!NOT RECOMMENDED FOR NEW DESIGNS!

Features

Regulated Converters

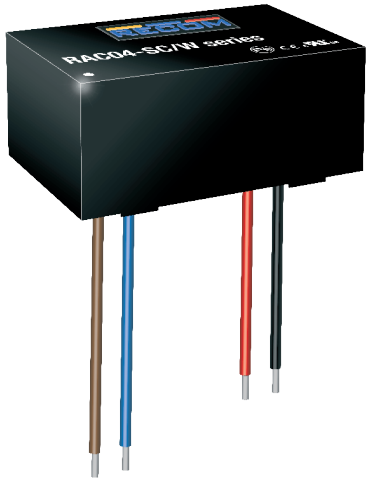
- Compact AC-DC power supply
- Universal input 80-264VAC or 115-370VDC
- Class II power supply with 3kVAC isolation
- Low cost AC/DC power supply
- Short circuit & over current protected
- IEC/EN/UL60950 certified

RECOM
AC/DC Converter

RAC04-C/W

4 Watt Single Output

3 YEAR warranty



Description

The compact wired RAC04-C/W 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 100mW typical, 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 EN55032, 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 Range [VAC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ (1) [%]	Max. Capacitive Load (2,3) [µF]
RAC04-3.3SC/W	80-264	3.3	1200	67	3000
RAC04-05SC/W	80-264	5	800	72	1600
RAC04-09SC/W	80-264	9	444	76	850
RAC04-12SC/W	80-264	12	333	77	150
RAC04-15SC/W	80-264	15	267	77	100
RAC04-24SC/W	80-264	24	167	79	82

Notes:

Note1: Efficiency is tested at nominal input and full load at +25°C ambient

Note2: Measured @ 230VAC / 50Hz / Ta=25°C with constant resistant mode at full load

Note3: If used @ 115VAC / 60Hz with full load, max. capacitive load is less, please contact RECOM Techsupport for detailed information

Model Numbering

RAC04- SC/W

nom. Output Power

nom. Output Voltage

Wired

Single

Ordering Examples:

RAC04-05SC/W	4 Watt	5Vout	Single Output
RAC04-12SC/W	4 Watt	12Vout	Single Output

PREFERRED ALTERNATIVES
Please consider these alternatives:

RAC05-K/277/W Series

Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

BASIC CHARACTERISTICS					
Parameter	**Condition**		**Min.**	**Typ.**	**Max.**
Input Voltage Range (4,5)	nom. Vin = 230VAC		80VAC 115VDC		264VAC 370VDC
Input Current	115VAC 230VAC				110mA 72mA
Inrush Current	<0.5ms, cold start at +25°C	115VAC 230VAC			30A 60A
No load Power Consumption	80-264VAC				200mW
Input Frequency Range	AC Input		47Hz		63Hz
Minimum Load (7)			10%		

continued on next page

IEC/EN60950-1 certified
CAN/CSA-C22.2 No. 60950 certified
UL60950-1 certified
EN55032 compliant
EN55024 compliant

RECOM

AC/DC Converter

RAC04-C/W Series

Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

BASIC CHARACTERISTICS

Parameter	Condition		Min.	Typ.	Max.
Internal Operating Frequency	100% load at nominal Vin			40kHz	
Output Ripple and Noise [7]	20MHz BW	115VAC/230VAC			200mVp-p

Notes:

Note4: The products were submitted for safety files at AC-Input operation

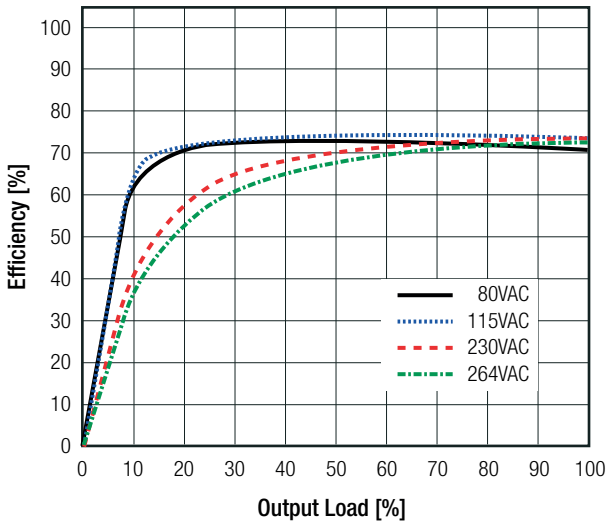
Note5: Refer to line derating graph on page PA-3

Note6: Operation below 10% load will not harm the converter, but specifications may not be met

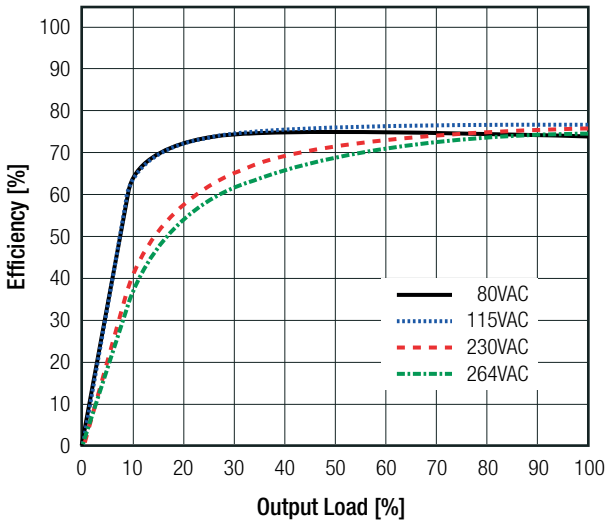
Note7: Measurements are made with a 0.1µF MLCC across output (low ESR)

Efficiency vs. Load

RAC04-05SC/W



RAC04-12SC/W



REGULATIONS

Parameter	Condition	Value
Output Accuracy		±2.0% typ./ ±5.0% max.
Line Regulation	low line to high line	±0.5% typ./ ±1.0% max.
Load Regulation [6]	10% to 100% load	1.5% typ./ 5.0% max.

PROTECTIONS

Parameter	Type		Value
Short Circuit Protection (SCP)	below 100mΩ		Hiccup mode, automatic recovery
Over Voltage Category			OVCII
Over Current Limit			105% - 155%
Isolation Voltage	I/P to O/P	tested for 1 minute	3kVAC
Isolation Resistance			1GΩ min.
Isolation Capacitance			1000pF typ.
Leakage Current			0.85mA max.

Notes:

Note8: Refer to local wiring regulations if input over-current protection is also required. Recommended fuse: slow blow type

RECOM

AC/DC Converter

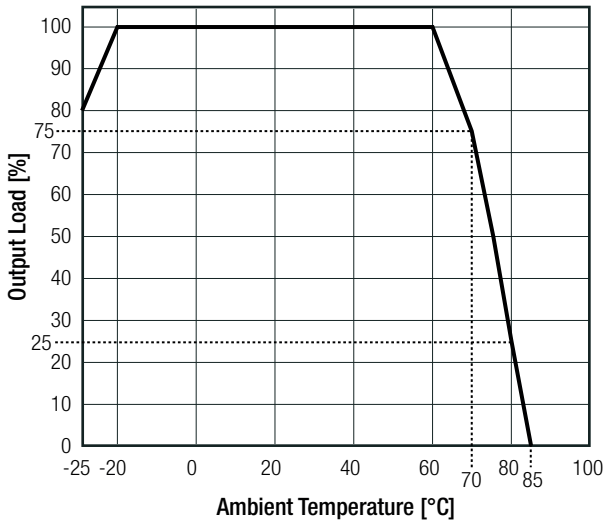
RAC04-C/W Series

Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

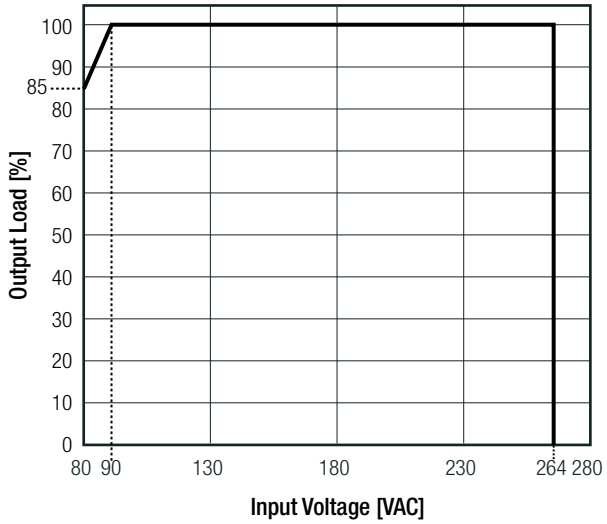
ENVIRONMENTAL

Parameter	Condition			Value
Operating Temperature Range	@ natural convection 0.1m/s	full load		-25°C to +60°C
		refer to derating graph		-25°C to +85°C
Maximum Case Temperature				+100°C
Operating Humidity	non-condensing			95% RH max.
MTBF	according to MIL-HDBK-217F, G.B.	115VAC 230VAC	+25°C	820 x 10^3 hours 735 x 10^3 hours
		115VAC 230VAC	+60°C	550 x 10^3 hours 430 x 10^3 hours

Derating Graph
(@ Chamber and natural convection 0.1m/s)



Line Derating



SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment - General Requirments for Safety	SPCLVD1606038	IEC60950-1:2005 2nd Edition + 2:2013 EN60950-1:2006 + A2:2013
Information Technology Equipment - General Requirments for Safety	E224736-A5-UL	CAN/CSA-C22.2 No. 60950-1-07, 2nd Edition, 2007 UL No. 60950-1, 2nd Edition, 2007
EAC Safety of Low Voltage Equipment	RU-AT.49.09571	TP TC 004/2011
RoHS2+		RoHS-2011/65/EU + AM-2015/863

EMC Compliance	Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment – Emission Requirements		EN55032:2015, Class B
Information technology equipment - Immunity characteristics - Limits and methods of measurement		EN55024:2010 + A1:2015
ESD Electrostatic discharge immunity test	Air ±8.0kV, Contact ±4.0kV	IEC61000-4-2:2008, Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	IEC61000-4-3:2006 + A2:2010, Criteria A
Fast Transient and Burst Immunity	AC Power Port: ±1.0kV	IEC61000-4-4:2012, Criteria A
Surge Immunity	AC Power Port: L-N ±1.0kV	IEC61000-4-5:2005, Criteria A
Immunity to conducted disturbances, induced by radio-frequency fields	AC Power Port 3.0V	IEC61000-4-6:2008, Criteria A
Voltage Dips and Interruptions	Voltage Dips >95% Voltage Dips 30% Voltage Interruptions > 95%	IEC61000-4-11:2004, Criteria A IEC61000-4-11:2004, Criteria A IEC61000-4-11:2004, Criteria C
Limits of Voltage Fluctuations & Flicker		EN61000-3-3:2013

RECOM

AC/DC Converter

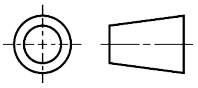
RAC04-C/W Series

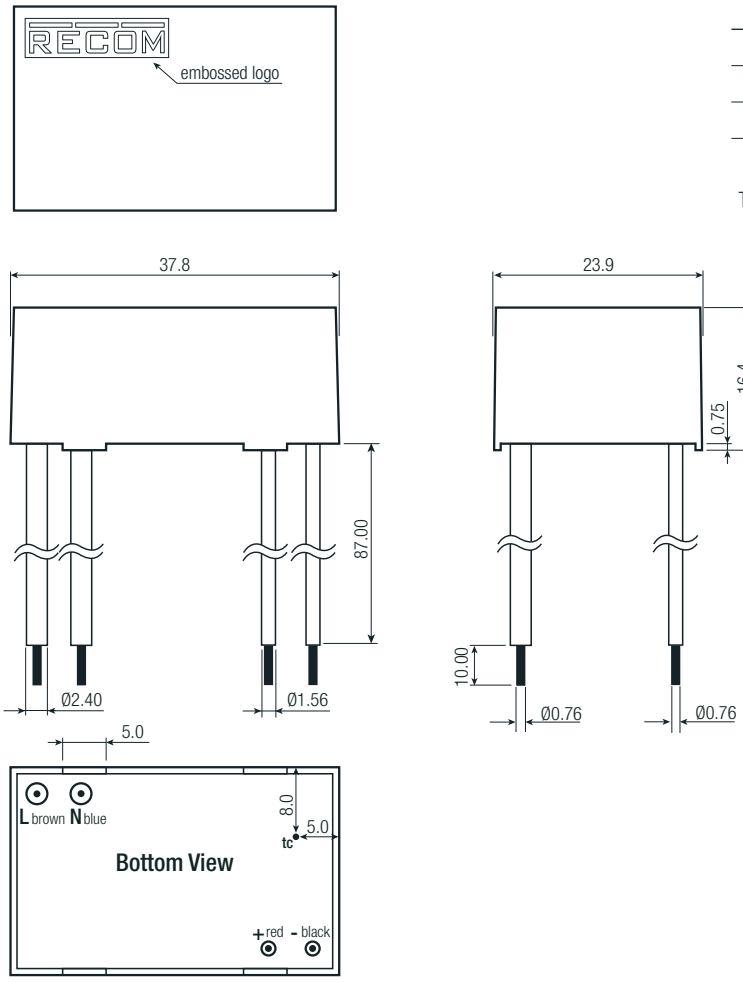
Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting	black plastic (UL94V-0) silicone (UL94V-0)
Dimension (LxWxH)		37.8 x 23.9 x 16.4mm
Weight		32g typ.

Dimension Drawing (mm)





Wired information

#	Function	Wire color	Type	AWG
1	VAC in (L)	brown	UL-1015	22
2	VAC in (N)	blue	UL-1015	22
3	+VDC out	red	UL-1430	22
4	-VDC out	black	UL-1430	22

Tolerance: xx.x= ±0.5mm
xx.xx= ±0.25mm

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	cardboard box	520.0 x 195.0 x 68.0 mm
Packaging Quantity		30pcs
Storage Temperature Range		-40°C to +100°C
Storage Humidity	non-condensing	95% RH max.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

RECOM:

RAC04-3.3SC/W RAC04-12SC/W RAC04-15SC/W RAC04-09SC/W RAC04-05SC/W RAC04-24SC/W