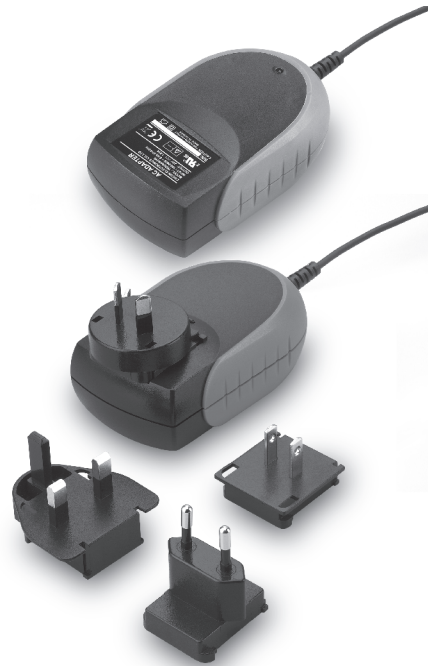


# TR30RAM

S E R I E S

## 30W MEDICAL SWITCHING ADAPTER



### Features

- Universal Input Range 90~264VAC
- Continuous Short Circuit Protection
- Meets EN60601-1 and EN55011 Class B
- Over Voltage Protection
- CEC Level IV Compliant (Output Cable Length  $\leq$  1800mm)  
(TR30RAM050: Output Cable Length  $\leq$  1500mm)
- Efficiency & Standby Power Meet Level V (Option)  
(Output Cable Length  $\leq$  1800mm)  
**(TR30RAM050, TR30RAM090: Output Cable Length  $\leq$  1220mm)**
- Provide PSE Mark
- Meets 2 MOPP

### Ordering information

TR30RAMXXX -	XX	E	XX	-	XX	-	BK
<b>Model No.</b>	<b>DC Plug Type</b> * Please see Page 243 for more detailed descriptions	<b>DC Cable Length and Type</b> 01 : 720mm 02 : 1220mm 03 : 1800mm 11 : 720mm with Ferrite Core 12 : 1220mm with Ferrite Core 13 : 1800mm with Ferrite Core * 18AWG / UL1185 * 16AWG / UL1185 for 5V, 9V			<b>Color of Overmold Case</b> BE : Blue GY : Gray RD : Red PE : Purple OE : Orange		

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE & NOISE NOTE 2	VOLTAGE ACCURACY NOTE 1	LINE REGULATION NOTE 3	LOAD REGULATION NOTE 4	%EFF. (Typ.) NOTE 5
TR30RAM050	5 V	4.0 A	1%	$\pm$ 2%	$\pm$ 1%	$\pm$ 6%	80%
TR30RAM090	9 V	3.0 A	1%	$\pm$ 2%	$\pm$ 1%	$\pm$ 3%	84%
TR30RAM120	12 V	2.5 A	1%	$\pm$ 2%	$\pm$ 1%	$\pm$ 2%	84%
TR30RAM150	15 V	2.0 A	1%	$\pm$ 2%	$\pm$ 1%	$\pm$ 2%	85%
TR30RAM180	18 V	1.67 A	1%	$\pm$ 2%	$\pm$ 1%	$\pm$ 2%	85%
TR30RAM240	24 V	1.25 A	1%	$\pm$ 2%	$\pm$ 1%	$\pm$ 2%	86%

## Specifications

### INPUT SPECIFICATIONS:

Voltage ..... 90~264Vac  
 Frequency ..... 47 to 63Hz  
 Input Current ..... 100Vac/0.8A max., 240 Vac/0.4A max.  
 Inrush Current ..... Cold start@25°C 100A max. @240Vac  
 Leakage Current ..... 100µA max.

### OUTPUT SPECIFICATIONS:

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

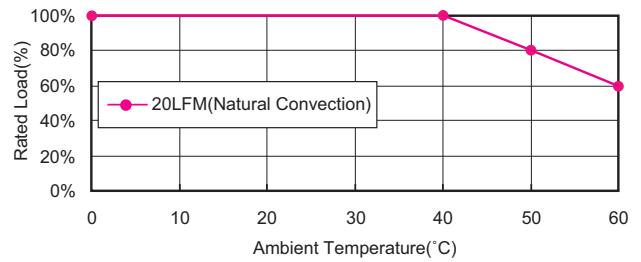
### GENERAL SPECIFICATIONS:

Isolation ..... Input to output = 5,656VDC  
 Operating Temperature ..... 0°C~60°C (see derating curve)  
 Storage Temperature ..... -20~85°C  
 Humidity ..... 93% RH max. Non condensing  
 Cooling ..... Natural Convection  
 Switching Frequency ..... 70KHz Typical  
 MTBF ..... MIL-HDBK-217F, GB, at 25°C/115VAC .....200K hrs min.  
 Altitude ..... 3000m  
 Dimensions ..... 4.278x2.440x1.445 inches (108.67x61.98x36.70 mm)  
 Weight ..... 300g (0.67 Pounds)

### SAFETY AND EMC:

Emission and Immunity ..... EN55011 Class B, EN61000-3-2, EN61000-3-3  
 EN60601-1-1-2, IEC61000-4-2,4,5,6,8,11  
 FCC CFR47 Part 18 Class B  
 Safety ..... IEC60601-1:2005, EN60601-1:2006  
 UL ANSI/AAMI ES60601-1:2005

## TR30RAM Series Derating Curve



### NOTE:

1. Voltage accuracy is set at 60% load and 25°C Ta.
2. Add a 0.1µF ceramic capacitor and a 10µF E.L. capacitor to output for Ripple & Noise measuring @20MHz BW.
3. Line regulation measured from 100Vac to 240Vac with full load.
4. Load regulation measured from 60% to full load and from 60% to 20% load (60% +/- 40% load).
5. Typical efficiency with 230 Vac and max. 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 In Inches(mm)  
 Tolerance Inches: x.xxx= ±0.02  
 Millimeters: x.xxx= ±0.5

