

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 (80~264VAC)
- Class II Power Supply with 3kVAC Isolation
- -25°C to +85°C Operating Temp
- Low Output Ripple
- Short Circuit Protected Outputs
- EN, UL and CE Certified

Description

The RAC01-SC and RAC02-SC 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.

Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency typ. (%)	Max Capacitive Load ⁽¹⁺²⁾
RAC01-3.3SC	80-264	3.3	300	65	2200µF
RAC02-3.3SC			600	66	2700µF
RAC01-05SC	80-264	5	200	68	1600µF
RAC02-05SC			400	70	2000µF
RAC01-09SC	80-264	9	111	70	470µF
RAC02-09SC			222	72	560µF
RAC01-12SC	80-264	12	83	72	180µF
RAC02-12SC			167	74	200µF
RAC01-15SC	80-264	15	67	72	180µF
RAC02-15SC			133	74	200µF
RAC01-24SC	80-264	24	42	73	68µF
RAC02-24SC			83	77	68µF

Specifications (measured at TA 25°C, full load after warm-up)

Input Voltage Range (with derating)	80-264VAC or 115-370VDC	
Rated Power	1 or 2 Watts max.	
Input Frequency Range (for AC Input)	47-63Hz	
Input Current (full load)	RAC01 (115/230VAC)	34mA/23mA max.
	RAC02 (115/230VAC)	55mA/36mA max.
No Load Power Consumption	@115VAC	30mW typ.
	@230VAC	80mW typ.
Inrush Current (<0.5ms)	30/60A max.	
Leakage Current	0.25mA 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 (full load)	30kHz typ.	
Minimum Load = 0%	specifications valid for 10% minimum load only	
RMS Isolation Voltage (input to output)	3kVAC / 1 minute	
Isolation Resistance	1 GΩ min.	
Short Circuit Protection	Hiccup, Automatic Restart	
Over Voltage Category	OVC II	
Operating Temperature Range ⁽³⁾	(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 +100°C	
Humidity	non-condensing	95% RH max
Case Material	Plastic Case, Silicone potting material (UL94V-0)	

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

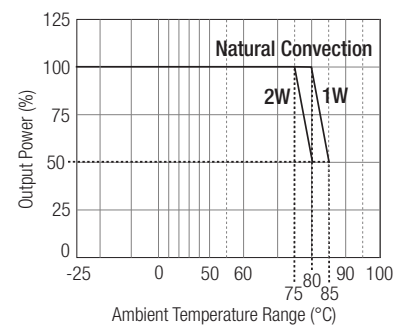
1 - 2 Watt Single Output



EN-60950-1 Certified
UL-60950-1 Certified

RAC01-C RAC02-C

Derating-Graph (Ambient Temperature)



Refer to Application Notes

POWERLINE

AC/DC-Converter

RAC01-SC

RAC02-SC

Specifications (measured at TA 25°C, full load after warm-up)

Package Weight		25g
Packing Quantity		22 pcs
EMC	Conducted and Radiate	EN55022 Class B
	Noise Immunity	EN55024
MTBF	+25°C	666 x 10 ³ hours
230VAC	+55°C	395 x 10 ³ hours
using MIL-HDBK-217F	+80°C	125 x 10 ³ hours
Certifications:		
UL General Safety	File Nr. E224736	UL-60950-1, 2nd Edition
EN General Safety	SPCLVD 1202026	EN-60950-1, 2nd Edition
CE	Report: 2011-04-19	EN55022 Class B

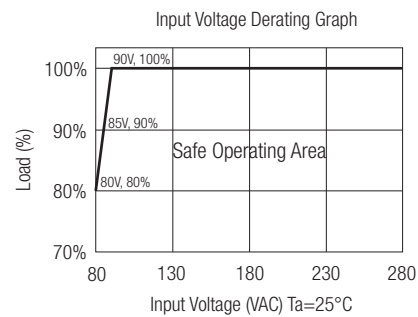
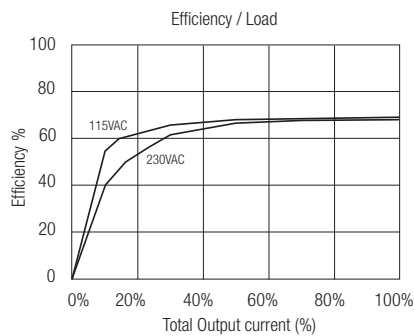
Notes:

Note1: Measured @ 230VAC / 50Hz / Ta=25°C with constant resistant mode at full load.

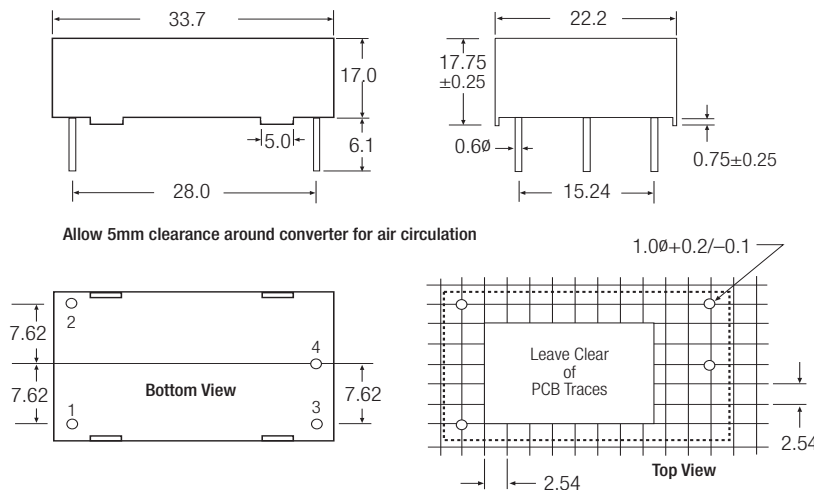
Note2: If used @ 115VAC / 60Hz with full load, max. capacitive load is less, please contact RECOM for detailed information.

Note3: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

RAC01-05SC



Standard Package Style and Pinning



Pin Connections

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

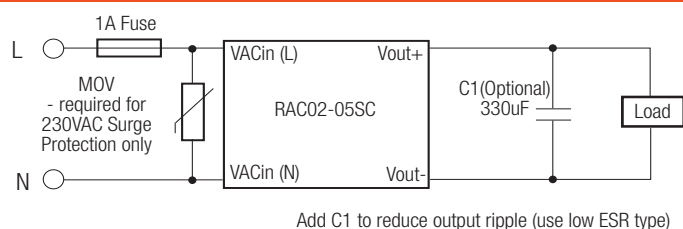
Tolerance ± 0.5 mm unless otherwise specified

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)

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