

Features

Regulated Converters

- Universal Input 80-264VAC or 115-370VDC
- Operating Temperature Range of -25°C to +85°C
- Isolated Output 3kVAC / 1 min
- Short Circuit and Overcurrent Protection
- Low Output Ripple & Noise
- Low Cost AC/DC Power Supply
- EN, UL and CE certified

Description

The new RAC04-SC modules are available with output voltages of 3.3, 5, 9, 12, 15, and 24V, and the input-to-output isolation is approximately 3kVAC/1min. With a standby consumption of typical 100mW, the mini power supplies are particularly suitable for energy-saving sleep mode and standby applications. Because of its compact design (height <17 mm), it is a versatile solution for home automation and other similar applications. Complete with an integrated input filter, the series has enhanced EMI performance and complies with EN55022, class B. The mini power supplies are also protected against short circuit with fully automatic restart after the error has been solved. The converters are EN/UL60950-1 certified and come complete with a 3 year warranty.

Selection Guide

Part Number	Input Voltage (VAC)	Output Voltage (VDC)	Output Current max. (mA)	Efficiency Typ. (%)	Max. Capacitive Load (1+2)
RAC04-3.3SC	80-264	3.3	1200	67	5600µF
RAC04-05SC	80-264	5	800	72	2000µF
RAC04-09SC	80-264	9	444	76	1500µF
RAC04-12SC	80-264	12	333	74	560µF
RAC04-15SC	80-264	15	267	77	470µF
RAC04-24SC	80-264	24	167	77	150µF

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

Input Voltage Range (with Derating)	80-264VAC or 115-370VDC	
Input Frequency (for AC Input)	47-63Hz	
Input Current (Full Load)	115VAC / 230VAC	110mA / 72mA max.
Inrush Current	115VAC / 230VAC	30A / 60A max.
External Input Fuse Required	Recommended Value	1A - 1.5A / Slow Blow Type
No Load Power Consumption	80-264VAC	100mW typ. / 200mW max.
Output Voltage (Vout nom.)	3.3V-24V	
Output Current Range	167mA - 1200mA	
Output Voltage Tolerance	±2% typ. / ±5% max.	
Minimum Load	10% min.	
Output Ripple & Noise ⁽³⁾	(Full Load) 115VAC / 230VAC @ 20MHz limited	200mVp-p max.
Line Voltage Regulation	LL-HL at full Load	±0.5% typ. / ±1% max.
Load Voltage Regulation	10%-100% Load	±1.5% typ. / ±5% max.
Overcurrent Limit	105% - 155%	
Switching Frequency	at Full Load	40kHz typ.
Isolation Voltage	Input-Output	3kVAC / 1 minute
Leakage Current	0.85mA max.	
Isolation Resistance	Input-Output	1G Ω min
Isolation Capacitance	Input-Output	1000pF typ.
Short Circuit Protection	Hiccup, Auto Restart	
Over Voltage Category	OVC II	
Operating Temperature Range ⁽⁴⁾	natural convection, without derating	-20°C to +60°C
	natural air convection, with derating	-25°C to +85°C
Storage Temperature Range	-40°C to +100°C	
Case Material	UL94V-0 black plastic	
Potting Material	Silicone	
Relative Humidity	95% RH max.	
Package Weight	39g typ.	
Package Quantity	12 pcs	

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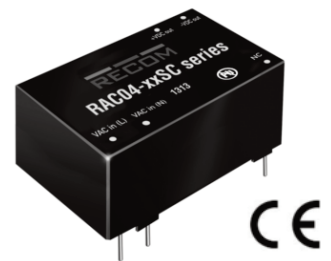
POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

4 Watt Single Output

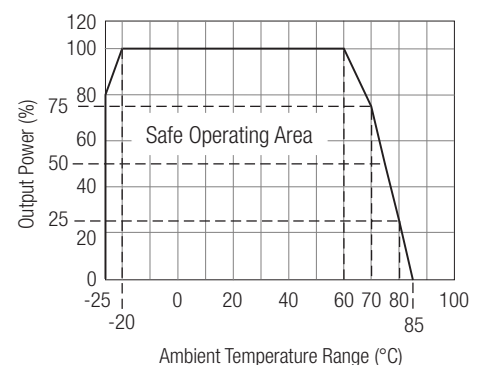


IEC-60950-1 certified
UL-60950-1 certified

RAC04-C

Derating-Graph

(Ambient Temperature)



POWERLINE

AC/DC-Converter

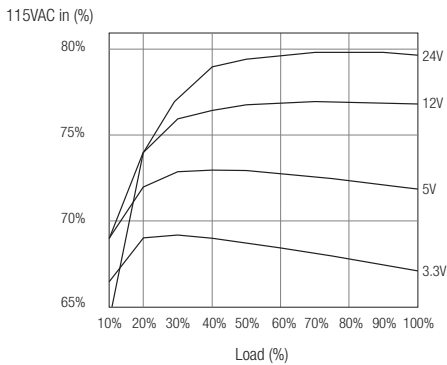
RACO4-xxC

Series

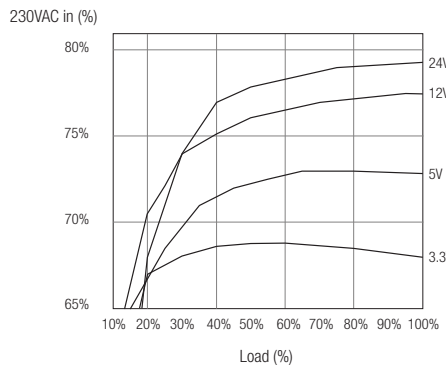
Specifications (measured at TA 25°C, nominal input voltage, full load after warm-up)

Physical	Dimension (LxWxH)	37.80 x 23.90 x 16.40 mm
MTBF (+25°C)	MIL-HDBK-217F	500 * 10 ³ hours
EMI	Conducted and Radiated	EN55022, Class B
	Noise Immunity	EN55024
Safety Standard		
CB	Report Number: 1111070-CB	IEC-60950-1, 2nd Edition
UL General Safety	Report Number: E224736-A5-UL	UL-60950-1, 2nd Edition

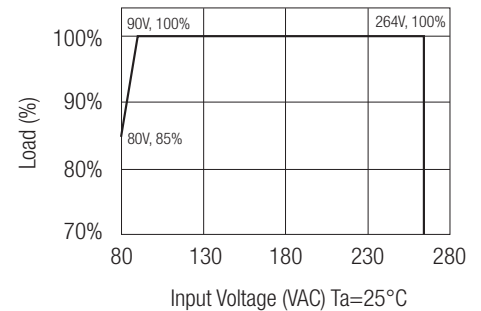
115VAC



230VAC



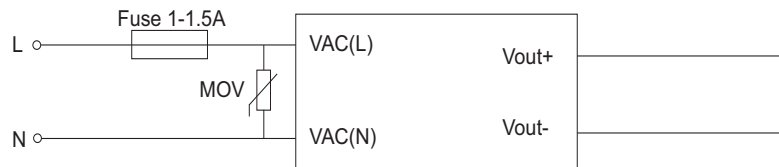
Input Voltage Derating Graph



Notes:

1. Measured @230VAC / 50Hz
2. If used @ 115VAC / 60Hz with full load, please contact RECOM for detailed information.
3. To measure the output ripple & noise with short runs by 0.1 uF/50V@20MHz, nominal input and full load.
4. Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

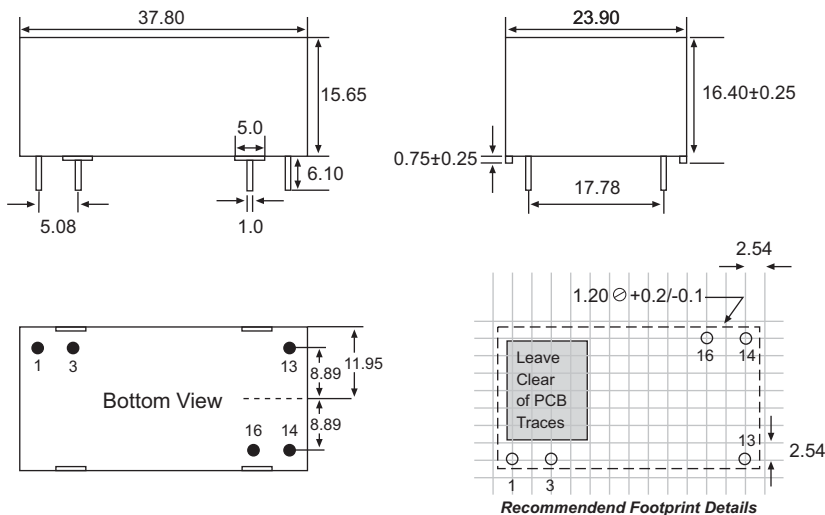
Application Note



Recommended external input fuse 1.0 - 1.5A / slow blow type.

An external MOV is required for 230VAC operation. (MOV model: shall comply with IEC61051-2, e.g. Epcos S14 Series)

Package Style and Pinning



Pin Connections

Pin #	Single Out
1	VAC in (L)
3	VAC in (N)
13	NC
14	-VDC out
16	+VDC out

Tolerance ±0.5mm

Unless otherwise specified

The product information and specifications are subject to change without prior notice. RECOM products are not authorized for use in safety-critical applications (such as life support) without RECOM's explicit written consent. A safety-critical application is defined as an application where a failure of a RECOM product may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The buyer 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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