

Features Constant Current LED Driver

- 7W Class II AC-DC LED power supply
- Suitable for high brightness LED
- 250mA, 350mA, 500mA and 700mA constant current operation
- 3.75kVAC isolation
- Fused input and SCP, OCP, OVP, OLP
- IP67 rated

RECOM
AC/DC Converter

RACD07

7 Watt
Constant
Current Single
Output



UL[®]
E340696



UL8750 certified
UL1310 certified
CAN/CSA-C22.2 No. 223-M91 certified
IEC/EN61347 certified
IEC/EN61347-2-13 certified
EAC certified

Description

The RACD07 is a constant current 7W AC/DC source for LED lighting with a wide input voltage range. The LED drivers are available with constant current outputs of 250mA, 350mA, 500mA or 700mA. The series is IP67 rated and suitable for use in dry, damp or wet areas. RACD07 drivers have a 3 year warranty.

Selection Guide

Part Number	Input Voltage Range [VAC]	Constant Current ⁽¹⁾ Mode		Efficiency min. [%]	Rated Power max. [W]
		[VDC]	[mA]		
RACD07-250	90-295	14-28	250	75	7
RACD07-350	90-295	10-20	350	70	7.3
RACD07-500	90-295	5-14.5	500	70	7.2
RACD07-700	90-295	3-10.5	680	70	7.4

All LED Drivers may not be used without a load. They must be switched on the primary side only. Noncompliance may damage the LED or reduce its lifetime.

Notes:

Note1: Constant current operation region is within 75%-100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.

Model Numbering

RACD07- _____
nom. Output Power nom. Output Current

Specifications (measured @ ta= 25°C and 115/230VAC)

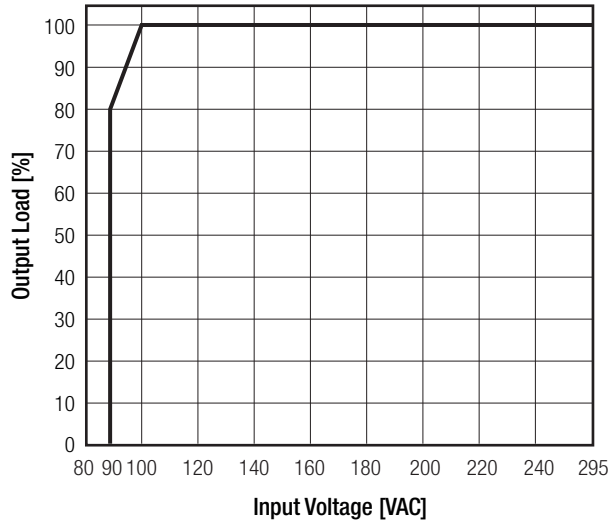
BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range		90VAC	230VAC	295VAC
		120VDC		415VDC
Input Current	full load, 100VAC			200mA
Inrush Current	230VAC			10A
No Load Power Consumption	230VAC			0.5W
Input Frequency Range		47Hz		63Hz
Power Factor		0.90		
Start-up Time				1s
Hold-up Time		18ms		
Set-up Time	full load, 230VAC			0.5s
Internal Operating Frequency			45kHz	
Output Ripple Current ⁽²⁾	20MHz BW		30mA _{p-p}	

Notes:
Note2: Measured with a 12" twisted pair-wire terminated with 0.1µF & 47µF parallel capacitor

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Specifications (measured @ $t_a = 25^\circ\text{C}$ and 115/230VAC)

Input Voltage vs. Load



REGULATIONS

Parameter	Condition	Value
Output Voltage Accuracy	includes: line, load and tolerance	±5%
Output Current Accuracy		±3% typ. / ±7% max.

PROTECTION

Parameter	Condition	Value
Internal Input Fuse		T1A, slow blow
Short Circuit Protection (SCP)		Hiccup Mode, autorecovery after fault condition is removed
Overload Protection (OLP)		105% - 120% typ.
Over Current Protection (OCP)		Constant current mode protection
Isolation Voltage	I/P to O/P	3.75kVAC / 1 minute
Isolation Resistance	500VDC	100MΩ min.

Notes:

Note3: Refer to local wiring regulations if input over-current protection is also required

Maximum loading of automatic circuit breakers*

* @ 115VAC, 10hm, 90° phase angle and max. load

Circuit Breaker	Circuit Breaker Current			
	10A	16A	20A	25A
Typ				
C	101	128	171	228

* @ 230VAC, 10hm, 90° phase angle and max. load

Circuit Breaker	Circuit Breaker Current			
	10A	16A	20A	25A
Typ				
B	61	100	121	150
C	121	164	221	291

* @ 277VAC, 10hm, 90° phase angle and max. load

Circuit Breaker	Circuit Breaker Current			
	10A	16A	20A	25A
Typ				
B	70	115	139	172
C	139	188	254	334

ENVIRONMENTAL

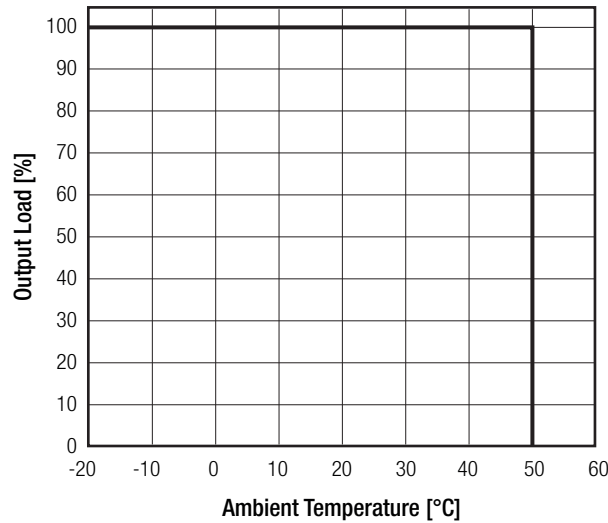
Parameter	Condition	Value
Operating Temperature Range	@ natural convection 0.1m/s, full load	-20°C to +50°C
Max. Case Temperature		+65°C
Operating Humidity	non condensing	20% - 90% RH
IP Rating		IP67
Vibration	10-500Hz, 2G; 10 minute/cycle	1 cycle period for 60 min each along X, Y and Z axes
Design Lifetime	+25°C ambient	70 x 10 ³ hours
MTBF	according to MIL-HDBK-217F, G.B. +25°C	200 x 10 ³ hours

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Specifications (measured @ ta= 25°C and 115/230VAC)

Derating Graph

(@ natural air convection 0.1m/s)



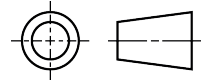
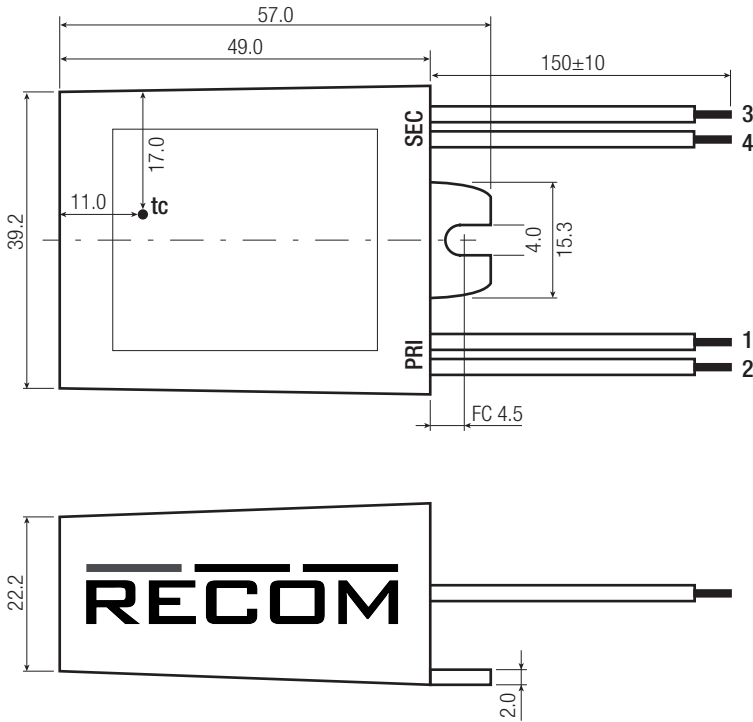
SAFETY AND CERTIFICATIONS		
Certificate Type (Safety)	Report Number	
Standard for LED Equipment for use in Lighting Products	E340696-1-7	UL8750, 1st Edition, 2012
Standard for Class 2 Power Units		UL1310, 6th Edition, 2013
LED Equipment for Lighting Applications		CAN/CSA-C22.2 No. 250.13-12, 1st Edition, 2013
Safety of control gear for LED modules	PSE102-0283	IEC/EN61347-2-13, 2nd Edition, 2006
Safety requirements for lamp controlgear		IEC61347-1, 2nd Edition, 2010 EN61347-1, 2nd Edition, 2011
RoHS		RoHS RoHS 6/6, 2011/65/EU
EAC	RU Д- АТ.А Г03. В.67369	TP TC 004/020, 2011
EMC Compliance		
EMC Compliance	Condition	Standard / Criterion
Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment		EN55015, Class B
Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement		CISPR22, 3rd Edition, 1997
Radio Frequency Devices, Subpart B - Uninternational Radiators		CFR 47, Part 15, 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
Alternating Current High Voltage Power Systems		Canadian ICES-004 issue 5, 2012
Limits for harmonic current emissions		IEC61000-3-2, 2009
Limitation of voltage fluctuations/flicker in low-voltage systems		IEC61000-3-3, 2008
ESD Electrostatic discharge immunity test	±8kV Air Discharge, ±4kV Contact Discharge	EN61547, 2009 / IEC61000-4-2, 2008
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	EN61547, 2009 / IEC61000-4-3, 2010
Fast Transient and Burst Immunity	±0.5kV / ±1kV (AC Input)	EN61547, 2009 / IEC61000-4-4, 2012
Surge Immunity	±0.5kV (AC Input)	EN61547, 2009 / IEC61000-4-5, 2005
Immunity to conducted disturbances, induced by radio-frequency fields	3kV	EN61547, 2009 / IEC61000-4-6, 2008
Power Frequency Magnetic Field Immunity	3A/m at 50/60Hz	EN61547, 2009 / IEC61000-4-8, 2009
Voltage Short Interruptions	100% reduction, 10ms	EN61547, 2009 / IEC61000-4-11, 2004
Voltage Dips	30% reduction, 200ms	EN61547, 2009 / IEC61000-4-11, 2004

Specifications (measured @ ta= 25°C and 115/230VAC)

DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting	plastic (UL94V-2) silicone (UL94V-0)
Dimension (LxWxH)		57.0 x 40.8 x 24.0mm
Weight		75g

Dimensions Drawing (mm)



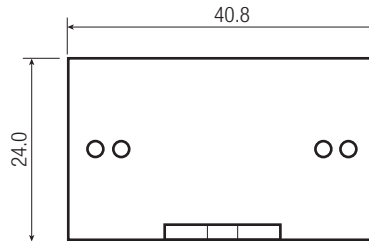
Wired Connection

#	Function	Wire Color	Type
1	VAC in (L)	brown	UL-1007, AWG18
2	VAC in (N)	blue	UL-1007, AWG18
3	LED+	red	UL-1007, AWG18
4	LED-	black	UL-1007, AWG18

tc= case temperature measuring point

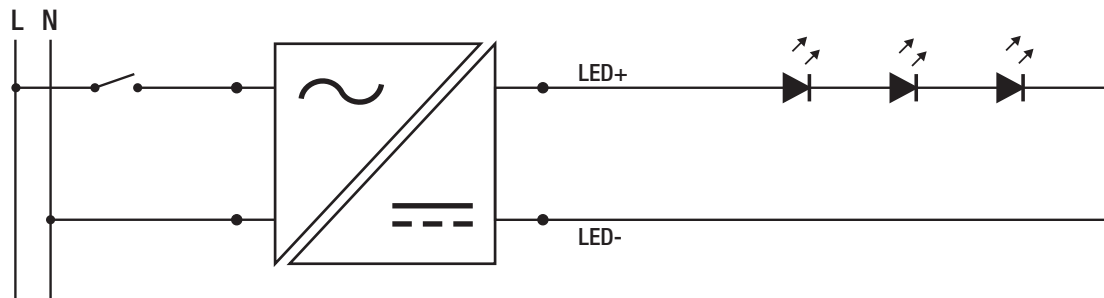
FC= fixing centers

Tolerance: xx.x= ±0.5mm



INSTALLATION and APPLICATION

Connection



PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	cardboard box	286.0 x 201.0 x 88.0mm
Packaging Quantity		25pcs
Storage Temperature Range		-40°C to +85°C
Storage Humidity	non condensing	10% - 90% RH

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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