



# TR15RAM SERIES

## 15W Medical SWITCHING ADAPTER

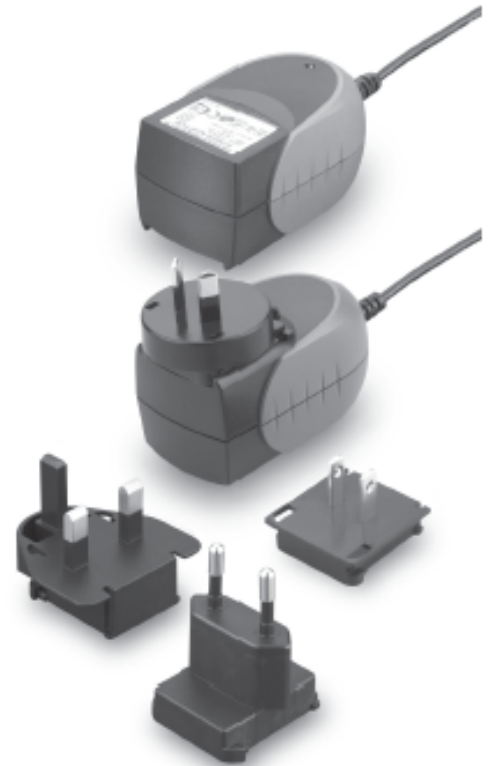


### Features

- \* Universal Input Range 90~264VAC
- \* Meets EN60601-1 and EN55011 Class "B"
- \* Continuous Short Circuit Protection
- \* Interchangeable AC Plugs
- \* Over Voltage Protection
- \* Efficiency & Standby Power Meet Level V (Output Cable Length  $\leq$  1800mm)
- \* Meets 2MOPP

### Ordering information

TR15RAMXXX - XX	E XX	-	XX	-BK
Model No.	DC Plug Type	DC Cable Length and Type	Color of Overmold Case	
		01: 720mm	BE: Blue	
		02: 1220mm	GY: Gray	
		03: 1800mm	RD: Red	
		11: 720mm with Ferrite Core	PE: Purple	
		12: 1220mm with Ferrite Core	OR: Orange	
		13: 1800mm with Ferrite Core		
		* 18AWG / UL1185		



MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE & NOISE NOTE 1	VOLTAGE ACCURACY NOTE 2	LINE REGULATION NOTE 3	LOAD REGULATION NOTE 4	% EFF. (Typ.) NOTE 5
TR15RAM050	5 V	2.0 A	1%	$\pm 3\%$	$\pm 1\%$	$\pm 4\%$	73%
TR15RAM120	12 V	1.1 A	1%	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	82%
TR15RAM150	15 V	1.0 A	1%	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	81%
TR15RAM240	24 V	625 mA	1%	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	82%

Specifications are subject to change without notice.

## Specifications

### INPUT SPECIFICATIONS:

Voltage ..... 90~264Vac  
 Frequency ..... 47 to 63Hz  
 Inrush Current ..... 50A max. @ 240Vac  
 Leakage Current ..... 0.1mA max.

### OUTPUT SPECIFICATIONS:

Hold-up Time ..... 10ms typ. @115Vac  
 Temperature Coefficient ..... ±0.05%/°C  
 Short Circuit Protection ..... Continuous (Auto Recovery)  
 Over Voltage Protection .....TVS Component to Clamp

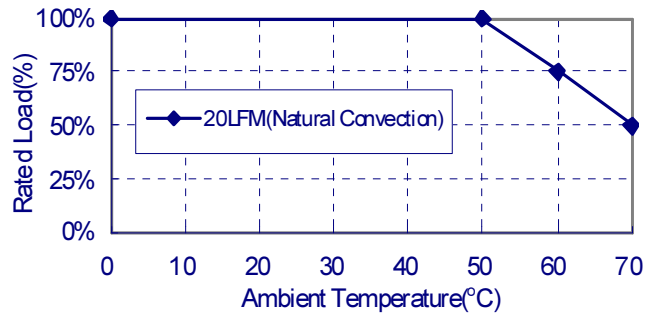
### GENERAL CHARACTERISTICS:

Isolation ..... Input to output = 5,656VDC  
 Switching Frequency ..... 95KHz typical  
 Operating Temperature ..... 0 - 70°C(see derating curve)  
 Storage Temperature ..... -20 - 85°C  
 Cooling ..... Natural Convection  
 MTBF ..... MIL-HDBK-217F, GB, at 25°C/115VAC ..... 200Khrs min.  
 Humidity ..... 93% RH max. Non condensing  
 Altitude ..... 3000m  
 Dimensions ..... 3.173x1.885x1.704 inches (80.60x47.90x43.30mm)  
 Weight ..... 130g(0.29 Pounds)

### SAFETY AND EMC:

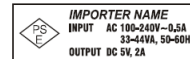
Emission and Immunity ..... EN55011 Class B, FCC Part 15 Class B  
 EN60601-1-2, EN61000-3-2, EN61000-3-3  
 Safety ..... IEC60601-1:2005, EN60601-1:2006, ANSI/AAMEI ES60601-1:2005

## TR15RAM Series Derating Curve



### NOTE:

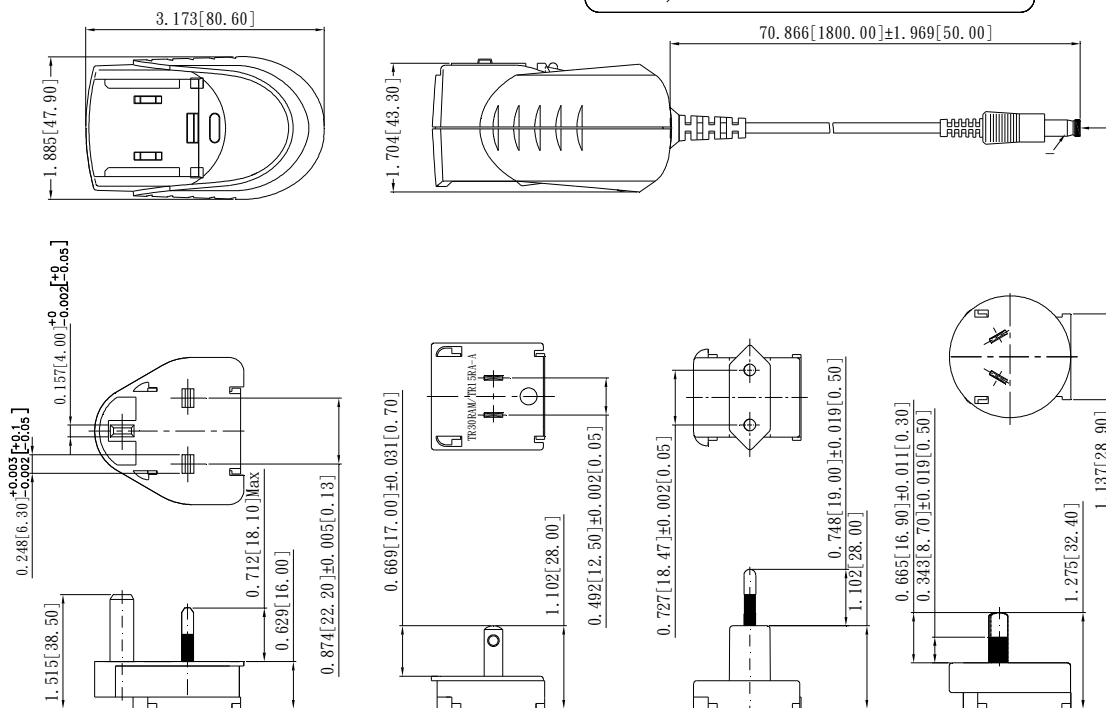
1. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
2. Voltage setpoint at 60% full load.
3. Line regulation measured from 100Vac to 240Vac full load.
4. Load regulation measured from 60% to full load and from 60% to 20% load (60% +/- 40% load).
5. Typical efficiency at 230VAC and full load at 25°C.
6. "Various TR Series adapters are PSE certified. PSE certification alone is not sufficient for importation into Japan. A valid PSE mark must contain the name of the importer as shown in the example below. If PSE mark is required, the name of the registered importer must be supplied to Cincon on order placement. Product labels will not contain PSE mark if importer name is not supplied. Consult factory or local representative for details".



## Mechanical Specification

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



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