

# 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
- High Efficiency
- UL Certified, CE Marked

### Description

Compact universal input voltage switching power module for PCB or DIN-rail mounting available with single, dual or triple output voltages

### Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Capacitive Load (max)
RAC20-3.3SA	90-264	3.3	4500	75	25000µF
RAC20-05SA	90-264	5	4000	79	13000µF
RAC20-09SA	90-264	9	2230	82	1100µF
RAC20-12SA	90-264	12	1670	83	920µF
RAC20-15SA	90-264	15	1340	83	820µF
RAC20-24SA	90-264	24	840	84	600µF
RAC20-05DA	90-264	±5	±2000	79	±4300µF
RAC20-12DA	90-264	±12	±833	82	±560µF
RAC20-15DA	90-264	±15	±677	82	±220µF
RAC20-0512TA	90-264	5/±12	2800/±250	81	3500/±200µF
RAC20-0515TA	90-264	5/±15	2800/±200	81	3500/±150µF

\*add suffix "-ST" for screw terminal module e.g. RAC20-05SA-ST, RAC20-05DA-ST, RAC20-0512TA-ST

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

Input Voltage Range	90-264VAC or 100-375VDC	
Rated Power	20 Watts max	
Input Frequency Range (for AC Input)	47-440Hz	
Input Current (full load)	115VAC/230VAC	400mA/ 230mA max.
No Load Power Consumption	115VAC/230VAC	470mW max.
Inrush Current (<2ms)	115VAC/230VAC	30A/ 50A max.
Leakage Current	0.25mA max	
Output Voltage Accuracy (Full load)	±2% max	
Line Voltage Regulation (low line, high line at full load)	- Single /Dual Output - Triple Output	±0.5% max ±1%/ ±5% max
Load Voltage Regulation (10% to 100% symmetric load)	- Single - Dual - Triple	±1% max ±3% max ±2% /±5% max
Output Ripple and Noise <sup>(1)</sup>	Noise Ripple	<0.9% Vout + 50mVp-p max. <0.2% Vout + 40mVp-p max.
Minimum Load	Single/Dual = 0%, Triple = 10% main /20% auxilliary	
Operating Frequency	100kHz typ	
RMS Isolation Voltage (input to output)	3kVAC / 1 minute	
Temperature Coefficient	±0.02%/°C typ	
Over-Current Protection	105% typ	
Short Circuit Protection	Continuous, Automatic Restart	
Over-Voltage Protection	Zener Diode Clamp	
Operating Temperature Range (free air convection, with derating) <sup>(3)</sup>	-25°C to +70°C	
Storage Temperature Range	-40°C to +85°C	

continued on next page

# POWERLINE

## AC/DC-Converter

with 3 year Warranty

# RECOM

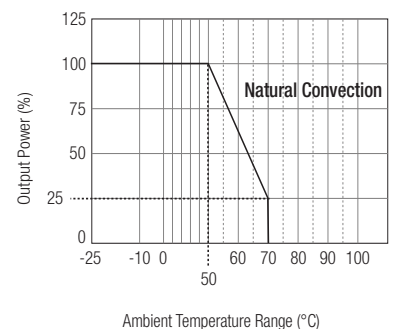
## 20 Watt Single/Dual & Triple Output



UL-60950-1 Certified

# RAC20-A

## Derating-Graph (Ambient Temperature)



Refer to Application Notes

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

Humidity	95% RH max.
Case Material	Epoxy with Fibreglass (UL94V-0)
Package Weight	110g
Packing Quantity	3 pcs (-ST Version: 1 pc)
EMC	EN 55022 Class B / EN 55024
MTBF (+25°C)	using MIL-HDBK-217F >200 x 10 <sup>3</sup> hours

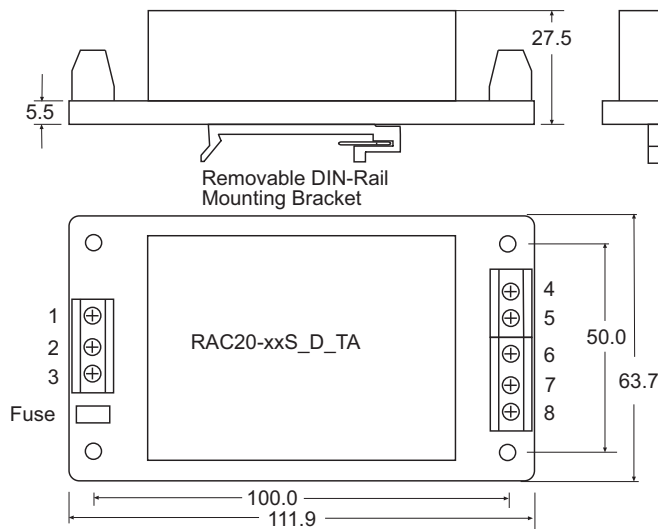
### Notes:

Note 1: Ripple & Noise measured with 20MHz BW probe and 0.1µF + 47µF capacitors in parallel across the outputs.

Note 2: Suggested input fuse rating 2A Slow Blow

Note3: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

## Screw Terminal Module Option (suffix -ST)

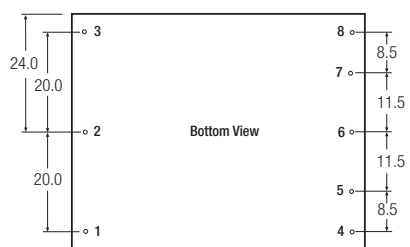
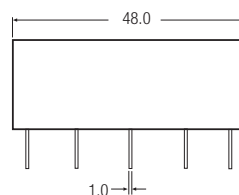
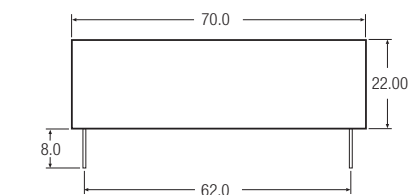


### Pin Connections

Pin #	Single Out	Dual Out	Triple Out
1	FG	FG	FG
2	VAC in (N)	VAC in (N)	VAC in (N)
3	VAC in (L)	VAC in (L)	VAC in (L)
4	NC	NC	-VDC out
5	-VDC Out	-VDC Out	Com
6	NC	Com	-VDC out
7	+VDC out	+VDC out	+5V Rtn
8	NC	NC	+5Vout

NC = No Connection

## Package Style and Pinning



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

### Pin Connections

Pin #	Single Out	Dual Out	Triple Out
1	FG	FG	FG
2	VAC in (N)	VAC in (N)	VAC in (N)
3	VAC in (L)	VAC in (L)	VAC in (L)
4	No Pin	No Pin	-VDC Out
5	-VDC Out	-VDC Out	Com
6	No Pin	Com	+ VDC Out
7	+ VDC Out	+ VDC Out	+ 5V Rtn (Com)
8	No Pin	No Pin	+ 5V Out