

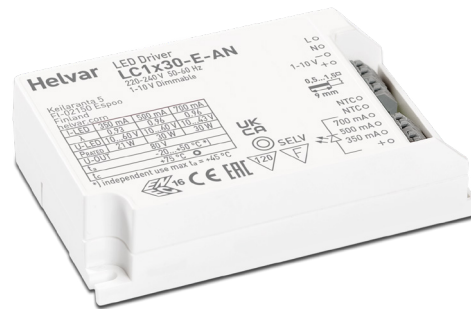
LC1x30-E-AN

1x30 W **Dimmable 1-10 V** LED driver (55040)

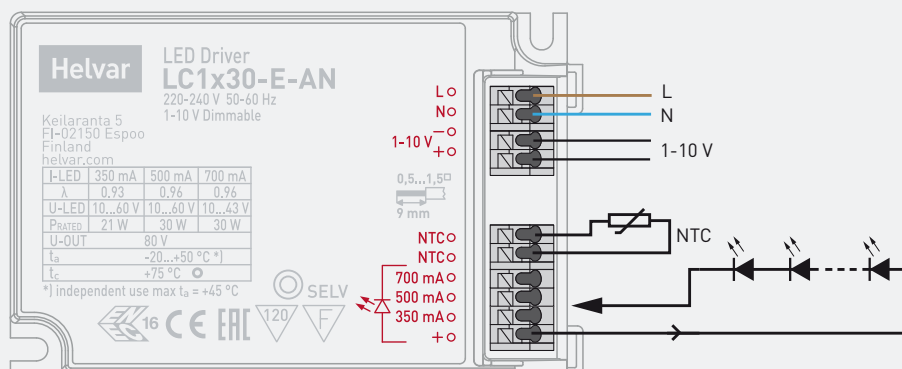
Optional version on request (55046): added lacquer coating provides improved robustness in challenging climate conditions (humidity, temperature).

- Selectable constant current output: 350 / 500 / 700 mA
- Maximum 30 W load
- 1-10 V control input, 1 %-100 % dimming range
- Protected up to 2 kV power network fast transients
- High efficiency, 0.87
- Optional click-on strain relief for independent use
- External NTC thermal input
- MIM03 and μ Dim sensor compatible

30 W 220-240 VAC, 50-60 Hz



Connections



Mains Characteristics

Voltage range	198 - 264 VAC
DC range	176 - 280 VDC, starting voltage > 190 VDC
Max mains current at full load	0.14-0.18 A
Frequency	0 / 50 - 60 Hz

Load Output (SELV < 120 V)

Output current (I-OUT)	350 / 500 / 700 mA
Max output power	30 W
Efficiency, at full load, typical	≥ 0.87
PstLM	< 1*
SVM	< 0.4* *) At full load
U-OUT _{max} (abnormal)	80 V

	I-LED 350 mA	500 mA	700 mA
P-RATED	21 W	30 W	30 W
U-LED	10 - 60 V	10 - 60 V	10 - 43 V
λ	0.93c	0.96	0.96
η @ max	0.87	0.87	0.86

Operating Conditions and Characteristics

Max temperature at T _c point	75 °C
Ambient temperature range	-20...+50 °C
(Independent use	T _{a_max} = +45 °C)
Storage temperature range	-40...+80 °C
Maximum relative humidity	no condensation *
Life time (90 % survival rate)	100 000 h at t _c = 65 °C
	50 000 h, at t _c = 75 °C

Connections and Mechanical Data

Wire size	0.5 - 1.5 mm ²
Wire type	solid core and fine-stranded
Maximum driver to LED wire length	5m (1 m with NTC)
Weight	126 g (+17 g, strain relief LC1x30-SR)
Thermal sensor input	Input for external NTC thermal sensor
NTC trigger point	8.2 k Ω
IP rating	IP20

Conformity & Standards

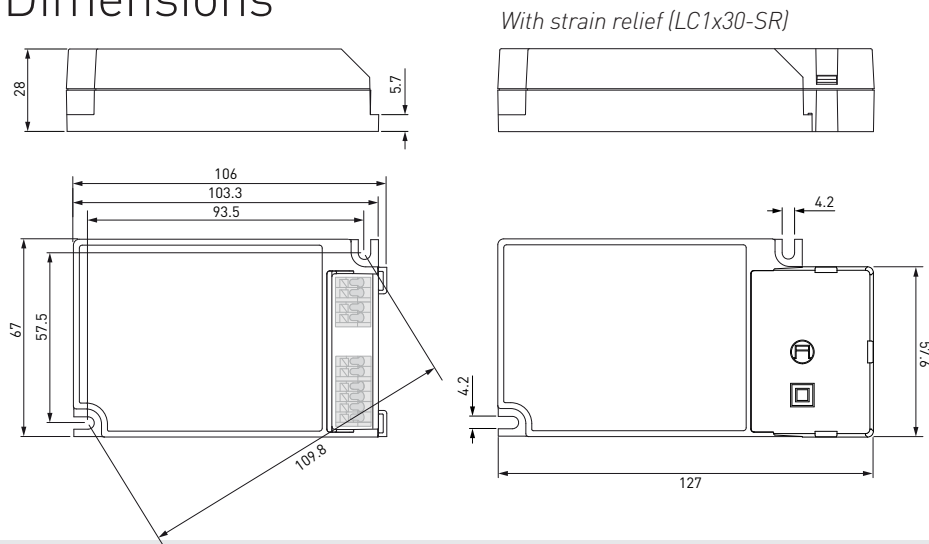
General and safety requirements	EN 61347-1
Particular safety requirements for d.c. or a.c. supplied electronic controlgear for LED modules, acc. to	EN 61347-2-13
Thermal protection class	EN61347, C5e
Mains current harmonics, acc. to	EN 61000-3-2
Limits for Voltage Fluctuations and Flicker, acc to	EN 61000-3-3
Radio Frequency Interference, acc. to	EN 55015
Immunity standard, acc. to	EN 61547
Performance requirements, acc to	EN 62384
1-10 V Control acc. to	EN 60929

Compliant with relevant EU directives
ENEC, CE / UKCA & SELV marked

Note: See page 2 for dimensions

* Coated version: partially allowed condensation, T_{a_Min} = -40 °C

Dimensions



LC1x30-E-AN LED driver is suited for either in-built and independent 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. Specifications of the LED drivers may never exceed the operating conditions as per the product datasheets.

Wiring considerations

Wire type and cross section

- Please refer to datasheets connections & mechanical data

Wiring insulation

- According to recommendations in EN 60598

Maximum wire lengths

- Please refer to datasheets connections & mechanical data

Wire connections

- Please refer to datasheets connections diagram

Miniature Circuit Breakers (MCB)

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

LED driver earthing

- LED drivers are designed to support different luminaire classifications, like Class I or Class II fittings (no earth required). Please check the individual LED driver type for its exact safety class rating.

- For Helvar Components LED drivers to have a reliable operation and EMC performance, the luminaires are expected to have an earth connection.
- When using a SELV-rated LED driver, then the SELV driver output has to be insulated from the luminaire earth connection (ref. EN60598-1 luminaire standard).

Installation & operational considerations

Maximum tc temperature

- Reliable operation and lifetime is only guaranteed if the maximum tc point temperature is not exceeded under the conditions of use.

Strain Relief for independent use

- LC1x30-E-AN LED driver allow use both inside the luminaire and outside the luminaire, via the LC1x30-SR strain relief. The strain relief provides reliable fastening method for the mains and LED output wiring.
- Ensure that the LED driver does not exceed temperature higher than specified on the product datasheets.
- The general preferred installation position of LED drivers is to have the top cover facing upwards.

Quantity of drivers per miniature circuit breaker 16 A Type C

Based on I_{cont}	Based on inrush current I_{peak}	Typ. peak inrush current I_{peak}	1/2 value time, Δt	Calculated energy, $I_{peak}^2 \Delta t$
73 pcs.	> 100 pcs.	7 A	27 μs	0.0011 A ² s

CONVERSION TABLE FOR OTHER TYPES OF MINIATURE CIRCUIT BREAKER

Type C MCB's are strongly recommended to use with LED lighting.

MCB type	Relative quantity of LED drivers
B 10 A	37 %
B 16 A	60 %
B 20 A	75 %
C 10 A	62 %
C 16 A	100 % (see table above)
C 20 A	125 %

