

## Features

### LED DRIVER

- 20W Dimmable AC-DC LED Power Supply
- 350mA, 500mA, 700mA or 1050mA Outputs
- ENEC, UL, RCM and CB Certified
- Deep Dimming to 0% \*
- Active Power Factor Correction >0.95
- 3.75kVAC Isolation
- Output Connector to avoid miswiring
- 5 Year Warranty

### Description

The RACT20 series is a constant current dimmable AC/DC source for driving high power LED applications. The phase angle dimming function works with leading or trailing edge dimmers. This driver is suitable for indoor LED lighting systems and powers 5-15 high power LEDs or single LED arrays from 350mA up to 1A.

### Selection Guide

Part Number	Input Voltage (VAC)	Output Current (mA)	Output Voltage (VDC)	Dimming Control	Efficiency typ. (%)	Max. # LEDs
RACT20-350	230	350	30-56	Triac	82	15 x 1W
RACT20-500	230	500	11-90	Triac	82	12 x 1W
RACT20-700	230	700	15-28	Triac	81	8 x 2W, 8+8 x 1W
RACT20-1050	230	1050	21-18	Triac	81	5 x 3W, 5+5 x 2W
RACT20-350-US	115	350	30-56	Triac	82	15 x 1W
RACT20-500-US	115	500	31-39	Triac	82	12 x 1W
RACT20-700-US	115	700	15-28	Triac	81	8 x 2W, 8+8 x 1W
RACT20-1050-US	115	1050	12-18	Triac	81	5 x 3W, 5+5 x 2W

**NOT RECOMMENDED FOR NEW DESIGNS**

### Specifications

(typical at 25°C, nominal input voltage, rated output current unless otherwise specified)

Input Voltage Range	RACT20-xxxx	180-264VAC
	RACT20-xxxx-US	90-135VAC
Rated Power		20W max.
Output Current Accuracy		±5% max.
Input Current	115VAC	0.4A max.
	230VAC	0.2A max.
Input Frequency Range		47-63Hz
Power Factor	Full Load	>0.95
THD	Full Load, 115VAC	8% max.
	Full Load, 230VAC	11% max.
Leakage Current		<0.75mA
Open Circuit Voltage (No Load $V_{out}$ )	350mA	60VDC max.
	500mA	44VDC max.
	700mA	33VDC max.
	1050mA	22VDC max.
Output Ripple and Noise	350mA, 500mA	4.5Vp-p max.
	700mA, 1050 mA	4.0Vp-p max.
Short Circuit Protection		Hiccup mode, Auto recovery
Overtemperature Protection		95°C ±10°C (RT1) Hiccup mode, Auto recovery
Isolation Voltage		3.75kVAC / 1 minute
Efficiency at Full Load		see selection guide
Dimming	AC phase-cut dimming, work with leading/trailing edge dimmers	
Operating Temperature Range (free air convection, according to CE/UL)	Ambient Temperature Case Temperature	-30°C to +50°C 85°C max.
Operating Temperature Range (free air convection, according to ENEC)	Ambient Temperature Case Temperature	-30°C to +50°C 80°C max.

continued on next page

**LIGHTLINE**  
AC/DC-Converter  
with 5 year Warranty

**RECOM**

## 20W Triac Dimmable LED Driver



### UL-8750 certified UL-60950-1 certified

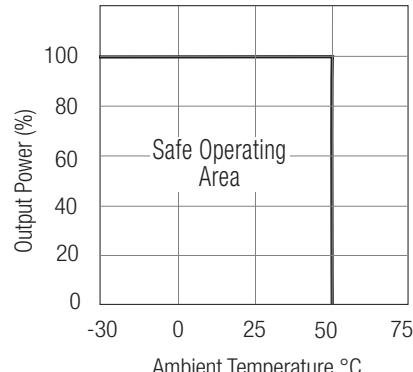
European Version only:  
**ENEC 61347 certified**

## RACT20

\* only US-Versions

## Derating-Graph

(Ambient Temperature)



Refer to Application Notes

**Specifications** (typical at 25°C, nominal input voltage, rated output current unless otherwise specified)

Storage Temperature	-40°C to +85°C	
Relative Humidity	95% RH	
EMC	design refer to EN55022	Class B
IP Rating	IP Rating suitable for indoor LED lighting system	IP20
Design Lifetime	25°C ambient	>70 x 10 <sup>3</sup> hours in operation
Package Weight		145g
Packing Quantity		1 pc.
PCB Material		Plastic Resin with Fibreglass (UL94V-0)
Case Material		Plastic
Connections	AC Input	Screw Terminal
	LED Output	Screw Terminal
	LED Output	5.5mm Socket with 2mm Pin (suitable matching plug Switchcraft S760 or similar)
Standards	ENEC Lamp Controlgear	EN61347-2-13:2006 EN61347-1:2008
	Electrical Lighting, EMC Emissions	EN55015:2006 + A2:2009
	Limits for Harmonics Emissions	EN 61000-3-2:2006 + A2:2009
	EMC Compatability: Flicker and Voltage Variations	EN 61000-3-3:2006
	Electrical Lighting: EMC Immunity	EN 61547:2009
	RCM (21377)	AS/NZS 61347.1:2002, IEC 61347-2-13
	FCC	FCC15B
Certifications	LED Lighting Safety (E340696)	UL8750
	Information Technology Equipment - Safety	UL60950-1
		CAN/CSA C22.2 No. 60950-1-07
	PSE	J61347-1(H20), J61347-2-13(H21), J55015(H20)

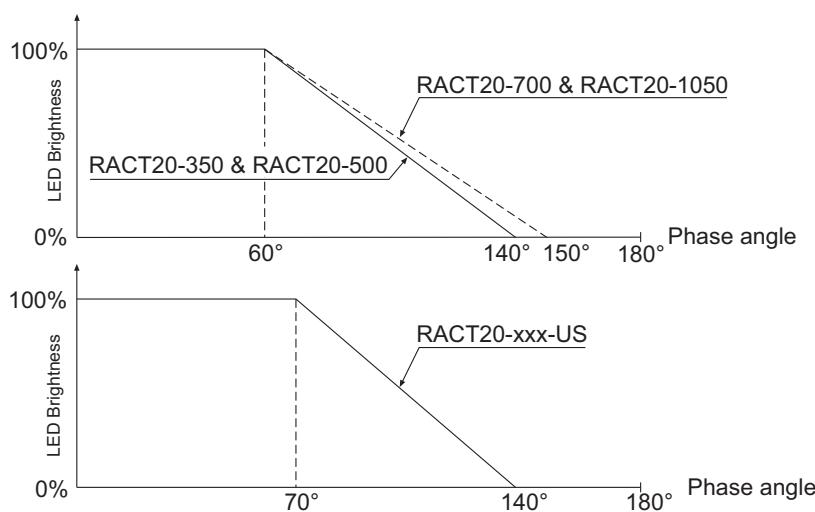
\*The triac dimmer must be capable of dimming down to zero

Note:

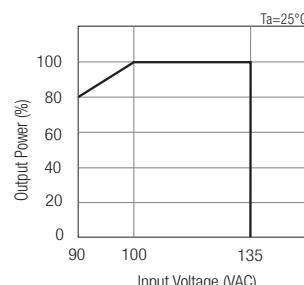
All LED Drivers may not be used without a load. They must be switched on the primary side only. Noncompliance may damage the LED or reduce its lifetime.

**Characteristics**

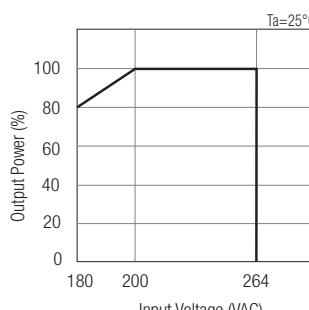
**Dimming Response**



**115VAC - Version**



**230VAC - Version**

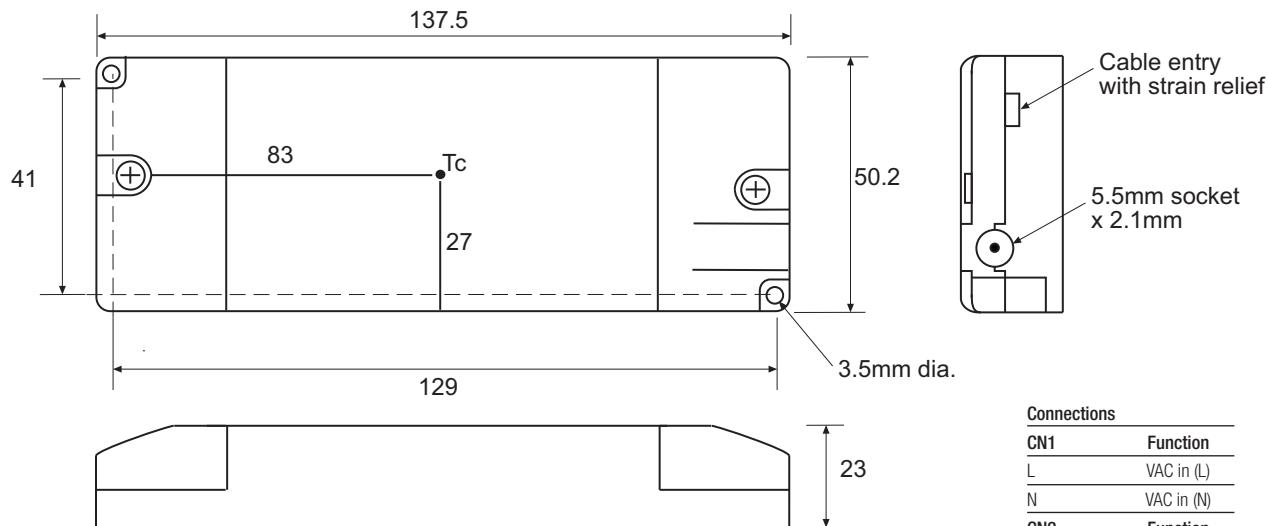


Characteristics

Maximum Number of LED drivers per circuit breakers

Condition	Circuit Breaker	Circuit Breaker Current			
		Typ	10A	16A	20A
115VAC, 10hm 90° phase angle	C	<b>47</b>	<b>68</b>	<b>84</b>	<b>105</b>
230VAC, 10hm 90° phase angle	B	<b>36</b>	<b>57</b>	<b>69</b>	<b>85</b>
	C	<b>57</b>	<b>87</b>	<b>109</b>	<b>134</b>
277VAC, 10hm 90° phase angle	B	<b>41</b>	<b>65</b>	<b>80</b>	<b>98</b>
	C	<b>65</b>	<b>99</b>	<b>125</b>	<b>154</b>

Package Style and Pinning



Connections	
<b>CN1</b>	<b>Function</b>
L	VAC in (L)
N	VAC in (N)
<b>CN2</b>	<b>Function</b>
+	LED+
-	LED-
<b>5.5mm Socket*</b>	<b>Function</b>
Pin	LED+
Shell	LED-

Tolerance  
XX = +/-1mm  
XX.X = \*/-0.5mm

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