

## Features

## Regulated Converters

- Compact AC-DC Power Supply
- 10 Watt PCB Mount Package
- Universal Input Voltage Range
- 3000VAC Isolation
- Low Output Ripple and Noise
- Short Circuit Protected
- 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 |
|-------------|-------------------|----------------------|---------------------|----------------|----------------------|
| RAC10-3.3SA | 90-264            | 3.3                  | 3000                | 65             | 70000µF              |
| RAC10-05SA  | 90-264            | 5                    | 2000                | 71             | 35000µF              |
| RAC10-12SA  | 90-264            | 12                   | 833                 | 76             | 11000µF              |
| RAC10-15SA  | 90-264            | 15                   | 666                 | 75             | 7000µF               |
| RAC10-24SA  | 90-264            | 24                   | 426                 | 76             | 2300µF               |
| RAC10-05DA  | 90-264            | ±5                   | ±800                | 73             | ±22000µF             |
| RAC10-12DA  | 90-264            | ±12                  | ±380                | 75             | ±3000µF              |
| RAC10-15DA  | 90-264            | ±15                  | ±300                | 74             | ±2000µF              |

\*add suffix "-E" for extended temperature range, e.g. RAC10-05SA-E

\*add suffix "-ST" for screw terminal module e.g. RAC10-05SA-ST, RAC010-05DA-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  | 10 Watts max.                   |                             |
| Input Frequency Range (for AC Input)                       | 47-440Hz                        |                             |
| Input Current (full load)                                  | 115VAC/230VAC                   | 200mA / 130mA max.          |
| No Load Power Consumption                                  | 115VAC/230VAC                   | 1.65W 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 Regulation (low line, high line at full load) | ±0.3% typ.                      |                             |
| Load Voltage Regulation ( 5% to 100% full load )           | ±0.5% typ.                      |                             |
| 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 / 1minute                 |                             |
| Temperature Coefficient                                    | ±0.02%/°C typ.                  |                             |
| Isolation Resistance                                       | 100 MΩ min.                     |                             |
| Short Circuit Protection                                   | Hiccup, Automatic Restart       |                             |
| Operating Temperature Range                                | Standard                        | -25°C to +70°C              |
| (free air convection, with derating)                       | Suffix -E                       | -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   | 92g                             |                             |
| Packing Quantity   | 5 pcs (-ST Version: 1 pc)       |                             |
| EMC  | EN 55022 Class B / EN 50082-1   |                             |
| MTBF (+25°C)   | using MIL-HDBK-217F             | 250 x 10 <sup>3</sup> hours |

## POWERLINE

### AC/DC-Converter

with 3 year Warranty

RECOM

## 10 Watt Single/Dual Output

### PREFERRED ALTERNATIVES

Please consider these alternatives:

RAC20-K Series

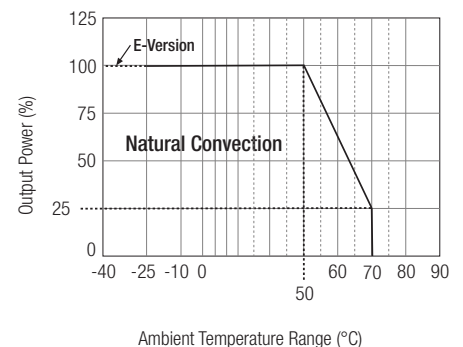
RAC10-K/277 Series



UL-60950-1 Certified

## RAC10-A

## Derating-Graph (Ambient Temperature)



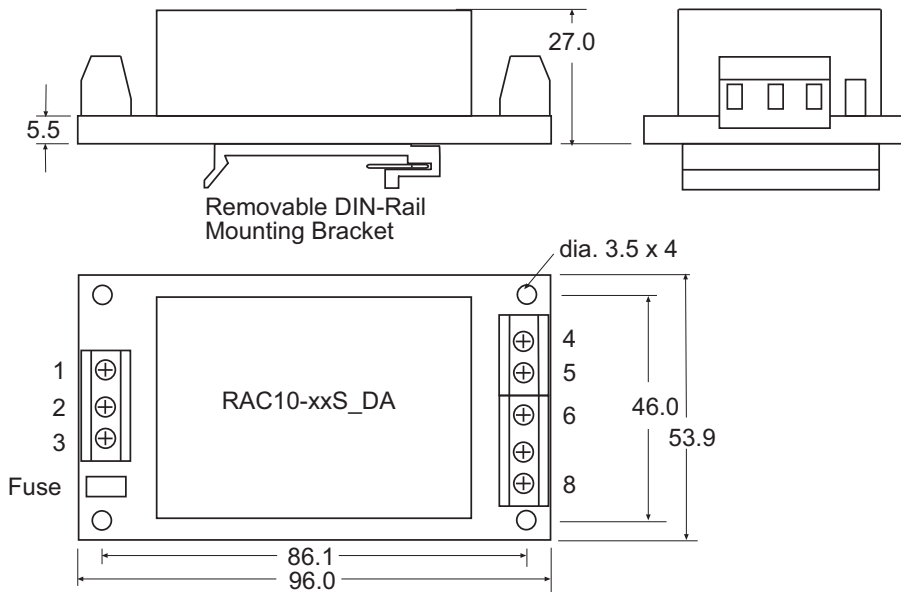
Refer to Application Notes

# POWERLINE

AC/DC-Converter

# RAC10-S\_DA Series

## Screw Terminal Module Option (suffix -ST)

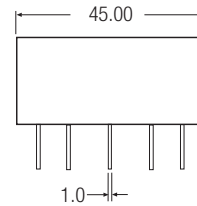
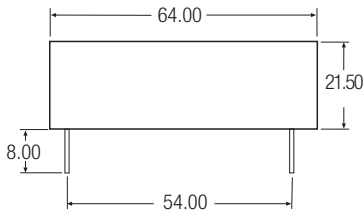


### Pin Connections

| Pin # | Single Out | Dual Out   |
|-------|------------|------------|
| 1     | FG         | FG         |
| 2     | VAC in (N) | VAC in (N) |
| 3     | VAC in (L) | VAC in (L) |
| 4     | NC         | NC         |
| 5     | -VDC out   | -VDC out   |
| 6     | NC         | Com        |
| 7     | +VDC out   | +VDC out   |
| 8     | NC         | NC         |

NC = No Connection

## Standard Package Style and Pinning



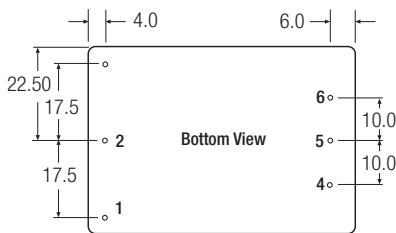
### Pin Connections

| Pin # | Single Out | Dual Out   |
|-------|------------|------------|
| 1     | FG         | FG         |
| 2     | VAC in (N) | VAC in (N) |
| 3     | VAC in (L) | VAC in (L) |
| 4     | -VDC out   | -VDC out   |
| 5     | No Pin     | Com        |
| 6     | +VDC out   | +VDC out   |

XX.X ± 0.5 mm

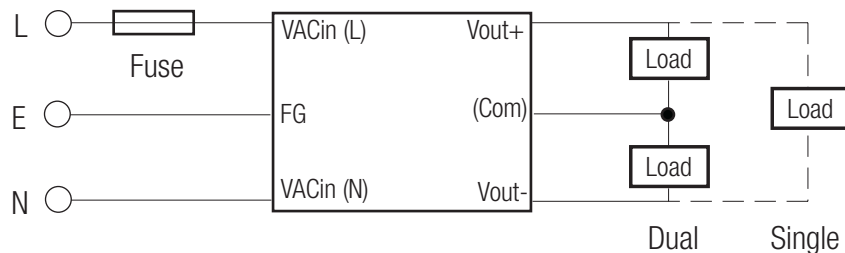
XX.XX ± 0.25 mm

RAC10-A



## Standard Application Circuit

Suggested fuse rating  
2A Slow Blow



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