



# TR15RA SERIES

## 15W SWITCHING ADAPTER

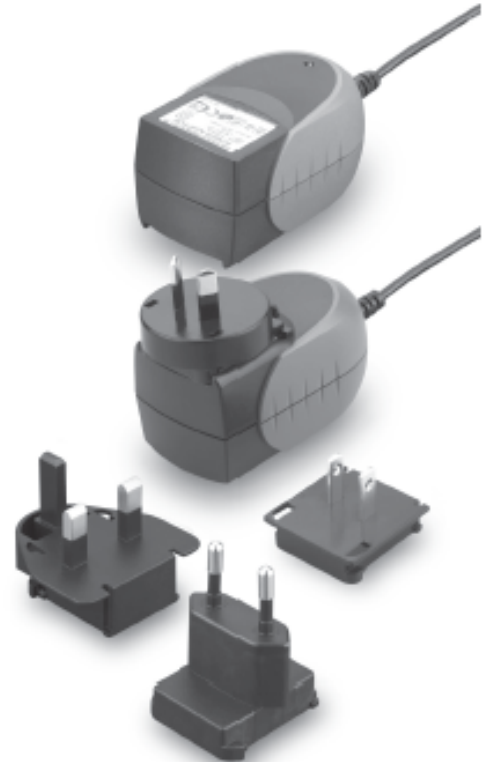


### Features

- \* Universal Input Range 90~264VAC
- \* Meets EN55022 Class "B"
- \* Continuous Short Circuit Protection
- \* Interchangeable AC Plugs
- \* Over Voltage Protection
- \* Meet CEC & ErP Level V  
(Output Cable Length  $\leq$  1800mm)

### Ordering information

| TR15RAXXX | - | 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<br>NOTE 1 | VOLTAGE ACCURACY<br>NOTE 2 | LINE REGULATION<br>NOTE 3 | LOAD REGULATION<br>NOTE 4 | % EFF. (Typ.)<br>NOTE 5 |
|-----------|----------------|----------------|--------------------------|----------------------------|---------------------------|---------------------------|-------------------------|
| TR15RA050 | 5V             | 2.0A           | 1%                       | $\pm 3\%$                  | $\pm 1\%$                 | $\pm 4\%$                 | 70%                     |
| TR15RA060 | 6V             | 1.7A           | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 3\%$                 | 74%                     |
| TR15RA090 | 9V             | 1.4A           | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 76%                     |
| TR15RA120 | 12V            | 1.1A           | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 79%                     |
| TR15RA150 | 15V            | 1.0A           | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 79%                     |
| TR15RA180 | 18V            | 830mA          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 79%                     |
| TR15RA240 | 24V            | 625mA          | 1%                       | $\pm 2\%$                  | $\pm 1\%$                 | $\pm 2\%$                 | 80%                     |

## Specifications

### INPUT SPECIFICATIONS:

Voltage ..... 90~264Vac  
 Frequency ..... 47 to 63Hz  
 Inrush Current ..... 50A max. @240Vac  
 Leakage Current ..... 0.25mA max.

### OUTPUT SPECIFICATIONS:

Hold-up Time ..... 10ms typ. @115Vac  
 Short Circuit Protection ..... Continuous(Auto Recovery)  
 Over Voltage Protection ..... TVS Component to Clamp  
 Temperature Coefficient .....  $\pm 0.05\%$  /  $^{\circ}\text{C}$

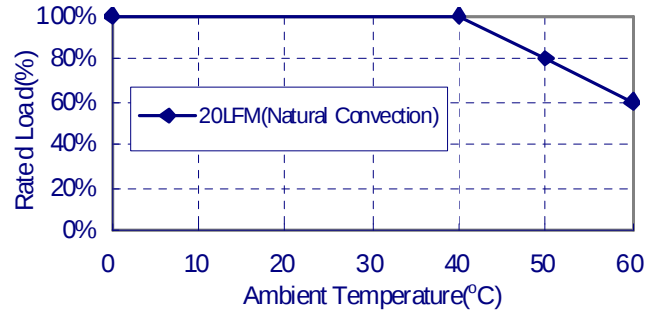
### GENERAL SPECIFICATIONS:

Isolation ..... Input to output = 4,242VDC  
 Operating Temperature ..... 0 ~ 60 $^{\circ}\text{C}$  (see derating curve)  
 Storage Temperature ..... -20~85 $^{\circ}\text{C}$   
 Humidity ..... 93% RH max. Non condensing  
 Cooling ..... Natural Convection  
 Switching Frequency ..... 80KHz Typical  
 MTBF ..... MIL-HDBK-217F, GB, at 25 $^{\circ}\text{C}$ /115VAC ..... 200K hrs min.  
 Altitude ..... 2000m  
 Dimensions ..... 3.173x1.885x1.705Inches (80.60x47.90x43.30mm)  
 Weight ..... 150g(0.33 Pounds)

### SAFETY AND EMC:

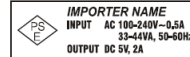
Emission and Immunity ..... EN55022 Class B, EN61000-6-3  
 EN61000-3-2, EN61000-3-3, EN55024, EN61204-3, EN61000-6-1  
 Safety ..... IEC60950-1, EN60950-1, UL60950-1

## TR15RA 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 $^{\circ}\text{C}$
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".

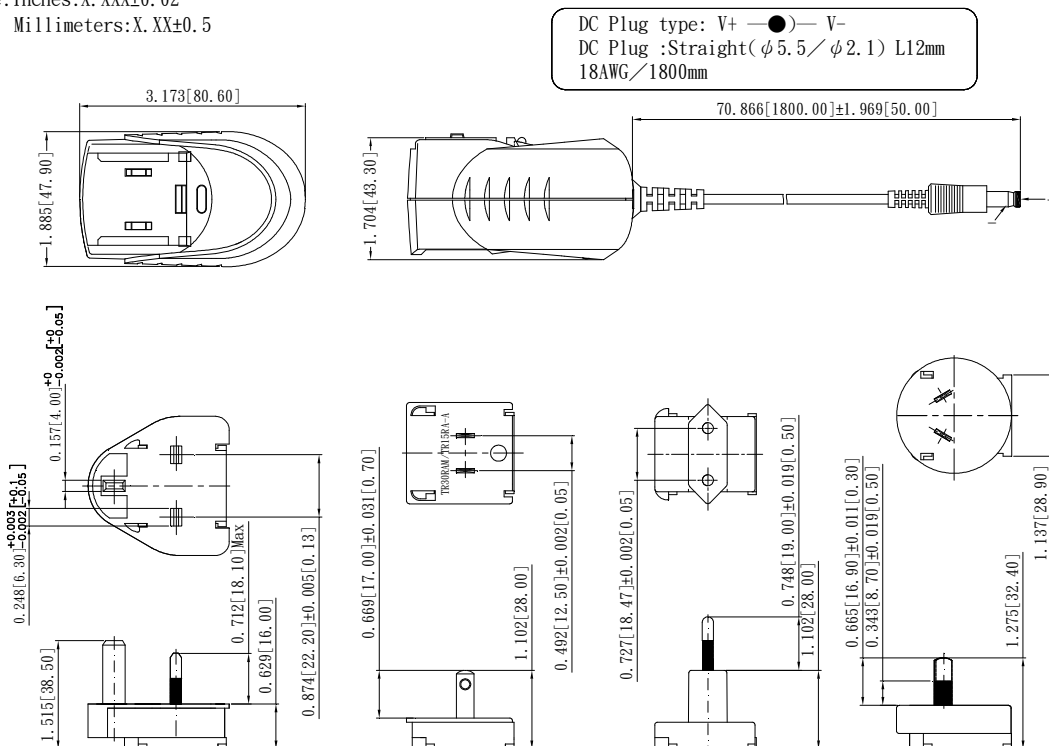


## Mechanical Specification

All Dimensions are in inches(mm)

Tolerance: Inches:X.XXX $\pm$ 0.02

Millimeters:X.XX $\pm$ 0.5



Typical at 25 $^{\circ}\text{C}$ , nominal line and 75% load, unless otherwise Specified

# Mouser Electronics

Authorized Distributor

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## Cincon:

|                                                      |                                                      |                                                      |
|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| <a href="#"><u>TR15RA050-11E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA050-12E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA060-11E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA060-12E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA090-11E03-GY-BKLevel-V</u></a>  | <a href="#"><u>TR15RA090-12E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA120-11E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA120-12E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA150-11E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA150-12E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA180-11E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA180-12E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA240-11E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA240-12E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA120-35E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA120-36E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA120-39E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA120-40E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA120-48E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA120-49E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA240-35E03-GY-BK-Level-V</u></a> |
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| <a href="#"><u>TR15RA050-02E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA060-01E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA060-02E03-GY-BK-Level-V</u></a> |
| <a href="#"><u>TR15RA090-01E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA090-02E03-GY-BK-Level-V</u></a> | <a href="#"><u>TR15RA120-01E03-GY-BK-Level-V</u></a> |
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| <a href="#"><u>TR15RA240-02E03-GY-BK-Level-V</u></a> |                                                      |                                                      |