

LC1x40-CC-1050, LC1x30-CC-700, LC1x20-CC-500, LC1x14-CC-350

freedom in lighting

Helvar

Constant current LED drivers

40, 30, 20, 14 W 220 – 240 VAC 50 – 60 Hz

- SELV60 output protection for flexible luminaire design
- Small footprint with integrated strain reliefs
- Active power factor correction for high power factor
- Overload, open, and short-circuit protection
- Suitable for use in class I and class II luminaires
- Suitable for independent use



Mains characteristics

Model name	LC1x40-CC-1050	LC1x30-CC-700	LC1x20-CC-500	LC1x14-CC-350
Mains voltage $\pm 10\%$	220 - 240 VAC	220 - 240 VAC	220 - 240 VAC	220 - 240 VAC
Mains frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Mains current at full load	0.25 A	0.19 A	0.12 A	0.09 A
THD	< 20 %	< 20 %	< 20 %	< 20 %
λ at full load	0.95	0.95	0.95	0.95
Surge protection	1 kV (L-N), 2 kV (L/N-GND)	1 kV (L-N), 2 kV (L/N-GND)	0.5 kV (L-N), 1 kV (L/N-GND)	0.5 kV (L-N), 1 kV (L/N-GND)
Fast transient protection	1 kV	1 kV	1 kV	1 kV

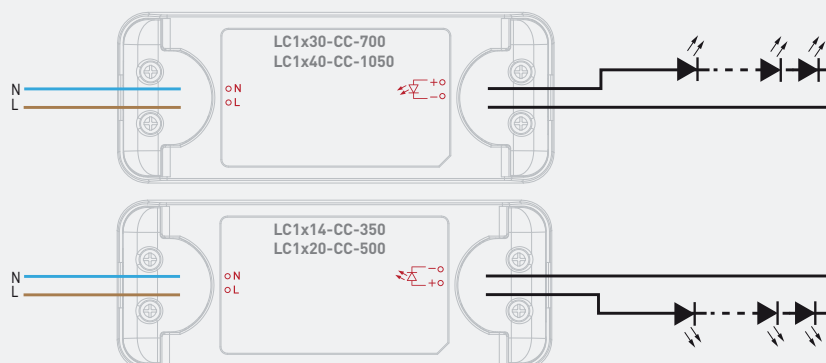
Load output (SELV)

Model name	LC1x40-CC-1050	LC1x30-CC-700	LC1x20-CC-500	LC1x14-CC-350
I_{out}	1050 mA, $\pm 10\%$	700 mA, $\pm 10\%$	500 mA, $\pm 10\%$	350 mA, $\pm 10\%$
$P_{out} (max)$	40 W	30.1 W	21 W	14.7 W
U_{out}	24 V – 38 V	24 V – 43 V	31 V – 42 V	31 – 42 V
$U_{out} (max)$ abnormal	50 V	50 V	60 V	60 V
Ripple	30 %*	30 %*	40 %*	40 %*
Efficiency (η), full load	89 %	89 %	89 %	89 %

*] Full load condition, at ≤ 120 Hz

Connections and mechanical data

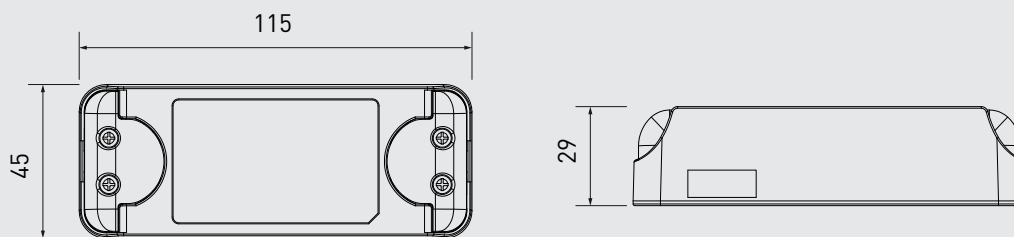
Wire size	0.5 mm ² – 1.5 mm ²
Wire type	Solid core and fine-stranded
Wire insulation	According to EN 60598
Maximum driver to LED wire length	5 m
IP rating	IP20
Weight	180g (LC1x40-CC-1050, LC1x30-CC-700), 90g (LC1x20-CC-500, LC1x14-CC-350)



Note:

- Drivers are not suitable for load side switching operation.
- Connecting LED load to a LED driver is prohibited if the LED driver is powered on.

Dimensions (mm)

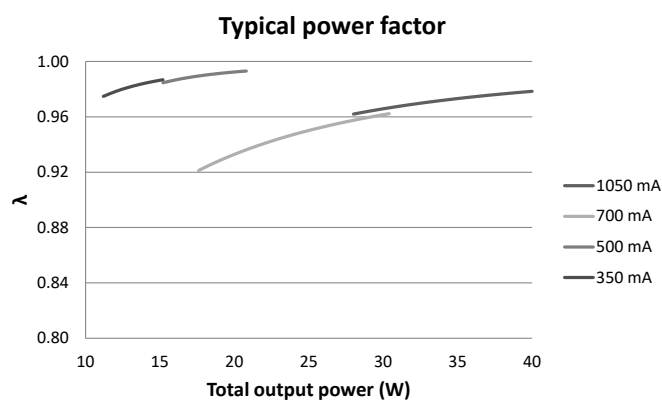
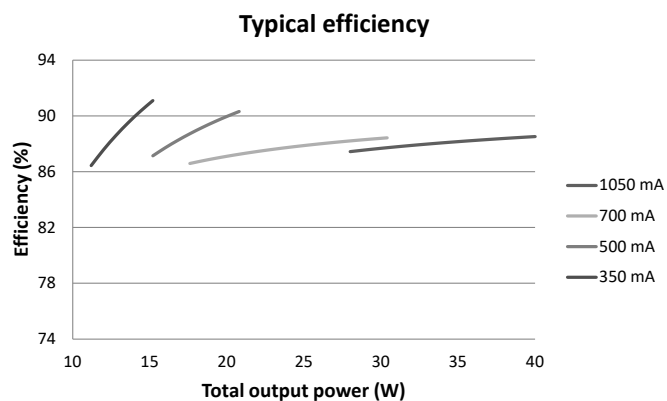


Operating conditions and characteristics

Model name	LC1x40-CC-1050	LC1x30-CC-700	LC1x20-CC-500	LC1x14-CC-350
Ambient temperature range	-25 °C - +50 °C	-25 °C - +55 °C	-25 °C - +50 °C	-25 °C - +55 °C
Highest allowed t_c point temperature	85 °C	85 °C	75 °C	75 °C
Life time (90 % survival rate)	50 000 h, at $t_c = 75$ °C 30 000 h, at $t_c = 85$ °C	50 000 h, at $t_c = 75$ °C 30 000 h, at $t_c = 85$ °C	50 000 h, at $t_c = 65$ °C 30 000 h, at $t_c = 75$ °C	50 000 h, at $t_c = 65$ °C 30 000 h, at $t_c = 75$ °C

Storage temperature range -40 °C - +80 °C
Maximum relative humidity No condensation

LED driver performance



Quantity of drivers per miniature circuit breaker 16 A Type C

Model name	Based on I_{cont}	Based on I_{peak}	Typ.inrush current	1/2 value time, Δt	Calculated energy, $I_{peak}^2 \Delta t$
LC1x40-CC-1050	53 pcs.	1220 pcs.	5 A	40 μs	0.0008 A ² s
LC1x30-CC-700	70 pcs.	947 pcs.	4.9 A	53 μs	0.0007 A ² s
LC1x20-CC-500	110 pcs.	4303 pcs.	2.9 A	22 μs	0.00014 A ² s
LC1x14-CC-350	156 pcs.	5050 pcs.	3.2 A	18 μs	0.00016 A ² s

Type-C MCB's with trip characteristics according to EN 60898 are recommended.

LC1x40-CC-1050, LC1x30-CC-700, LC1x20-CC-500 and LC14-CC-350 LED drivers are suited for built-in luminaire usage. In order to have safe and reliable LED driver operation, the LED luminaires will need to comply with the relevant standards and regulations (e.g. IEC/EN 60598-1). The LED luminaire shall be designed to adequately protect the LED driver from dust, moisture and pollution. The luminaire manufacturer is responsible for the correct choice and installation of the LED drivers according to the application and product datasheets. Operating conditions of the LED drivers may never exceed the specifications as per the datasheet.

Installation & operation

Maximum t_c temperature

- Reliable operation and lifetime is only guaranteed if the maximum t_c point temperature is not exceeded under the conditions of use.
- Ensure that the t_c point temperature will not rise higher than specified on the product datasheet.

Installation site

- The general preferred installation position of LED drivers for independent use is to have the top cover facing upwards.

Conformity & standards

General and safety requirements	EN 61347-1
Particular safety requirements for DC or AC supplied electronic control gear for LED modules	EN 61347-2-13
Thermal protection class	EN61347, C5e *
Mains current harmonics	EN 61000-3-2
Limits for voltage fluctuations and flicker	EN 61000-3-3
Radio frequency interference	EN 55015
Immunity standard	EN 61547
Performance requirements	EN 62384
Compliant with relevant EU directives	
ENEC and CE marked	

*] LC1x40-CC-1050 and LC1x30-CC-700

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