



# TR15RAM SERIES

## 15W Medical SWITCHING ADAPTER

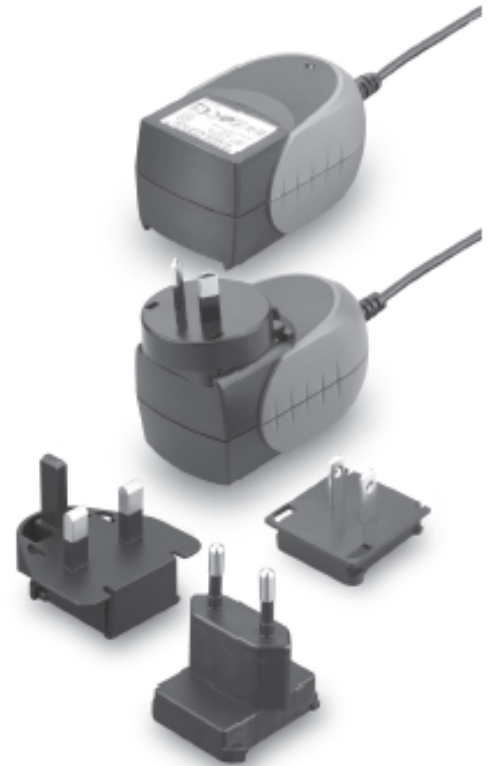


### Features

- \* 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: 7200mm 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<br>NOTE 1 | VOLTAGE ACCURACY<br>NOTE 2 | LINE REGULATION<br>NOTE 3 | LOAD REGULATION<br>NOTE 4 | % EFF. (Typ.)<br>NOTE 5 |
|------------|----------------|----------------|--------------------------|----------------------------|---------------------------|---------------------------|-------------------------|
| TR15RAM050 | 5V             | 2.0A           | 1%                       | ±3%                        | ±1%                       | ±4%                       | 73%                     |
| TR15RAM120 | 12V            | 1.1A           | 1%                       | ±2%                        | ±1%                       | ±2%                       | 82%                     |
| TR15RAM150 | 15V            | 1.0A           | 1%                       | ±2%                        | ±1%                       | ±2%                       | 81%                     |
| TR15RAM240 | 24V            | 625mA          | 1%                       | ±2%                        | ±1%                       | ±2%                       | 82%                     |

## 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     |

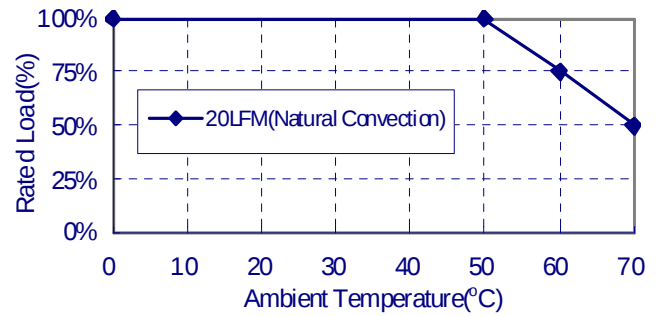
### GENERAL CHARACTERISTICS:

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| 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 ..... 200K hrs min. |
| Humidity .....              | 93% RH max. Non condensing                            |
| Altitude .....              | 3000m                                                 |
| Dimensions .....            | 3.173x1.885x1.704Inches (80.60x47.90x43.30mm)         |
| Weight .....                | 130g(0.29 Pounds)                                     |

### SAFETY AND EMC:

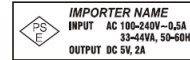
|                             |                                                           |
|-----------------------------|-----------------------------------------------------------|
| Emission and Immunity ..... | EN55011 Class B, FCC Part 15 Class B                      |
|                       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

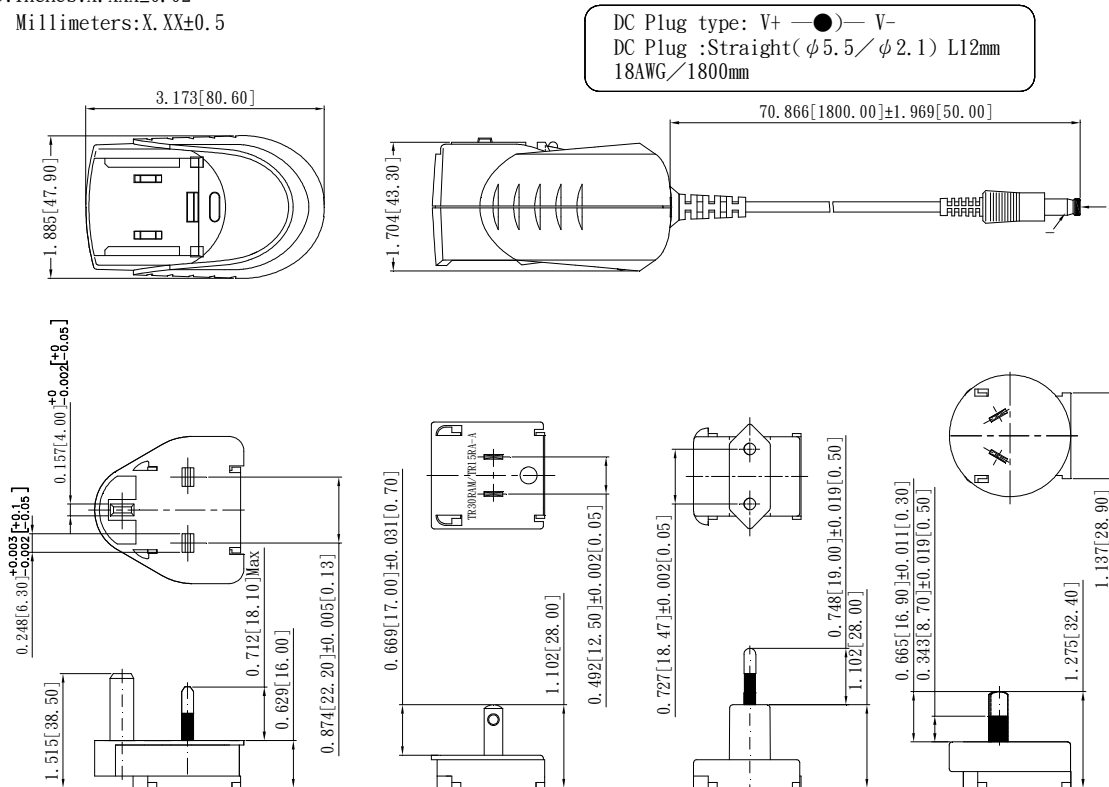


## Mechanical Specification

All Dimensions are in inches(mm)

Tolerance: Inches: X.XXX±0.02

Millimeters: X.XX±0.5



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

# Mouser Electronics

Authorized Distributor

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Cincon:

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