

Features

Regulated Converters

- AC-DC Power Supply
- 30 Watt PCB Mount Package
- Universal Input Voltage Range
- 3000VAC Isolation
- Low Output Ripple and Noise
- Short Circuit Protected
- Triple Output with Independent Outputs
- UL Certified, CE Marked

Description

Compact UL certified switching AC/DC power module for PCB, screw-terminal connection or DIN-rail mounting.

Selection Guide

| Part Number | Input Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max. Capacitive Load |
|--------------|-------------------|----------------------|---------------------|----------------|----------------------|
| RAC30-3.3SA | 90-264 | 3.3 | 6000 | 75 | 80000µF |
| RAC30-05SA | 90-264 | 5 | 6000 | 79 | 70000µF |
| RAC30-12SA | 90-264 | 12 | 2500 | 82 | 14000µF |
| RAC30-15SA | 90-264 | 15 | 2000 | 82 | 11000µF |
| RAC30-24SA | 90-264 | 24 | 1250 | 82 | 5900µF |
| RAC30-05DA | 90-264 | ±5 | ±3000 | 79 | ±50000µF |
| RAC30-12DA | 90-264 | ±12 | ±1250 | 82 | ±14000µF |
| RAC30-15DA | 90-264 | ±15 | ±1000 | 80 | ±10000µF |
| RAC30-0512DA | 90-264 | 5/12 | 3000/1250 | 79 | 13200/±6400µF |
| RAC30-0512TA | 90-264 | 5/±12 | 3000/±630 | 79 | 15000/±5400µF |
| RAC30-0515TA | 90-264 | 5/±15 | 3000/±500 | 78 | 10000/3200µF |

*add suffix "-E" for extended temperature range, e.g. RAC30-05SA-E

*add suffix "-ST" for screw terminal module e.g. RAC30-05DA-ST, RAC30-0512TA-E-ST

Specifications (typical at 25°C and after warm up time unless otherwise specified)

| | | |
|---|-------------------------------|-------------------------------------|
| Input Voltage Range | 90-264VAC or 120-370VDC | |
| Rated Power | 30 Watts max. | |
| Input Frequency Range (for AC Input) | 47-440Hz | |
| Input Current (full load) | 115VAC/230VAC | 520mA/ 320mA max. |
| No Load Power Consumption | 115VAC/230VAC | 2.58W max. |
| Inrush Current (<2ms) | 115VAC | 10A max. (-E = 23A max.) |
| | 230VAC | 20A max. (-E = 46A max.) |
| Leakage Current | 0.75mA max. | |
| Output Voltage Accuracy (Full load) | ±2% | |
| Line Voltage Regul. (low line, high line at full load) ⁽²⁾ | Single, Dual | ±1% typ. |
| | Double, Triple | ±1%/±5% typ. |
| Load Voltage Regulation (5% to 100% full load) | Single, Dual | ±1%, ±3% typ. |
| | Double, Triple | ±2%/±6% typ. |
| Minimum Load | Single | 3.3V: 5%/ 5V: 8%/ 12V, 15V, 24V: 2% |
| | Dual | ±5V: 2%/ ±12V: 3%/ ±15V: 1% |
| | Double, Triple | 20% |
| Output Ripple and Noise (20MHz limited) | Noise | 0.5% Vout + 50mVp-p max. |
| | Ripple | <0.2% Vout + 40mVp-p max. |
| Operating Frequency | 100kHz typ. | |
| Efficiency at Full Load | see table | |
| RMS Isolation Voltage (input to output) | 3kVAC min. | |
| Temperature Coefficient | ±0.02%/°C typ. | |
| Isolation Resistance | 100 MΩ max. | |
| Short Circuit Protection | Continuous, Automatic restart | |

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

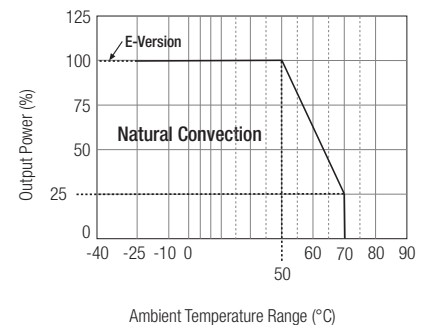
30 Watt Single/Dual/ Double & Triple Output



UL-60950-1 Certified

RAC30-A

Derating-Graph (Ambient Temperature)



Refer to Application Notes

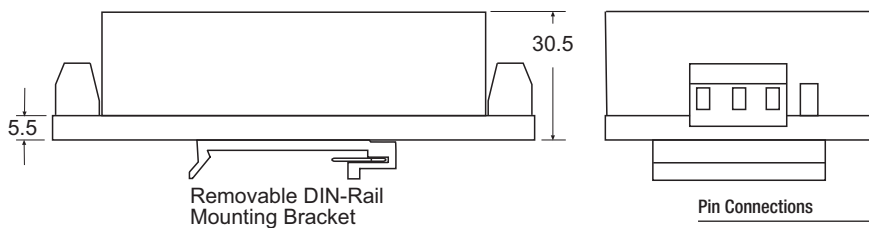
Specifications (typical at 25°C and after warm up time unless otherwise specified)

| | | |
|--|-----------------------|----------------------------------|
| Operating Temperature Range ^③ (free air convection, with derating) | Standard Suffix -E | -25°C to +70°C -40°C to +70°C |
| Storage Temperature Range | | -40°C to +85°C |
| Humidity | | 95% RH max. |
| Case Material | | Epoxy with Fibreglass (UL94V-0) |
| Package Weight | | 212g |
| Packing Quantity | | 2 pcs (-ST Version: 1 pc) |
| EMC | | EN 55022 Class B / EN 55024 |
| MTBF (+25°C) | using MIL-HDBK-217F | 200 x 10 ³ hours |

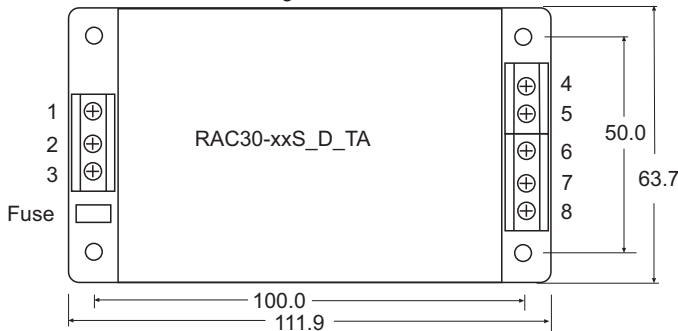
Notes:

- Note 1: Suggested input fuse rating 3.15A Slow Blow
- Note 2: Triple output version has +/-Vout common that is not connected to +5V Return pin internally.
- Note 3: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

Screw Terminal Module Option (suffix -ST)



Removable DIN-Rail Mounting Bracket

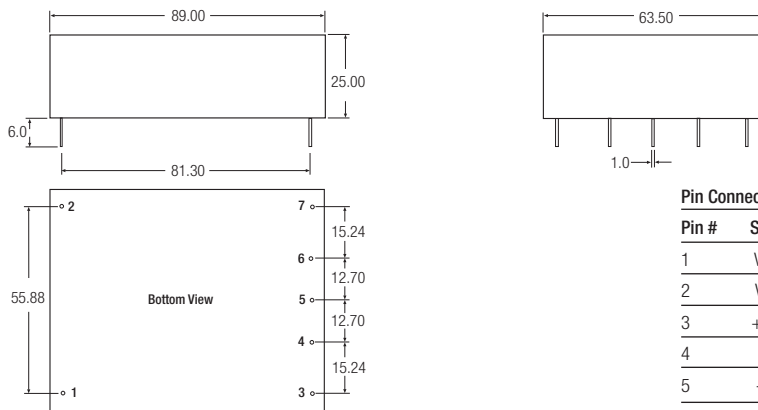


Pin Connections

| Pin # | Single Out | Dual Out | 0512DA | Triple Out |
|-------|------------|------------|------------|------------|
| 1 | NC | NC | NC | NC |
| 2 | VAC in (N) | VAC in (N) | VAC in (N) | VAC in (N) |
| 3 | VAC in (L) | VAC in (L) | VAC in (L) | VAC in (L) |
| 4 | + VDC Out | +VDC Out | +12V Out | + VDC Out |
| 5 | NC | NC | +5V Out | +5V Out |
| 6 | -VDC Out | Com | +12V Rtn | Com |
| 7 | NC | NC | +5V Rtn | +5V Rtn |
| 8 | NC | -VDC Out | NC | -VDC Out |

NC = No Connection

Standard Package Style and Pinning



Pin Connections

| Pin # | Single Out | Dual Out | 0512DA | Triple Out |
|-------|------------|------------|------------|------------|
| 1 | VAC in (N) | VAC in (N) | VAC in (N) | VAC in (N) |
| 2 | VAC in (L) | VAC in (L) | VAC in (L) | VAC in (L) |
| 3 | + VDC Out | +VDC Out | +12V Out | + VDC Out |
| 4 | No Pin | No Pin | +5V Out | +5V Out |
| 5 | -VDC Out | Com | +12V Rtn | Vout Com |
| 6 | No Pin | No Pin | +5V Rtn | +5V Rtn |
| 7 | NC | -VDC Out | No Pin | -VDC Out |

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

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