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

POWERLINE
AC/DC-Converter
with 3 year Warranty

RECOM

20 Watt Single Output



RoHS 2002/95/EC 6/6

CE

UL-60950-1 Pending

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)
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)

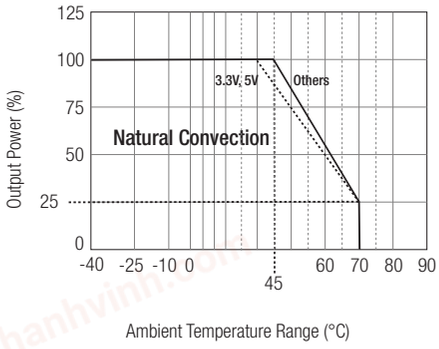
Input Voltage Range		90-264VAC or 120-370VDC
Rated Power		20 Watts max.
Input Frequency Range (for AC Input)		47-440Hz
Input Current (full load)	115VAC/230VAC	385mA / 280mA max.
No Load Power Consumption	115VAC/230VAC	470mW max.
Inrush Current (<2ms)	115VAC 230VAC	20A max. 40A max.
Leakage Current		0.75mA 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) 3.3V, 5V (no derating) Others (no derating)	-40°C to +70°C -40°C to +40°C -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

RAC20-B

RAC20-B

Derating Graph

(Ambient Temperature)



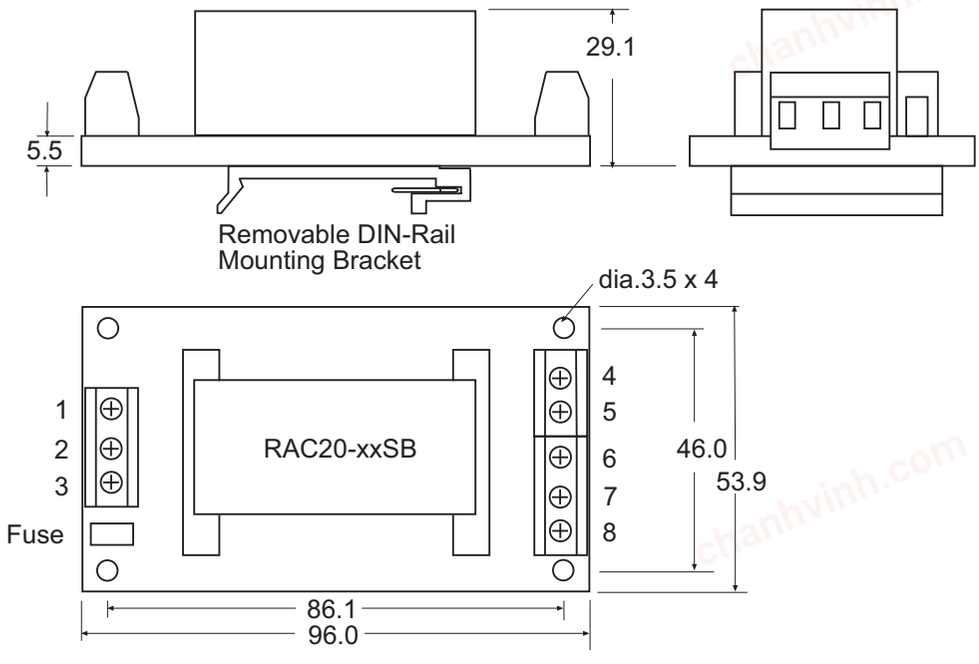
Please Read Application Notes

POWERLINE
AC/DC-Converter

RAC20-SB Series

Screw Terminal Module Option (suffix -ST)

3rd angle projection



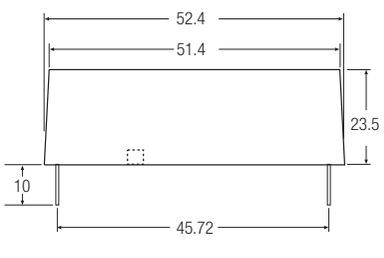
Pin Connections

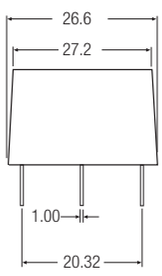
Pin #	Single Out
1	NC
2	VAC in (N)
3	VAC in (L)
4	NC
5	+VDC out
6	-VDC out
7	NC
8	NC

NC = No Connection

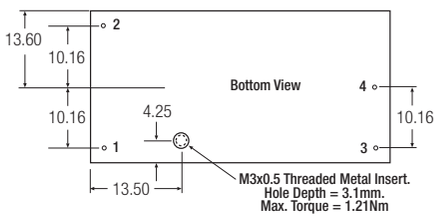
Standard Package Style and Pinning

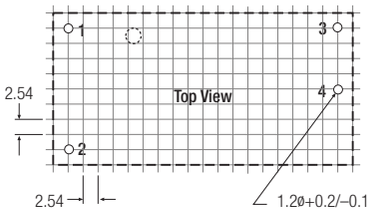
3rd angle projection





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

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