

Features Dimmable LED Driver

- Low Cost 230VAC LED Power Supply
- 0-10V dimmable
- Active Power Factor Correction >0.9
- Designed to drive 15W-46W COB LEDs
- Terminal Block Input/Output with Cable Clamps
- Fully Protected (OLP, SCP, OCP, OTP)
- Suitable for Class I and Class II Luminaires

Description

These ErP-compliant COB LED drivers are available with three preset output currents: 350mA, 700mA and 1050mA. They are designed to drive COB (Chip On Board) high power LEDs with a forward voltage between 6V and 44VDC from a 230VAC supply (198-264VAC). They operate with efficiencies of up to 84%, feature active PFC and are fully protected against short circuit, output overvoltage, open-circuit and over-temperature conditions. The output current is dimmable over a 0%-100% range with a 0-10V external control voltage. The LED drivers are suitable for both independent and built-in installations and for installation inside furniture.

Selection Guide

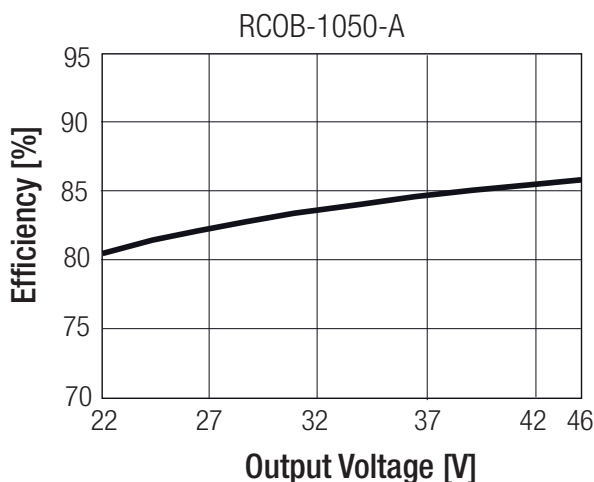
Part Number	Input Voltage Range [VAC]	Output Voltage Range [VDC]	Output Current [mA]	Efficiency typ. [%]	Max. Rated Power [W]
RCOB-350A	198-264	6-44	0-350	80	15
RCOB-700A	198-264	6-44	0-700	84	31
RCOB-1050A	198-264	6-44	0-1050	83	46

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.

Specifications (measured @ ta= 25°C, 230VAC and rated load)

BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range		198VAC	230VAC	264VAC
Inrush Current	10µs		5.5A	
Start-up Time				0.5s
Input Frequency Range		47Hz		63Hz
Power Factor	full load		0.90	

Efficiency vs. Output Voltage



RECOM
AC/DC Converter

RCOB-A

Dimmable
Active PFC
Single Output



EN-61347-1 Compliant
EN-61347-2-13 Compliant
EN-55015 Compliant
EN-61547 Compliant
EN-61000-3-2 Compliant
EN-61000-3-3 Compliant

Specifications (measured @ $t_a = 25^\circ\text{C}$, 230VAC and rated load)

REGULATIONS

Parameter	Condition	Value
Output Current Accuracy	includes: line, load and tolerance	$\pm 6\%$ typ.

PROTECTION

Parameter	Condition	Value
Input Fuse		T1A
Short Circuit Protection (SCP)		constant current limit at I_{nominal} and recovers after fault condition is removed
Over Load Protection (OLP)		power limiting, if forward voltage of LED's is higher than 44VDC
Output Over Voltage Protection (OVP)	Zener clamp	58VDC max.
Output Over Current Protection (OCP)		constant current source
Over Temperature Protection (OTP)		automatic recovery after cool down
Isolation Voltage		3kVAC / 1 minute
Surge Capacity	L-N	2kV
	L,N-FG	4kV

Maximum loading of automatic circuit breakers*

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

Power	Circuit Breaker Typ	Circuit Breaker Current			
		10A	16A	20A	25A
$\geq 7\text{W}$	B	61	100	121	150
	C	121	164	221	291
$\geq 15\text{W}$	B	35	57	69	85
	C	57	87	109	134
$\geq 25\text{W}$	B	24	38	46	58
	C	38	62	74	92
$\geq 35\text{W}$	B	18	30	35	43
	C	29	46	55	69
$\geq 45\text{W}$	B	17	28	33	41
	C	24	39	47	57

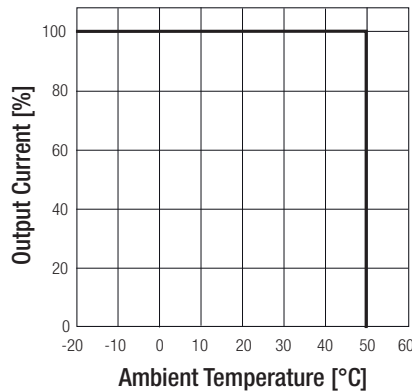
ENVIRONMENTAL

Parameter	Condition	Value
Operating Temperature Range		-20°C to $+50^\circ\text{C}$, Ambient
Maximum Case Temperature	RCOB-350A	80°C max.
	RCOB-700A	85°C max.
	RCOB-1050A	90°C max.
Operating Humidity	RCOB-1050A	45% to 85% RH
	RCOB-350 and RCOB-700A	5% to 85% RH, non condensing
IP Rating		IP20
MTBF	at $T_c = 70^\circ\text{C}$; Iout: 350mA	45×10^3 hours
	at $T_c = 70^\circ\text{C}$; Iout: 700mA, 1050mA	50×10^3 hours

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Specifications (measured @ ta= 25°C, 230VAC and rated load)

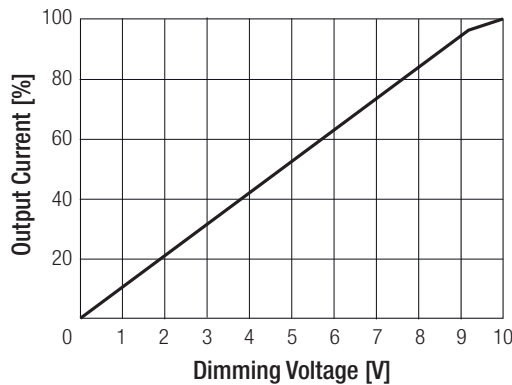
Derating Graph



DIMMING

Parameter	Condition	Value
DC Dimming	0-10V	0-100%

Dimming Curve



Output = 100% if dimming input not used (open)

SAFETY AND CERTIFICATIONS

Certificate Type	Compliant	Standard
Lamp Controlgear General Requirements for Safety	Compliant	EN61347-1
Lamp Controlgear Particular Requirements		EN61347-2-13
RoHS		RoHS 6/6

EMC Compliance	Compliant	Standard / Criterion
Equipment for general Lighting Purpose EMC Immunity Requirements	Compliant	EN61547
Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment		EN55015, Class B
Limits of Harmonic Current Emissions		EN61000-3-2
Voltage Fluctuations and Flicker in Public Low-Voltage Systems <=16A per phase		EN61000-3-3

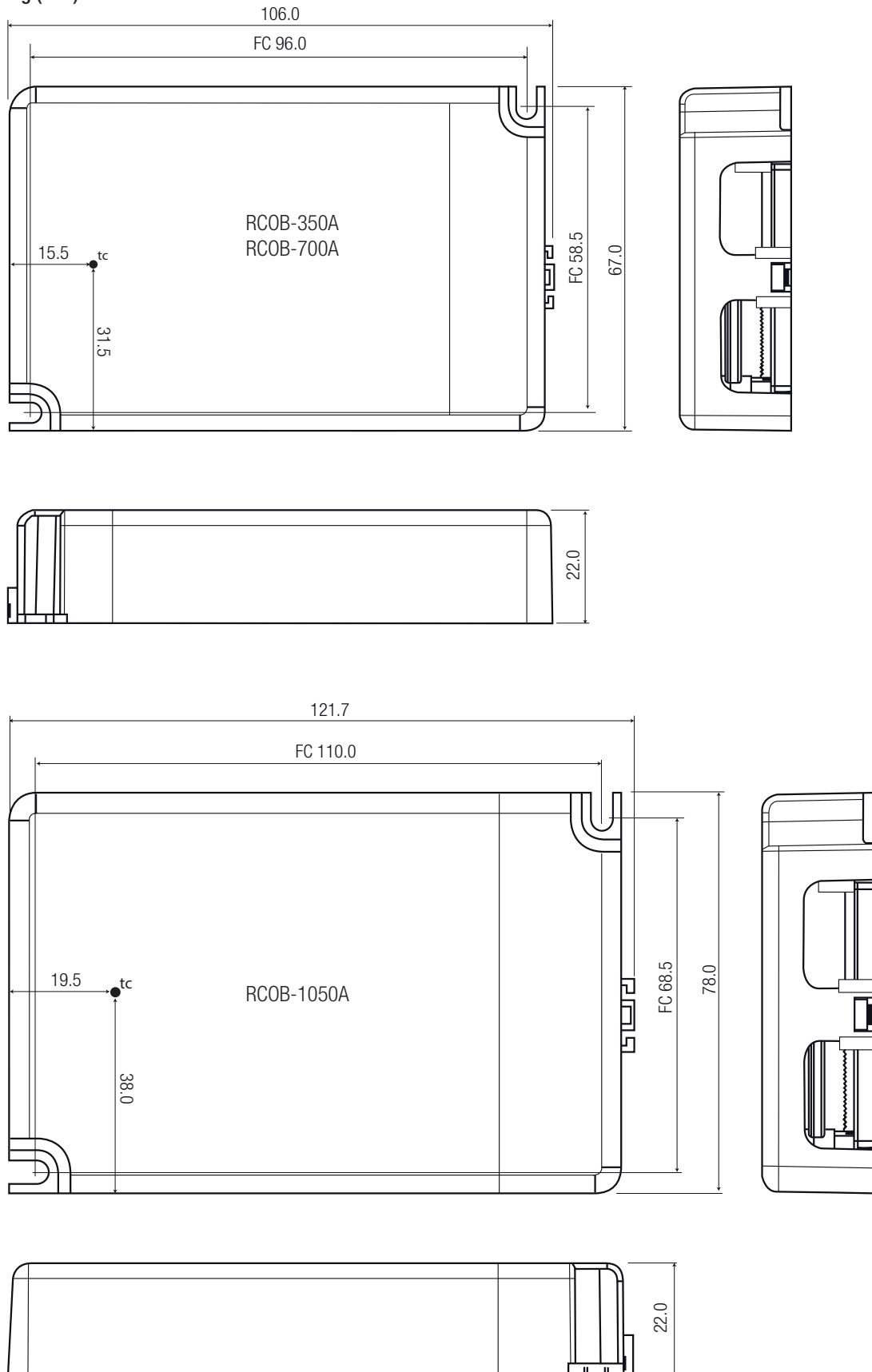
DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Case Material	with integrated cable clamps	Plastic (UL94V-2)
Package Dimension (LxWxH)	RCOB-350A; RCOB-700A RCOB-1050A	106.0 x 67.0 x 22.0mm 121.70 x 78.0 x 22.0mm
Package Weight	RCOB-350A; RCOB-700A RCOB-1050A	130g 180g

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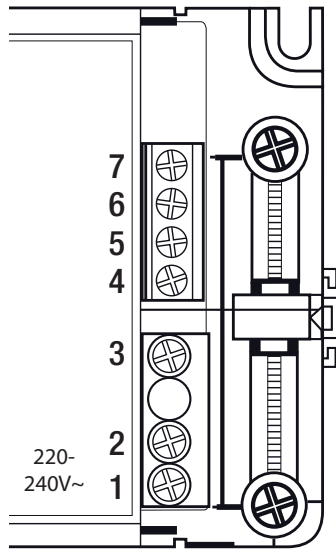
Specifications (measured @ $t_a = 25^\circ\text{C}$, 230VAC and rated load)

Dimension Drawing (mm)



Specifications (measured @ ta= 25°C, 230VAC and rated load)

Wiring Diagram



Connection via Screw Terminal

#	Function	Solid Wire	Stranded Wire*	AWG
1	VAC in (L)	0.75mm ² - 2.5mm ²	0.75mm ² - 2.5mm ²	18-14
2	VAC in (N)	0.75mm ² - 2.5mm ²	0.75mm ² - 2.5mm ²	18-14
3	FG	0.75mm ² - 1.5mm ²	0.75mm ² - 1.5mm ²	18-16
4	LED+	0.75mm ² - 1.5mm ²	0.75mm ² - 1.5mm ²	18-16
5	LED-	0.75mm ² - 1.5mm ²	0.75mm ² - 1.5mm ²	18-16
6	DIM-	0.75mm ² - 1.5mm ²	0.75mm ² - 1.5mm ²	18-16
7	DIM+	0.75mm ² - 1.5mm ²	0.75mm ² - 1.5mm ²	18-16

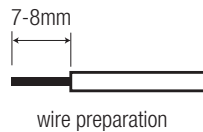
wire stripping length: 7-8mm

recommended tightening torque: Input: 0.5Nm
Output: 0.4Nm

FC: fixing center
tc: case temperature measuring point

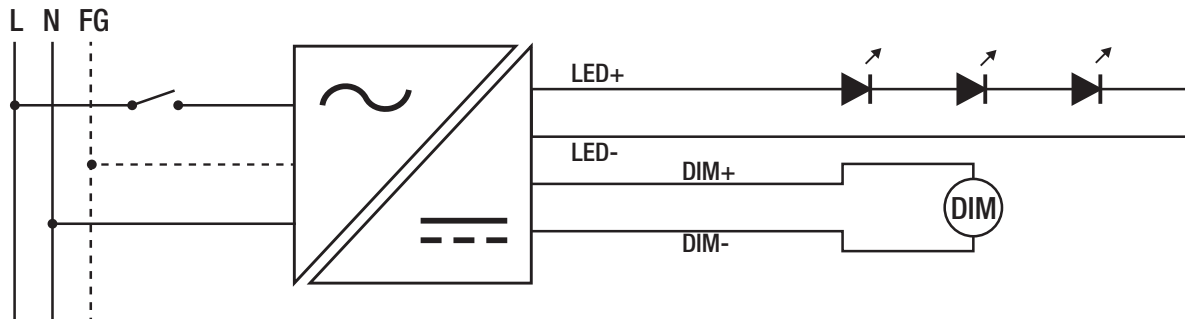
Tolerance: xx.x= ±0.5mm
xx.xx=±0.35mm

2 mounting screws are included



INSTALLATION and APPLICATION INSTRUCTION

Standard Connection



PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	Cardboard Box	180.0 x 140.0 x 220.0mm
Packaging Quantity		10pcs
Storage Temperature Range		-30°C to +80°C, Ambient
Storage Humidity		30% - 95% RH

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