1	9.5			
	26E03	Φ5.5	Φ2.5	9.5			
 Right Angle/Inner+Outer- + ● -	01E03	Φ5.5	Φ2.1	12			
	02E03	Φ5.5	Φ2.5	12			
	21E03	Φ5.5	Φ2.5	9.5			
	24E03	Φ5.5	Φ2.1	9.5			

Other DC Plug Type on request

Technische Änderungen vorbehalten / Specifications are subject to change without notice