

Features

Regulated Converters

- Universal Input 85-305VAC
- Regulated Power Supply
- Continuous Short Circuit Protection
- Isolated Output 3kVAC / 1 min
- Meet EN55022 and FCC Class B
- Ultra-low Stand-By Power Consumption

Selection Guide

| Part Number | Input Voltage (VAC) | Output Voltage (VDC) | Output Current (mA) | Typical Efficiency (%) | Max. Capacitive Load ⁽¹⁺²⁾ |
|-------------------|---------------------|----------------------|---------------------|------------------------|---------------------------------------|
| RAC03-3.3SCR/277* | 85-305 | 3.3 | 900 | 68 | 22000µF |
| RAC03-05SCR/277* | 85-305 | 5 | 600 | 70 | 10000µF |
| RAC03-12SCR/277* | 85-305 | 12 | 250 | 74 | 1500µF |
| RAC03-24SCR/277* | 85-305 | 24 | 125 | 76 | 200µF |

* add „-Tray“ for Tray packaging, e.g. RAC03-05SCR/277-Tray

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

| | | |
|---|---------------------------------------|-----------------------|
| Input Voltage Range | 85-305VAC or 120-430VDC | |
| Rated Power | 3 Watts | |
| Input Frequency Range (for AC Input) | 47-440Hz | |
| Input Current (Full Load) | 115VAC / 230VAC | 70mA / 45mA typ. |
| No Load Power Consumption | 85-305VAC / 47-440Hz | 75mW max. |
| Inrush Current (<2ms) | 115VAC | 15A max. |
| | 230VAC | 30A max. |
| Output Voltage | 3.3V-24V | |
| Output Voltage Tolerance ⁽³⁾ | 3.3V | ±4% typ. / ±8% max. |
| | 5V | ±3.5% typ. / ±5% max. |
| | 12V / 24V | ±3% typ. / ±4% max. |
| Output Current | see Selection Guide | |
| Output Ripple & Noise ⁽⁴⁾ | 3.3V | 250mVp-p |
| | 5V | 200mVp-p |
| | 12V / 24V | 150mVp-p |
| Switching Frequency | @ Full Load | 45KHz typ. |
| Hold-up Time | 115VAC | 18ms min. |
| Minimum Load | 10% | |
| Line Voltage Regulation | LL-HL @ Full Load | ±0.7% typ. / ±1% max. |
| Load Regulation (10%-100% Load) | 3.3V | ±5.5% typ. / ±9% max. |
| | 5V | ±5% typ. / ±7.5% max. |
| | 12V, 24V | ±4% typ. / ±5.5% max. |
| Leakage Current | 85-305VAC / 47-440Hz | 10µA max. |
| Isolation Voltage | 3kVAC / 1minute | |
| Isolation Resistance | 1GΩ min | |
| Short Circuit Protection | Continuous, Auto Restart | |
| Over Current Limit | 105% - 150% | |
| Over Voltage Protection (Zener diode clamp) | 130%-160% | |
| Over Voltage Category | OVC II | |
| Operating Temperature Range ⁽⁵⁾ | natural convection, without derating | -25°C to +75°C |
| | natural air convection, with derating | -25°C to +85°C |
| Storage Temperature Range | -40°C to +85°C | |
| Relative Humidity | 95% RH max. | |
| Case Material | UL94V-0 Black Plastic | |
| Potting Material | Epoxy | |

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

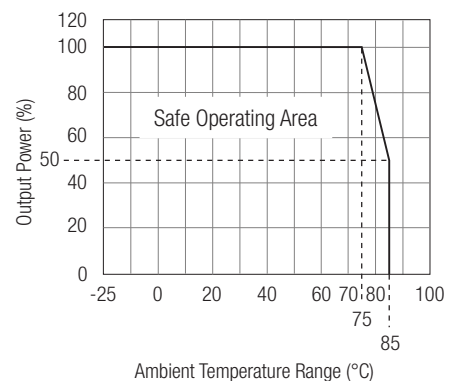
3 Watt Single Output



**CE Marked
UL-60950-1 Certified**

RAC03-SCR/277

Derating-Graph (Ambient Temperature)



Refer to Application Notes

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

| | | | |
|----------------------------|----------------------|---------------------------------------|----------------------------|
| Package Weight | | | 41g typ. |
| Package Quantity | | | 12pcs |
| | „-Tray“-Version | | 72pcs |
| Physical Dimension (LxWxH) | | | 50.3 x 50.3 x 11.0mm |
| RoHS | | | Test Report: KA/2012/91224 |
| EMC | | | EN55022 Class B |
| Certifications | | | |
| UL General Safety | File Number: E224736 | UL-60950-1 | |
| EN General Safety | Report: T120925N01-E | EN-55022: 2010 Class B, EN-55024:2010 | |
| MTBF | TA = 25°C | 1300 x 10 ³ hours | |
| (using MIL-HDBK-217F) | TA = 75°C | 160 x 10 ³ hours | |

Notes:

Note1: Measured @ 230VAC / 50Hz / Ta=25°C with constant resistant mode at full load.

Note2: If used @ 115VAC / 60Hz with full load, max. capacitive load is less, please contact RECOM for detailed information.

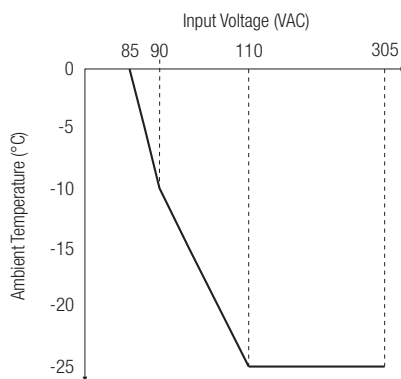
Note3: The "output voltage tolerance" includes initial voltage accuracy, thermal drift, line regulation and load regulation at rated input voltage and load conditions.

Note4: "Ripple and Noise" is the maximum peak-to-peak voltage value measured at the output with a 20 MHz bandwidth, at rated line voltage at full load.

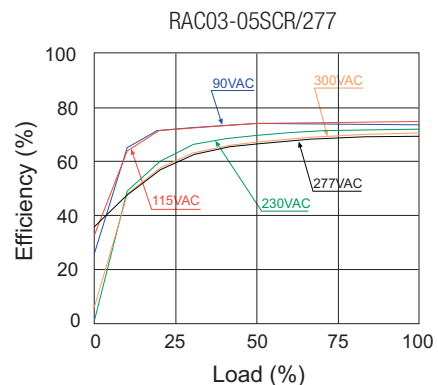
Note5: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

Typical Characteristics

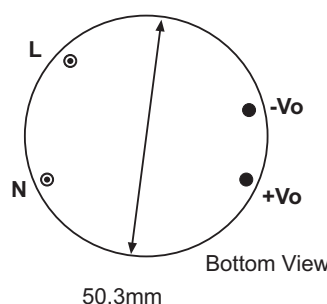
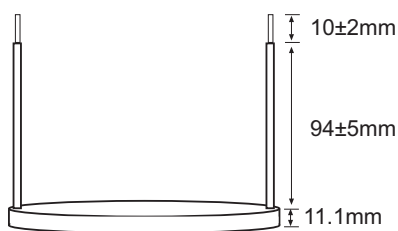
Ambient Temperature vs. Input Voltage



Efficiency vs. Load



Mechanical Dimension



Wire Connections

| Wire # | Color | AWG | Quantity | Function |
|--------|-------|--------|----------|------------|
| 1 | Brown | AWG#22 | 1015 | VAC in (L) |
| 2 | Blue | AWG#22 | 1015 | VAC in (N) |
| 3 | Red | AWG#22 | 1430 | +VDC out |
| 4 | Black | AWG#22 | 1430 | -VDC out |

Tolerance ±0.5mm unless otherwise specified

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