

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

Specifications (measured at TA 25°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 (10% - 100% load)	3.3V/5V Output	±1% typ.
	All Others	±0.5% typ.
	5V / 12V	±1% / ±5% typ.
Output Ripple&Noise (measured @ 20MHz of bandwidth with 0.1µF & 47µF parallel capacitors)	200mVp-p typ.	
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.	

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POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

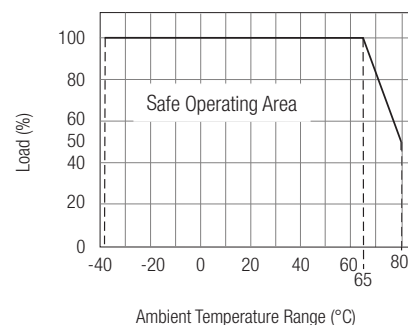
4 Watt Single & Dual Output



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

RAC04-C/230

Derating-Graph (Ambient Temperature)

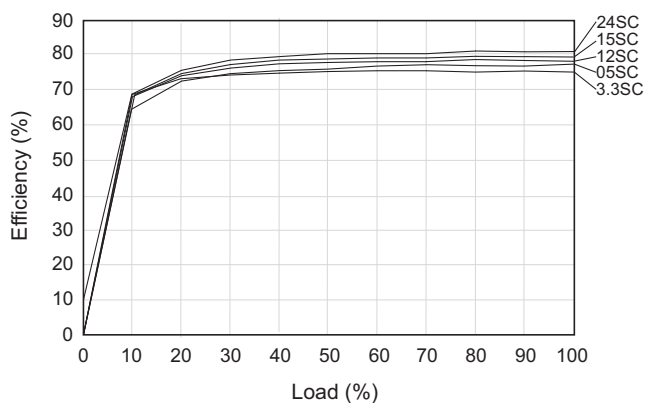


Specifications (measured at TA 25°C, full load after warm-up)

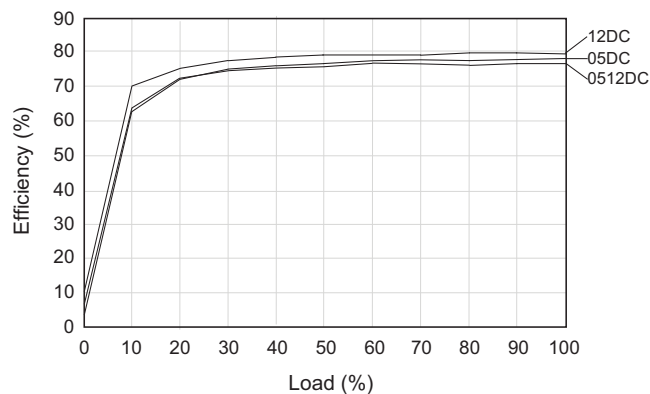
Short Circuit Protection		Auto Recovery
Over Voltage Category		OVC II
Operating Temperature Range		-40°C to +65°C (without Derating)
	Natural Convection	-40°C to +80°C (with Derating)
Storage Temperature Range		-40°C to +100°C
Case Material		UL94V-0 Black Plastic
Relative Humidity	Non-condensing	95% 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

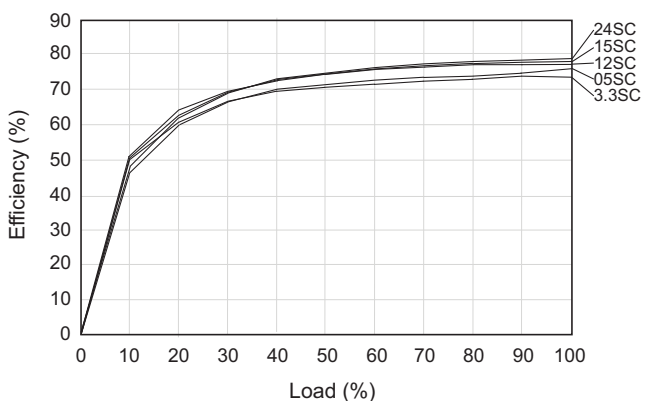
Single Output 115VAC



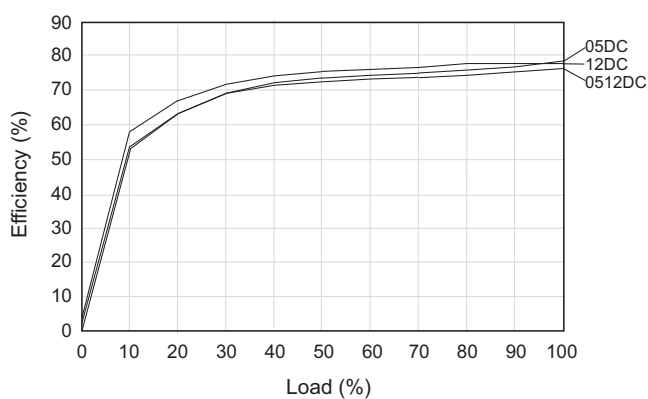
Dual Output 115VAC



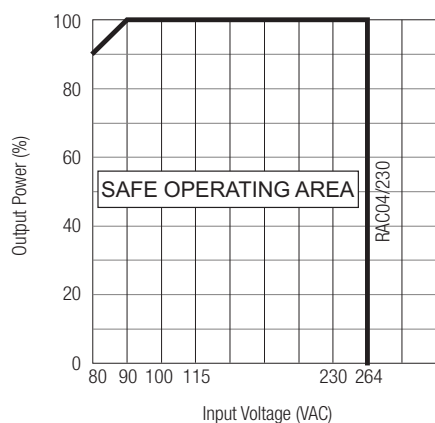
Single Output 230VAC



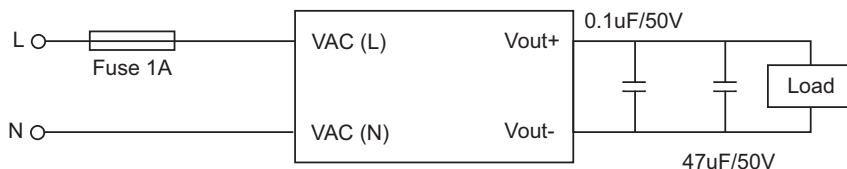
Dual Output 230VAC



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

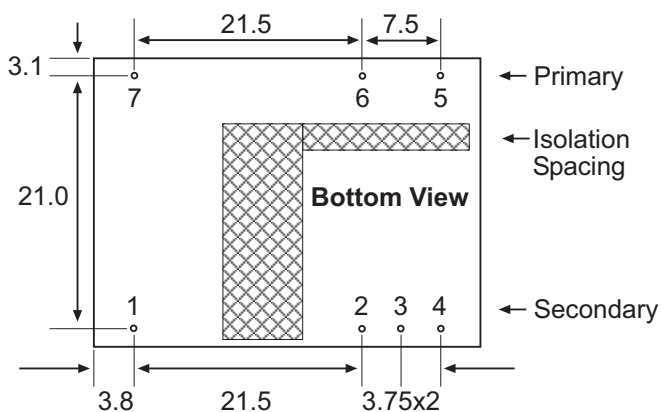
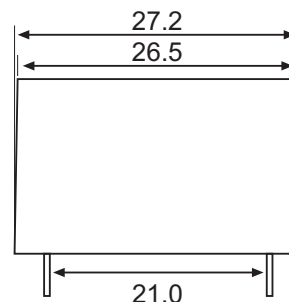
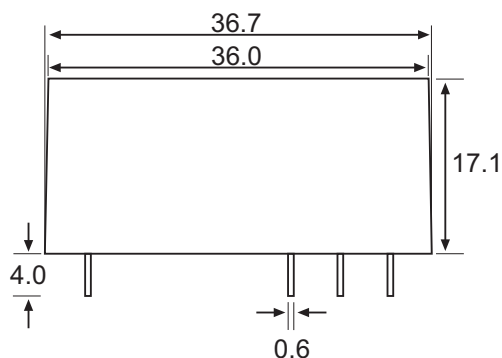


Application Note:



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



Pin 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

xx.x = $\pm 0.5\text{mm}$

xx.xx = $\pm 0.25\text{mm}$

* Pin 7 is NC but need 4mm minimum clearance to ground for safety.