Features

Regulated Converter

- 40mW max. no load power consumption
- High efficiency up to 76%
- Isolated output 3kVAC / 1 min
- SCP, OVP protection
- Wide operating temperature range: -40°C to +85°C
- Universal input 85-305VAC

RECOM
AC/DC Converter

RAC03-SER/277

3 Watt Single Output

3 YEAR Warranty

Description

The modules of the RAC03-SER/277 series are regulated AC/DC converters with 3kVAC isolation and a round, flat shape. This series has been designed to offer low stand-by consumption and an ultra-wide input voltage range. Uses include a variety of applications in building automation, security systems and communication systems.

Selection Guide

Part Number	Input Voltage Range [VAC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ (1) [%]	Max. Capacitive Load (2) [µF]
RAC03-3.3SER/277	100-277	3.3	900	68	22000
RAC03-05SER/277	100-277	5	600	70	7500
RAC03-12SER/277	100-277	12	250	74	1000
RAC03-24SER/277	100-277	24	125	76	200

Notes:

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

Note2: Max Cap Load is tested at nominal input and full resisitive load

Model Numbering

RAC03-__ SER/277-

- nom. Output Power
- Output Voltage
- Packaging (3)
- Single

Notes:

Note3: add suffix "-TRAY" for Tray packaging, without suffix standard cardboard box packaging

Ordering Examples:

RAC03-05SER/277	3 Watt	5Vout	Single Output	cardboard box
RAC03-12SER/277	3 Watt	12Vout	Single Output	cardboard box
RAC03-05SER/277-TRAY	3 Watt	5Vout	Single Output	tray packaging

UL60950-1 certified
CAN/CSA-22.2 No. 60950 certified
EN60335-1 certified
IEC/EN60950-1 certified
CB Report
EN55032 certified
EN55024 certified
EN55014 certified

Specifications (measured @ Ta= 25°C, nom. Vin (115/230VAC), full load and after warm-up unless otherwise stated)

BASIC CHARACTERISTICS

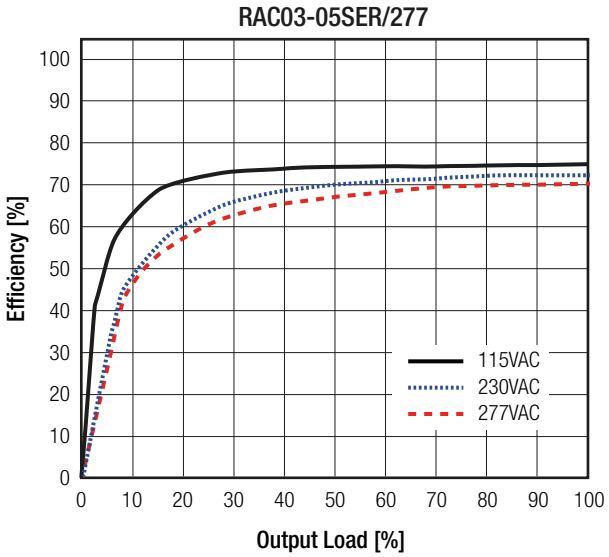
Parameter	Condition		Min.	Typ.	Max.
Input Voltage Range [4]	nom. Vin= 230VAC		85VAC 120VDC	277VAC	305VAC 430VDC
Input Current	115VAC 230VAC			70mA 45mA	
Inrush Current	cold start at +25°C	115VAC 230VAC			15A 30A
No load Power Consumption	85-305VAC/ 47-440Hz				40mW
Input Frequency Range	AC Input		47Hz		440Hz
Minimum Load [7]				10%	
Hold-up Time	115VAC		18ms		
Internal Operating Frequency	100% load at nominal Vin			55kHz	
Output Ripple and Noise [5]	3.3Vout all others			250mVp-p 200mVp-p	

Notes:

Note4: No line derating required

Note5: Ripple and Noise is the maximum peak-to-peak voltage value measured at the output with a 20MHz bandwidth, at rated line voltage at full load. And with a 47µF low-ESR electrolytic capacitor in parallel with a 0.1µF ceramic capacitor across output

Efficiency vs. Load



REGULATIONS

Parameter	Condition		Value
Output Voltage Tolerance [6]	3.3Vout 5Vout 12, 24Vout		±4.0% typ. / ±8.0% max. ±3.5% typ. / ±5.0% max. ±3.0% typ. / ±4.0% max.
Line Regulation	low line to high line, full load		±0.7% typ. / ±1.0% max.
Load Regulation [7]	10% to 100% load	3.3Vout 5Vout 12, 24Vout	5.5% typ. / 9.0% max. 5.0% typ. / 7.5% max. 4.0% typ. / 5.5% max.

Notes:

Note6: Includes initial voltage accuracy, thermal drift, line regulation and load regulation at rated input voltage and load conditions

Note7: Operation below 10% load will not harm the converter, but specifications may not be met