Features

Regulated

Converter

- 2MOPP/250VAC

Long 5 year warranty

- Suitable for built in Class II applications
- Wide input voltage range (85-264VAC)
- Low leakage current (<75µA)
- 5000m operation
- Active power factor correction

Description

The RACM100 is a compact 3" x 2" high efficiency AC/DC power supply with 2xMOPP 3rd Ed. safety approval for medical applications. The range has now been extended to include open frame models (/OF suffix). Like the original enclosed versions, the RACM100/OF series are space-saving universal input voltage power supplies (85-264VAC), with 4kVAC isolation, PFC, no minimum load and can be used at ambient temperatures of between -25°C and +85°C. The 12V, 15V, 24V or 48V output voltages are fully protected and have tolerances of less than $\pm 0.2\%$ over the entire input voltage range and less than ±0.5% over the entire load range. The RACM100/0F series is certified to medical safety standard IEC/ES/EN-60601-1 3rd Edition and feature BF rated outputs with less than 75μA leakage current. It has a built-in Class B EMI filter and comes with a five year warranty.

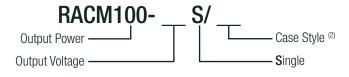
Selection Guide

Part Number	Input Voltage Range [VAC]	Output Voltage [VDC]	Output Current [A]	Input Power @ No Load [W]	Efficiency typ. [%]	Max. Capacitive Load ⁽¹⁾ [μF]
RACM100-12S (1)	85-264	12	8.34	0.3	91	6950
RACM100-15S (1)	85-264	15	6.67	0.3	92	4450
RACM100-24S (1)	85-264	24	4.17	0.3	92	1750
RACM100-48S (1)	85-264	48	2.09	0.3	91	430

Notes:

Note1: Max Cap Load is tested at minimum input and full resistive load

Model Numbering



Notes:

Note2: without suffix, standard enclosed case add suffix "/OF" for open frame style

Examples:

RACM100-12S = 12Vout, standard enclosed case RACM100-24S/0F = 24Vout, open frame style



RACM100

100 Watt **Enclosed & Open Frame Case Style Single Output**















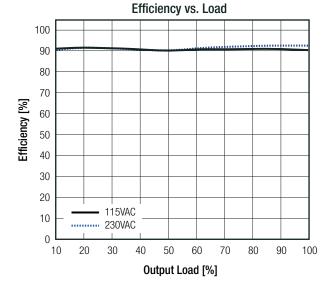


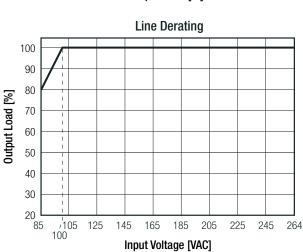
IEC/EN60601 certified ANSI/AAMI ES60601 certified EN55011 certified CISPR11 FCC Part 15

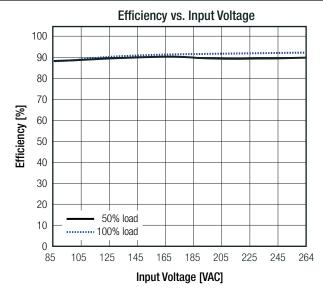


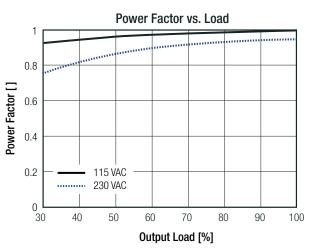
Series

BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Тур.	Max.
Input Voltage		85VAC		264VAC
input voitage		120VDC		370VDC
Input Current	115VAC, fullI load			1.15A
input ourient	230VAC, full load			0.55A
Inrush Current	cold start, 230VAC			60A
No load Power Consumption				0.11W
Input Frequency Range	AC Input	47Hz		63Hz
Output Voltage Trimming			±10.0%	
Minimum Load		0%		
Power Factor		0.95		
Start-up Time				1s
Rise Time			20ms	
Hold up Time	115VAC, full load	16ms		
Internal Operating Frequency			60kHz	
	12VDC, with 10μF/25V MLCC		120mVp-p	
Output Ripple and Noise	15VDC, with 10µF/25V MLCC		150mVp-p	
(measured @ 20MHz BW)	24VDC, with 1µF/50V MLCC		160mVp-p	
	48VDC, with 0.1µF/100V MLCC		340mVp-p	











Series

REGULATIONS		
Parameter	Condition	Value
Output Accuracy	230VAC, full load	±1.0%
Line Regulation	low line to high line, full load	±0.2%
Load Regulation	0% to 100% load	0.5% max.
Loau negulation	10% to 100% load	0.4% max.
Transient Peak Deviation	load step from 50% - 75% change at 2.5A/µs	3.0% Vout max.
Transient Recovery Time	load step from 50% - 75% change at 2.5A/µs	500μs typ.

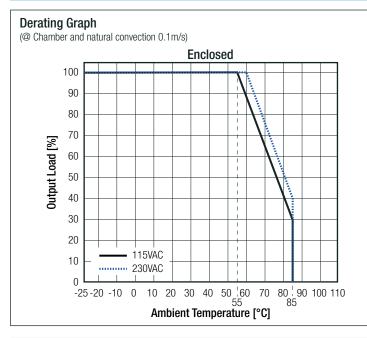
PROTECTIONS			
Parameter	Condi	tion	Value
Input Fuse	internal line a	and neutral	T3.15A / 250VAC, slow blow type
Short Circuit Protection (SCP)			continuous, auto-recovery
Over Load Protection (OLP)	% of lout rate	ed (Hiccup)	115% min. / 150% max.
Over Voltage Protection (OVP)	% of Vout nomi	nal (Latch off)	115% min. / 135% max.
		I/P to O/P	4kVAC
Isolation Voltage (5)	tested for 1 minute	I/P to Case	1.5kVAC
		O/P to Case	1.5kVAC
Isolation Resistance	500V	DC	100M Ω min.
Insulation Grade			reinforced
Leakage Current	264\	'AC	75µA max.
Means of Protection	working voltage 25	OVAC/continuous	2MOPP
Medical Device Classification			built-in power supply
Internal	cleara	nce	>8.0mm
Internal	creep	age	>8.0mm

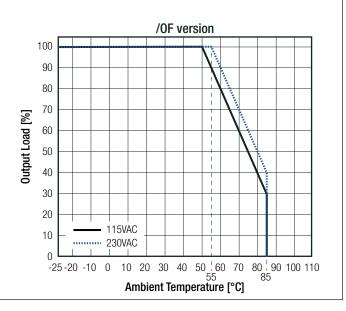
- 3	10100.	
	Note5:	For repeat Hi-Pot testing, reduce the time and/or the test voltage

ENVIRONMENTAL			
Parameter	Cond	ition	Value
	refer to "Dera	nting Graph"	-25°C to +85°C
Operating Temperature Range	full load, 230VAC	enclosed open frame	-25°C to +60°C -25°C to +55°C
Temperature Coefficient			±0.02%/K
Operating Altitude			5000m max.
Operating Humidity	non-con	densing	5% to 95% RH
Pollution Degree			PD2
High Temperature Operating Life (HTLO)			JEDEC JESD22-A108
Shock			IEC60068-2-27
Vibration			IEC60068-2-6
MTBF	according to MIL-HDBK	-217F, full load, +25°C	790.3 x 10 ³ hours
	continued o	n next page	



Series





Certificate Type (Safety)	Report	: / File Number	Standard
Medical Electric Equipment, General Requirements for Safety and Essential Performance		E314885	CAN/CSA-C22.2 No. 60601-1:14 ANSI/AAMI ES60601-1:2005 + A2:2010
Medical Electric Equipment, General Requirements for Safety and Essential Performance (CB)	101000100		IEC60601-1:2005 + A1:2012, 3rd Edition
Medical Electric Equipment, General Requirements for Safety and Essential Performance		81200102	EN60601-1:2006 +12:2014
Information Technology Equipment - General Requirements for Safety (LVD)	T) A / -	1700000 001	EN60950-1:2006 + A2:2013
Information Technology Equipment - General Requirements for Safety	IVV	1708008-001	IEC60950-1:2005, 2nd Edition + A2:2013
EAC	RU-	AT.49.09571	TP TC 004/2011 TP TC 004/2011
RoHS2			RoHS-2011/65/EU + AM-2015/863
EMC Compliance (Medical)	C	onditions	Standard / Criterion
Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests			EN60601-1-2:2015
Industrial, scientific and medical equipment – Radio frequency disturbance characteristics –			EN55011:2009 + A1:2010
Limits and methods of measurement			Class B Conducted, Class A Radiated
Industrial, scientific and medical equipment - Radio frequency disturbance characteritics -			CISPR11:2009 + A1:2010
Limits and methods of measurement			Class B Conducted, Class A Radiated
ESD Electrostatic discharge immunity test	Air ±15	kV; Contact ±8kV	IEC61000-4-2:2008
Radiated, radio-frequency, electromagnetic field immunity test	27\	n (80-2700MHz) //m (385MHz) //m (450MHz)	IEC61000-4-3:2006 + A2:2010
Fast Transient and Burst Immunity	AC Po	ower Port: ±2kV	IEC61000-4-4:2012
Surge Immunity	AC Port:	$L-N=\pm 1kV$ $L-GND=\pm 2kV$	IEC61000-4-5:2005
Immunity to conducted disturbances, induced by radio-frequency fields		6Vr.m.s	IEC61000-4-6:2013
Power Frequency Magnetic Field	50	0Hz, 30A/m	IEC61000-4-8:2009
Voltage Dips and Interruptions		: >95%; 30%; ruptions >95%	IEC61000-4-11:2004
Limits of Harmonic Current Emissions			EN61000-3-2:2005 + A2:2009, Class D
Limits of Voltage Fluctuations and Flicker			EN61000-3-3:2013



Series

Specifications (measured @ Ta= 25°C, 250VAC, full load and after warm-up)

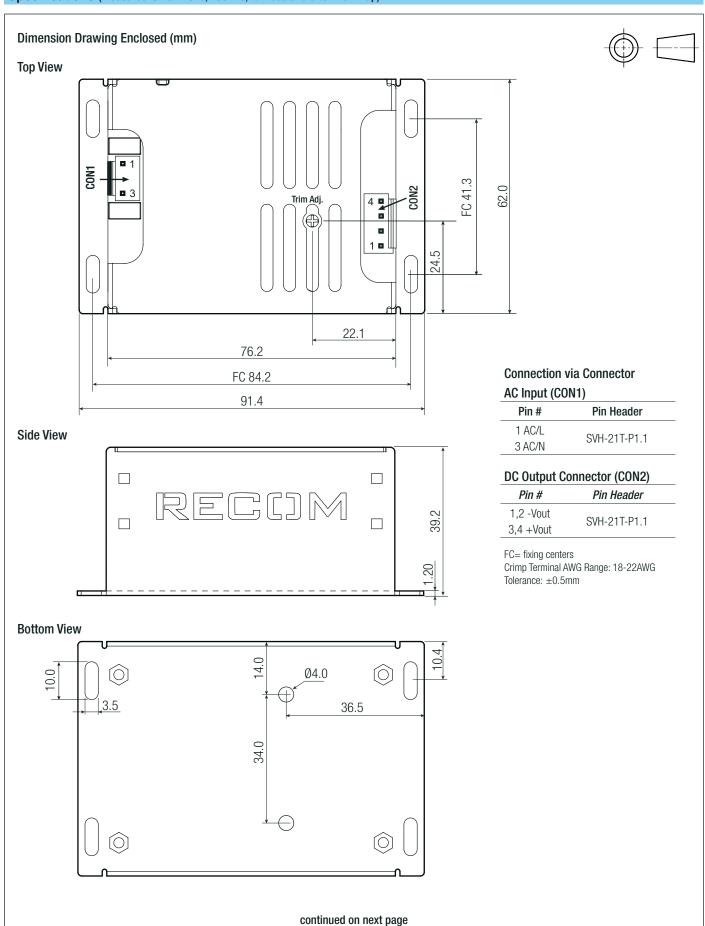
EMC Compliance (Industrial)	Conditions	Standard / Criterion
Limitations on the amount of electromagnetic intererence allowed from digital & electronic devices		47CFR FCC Part 15 Subpart B, Class B
Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz		ANSI C63.4:2014
Electromagnetic compatibility of multimedia equipment – Emission Requirements		EN55032:2015+AC:2013, Class B
Information technology equipment - Immunity characteristics - Limits and methods of measurement		EN55024:2010+A1:2015
ESD Electrostatic discharge immunity test	Air ±8kV; Contact ±6kV	IEC61000-4-2:2008, Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m (80-1000MHz) 20V/m (80-1000MHz) 3V/m (1-2.5GHz) 10V/m (1-2.5GHz	IEC61000-4-3:2006 + A2:2010, Criteria A
Fast Transient and Burst Immunity	DC Port: ±2kV	IEC61000-4-4:2012, Criteria A
Surge Immunity	DC Port: ±1kV	IEC61000-4-5:2014, Criteria A
Immunity to conducted disturbances, induced by radio-frequency fields	DC Power Port 3V + 20V	IEC61000-4-6:2013, Criteria A
Power Frequency Magnetic Field	50Hz/60Hz 1A/m 50Hz/60Hz 10A/m	IEC61000-4-8:2009, Criteria A
Voltage Dips and Interruptions	Dips: >95%; 60%; 30% Interruptions >95%	IEC61000-4-11:2004, Criteria A IEC61000-4-11:2004, Criteria B
Limits of Harmonic Current Emissions		EN61000-3-2:2014, Class D
Limits of Voltage Fluctuations and Flicker		EN61000-3-3:2013

DIMENSION and PHYSICAL CHARACTERISTICS		
Parameter	Туре	Value
Material	enclosed	aluminum
Dimension (LyM/yll)	enclsoded	91.4 x 62.0 x 39.2mm
Dimension (LxWxH)	open frame	76.2 x 50.8 x 32.0mm
Woight	enclosed	210g
Weight	open frame	150g
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Series



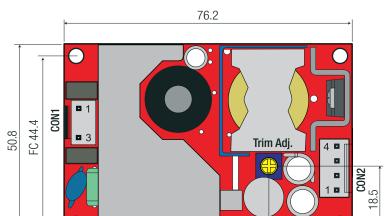


Series

Specifications (measured @ Ta= 25°C, 250VAC, full load and after warm-up)

Dimension Drawing Open Frame (mm)

Top View



Connection via Connector AC Input (CON1)

	,
Pin #	Pin Header
1 AC/L 3 AC/N	SVH-21T-P1.1

DC Output Connector (CON2)

Pin #	Pin Header
1,2 -Vout 3,4 +Vout	SVH-21T-P1.1

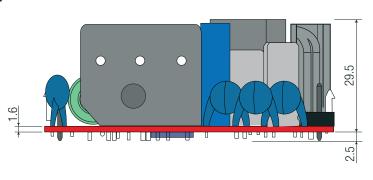
FC= fixing centers

Crimp Terminal AWG Range: 18-22AWG

Tolerance: ±0.5mm

Side View

Ø3.2



FC 69.8

PACKAGING INFORMATION **Parameter** Type Value 418.0 x 258.0 x 105.0mm enclosed case Packaging Dimension (LxWxH) cardboard box open frame 494.0 x 250.0 x 95.0mm 10pcs enclosed case Packaging Quantity 25pcs open frame Storage Temperature Range -40°C to +85°C Storage Humidity non-condensing 5% to 95% RH

29.5

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