

## Features

### Regulated Converters

- Ultracompact Low Profile AC-DC Power Supply
- Ultra-low 30mW Standby Power Consumption
- 1 Watt or 2 Watt PCB Mount Package
- Extra Wide Input Voltage Range (90~277VAC)
- Class II Power Supply with 3kVAC Isolation
- -25°C to +85°C Operating Temp
- Low Output Ripple
- Short Circuit Protected Outputs
- EN and CE Certified

### Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency typ. (%)	Max Capacitive Load
RAC01-3.3SC	90-277	3.3	300	65	2200µF
RAC02-3.3SC			600	66	
RAC01-05SC	90-277	5	200	68	2200µF
RAC02-05SC			400	70	
RAC01-09SC	90-277	9	111	72	1200µF
RAC02-09SC			222	74	
RAC01-12SC	90-277	12	83	72	1000µF
RAC02-12SC			167	74	
RAC01-15SC	90-277	15	67	72	680µF
RAC02-15SC			133	74	
RAC01-24SC	90-277	24	42	73	330µF
RAC02-24SC			83	77	

### Specifications

(T<sub>a</sub>=25°C and after warm up time, measured at 115VAC/60Hz and 230VAC/50Hz)

Input Voltage Range	90-277VAC or 120-390VDC	
Rated Power	1 or 2 Watts max.	
Input Frequency Range (for AC Input)	40-63Hz	
Input Current (full load)	115/230VAC	41mA/27mA typ.
No Load Power Consumption	30mW typ.	
Inrush Current (<0.5ms)	115/230VAC	10/20A max.
Leakage Current	1.5mA max.	
Output Voltage Tolerance (combined Tolerance, Line Reg and Load Reg at full load)	±5% max.	
Line Voltage Regulation	low line, high line at full load	±2% max.
Load Voltage Regulation	10% to 100% full load	±6% max.
Output Ripple (20MHz BW limited)	3.3V Output	<150mVrms
	All others	<100mVrms
Operating Frequency	30kHz typ.	
Leakage Current	1.5mA max.	
Minimum Load = 0%	specifications valid for 10% minimum load only	
RMS Isolation Voltage (input to output)	3kVAC / 1 minute	
Isolation Resistance	1 GΩ min.	
Isolation Capacitance	1000pF typ.	
Short Circuit Protection	Automatic Restart	
Operating Temperature Range	(1W, natural convection, no derating)	-25°C to +80°C
	(2W natural convection, no derating)	-25°C to +75°C
	(natural convection, with derating)	-25°C to +85°C
Storage Temperature Range	-40°C to +85°C	
Humidity	non-condensing	95% RH max
Case Material	Plastic Case, Silicone potting material (UL94V-0)	
Package Weight	25g	
Packing Quantity	12 pcs	

## POWERLINE

### AC/DC-Converter

with 3 year Warranty

# RECOM

## 1 - 2 Watt Single Output



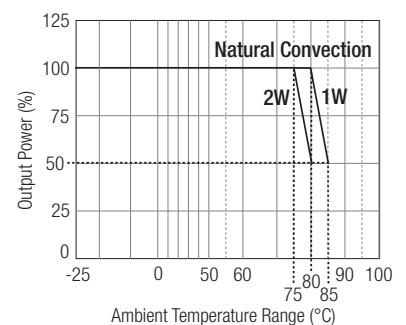
**EN-60950-1 Pending**  
**UL-60950-1 Pending**

## RAC01-C RAC02-C

### Description

The RAC01-SC and RAC02-C series are ultra-compact universal input AC/DC power modules for PCB mounting. They feature high efficiency, low standby power, high operating temperature, soft start and short-circuit protection as well as a built-in EMC Class B filter. Output voltages range from 3.3VDC to 24VDC.

### Derating Graph (Ambient Temperature)



**Please Read Application Notes**

[www.recom-electronic.com](http://www.recom-electronic.com)

# POWERLINE

## AC/DC-Converter

# RAC01-SC

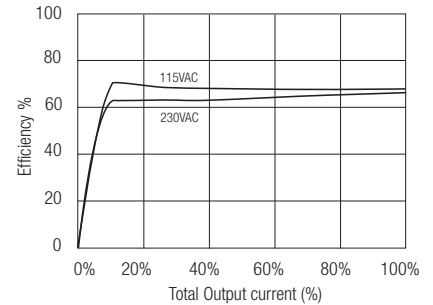
# RAC02-SC

### Specifications (cont.)

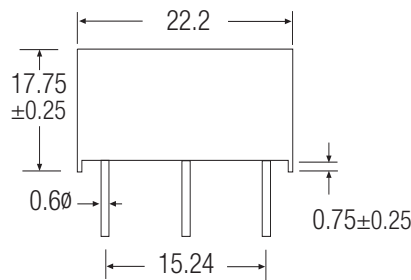
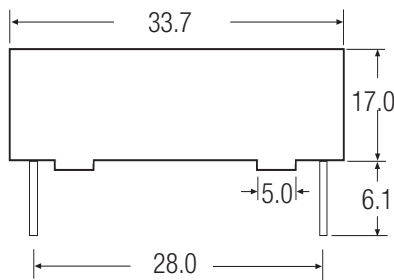
EMC	Conducted and Radiated Noise Immunity	EN 55022 Class B EN 55024
MTBF	+25°C	666 x 10 <sup>3</sup> hours
230VAC	+55°C	395 x 10 <sup>3</sup> hours
using MIL-HDBK-217F	+80°C	125 x 10 <sup>3</sup> hours
Certifications:		
UL General Safety	(Pending)	UL-60950-1, 2nd Edition
EN General Safety	(Pending)	EN-60950-1, 2nd Edition
CE	Report: 2011-04-19	EN55022 Class B

### RAC02-05SC

Efficiency / Load

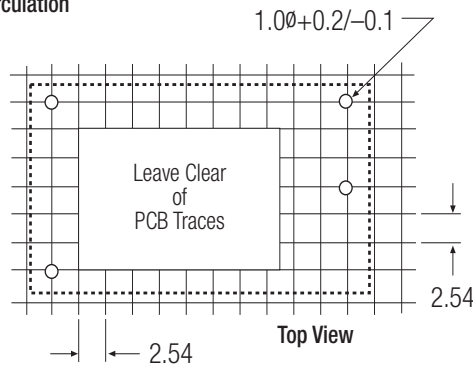
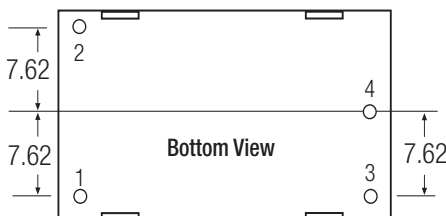


### Standard Package Style and Pinning



3rd angle projection

Allow 5mm clearance around converter for air circulation



#### Pin Connections

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

Tolerance ± 0.5 mm unless otherwise specified

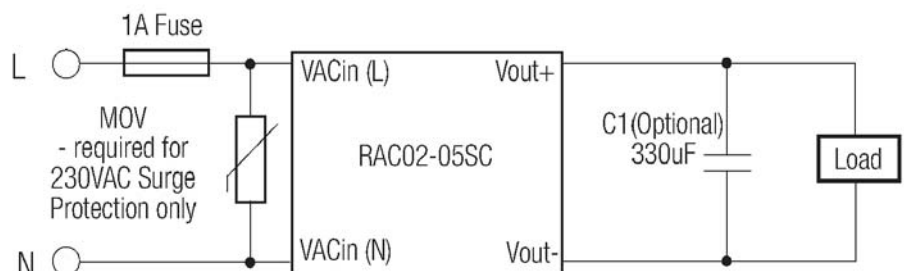
RAC01-02

### Recommended Application Circuit

Compact single output regulated power supply

Suggested fuse rating: 1A Slow Blow.

An external MOV is required for 230VAC operation. The varistor should comply with IEC-61051-2 e.g. Epcos S14 series



Add C1 to reduce output ripple (use low ESR type)