

# Features

## Regulated Converters

- Compact AC-DC Power Supply
- 20 Watt PCB Mount Package
- Universal Input Voltage Range
- 3000VAC Isolation
- Low Output Ripple and Noise
- Short Circuit Protected
- Low Temperature Operation
- Anti-Vibration Mechanical Fixing
- CE Marked

### Description

Compact switching AC/DC power module for PCB, screw-terminal connection or DIN-rail mounting. The converter is pin compatible with the RAC05-SB and RAC10-SB models. A threaded insert is provided for additional mechanical fixing.

### Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Typical Efficiency (%)	Maximum Power (W)	Max. Capacitive Load
RAC20-3.3SB	90-264	3.3	3600	74	11.9W	4500µF
RAC20-05SB	90-264	5	3600	78	18W	3500µF
RAC20-12SB	90-264	12	1660	82	20W	1800µF
RAC20-15SB	90-264	15	1330	83	20W	1500µF
RAC20-24SB	90-264	24	833	83	20W	1200µF

\*add suffix "-ST" for screw terminal module e.g. RAC20-05SB-ST

### Specifications (typical at 25°C and after warm up time unless otherwise specified )

Input Voltage Range	90-264VAC or 120-370VDC	
Rated Power	20 Watts max.	
Input Frequency Range (for AC Input)	47-440Hz	
Input Current (full load)	115VAC/230VAC	385mA / 250mA max.
No Load Power Consumption	115VAC/230VAC	470mW max.
Inrush Current (<2ms)	115VAC	20A max.
	230VAC	40A max.
Leakage Current	0.75mA max.	
Output Voltage Accuracy (Full load)	±2%	
Line Voltage Regulation (low line, high line at full load)	±0.5% typ.	
Load Voltage Regulation ( 5% to 100% full load )	±1% typ.	
Output Ripple and Noise <sup>(2)</sup>	Ripple (3.3V, 5V)	75mVp-p max.
	Noise (3.3V, 5V)	120mVp-p max.
	Others (Ripple and Noise)	1% Vout
Operating Frequency	100 - 130kHz typ.	
Minimum Load	0%	
Isolation Voltage (input to output)	3000VAC min.	
Temperature Coefficient	±0.02%/°C typ.	
Isolation Resistance	100 MΩ min.	
Short Circuit Protection	Continuous, Automatic Restart	
Over Voltage Category	OVC II	
Operating Temp. Range (Natural Convection, with derating)	-40°C to +70°C	
	3.3V, 5V (no derating)	-40°C to +40°C
	Others (no derating)	-40°C to +45°C
Storage Temperature Range	-40°C to +85°C	
Humidity	95% RH max.	
Case Material	Epoxy with Fibreglass (UL94V-0)	
Package Weight	59g	
Packing Quantity	5 pcs (-ST Version: 1 pc)	
EMC	designed to meet EN 55022 Class B / EN 55024	
MTBF (+25°C)	using MIL-HDBK-217F	>250 x 10 <sup>3</sup> hours

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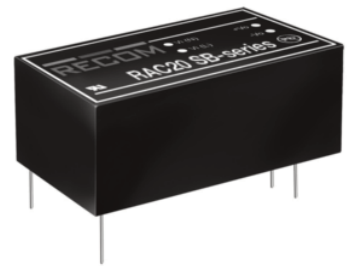
# POWERLINE

## AC/DC-Converter

with 3 year Warranty

# RECOM

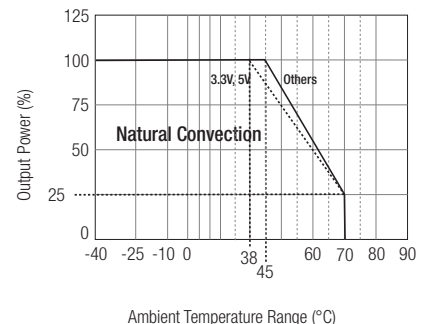
## 20 Watt Single Output



CE Marked

# RAC20-B

## Derating-Graph (Ambient Temperature)



Refer to Application Notes

# POWERLINE

## AC/DC-Converter

# RAC20-SB Series

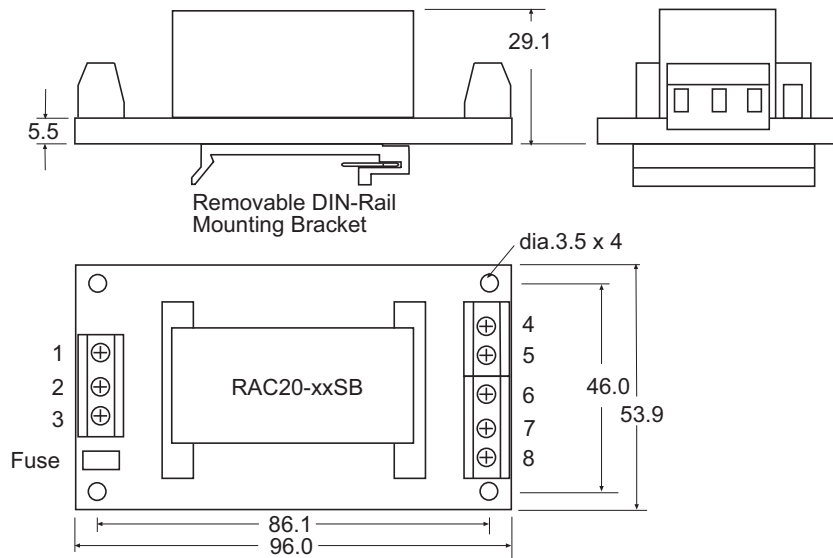
### Specifications (typical at 25°C and after warm up time unless otherwise specified )

Notes:

Note 1: Ripple & Noise measured with 20MHz BW probe and 0.47µF capacitor in parallel across the outputs.

Note 2: Suggested input fuse rating 2A Slow Blow

### Screw Terminal Module Option (suffix -ST)



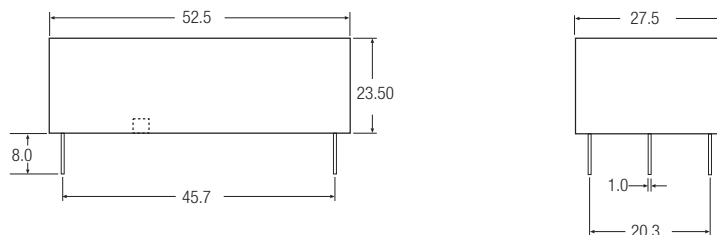
#### Pin Connections

Pin #	Single Out
1	NC
2	VAC in (L)
3	VAC in (N)
4	NC
5	+VDC out
6	-VDC out
7	NC
8	NC

NC = No Connection

RAC20-B

### Standard Package Style and Pinning

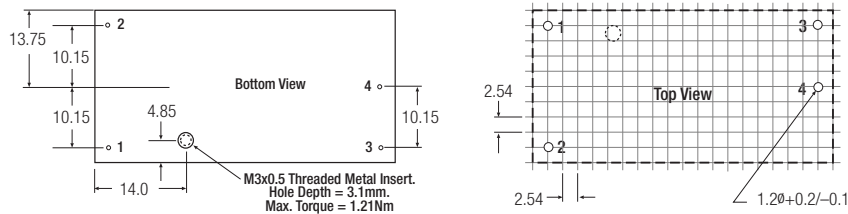


#### Pin Connections

Pin #	Single Out
1	VAC in (L)
2	VAC in (N)
3	+VDC out
4	-VDC out

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

#### Recommended Footprint Details



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