

# Features Constant Current LED Driver

- 7W Class II AC-DC LED power supply
- Suitable for high brightness LED
- 250mA, 350mA, 500mA and 680mA 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



### 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 680mA. 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 <sup>(1)</sup> 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	7.1

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)

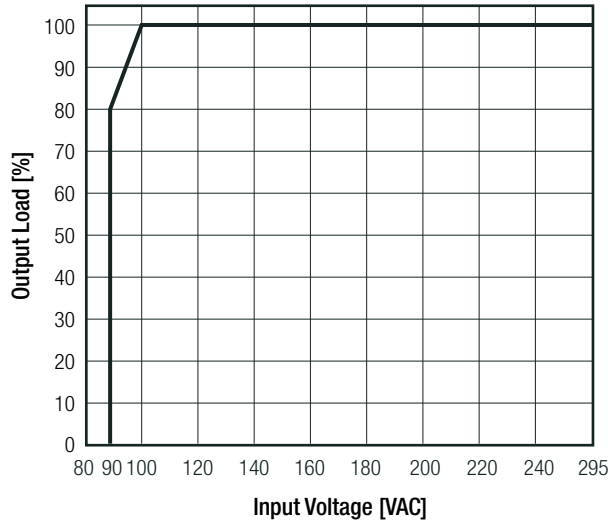
BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range		90VAC	230VAC	295VAC
		120VDC		415VDC
Input Current	full load, 100VAC			200mA
Inrush Current	230VAC			10A
No Load Power Consumption	230VAC			0.5W
Input Frequency Range		47Hz		63Hz
Power Factor		0.50		
Start-up Time				1s
Hold-up Time		18ms		
Set-up Time	full load, 230VAC			0.5s
Internal Operating Frequency			45kHz	
Output Ripple Current <sup>(2)</sup>	20MHz BW		30mA <sub>p-p</sub>	

**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	$\pm 5\%$
Output Current Accuracy		$\pm 3\%$ typ. / $\pm 7\%$ max.

**PROTECTION**

Parameter	Condition	Value
Internal Input Fuse		T1A, slow blow
Short Circuit Protection (SCP)		Hiccup Mode, auto recovery 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	100M $\Omega$ 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**

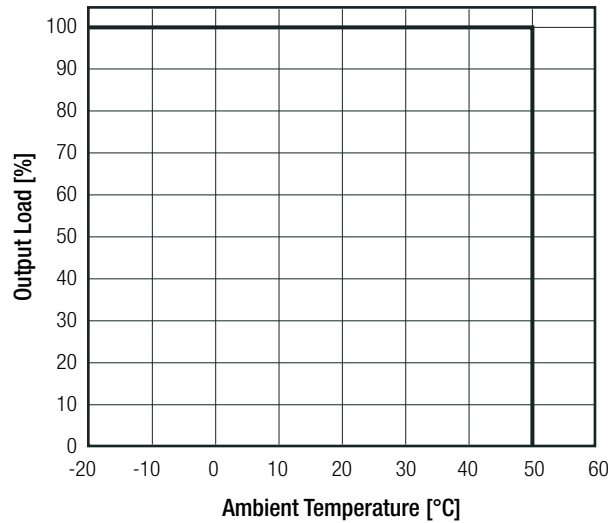
Parameter	Condition	Value
Operating Temperature Range	@ natural convection 0.1m/s, full load	-20°C to +50°C
Max. Case Temperature		+85°C
Operating Humidity	non condensing	20% - 90% RH
IP Rating		IP67
Vibration	10-500Hz, 2G; 10 minute/cycle	1 cycle period for 60 min each along X, Y and Z axes
Design Lifetime	+25°C ambient	70 x 10 <sup>3</sup> hours
MTBF	according to MIL-HDBK-217F, G.B. +25°C	200 x 10 <sup>3</sup> 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, 2009
Standard for Class 2 Power Units		UL1310, 6th Edition, 2011
LED Equipment for Lighting Applications		CSA-C22.2 No. 250.13-12
Canadian Standard for Powr Supplies with Extra-Low-Voltage Class 2 Outputs		CSA C22.2 No. 223-M91
Safety of control gear for LED modules	PSE102-0283	IEC/EN61347-2-13, 2nd Edition 2014
Safety requirements for lamp controlgear		IEC61347-1, 3rd Edition, 2015 EN61347-1:2015
RoHS2		RoHS-2011/65/EU + AM-2015/863
EAC	RU Д- AT.AB49.B.09571	TP TC 004/2011

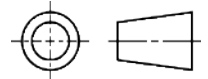
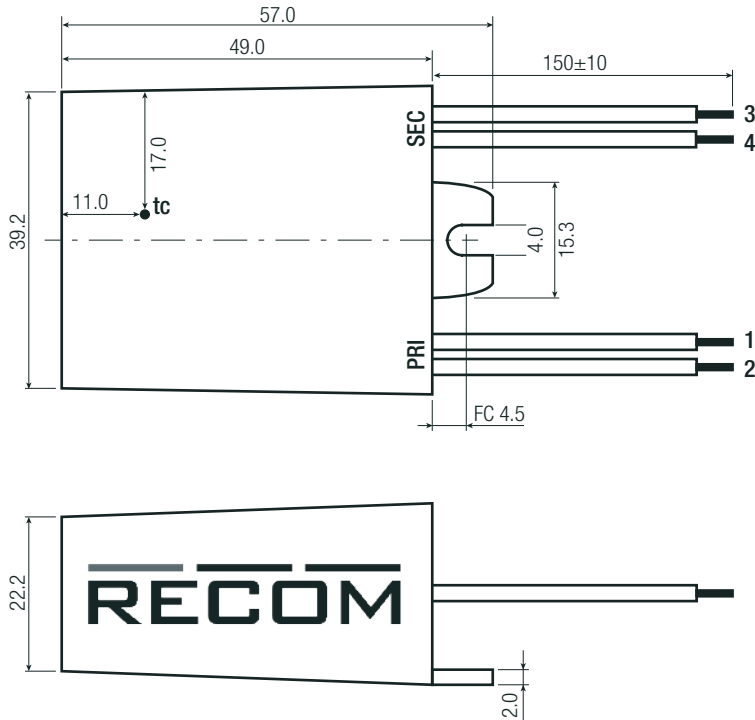
EMC Compliance	Condition	Standard / Criterion
Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment		EN55015:2013 + A1:2015, Class B
Equipment for general lighting purposes – EMC immunity requirements		EN61547:2009
Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement		CISPR22, 3rd Edition, 1997, Class B
Radio Frequency Devices, Subpart B - Unintentional Radiators		47 CFR, 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 C63.4:2009
Alternating Current High Voltage Power Systems		Canadian ICES-003 issue 4, 2004
ESD Electrostatic discharge immunity test	±8, 4, 2kV Air Discharge, ±4, 2 kV Contact Discharge	IEC61000-4-2:2008 Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	IEC61000-4-3:2006 + A2:2010 Criteria A
Fast Transient and Burst Immunity	±0.5, ±1kV AC Input ±0.5kV DC Output	IEC61000-4-4:2012, Criteria A
Surge Immunity	±0.5, ±1kV AC Input	IEC61000-4-5:2014, Criteria A
Immunity to conducted disturbances, induced by radio-frequency fields	AC and DC Port: 3V	IEC61000-4-6:2013, Criteria A
Power Frequency Magnetic Field Immunity	3A/m at 50/60Hz	IEC61000-4-8:2009, Criteria A
Voltage Dips and Interruptions	Dips: >95%	IEC61000-4-11:2004 Criteria B
	Dips: 30%	IEC61000-4-11:2004 Criteria B
Limits for harmonic current emissions		IEC61000-3-2, 2014
Limitation of voltage fluctuations/flicker in low-voltage systems		IEC61000-3-3, 2013

Specifications (measured @  $t_a = 25^\circ\text{C}$  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

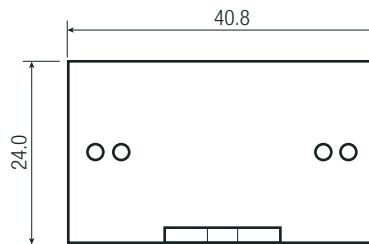
**Dimensions Drawing (mm)**



**Wired Connection**

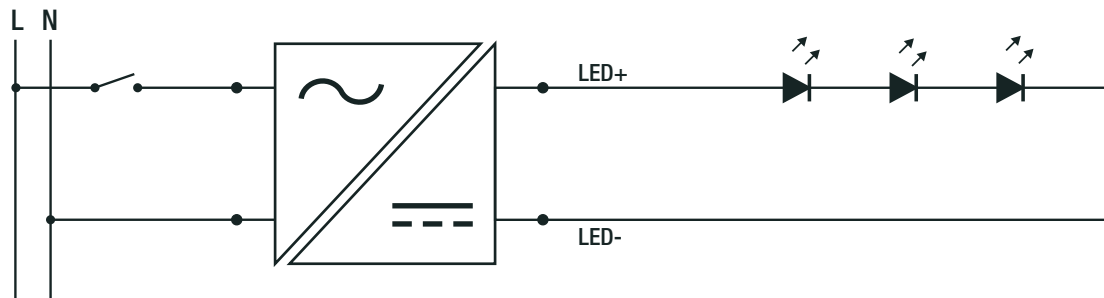
#	Function	Wire Color	Type
1	VAC in (L)	brown	UL-1007, AWG18
2	VAC in (N)	blue	UL-1007, AWG18
3	LED+	red	UL-1007, AWG18
4	LED-	black	UL-1007, AWG18

$t_c$  = case temperature measuring point  
FC = fixing centers  
Tolerance:  $xx.x = \pm 0.5\text{mm}$



**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		$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Humidity	non condensing	10% - 90% RH

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