

# !NOT RECOMMENDED FOR NEW DESIGNS!

LAST TIME BUY: 31<sup>ST</sup> March 2024

## Features

## Regulated Converters

- Very Compact AC-DC Power Supply
- 5 Watt PCB Mount Package
- Universal Input Voltage Range
- 3000VAC Isolation
- Low Output Ripple and Noise
- Short Circuit Protected
- Very Low No Load Power Consumption
- UL Certified, CE Marked

## NOT RECOMMENDED FOR NEW DESIGN

| Part Number | Input Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max. Capacitive Load |
|-------------|-------------------|----------------------|---------------------|----------------|----------------------|
| RAC05-05SB  | 90-264            | 5                    | 1000                | 71             | 6000µF               |
| RAC05-12SB  | 90-264            | 12                   | 420                 | 75             | 1400µF               |
| RAC05-24SB  | 90-264            | 24                   | 230                 | 77             | 170µF                |

## END OF LIFE

| Part Number | Input Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max. Capacitive Load |
|-------------|-------------------|----------------------|---------------------|----------------|----------------------|
| RAC05-3.3SB | 90-264            | 3.3                  | 1250                | 68             | 13800µF              |
| RAC05-15SB  | 90-264            | 15                   | 333                 | 75             | 1000µF               |

\*add suffix "-E" for extended temperature range, e.g. RAC05-05SB-E

\*add suffix "-ST" for screw terminal module e.g. RAC05-05SB-ST, RAC05-05SB-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                                                | 5 Watts max.                    |                             |
| Input Frequency Range (for AC Input)                       | 47-440Hz                        |                             |
| Input Current (full load)                                  | 115VAC/230VAC                   | 110mA / 70mA max.           |
| No Load Power Consumption                                  | 115VAC/230VAC                   | 80mW 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                                        | 132kHz 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 max.                     |                             |
| 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                                             | 30g                             |                             |
| Packing Quantity                                           | 9 pcs (-ST Version: 1 pc)       |                             |
| EMC                                                        | EN 55022 Class B / EN 55024     |                             |
| MTBF (+25°C)                                               | using MIL-HDBK-217F             | 360 x 10 <sup>3</sup> hours |

## POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

5 Watt  
Single  
Output

### PREFERRED ALTERNATIVES

Please consider these alternatives:

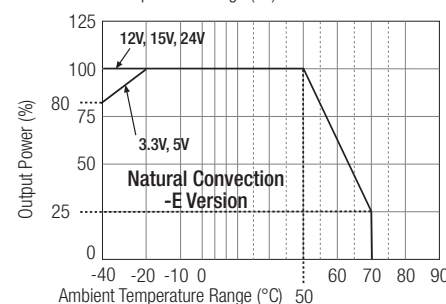
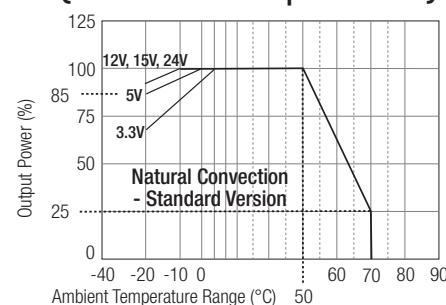
RAC10-K/277 Series



UL-60950-1 Certified

# RAC05-B

## Derating-Graph (Ambient Temperature)



Refer to Application Notes

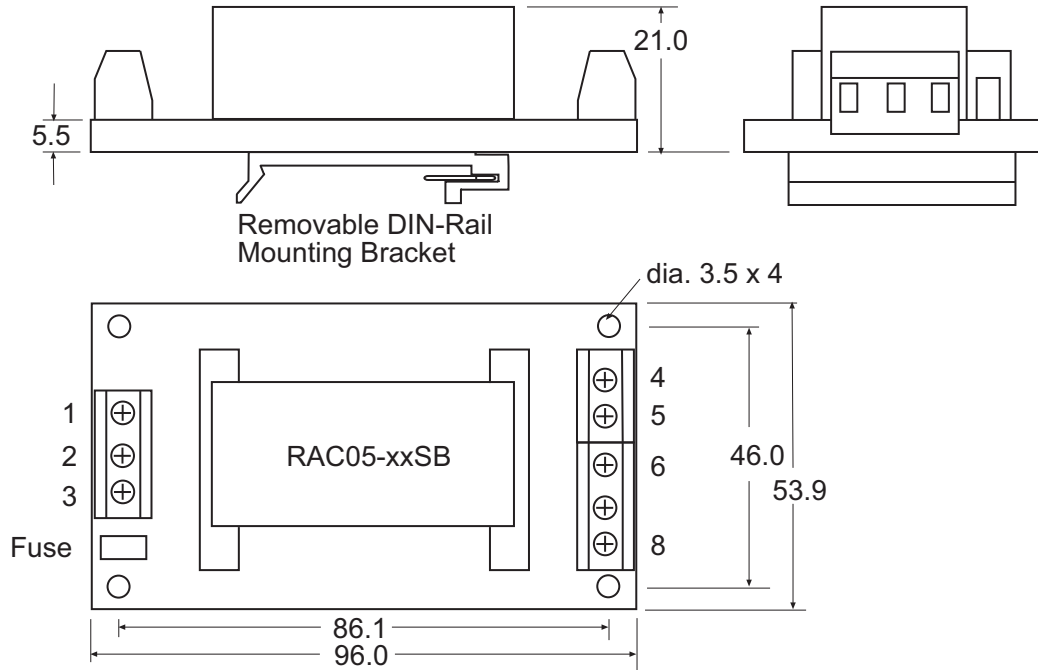
# POWERLINE

AC/DC-Converter

# RAC05-SB

## Series

### Screw Terminal Module Option (suffix -ST)

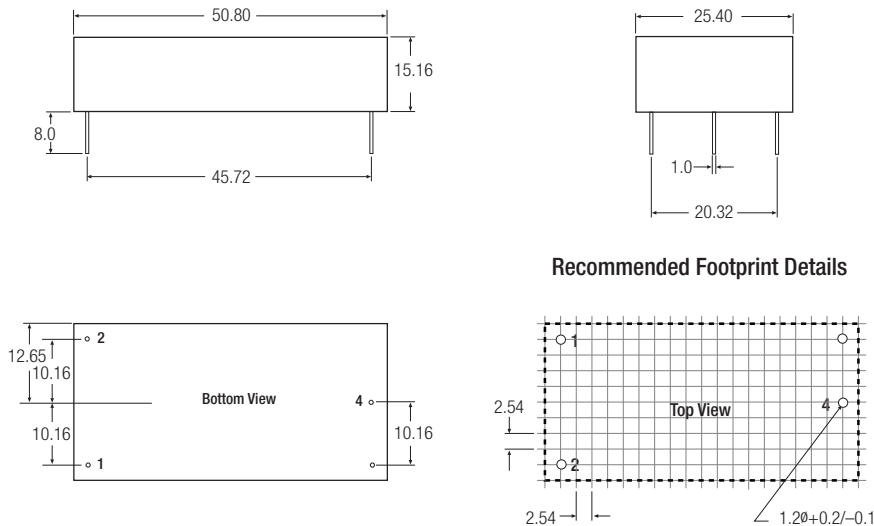


#### Pin Connections-

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

NC = No Connection

### Package Style and Pinning



#### Pin Connections

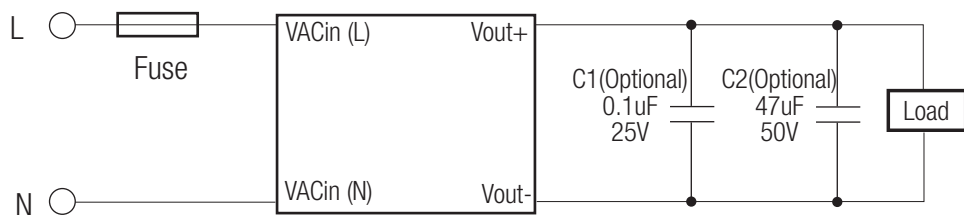
| Pin # | Single Out |
|-------|------------|
| 1     | VAC in (N) |
| 2     | VAC in (L) |
| 3     | +VDC out   |
| 4     | -VDC out   |

Tolerance ± 0.5 mm

RAC05-B

### Standard Application Circuit

Suggested fuse rating  
1A Slow Blow



#### Please Read Application Notes

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

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Authorized Distributor

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