

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
Model No.	DC Plug Type * Please see Page 243 for more detailed descriptions	DC Cable Length and Type 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					Color of Overmold Case 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

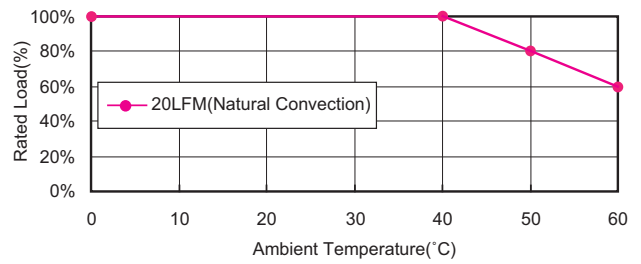
GENERAL SPECIFICATIONS:

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/115VAC200K 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
 EN60601-1-2, 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.xx= ±0.5

