

Features

- Built-in active PFC
- Efficiency up to 88%
- Isolated output 3kVAC / 1 minute
- SCP, OLP protection
- Operating temperature range -20°C to +60°C
- Universal input 90-264VAC / 120VDC-370VDC

Regulated Converter



RACG100

100 Watt
Single
Output



EN60950 certified
CAN/CSA-C22.2 No. 60950 certified
UL No. 60950 certified
EN55032 compliant
EN55024 compliant

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 and are certified to 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, 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 fully 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	Input Voltage Range [VAC]	Input Current max. [A]	nom. Output Voltage [VDC]	Adj. Output Voltage ⁽¹⁾ [VDC]	Output Current max. [A]	Efficiency typ. ⁽²⁾ [%]
RACG100-05S	90-264	1.5	5	3.3-5.5	20	84
RACG100-12S	90-264	1.5	12	10-15	8.5	87
RACG100-24S	90-264	1.5	24	21-27	4.5	88
RACG100-48S	90-264	1.5	48	43.2-52.8	2.2	88

Notes:

- Note1: For detail information please refer to graph on page PA-2
 Note2: Efficiency is tested at 230VAC and full load at +25°C ambient

Model Numbering



Ordering Examples:

RACG100-12S	100 Watt	12Vout	Single Output
RACG100-48S	100 Watt	48Vout	Single Output

Specifications (measured at Ta= 25°C, nom. Vin (115/230VAC), full load and after warm-up)

BASIC CHARACTERISTICS					
Parameter	Condition		Min.	Typ.	Max.
Input Voltage Range ⁽³⁾	nom. Vin = 230VDC		90VAC 120VDC		264VAC 370VDC
Inrush Current	cold start at +25°C	115VAC 230VAC			30A 50A
No load Power Consumption				3W	
Input Frequency Range			47Hz		63Hz
Minimum Load				0%	
Power Factor	115VAC 230VAC			0.98 0.93	
Set-up Time	115VAC 230VAC				4s 2s
Hold-up Time	230VAC			20ms	

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

BASIC CHARACTERISTICS

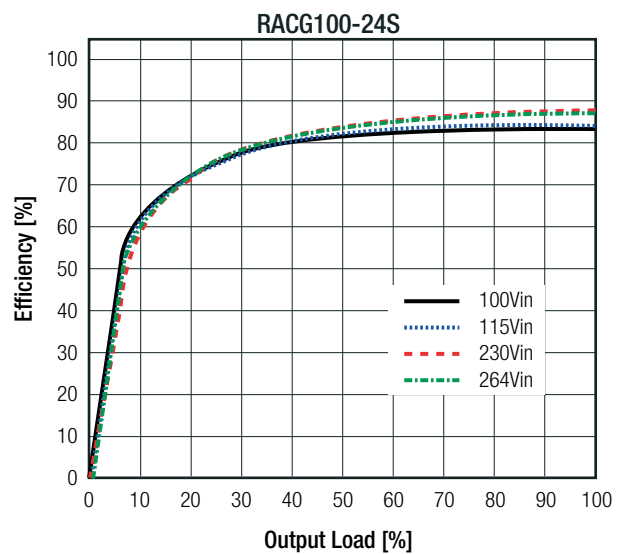
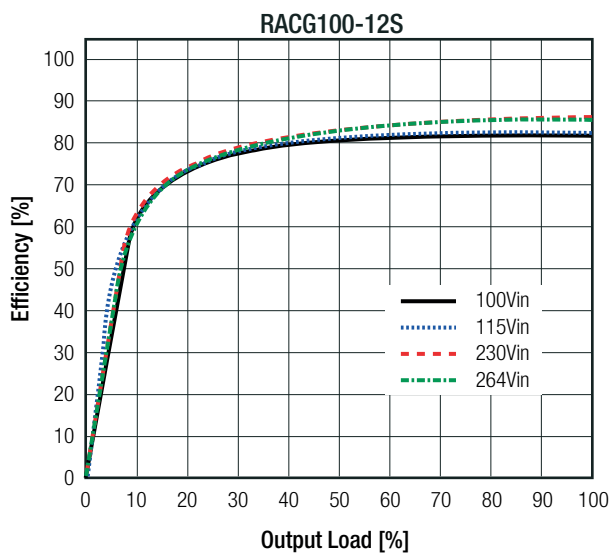
Parameter	Condition		Min.	Typ.	Max.
Output Voltage Adjustability				±10%	
Output Ripple and Noise ⁽⁴⁾	0°C to +60°C	all		150mVp-p	
	-20°C to 0°C	5, 12, 24Vout		150mVp-p	
		48Vout		200mVp-p	

Notes:

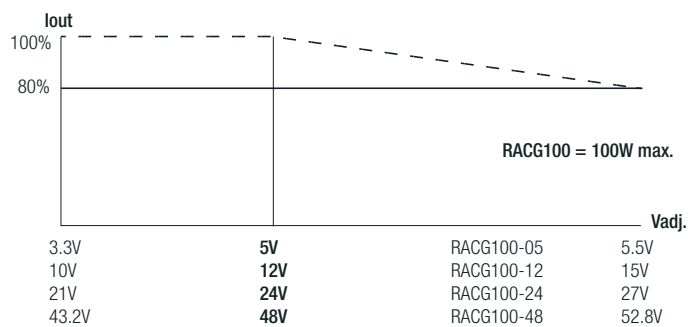
Note3: The products were submitted for safety files at AC-Input operation

Note4: Measured @ 20MHz Bandwidth with a 0.1µF parallel capacitor

Efficiency vs. Load



Output Voltage Adjustability Derating



REGULATIONS

Parameter	Condition	Value
Output Accuracy	5Vout, 12Vout	±2.0% max.
	24Vout, 48Vout	±1.0% max.
Line Regulation	low line to high line, full load	±0.5% max.
Load Regulation	5Vout, 12Vout	2.0% max.
	24Vout, 48Vout	1.0% max.

Specifications (measured at Ta= 25°C, nom. Vin (115/230VAC), full load and after warm-up)

PROTECTIONS

Parameter	Type	Value	
Input Fuse ⁽⁵⁾	internal	T5A, slow blow	
Short Circuit Protection (SCP)		continuous, hiccup and auto recovery	
Over Load Protection (OLP)		110% - 150% of rated output voltage, continuous, hiccup and auto recovery	
Isolation Voltage	tested for 1 minute	I/P to O/P	3kVAC
		I/P to case	1.5kVAC
		O/P to case	500VAC
Isolation Resistance		100MΩ min.	
Leakage Current	I/P to O/P	0.25mA max.	
	I/P to case	3.5mA max.	

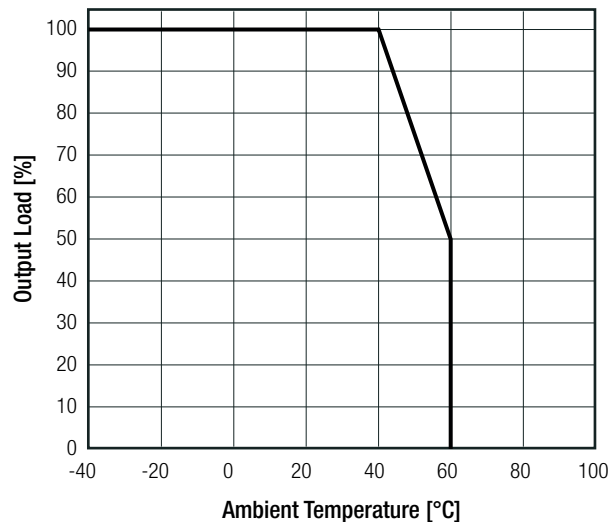
Notes:

Note5: Refer to local safety regulations if input over-current protection is also required

ENVIRONMENTAL

Parameter	Condition	Value
Operating Temperature Range	full load	-20°C to +40°C
	refer to derating graph	-20°C to +60°C
Temperature Coefficient		0.03%/K
Moisture Protection		conformally coated PCB
Operating Altitude		5000m
Operating Humidity	non-condensing	20% - 90% RH max.
MTBF	according to MIL-HDBK-217F, G.B. +25°C	200 x 10 ³ hours

Derating Graph



SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment, General Requirements for Safety	E196683	CAN/CSA-C22.2 No. 60950-1 UL No. 60950-1
Information Technology Equipment, General Requirements for Safety		EN60950-1:2006 + A2:2013
EAC Safety of Low Voltage Equipment	RU-AT.49.09571	TP TC 004/2011
RoHS2		RoHS-2011/65/EU + AM-2015/863

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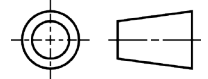
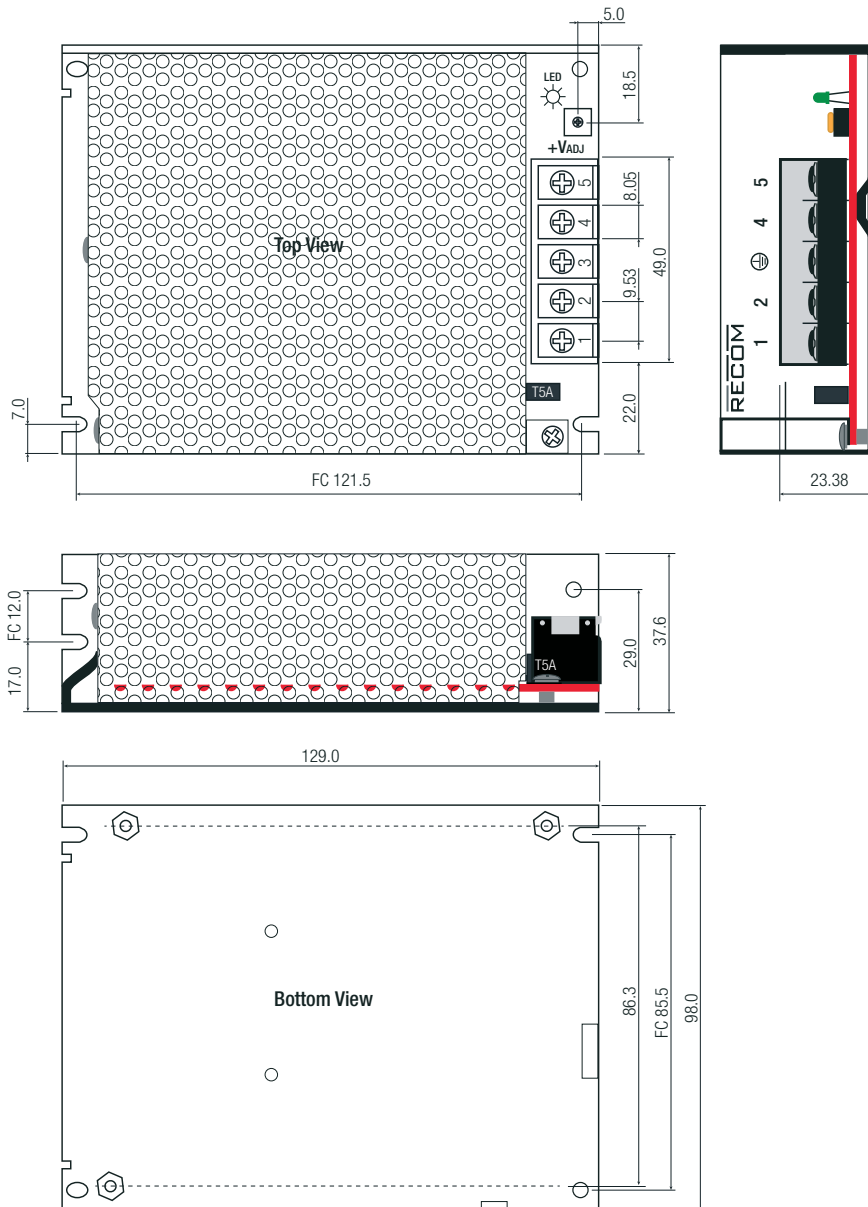
Specifications (measured at Ta= 25°C, nom. Vin (115/230VAC), full load and after warm-up)

EMC Compliance	Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment – Emission Requirements		EN55032:2015; Class B
Information technology equipment - Immunity characteristics - Limits and methods of measurement		EN55024:2010 + A1:2015
Electromagnetic compatibility of multimedia equipment – Emission Requirements		EN61000-3-2:2014
Limits of Voltage Fluctuations & Flicker		EN61000-3-3:2013

DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case	aluminium
Dimension (LxWxH)		129.0 x 98.0 x 38.0mm
Weight		432g typ.

Dimension Drawing (mm)



Pin Connections

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

FC: fixing center

Tolerance: xx.x= ±0.5mm

xx.xx= ±0.35mm

Wire diameter: 0.75 to 3.0mm²

Specifications (measured at Ta= 25°C, nom. Vin (115/230VAC), full load and after warm-up)

PACKAGING INFORMATION		
Parameter	Type	Value
Packaging Dimension (LxWxH)	cardboard box	138.0 x 100.0 x 45.0mm
Packaging Quantity		1pcs
Storage Temperature Range		-30°C to +85°C
Storage Humidity	non-condensing	10% - 90% RH max.

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

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