

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 Fixing

Description

Compact UL certified 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 fixing.

Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Typical Efficiency (%)	Maximum Power (W)
RAC20-3.3SB	90-264	3.3	3600	74	11.9W
RAC20-05SB	90-264	5	3600	78	18W
RAC20-12SB	90-264	12	1666	83	20W
RAC20-15SB	90-264	15	1330	85	20W
RAC20-24SB	90-264	24	833	86	20W

*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 / 280mA max.
No Load Power Consumption	115VAC/230VAC	470mW max.
Inrush Current (<2ms)	115VAC 230VAC	20A max. 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 (note 1)	3.3V, 5V Others	100mV max. 0.5% Vout + 50mVp-p max
Maximum Capacitive Load	800µF	
Operating Frequency	130kHz typ.	
Minimum Load	2%	
Isolation Voltage (input to output)	3000VAC min.	
Temperature Coefficient	±0.02%/°C typ.	
Isolation Resistance	100 MΩ min.	
Short Circuit Protection	Continuous, Automatic Restart	
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 ³ hours

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

20 Watt Single Output

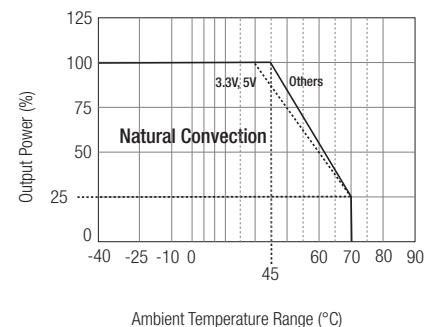


**UL-60950-1 Certified
E196683 (Pending)**

RAC20-B

Derating Graph

(Ambient Temperature)



Please Read Application Notes

www.recom-electronic.com

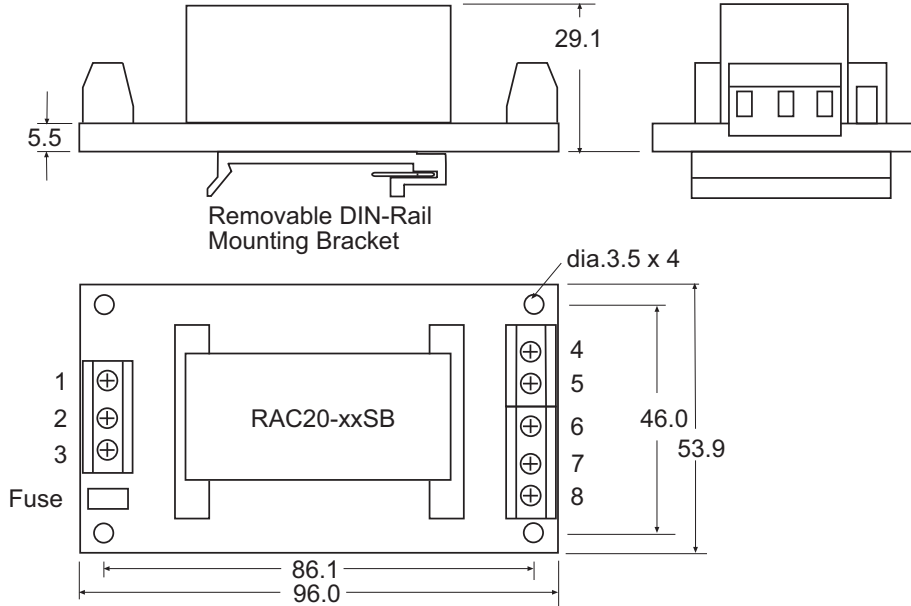
POWERLINE

AC/DC-Converter

RAC20-SB Series

Screw Terminal Module Option (suffix -ST)

3rd angle projection 



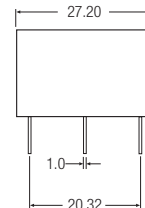
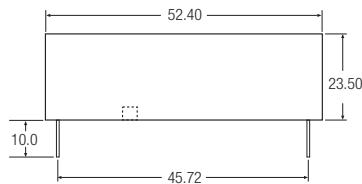
Pin Connections

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

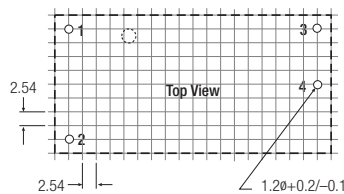
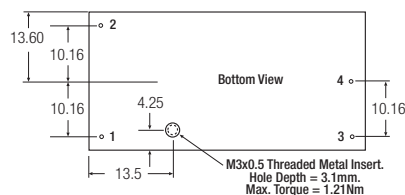
NC = No Connection

Standard Package Style and Pinning

3rd angle projection 



Recommended Footprint Details



Pin Connections

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

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

RAC20-B

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