Driver LC 65W 250/300/350mA fixC lp SNC2

essence series non-SELV

Product description

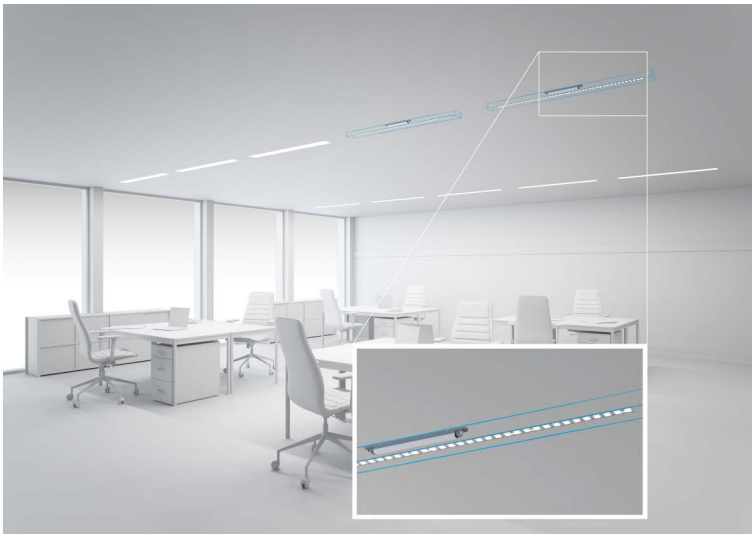
- Fixed output built-in LED Driver
- Constant current LED Driver
- For luminaires of protection class I and protection class II
- Temperature protection as per EN 61347-2-13 C5e
- Output current 250, 300 and 350 mA
- Max. output power 65 W
- Up to 90 % efficiency
- Nominal life-time up to 50,000 h
- 5-year guarantee

Housing properties

- Casing: metal, white
- Type of protection IP20

Functions

- Overload protection
- Short-circuit protection
- No-load protection
- Burst protection voltage 0.5 kV
- Surge protection voltage 1 kV (L to N)
- Surge protection voltage 2 kV (L/N to earth)



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IP20 RoHS

Driver LC 65W 250/300/350mA fixC lp SNC2

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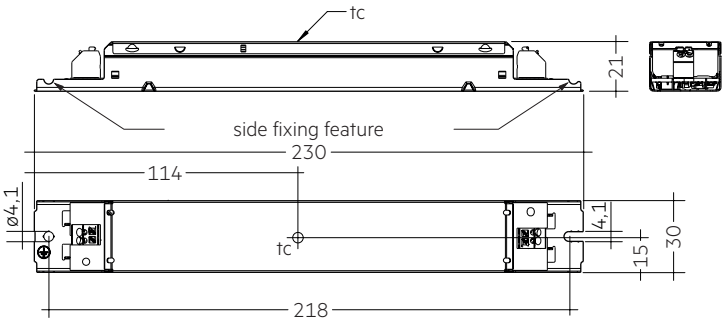
Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Leakage current (at 230 V, 50 Hz, full load)	< 450 µA
Mains frequency	50 / 60 Hz
THD (at 230 V, 50 Hz, full load)	< 20 %
Output current tolerance[3]	± 7.5 %
Output LF current ripple (< 120 Hz) at full load	± 5 %
Starting time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Hold on time at power failure (output)	0 s
Ambient temperature ta	-20 … +50 °C
Ambient temperature ta (at life-time 50,000 h)	50 °C
Storage temperature ts	-40 … +80 °C
Mains burst capability	0.5 kV
Mains surge capability (between L – N)	1 kV
Mains surge capability (between L/N – PE)	2 kV
Surge voltage at output side (against PE)	4 kV
Life-time	up to 50,000 h
Dimensions L x W x H	230 x 30 x 21 mm
Hole spacing D	218 mm



Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 65/250/260 fixC lp SNC2	**87500844**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.158 kg
LC 65/300/217 fixC lp SNC2	**87500845**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.157 kg
LC 65/350/186 fixC lp SNC2	**87500846**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.157 kg

Specific technical data

Type	Output current[3]	Input current (at 230 V, 50 Hz, full load)	Max. input power	Typ. power consumption (at 230 V, 50 Hz, full load)	Output power range	λ at full load[1]	Efficiency at full load[1]	λ at min. load[1]	Efficiency at min. load[1]	Min. forward voltage	Max. forward voltage	Max. output voltage (U-OUT)	Max. output peak current[2]	Max. casing temperature tc
LC 65/250/260 fixC lp SNC2	250 mA	320 mA	71.3 W	71.2 W	32.5 – 65.0 W	0.95	90 %	0.9C	87 %	130.0 V	260 V	320 V	293 mA	80 °C
LC 65/300/217 fixC lp SNC2	300 mA	310 mA	70.3 W	70.1 W	32.6 – 65.1 W	0.95	90 %	0.9C	87 %	108.5 V	217 V	320 V	355 mA	80 °C
LC 65/350/186 fixC lp SNC2	350 mA	310 mA	69.7 W	69.1 W	32.6 – 65.1 W	0.95	90 %	0.9C	87 %	93.0 V	186 V	320 V	411 mA	75 °C

[1] Test result at 230 V, 50 Hz.

[2] The trend between min. and full load is linear.

[3] Output current is mean value.

1. Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384

2. Thermal details and life-time

2.1 Expected life-time

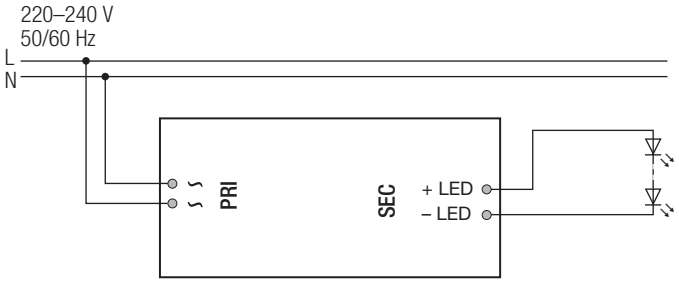
Expected life-time

Type	ta	40 °C	50 °C	60 °C
LC 65/250/260 fixC lp SNC2	tc	70 °C	80 °C	x
	Life-time	100,000 h	50,000 h	x
LC 65/300/217 fixC lp SNC2	tc	70 °C	80 °C	x
	Life-time	100,000 h	50,000 h	x
LC 65/350/186 fixC lp SNC2	tc	65 °C	75 °C	x
	Life-time	100,000 h	50,000 h	x

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

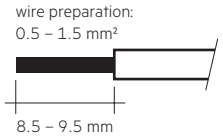
3. Installation / wiring

3.1 Circuit diagram



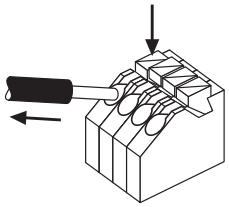
3.2 Wiring type and cross section

The wiring can be stranded wires with ferrules or rigid wires with a cross section of 0.5 – 1.5 mm².
Strip 8.5 – 9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals (WAGO 250).



3.3 Release of the wiring

Press down the “push button” and remove the cable from front.



3.4 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. length 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.).

3.5 Earth connection

The earth connection is conducted as protection earth (PE). The LED Driver can be earthed via metal housing. If the LED Driver will be earthed, protection earth (PE) has to be used. There is no earth connection required for the functionality of the LED Driver. Earth connection is recommended to improve following behaviour.

- Electromagnetic interferences (EMI)
- Transmission of mains transients to the LED output

In general it is recommended to earth the LED Driver if the LED module is mounted on earthed luminaire parts respectively heat sinks and thereby representing a high capacity against earth.

For Class I application, protection earth need to connected with the metal housing (bottom part).

For Class II application, protection earth is no need to be connected, below 2 scenarios should be considered:

- If the LED Driver housing is screw on a metal part inside the luminaires, both LED Driver and LED module must be insulated.
- If the LED Driver housing is screw on a plastic part inside the luminaires, the LED module need to be insulated.

3.6 Installation instructions

The LED module and all contact points within the wiring must be sufficiently insulated against 4 kV surge voltage.
Air and creepage distance must be maintained.

3.7 Replace LED module

1. Mains off
2. Remove LED module
3. Wait for 30 seconds
4. Connect LED module again

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

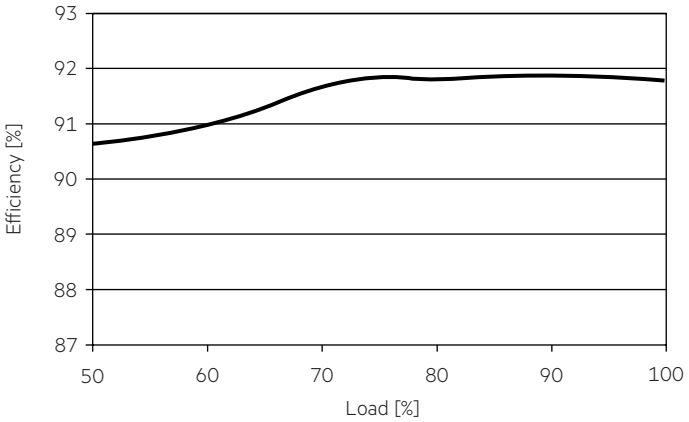
3.8 Mounting of device

Max. torque for fixing: 0.5 Nm/M4

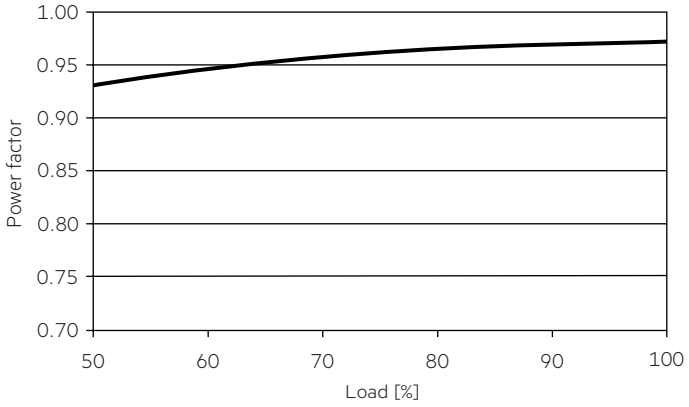
4. Electrical values

4.1 LC 65W 250mA fixC lp SNC2

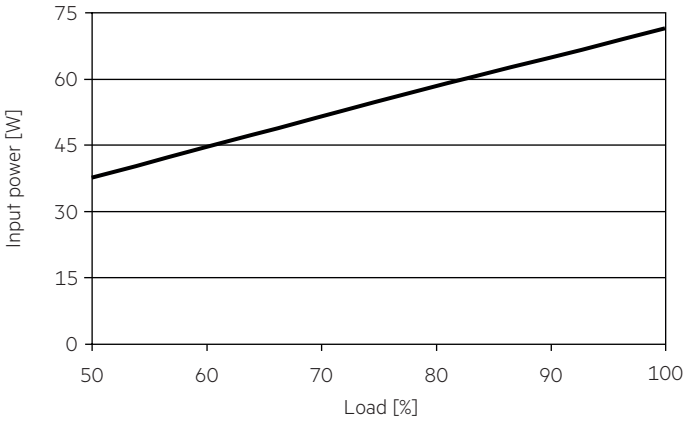
4.1.1 Efficiency vs load



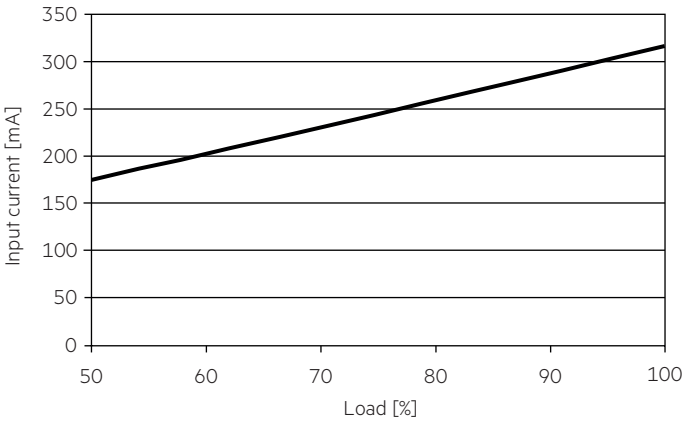
4.1.2 Power factor vs load



4.1.3 Input power vs load

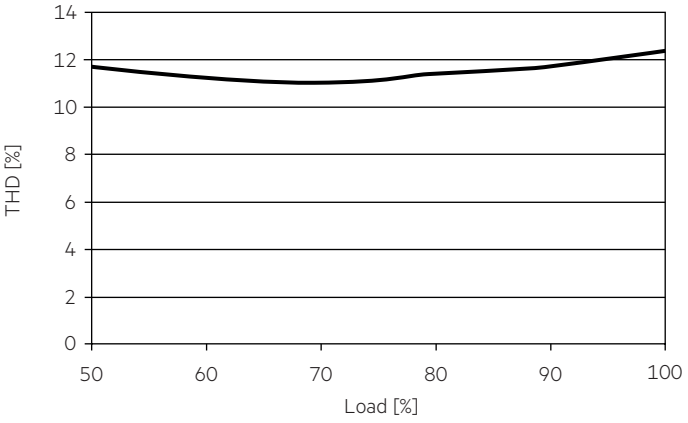


4.1.4 Input current vs load



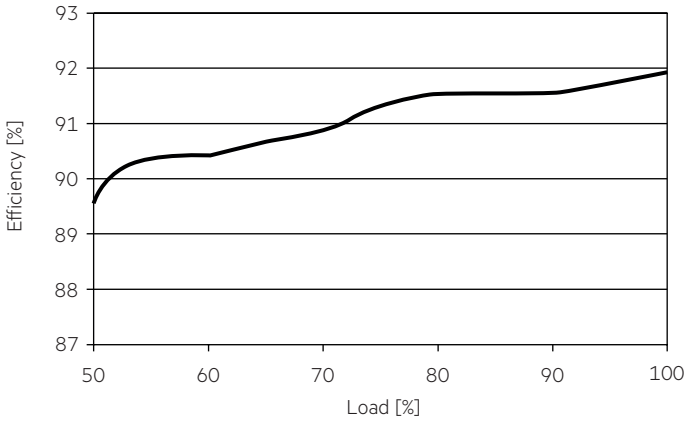
4.1.5 THD vs load (without harmonic < 5 mA or 0.6 % of the input current)

THD without harmonic < 5 mA (0.6 %) of the input current:

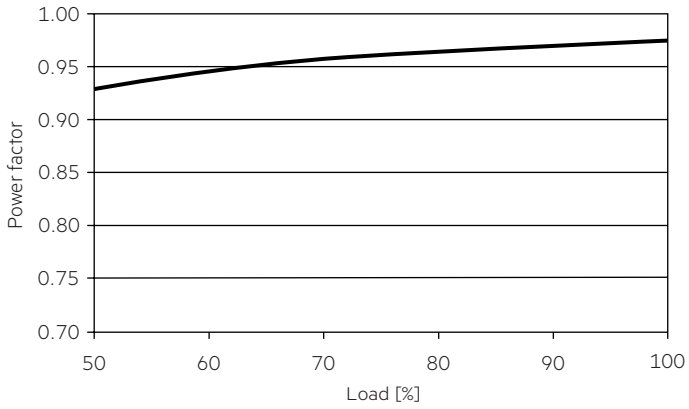


4.2 LC 65W 300mA fixC lp SNC2

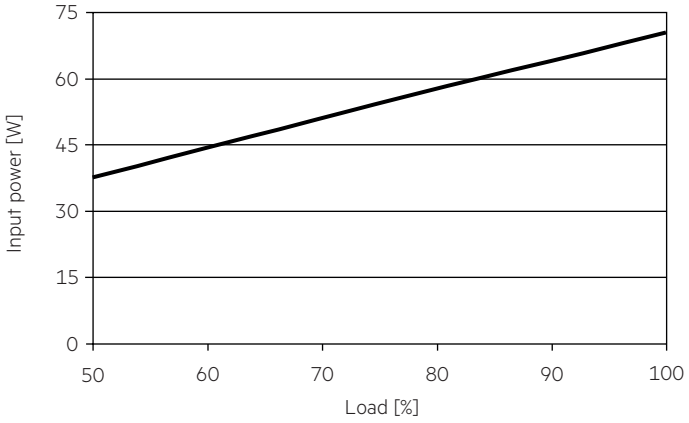
4.2.1 Efficiency vs load



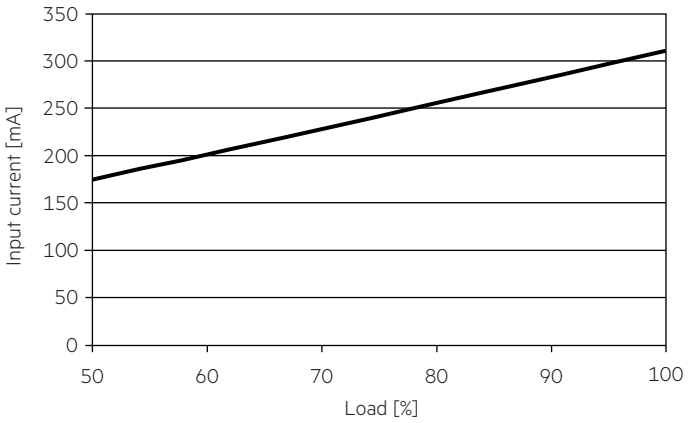
4.2.2 Power factor vs load



4.2.3 Input power vs load

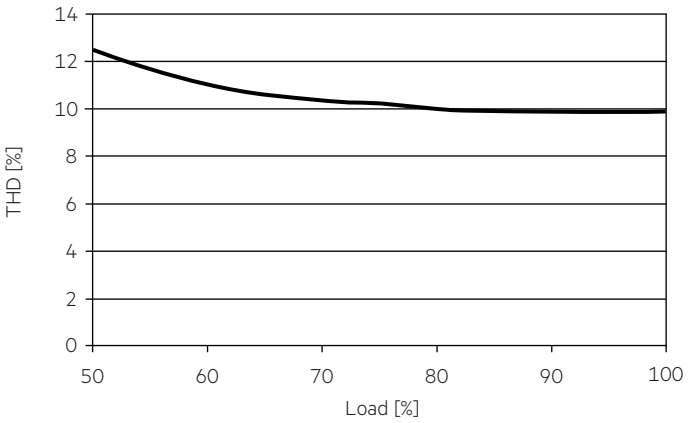


4.2.4 Input current vs load



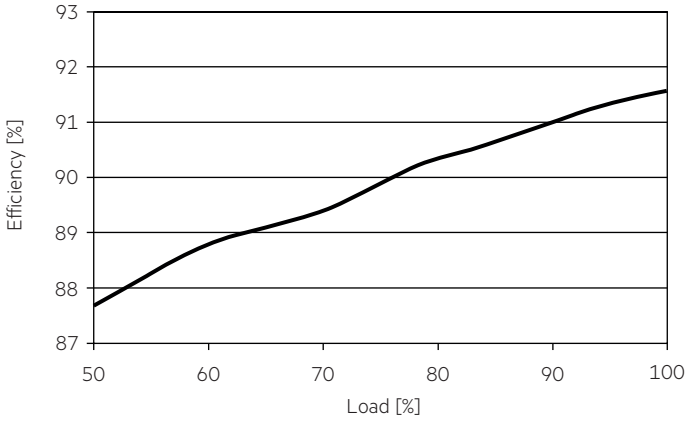
4.2.5 THD vs load (without harmonic < 5 mA or 0.6 % of the input current)

THD without harmonic < 5 mA (0.6 %) of the input current:

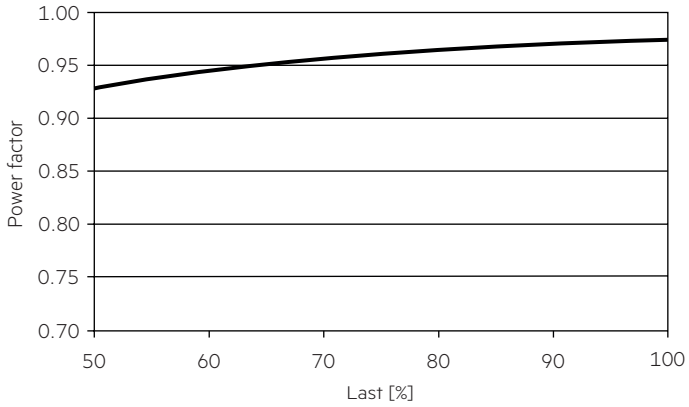


4.3 LC 65W 350mA fixC lp SNC2

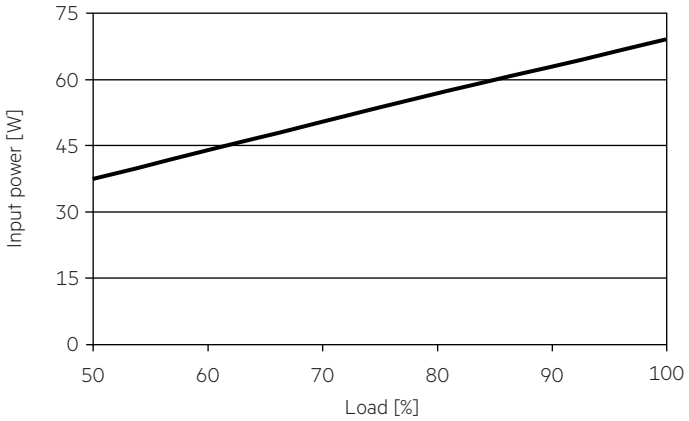
4.3.1 Efficiency vs load



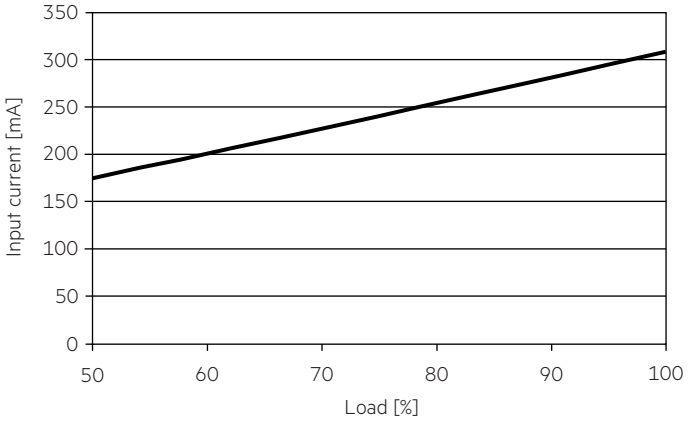
4.3.2 Power factor vs load



4.3.3 Input power vs load

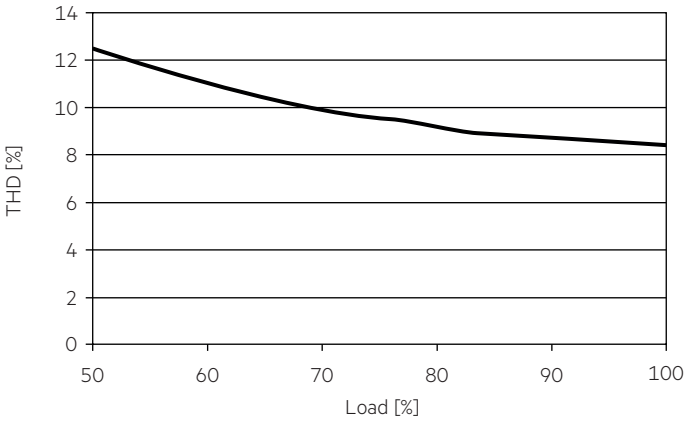


4.3.4 Input current vs load



4.3.5 THD vs load (without harmonic < 5 mA or 0.6 % of the input current)

THD without harmonic < 5 mA (0.6 %) of the input current:



4.4 Maximum loading of automatic circuit breakers in relation to inrush current

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 65/250/260 fixC lp SNC2	24	32	39	49	24	32	39	49	12 A	25 µs
LC 65/300/217 fixC lp SNC2	24	32	39	49	24	32	39	49	12 A	25 µs
LC 65/350/186 fixC lp SNC2	24	32	39	49	24	32	39	49	16 A	40 µs

This are max. values calculated out of inrush current! Please consider not to exceed the maximum rated continuous current of the circuit breaker.
Calculation uses typical values from ABB series S200 as a reference.
Actual values may differ due to used circuit breaker types and installation environment.

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

	THD	3.	5.	7.	9.	11.
LC 65/250/260 fixC lp SNC2	< 18	< 18	< 10	< 7	< 5	< 3
LC 65/300/217 fixC lp SNC2	< 18	< 18	< 10	< 7	< 5	< 3
LC 65/350/186 fixC lp SNC2	< 18	< 18	< 10	< 7	< 5	< 3

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. Functions

5.1 Short-circuit behaviour

In case of a short circuit on the output side (LED) the LED Driver switches into hic-cup mode. After elimination of the short-circuit fault the LED Driver will recover automatically.

5.2 No-load operation

The LED Driver works in burst working mode to provide a constant output voltage regulation which allows the application to be able to work safely when LED string opens due to a failure.

5.3 Overload protection

If the output voltage range is exceeded the LED Driver will protect itself and LED may flicker. After elimination of the overload, the nominal operation is restored automatically.

6. Miscellaneous

6.1 Insulation 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 insulation 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 insulation 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.

6.2 Conditions of use and storage

Humidity: 5 % up to max. 85 %, not condensed (max. 56 days/year at 85 %)

Storage temperature: -40 °C up to max. +80 °C

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

6.3 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.