1. Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
IEC 61000-4-2
IEC 61000-4-3
IEC 61000-4-4
IEC 61000-4-5
IEC 61000-4-6
IEC 61000-4-8
IEC 61000-4-11
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384
UL8750 with Class 2 output based on UL1310
FCC Part 15 Class B

2. Thermal details and life-time

2.1 Expected life-time

Expected life-time

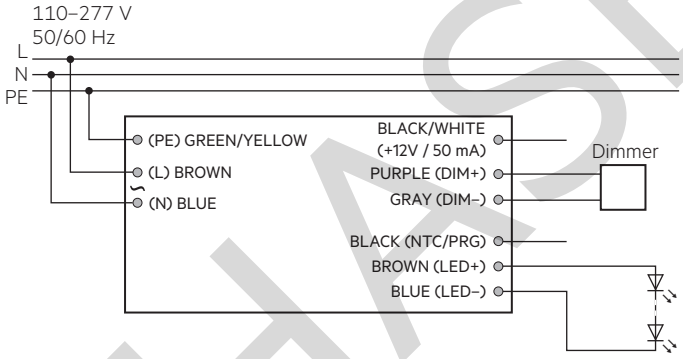
Type	ta	40 °C	45 °C	50 °C	55 °C	60 °C	65 °C
LC 200W 1050mA UNV ADV IND	tc	65 °C	70 °C	75 °C	80 °C	85 °C	90 °C
	Life-time	100,000 h	100,000 h	70,000 h	50,000 h	35,000 h	20,000 h

The LED Driver is designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %.

The relation of tc to ta temperature depends also on the luminaire design. If the measured tc temperature is approx. 5 K below tc max., ta temperature should be checked and eventually critical components (e.g. ELCAP) measured. Detailed information on request.

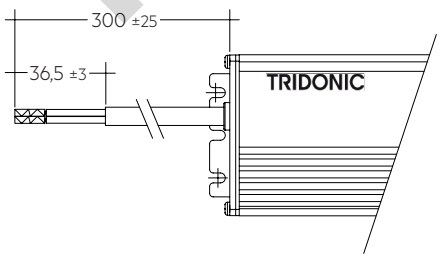
3. Installation / Wiring

3.1 Wiring diagram



Primary cable			Secondary cable			Dimmer cable		
L	N	PE	+	–	NTC/PRG	+	–	+12V / 50 mA
brown	blue	green/yellow	brown	blue	black	purple	gray	black/white

NTC functionallity is not permitted for this LED Driver.



3.2 Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. lenght of output wires is 2 m.
- Incorrect wiring can damage LED modules.
- To avoid the damage of the Driver, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

3.3 Hot plug-in

Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high LED output current.

3.4 Replace LED module

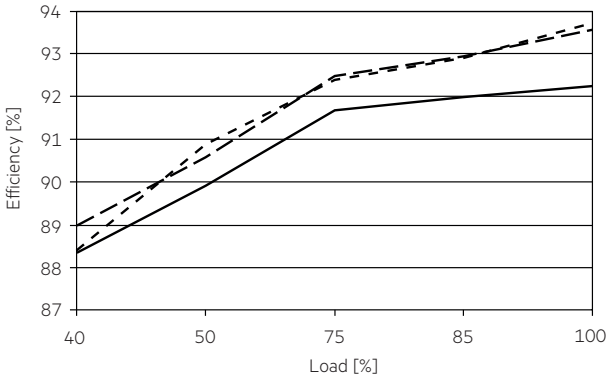
1. Mains off
2. Remove LED module
3. Wait for 20 seconds
4. Connect LED module again

3.5 Installation instructions

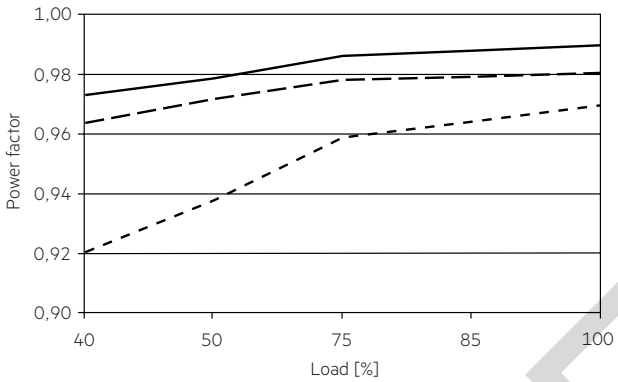
The LED module and all contact points within the wiring must be sufficiently insulated against 2 kV surge voltage.
Air and creepage distance must be maintained.

4. Electrical values

4.1 Efficiency vs. load

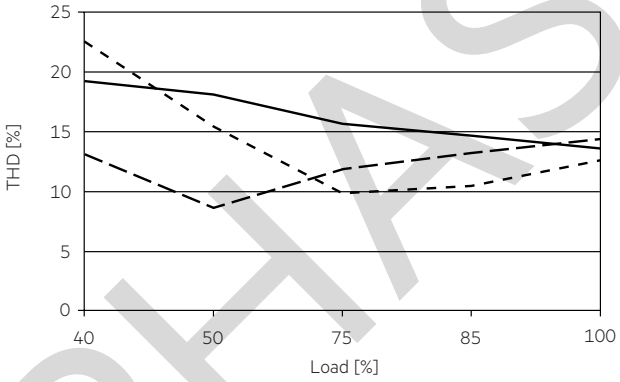


4.2 Power factor vs. load

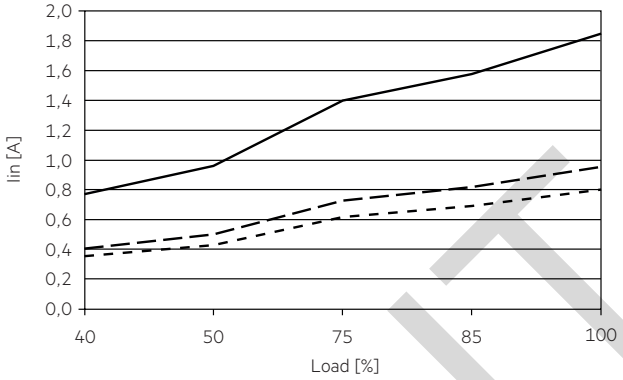


4.3 THD vs. load

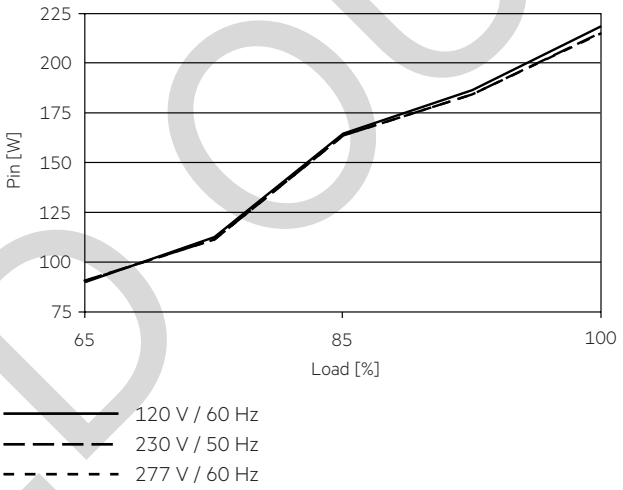
THD without harmonic < 5 mA or 0.6 % of the input current.



4.4 Input current vs. load

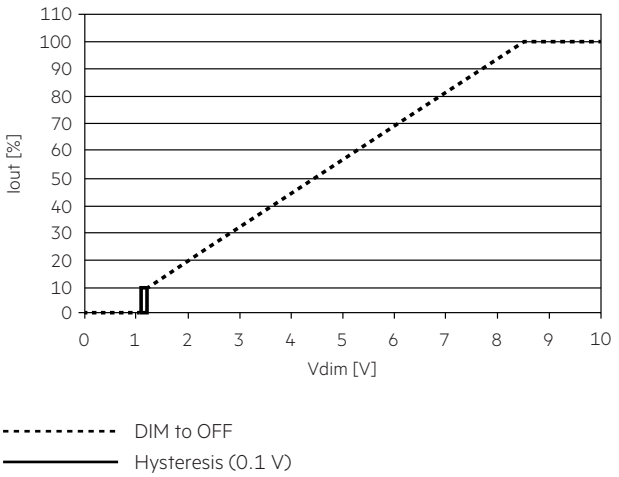


4.5 Input power vs. load



4.6 Dimming

0 – 10 V dimming curve / Output current vs dimming voltage



4.7 Maximum loading of automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
Installation Ø	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	I_{max}	Time
LC 200W 1050mA UNV ADV IND	4	5	6	8	2	3	4	5	150 A	140 µs

4.8 Harmonic distortion in mains supply (at 230V / 50 Hz and full load) in %

	THD	3.	5.	7.	9.	11.
LC 200W 1050mA UNV ADV IND	< 15	< 15	< 5	< 3	< 3	< 3

4.9 Harmonic distortion in mains supply (at 120V / 60 Hz and full load) in %

	THD	3.	5.	7.	9.	11.
LC 200W 1050mA UNV ADV IND	< 15	< 15	< 6	< 4	< 2	< 1

Acc. to 6100-3-2. Harmonics < 5 mA or < 0.6 % (whatever is greater) of the input current are not considered for calculation of THD.

5. Interfaces / communication

5.1 Control input (0 ... 10 V)

Control input open	1,050 mA (100 % dimming)
Control input short-circuit	0 mA (dimming is off)
Output current range	200 µA ±50 µA
Max. permitted input voltage	±20 V
Voltage range dimming	0 – 10 V
Input voltage < 1 V	0 mA
Input voltage > 10 V	1,050 mA

0 ... 10 V, 1.2 V (± 0.1 V) is 10 % of Io_set or minimum 100 mA,
≥8.5 V is 100 % of Io_set.
At a lower voltage of 1.1 V (± 0.1 V) a dimming off with a hysteresis of 0.1 V is programmable.
Dimming range 10 % to 100 %.
Dimming curve is linearized.

6. Functions

6.1 Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED Driver switches off. After elimination of the short-circuit fault the LED Driver will recover automatically.

6.2 No-load operation

The LED Driver will not be damaged in the no-load operation. When the output is floating and doesn't connect the LED modules, the output voltage will keep the max. voltage (< 230 V). After connecting the LED load, the Driver works normally without resetting the main power.

6.3 Overload protection

If the output voltage range is exceeded the LED Driver reduces the LED output current. After elimination of the overload the nominal operation is restored automatically.

6.4 Overtemperature protection

The LED Driver is protected against temporary thermal overheating. If the temperature limit is exceeded the output current is reduced to limit tc at a certain level. The temperature protection is activated typically at 5 °C above tc max.

7. Miscellaneous

7.1 Isolation and electric strength testing of luminaires

Electronic devices can be damaged by high voltage. This has to be considered during the routine testing of the luminaires in production.

According to IEC 60598-1 Annex Q (informative only!) or ENEC 303-Annex A, each luminaire should be submitted to an isolation test with 500 V DC for 1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal.
The isolation resistance must be at least 2 MΩ.

As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1500 V AC (or 1.414 x 1500 V DC). To avoid damage to the electronic devices this test must not be conducted.

7.2 Conditions of use and storage

Humidity:	10 % up to max. 95 %, not condensed (max. 56 days/year at 95 %)
Storage temperature:	-40 °C up to max. +85 °C

The devices have to be within the specified temperature range (ta) before they can be operated.

7.3 Additional information

Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

Life-time declarations are informative and represent no warranty claim.
No warranty if device was opened.