

Features

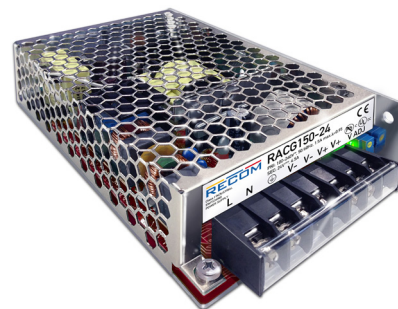
Regulated Converters

- Built-in Active PFC
- Efficiency up to 88%
- Isolated Output 3kVAC / 1 min
- SCP, OVP, OLP, OTP Protection
- Operating Temperature Range -20°C to +70°C
- Universal Input 90-264VAC/120VDC-370VDC

RECOM
AC/DC Converter

RACG150

**150 Watt
Single
Output**



UL
C US
E196683

UL60950-1 Certified

Description

These industrial grade power supplies have been designed to give many years of trouble-free life. Despite their low cost, they use high grade electrolytic capacitors to ensure heavy industry performance levels, working reliably over an extended temperature and world-wide input voltage range. The RACG series are more compact than the standard industry size, yet offer higher performance with full output protection (SCP, OVP, OTP, OLP), active power factor correction and improved input surge, hold-up time and efficiency ratings. The power supplies can be mounted horizontally or vertically and are certified to CE, UL and Class B EMC standards. Typical uses are industrial, commercial and high reliability applications. The RACG series come with a 3 year warranty.

Selection Guide

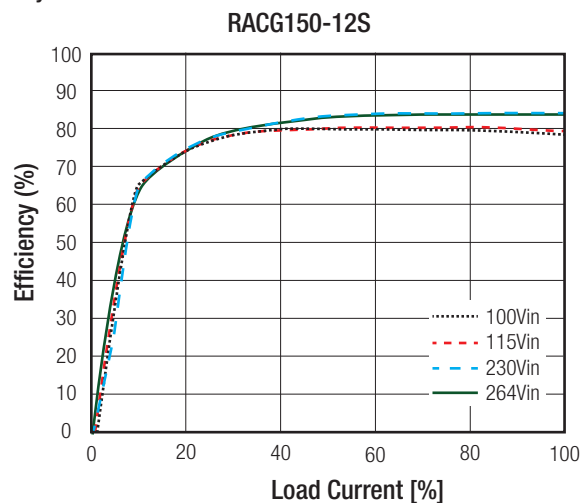
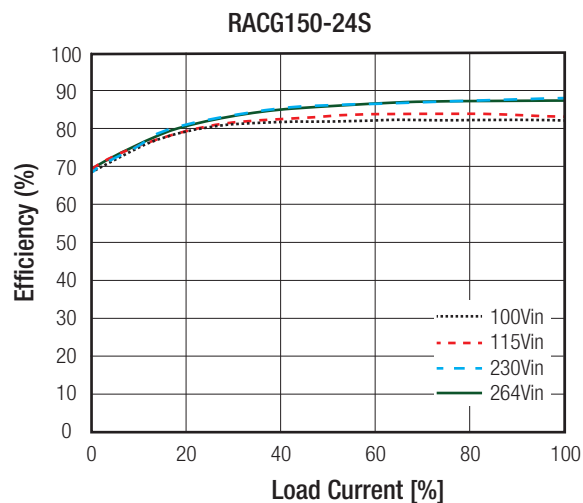
Part Number	nom. Input Voltage Range (VAC)	Input Current max. (A)	Output Voltage (VDC)	Adj. Output Voltage (VDC)	Output Current max. (A)	Efficiency (@230VAC) typ. (%)
RACG150-12S	100-240	1.9	12	10.8-13.2	12.5	86
RACG150-24S	100-240	1.9	24	21.6-26.4	6.3	87
RACG150-48S	100-240	1.9	48	43.2-52.8	3.2	88

Specifications (measured at T_a= 25°C, nominal input voltage (115/230VAC), full load and after warm-up)

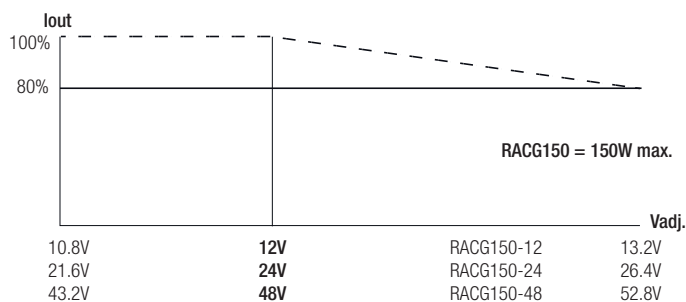
BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range		90VAC 120VDC		264VAC 370VDC
Inrush Current	cold start, 115VAC cold start, 230VAC			30A 45A
No load Power Consumption			3W	
Input Frequency Range		47Hz		63Hz
Set-up time	115VAC 230VAC			3s 2s
Hold-up time	220VAC		18ms	
Output Voltage adjust			±10%	
Minimum Load			0%	
Power Factor	115VAC 230VAC		0.98 0.95	
Output Ripple and Noise ⁽¹⁾	0°C to +70°C -20°C to 0°C		100mVp-p 200mVp-p	
Notes: Note1: Measured @ 20MHz Bandwidth with a 0.1µF capacitor. continued on next page				

Specifications (measured at $T_a = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

Efficiency vs Load



V_{adj.} Derating



REGULATIONS

Parameter	Condition	Value
Output Voltage Accuracy		$\pm 2\%$ max.
Line Voltage Regulation	low line to high line, full load	$\pm 0.5\%$ max.
Load Voltage Regulation	12Vout	$\pm 2\%$ max.
	24Vout, 48Vout	$\pm 1\%$ max.

PROTECTIONS

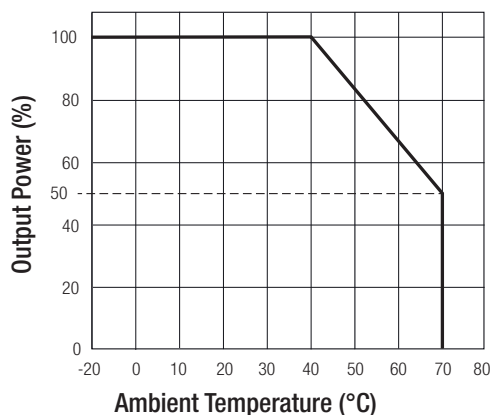
Parameter	Type	Value
Input Fuse	internally	T5A, slow blow
Short Circuit Protection (SCP)		continuous, Hiccup and auto recovery
Over Voltage Protection (OVP)		115% - 150% of rated output voltage, Hiccup and auto recovery
Over Load Protection (OLP)		105% - 150% of rated output current, Hiccup and auto recovery
Over Temperature Protection (OTP)	detected on Mosfet temperature	$+105^\circ\text{C} \pm 5^\circ\text{C}$ auto restart after cooling down to $+60^\circ\text{C}$
Isolation Voltage	I/P to O/P	3kVAC / 1 Minute
	I/P to Case	1.5kVAC / 1 Minute
	O/P to Case	500VAC / 1 Minute
Isolation Resistance		$100\text{M}\Omega$ min.
Leakage Current	I/P to O/P	0.25mA min.
	I/P to Case	3.5mA min.

Specifications (measured at $T_a = 25^\circ\text{C}$, nominal input voltage (115/230VAC), full load and after warm-up)

ENVIRONMENTAL

Parameter	Condition	Value
Operating Temperature Range	with derating	-20°C to $+70^\circ\text{C}$
Temperature Coefficient		0.03%/°C
Operating Humidity	non-condensing	20% - 90%, RH max.
Moisture Protection		conformally coated PCB
Operating Altitude		5000m
MTBF	MIL-HDBK-217F, ground benign, $+25^\circ\text{C}$	200×10^3 hours

Derating Graph



SAFETY AND CERTIFICATIONS

Certificate Type	Report / File Number	Standard
UL General Safety	E196683	UL60950-1
CAN/CSA General Safety	E196683	C22.2 No. 60950-1
Certificate Type (designed to meet)		Standard
IEC/EN General Safety		IEC/EN60950-1
EMC Compliance	Conditions	Standard / Criterion
EMI Standard	internal filter	EN55022, Class B
Harmonic Current		EN61000-3-2, Class A

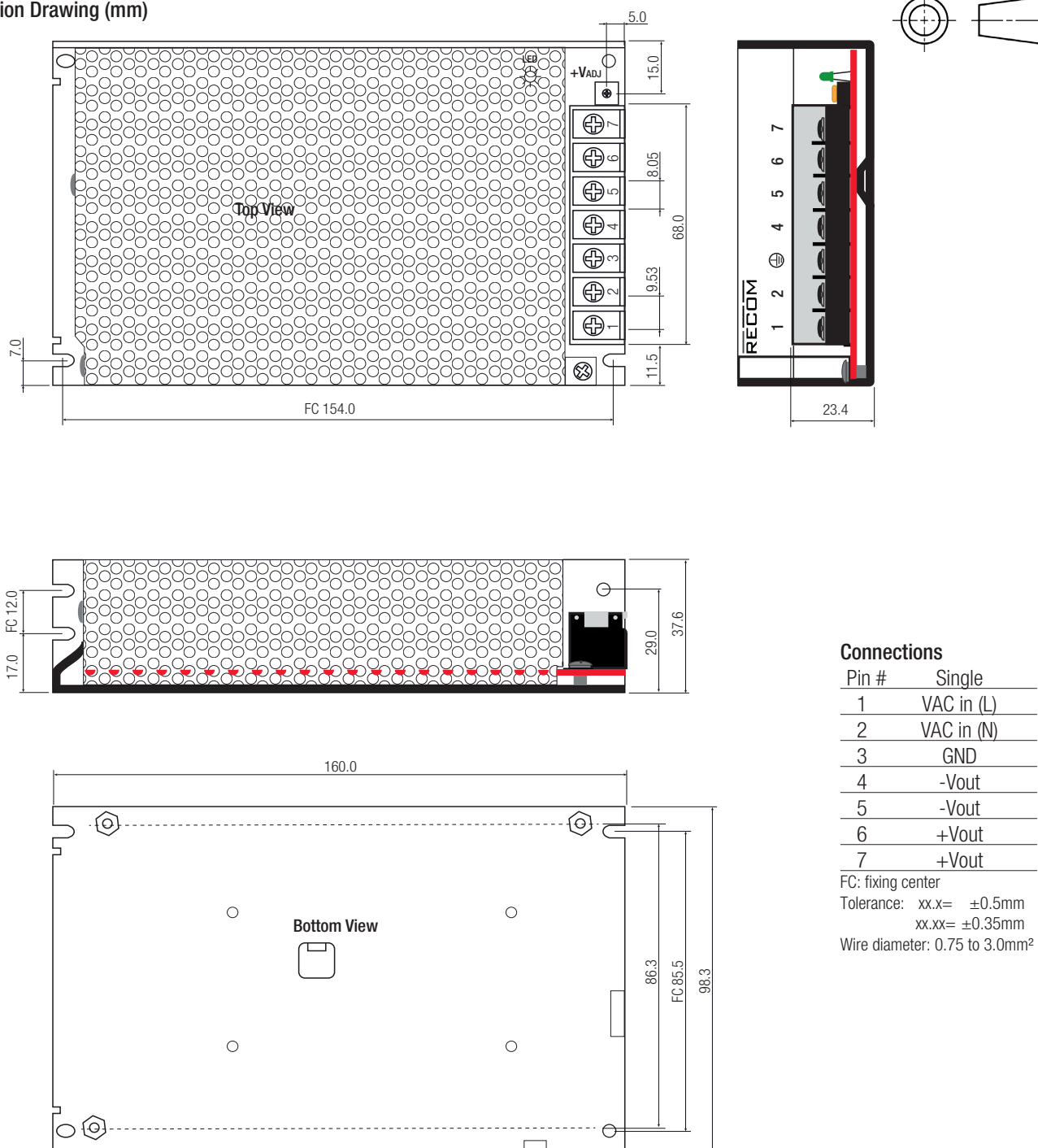
DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Case Material		Aluminium
Package Dimension (LxWxH)		160 x 98 x 38mm
Package Weight		610g typ.

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Specifications (measured at $T_a = 25^\circ\text{C}$, nominal input voltage (115/230VAC), full load and after warm-up)

Dimension Drawing (mm)



Connections

Pin #	Single
1	VAC in (L)
2	VAC in (N)
3	GND
4	-Vout
5	-Vout
6	+Vout
7	+Vout

FC: fixing center

Tolerance: xx.x= ±0.5mm

xx.xx= ±0.35mm

Wire diameter: 0.75 to 3.0mm²

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	Cardboard box	170 x 102 x 45mm
Packaging Quantity		1pc
Storage Temperature Range		-30°C to +85°C
Storage Humidity	non-condensing	10% - 90%, RH max.

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