

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 |

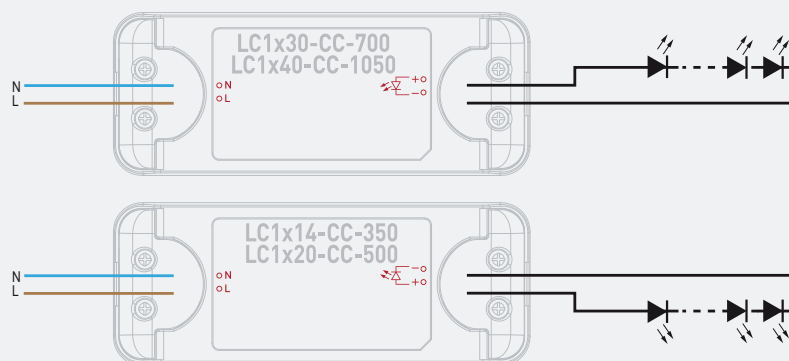
Load output (SELV)

| 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

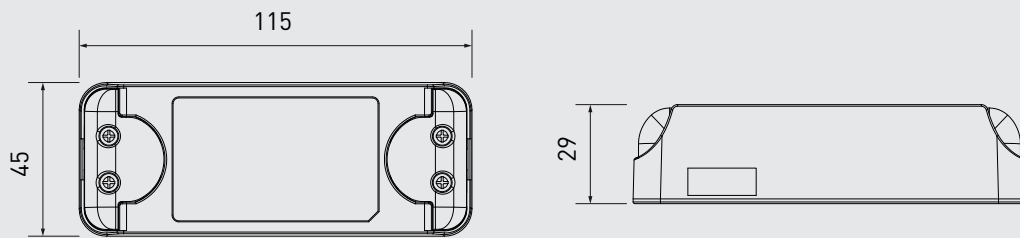
| | |
|-----------------------------------|--|
| Wire size | 0.5 mm ² – 1.5 mm ² |
| Wire type | Solid core and fine-stranded |
| Wire insulation | According to EN 60598 |
| Maximum driver to LED wire length | 5 m |
| IP rating | IP20 |
| Weight | 180g (LC1x40-CC-1050, LC1x30-CC-700), 90g (LC1x20-CC-500,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

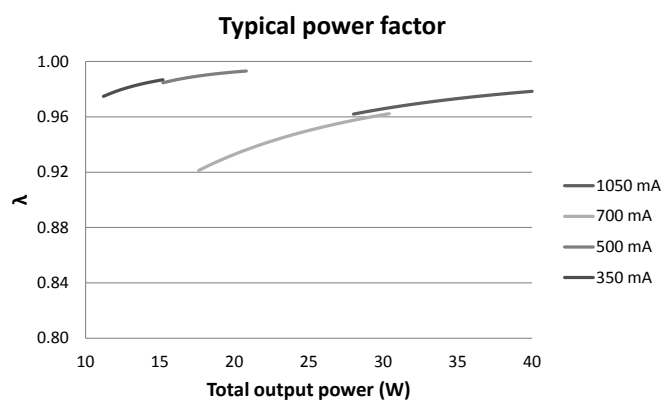
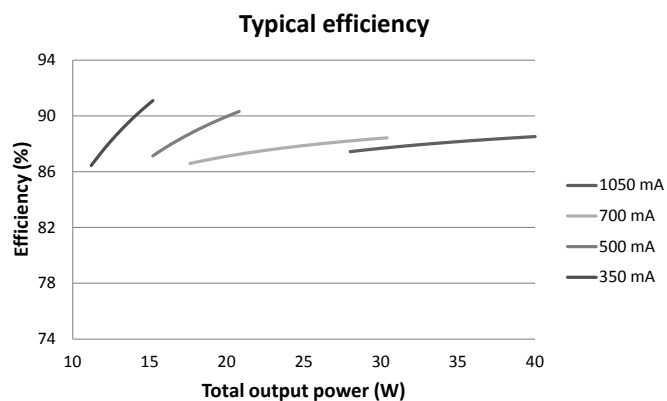


Operating conditions and characteristics

| 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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