Features

Regulated Converters

- Universal Input 80-264VAC
- 100mW max No load Power Consumption
- Efficiency up to 79%
- High Operating Temperature Range (-40°C to +80°C)
- Isolated Output 3.75kVAC / 1 min
- Continuous Short Circuit Protection
- Meet EN55022 Class B
- EN, UL and CE Certified

Description

The RAC04-C/230 series are fully certified single and dual regulated AC/DC converters in an encapsulated PCB-mount package style with 3.75kVAC isolation and very low standby power consumption. The converters have SC protected single as well as dual outputs and meet EN55022 class B without any external components. Uses include board-level power supplies, home automation, instrumentation systems and standby applications.

Selection Guide					
Part Number	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (Typ.) (%)	Max. Capacitive Load**
RAC04-3.3SC/230	80-264	3.3	1200	72	10000μF
RAC04-05SC/230	80-264	5	800	75	7200µF
RAC04-12SC/230	80-264	12	333	77	1000μF
RAC04-15SC/230	80-264	15	267	78	820µF
RAC04-24SC/230	80-264	24	167	79	220µF
RAC04-0512DC/230	80-264	5/12	720/33	75	4700/100μF
RAC04-05DC/230	80-264	±5	±400	76	±3300µF
RAC04-12DC/230	80-264	±12	±166	78	±680µF

^{**} measured @115VAC

pecifications (measured at TA 25	5°C, full load after warm-up)	
Input Voltage Range (with Derating)	80-264VAC or 113-373VDC	
Input Frequency		47-440Hz
Input Current (Full Load)	115VAC/230VAC	98mA / 64mA max
Inrush Current	115VAC/230VAC	15A / 30A max
No Load Power Consumption	115VAC/230VAC 50/60Hz	100mW max
Output Voltage Accuracy (Full Load)	Single Outputs	±2% typ
	Dual Outputs	±2% typ
	5V / 12V	±2% / ±10% typ
Line Voltage Regulation (90-264VAC)	Single Outputs	±0.2% typ
	Dual Outputs	±0.2% typ
	5V / 12V	±0.2% / ±1% typ
Load Voltage Regulation	3.3V/5V Output	±1% typ
(10% - 100% load)	All Others	±0.5% typ
	5V / 12V	±1% / ±5% typ
Output Ripple&Noise		200mVp-p typ
(measured @ 20MHz of bandwidth w	ith 0.1µF & 47µF parallel capacitors)	
Switching Frequency (Full Load)		67kHz typ
Hold-Up Time	115VAC	15ms min
Minimum Load		0%
Isolation Voltage	Input-Output	3.75kVAC / 1minute
Leakage Current	230VAC / 50Hz	0.25mA max
Isolation Resistance		100M Ω min
		continued on next page

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AC/DC-Converter with 3 year Warranty



4 Watt Single & Dual Output







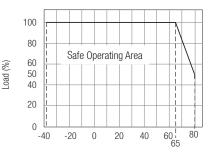


EN-60950-1 certified UL-60950-1 certified

RACO4-C/230

Derating-Graph

(Ambient Temperature)



Ambient Temperature Range (°C)

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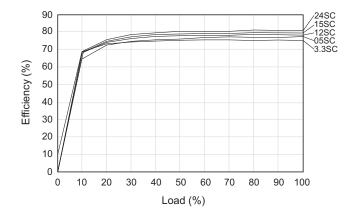
AC/DC-Converter

RACO4-xxxC/230 Series

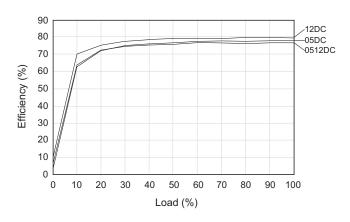
pecifications (measured at TA 25°	C, full load after warm-up)	
Short Circuit Protection		Auto Recovery
Over Voltage Category		OVC II
Operating Temperature Range		-40°C to +65°C (without Derating)
	Natural Convection	-40°C to +80°C (with Derating)
Storage Temperature Range		-40°C to +100°C
Case Material		UL94V-0 Black Plastic
Relative Humidity	Non-condensing	95% RH max.
Package Weight		31.5g typ.
Dimension	(L x W x H)	36.7 x 27.2 x 17.1mm
EMC	Conducted and Radiated	EN55022 Class B
	Noise Immunity	EN55024
MTBF (+25°C)	MIL-HDBK-217F	500 x 10 ³ hours
Certification	CE	EN55022 Class B
UL General Safety	Report: E224736	UL60950-1, 2nd Edition
EN General Safety	Report: 131055-1CB-M1	EN60950-1, 2006, 2nd Edition + A12:2012
CB General Safety	Report: 131055-1CB-M1	IEC 60950-1: 2005; 2nd Edition

Efficiency vs Load

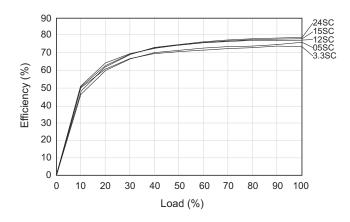
Single Output 115VAC



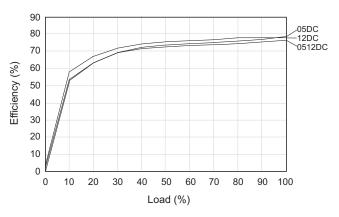
Dual Output 115VAC



Single Output 230VAC



Dual Output 230VAC



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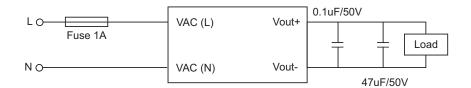
AC/DC-Converter

RACO4-xxxC/230 Series

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

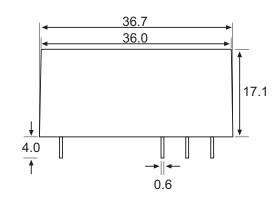
100 80 80 SAFE OPERATING AREA 40 20 0 80 90 100 115 230 264 Input Voltage (VAC)

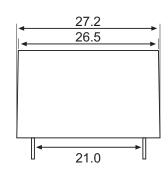
Application Note:

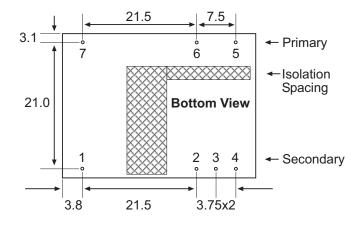


- 1. Recommended external input fuse 1A/slow blow type.
- 2. To measure the output ripple & noise connect 0.1uF/50V & 47uF/50V @20MHz, as close to pins as possible with nominal input and full load. Please see above.

Package Style and Pinning







riii connections						
Pin #	Single Out	Dual Output	Dual Output			
1	No Pin	No Pin	No Pin			
2	+VDC out	+Vout	+Vout			
3	-VDC out	Com	Com			
4	NC	-Vout	+12V			
5	VAC in (L)	VAC in (L)	VAC in (L)			
6	VAC in (N)	VAC in (N)	VAC in (N)			
7*	NC	NC	NC			

NC = No Connection

Pin Connections

 $xx.x = \pm 0.5$ mm $xx.xx = \pm 0.25$ mm

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.

^{*} Pin 7 is NC but need 4mm minimum clearence to ground for safety.