TRIDONIC

LED Driver
Compact fixed output

Driver LC 25W 350-600mA flexC T ADV

ADVANCED in-track series

Product description

- Constant current / in-track LED Driver
- Adjustable output current between 350 and 600 mA via I-select 2 plugs
- Max. output power 25 W
- Up to 84 % efficiency
- For luminaires of protection class II
- Temperature protection as per EN 61347-2-13 C5e
- Optional accessory ACU ALU NIPPLE M10x1 for mounting the luminaire head
- Compatible with Global Trac PRO and Global Trac PULSE from Nordic Aluminum and OneTrack from Stucchi
- Nominal life-time up to 100,000 h
- 5-year guarantee

Properties

- Casing: polycarbonat, black or white
- Type of protection IP20

Functions

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

Typical applications

- For spot light in retail and hospitality application

→

Standards, page 4

Wiring diagrams and installation examples, page 4

Black (RAL 9005)

White (RAL 9010)

IP20 SELV RoHS

Driver LC 25W 350-600mA flexC T ADV

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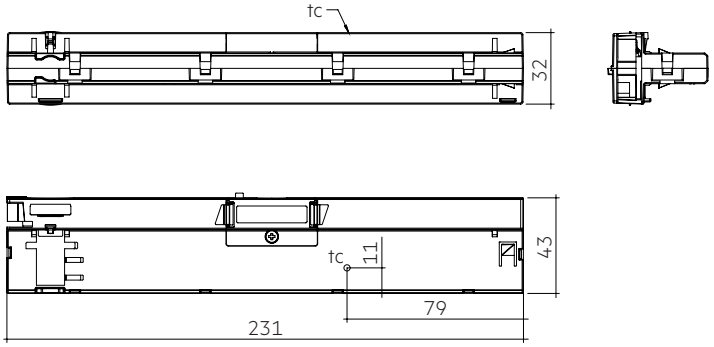
Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Max. input current (at 230 V, 50 Hz, full load)	0.139 A
Leakage current (at 230 V, 50 Hz, full load)	< 450 µA
Mains frequency	50 / 60 Hz
Overvoltage protection	320 V AC, 1 h
Max. input power	30.1 W
Typ. power consumption (at 230 V, 50 Hz, full load)[1]	29.7 W
Min. output power	4.2 W
Max. output power	25 W
Typ. efficiency (at 230 V / 50 Hz / full load)[1]	83 %
λ (at 230 V, 50 Hz, full load)[1]	0.95
Output current tolerance[2]	± 5 %
Max. output current peak[3]	≤ output current + 10 %
Max. output voltage (U-OUT)	60 V
THD (at 230 V, 50 Hz, full load)[1]	< 10 %
Output LF current ripple (< 120 Hz)	± 5 %
Starting time (at 230 V, 50 Hz, full load)	< 0.5 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.01 s
Hold on time at power failure (output)	0 s
Ambient temperature ta (at life-time 50,000 h)	35 °C
Storage temperature ts	-40 … +80 °C
Mains surge capability (between L - N)	1 kV
Dimensions L x W x H	230.8 x 31.9 x 42.7 mm



Ordering data

Type	Article number	Colour	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 25/350-600/42 flexC T-B ADV	**87500787**	Black	10 pc(s).	90 pc(s).	1,440 pc(s).	0.141 kg
LC 25/350-600/42 flexC T-W ADV	**87500789**	White	10 pc(s).	90 pc(s).	1,440 pc(s).	0.142 kg

Specific technical data

Type	Output current[2]	Min. forward voltage[5]	Max. forward voltage	Max. output power	Typ. power consumption (at 230 V, 50 Hz, full load)	Typ. current consumption (at 230 V, 50 Hz, full load)	Max. casing temperature tc	Ambient temperature ta max.	I-select 2 resistor value[4]
LC 25/350-600/42 flexC T ADV	350 mA	12 V	42 V	14.7 W	17.9 W	84 mA	80 °C	-20 … +35 °C	open
	400 mA	12 V	42 V	16.8 W	20.2 W	92 mA	80 °C	-20 … +35 °C	12.50 kΩ
	450 mA	12 V	42 V	18.9 W	22.5 W	102 mA	80 °C	-20 … +35 °C	11.10 kΩ
	500 mA	12 V	42 V	21.0 W	24.9 W	112 mA	80 °C	-20 … +35 °C	10.00 kΩ
	550 mA	12 V	42 V	23.1 W	27.3 W	122 mA	80 °C	-20 … +35 °C	9.10 kΩ
	600 mA	12 V	42 V	25.2 W	29.7 W	132 mA	80 °C	-20 … +35 °C	short circuit (0 Ω)

[1] Test result at 600 mA.

[2] Output current is mean value.

[3] Test result at 25 °C.

[4] Not compatible with I-select (generation 1).

[5] Device operates down to 4 V output voltage. It cannot be guaranteed that harmonics and EMI stay inside the limits. This has to be checked individually.

ACCES-SORIES

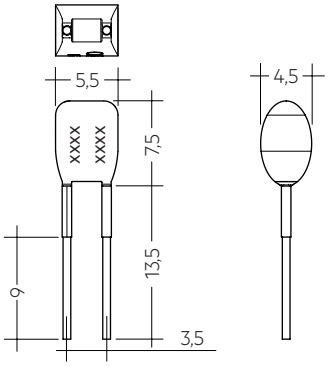
I-SELECT 2 PLUG PRE / EXC

Product description

- Ready-for-use resistor to set output current value
- Compatible with LED Driver featuring I-select 2 interface; not compatible with I-select (generation 1)
- Resistor is base isolated
- Resistor power 0.25 W
- Current tolerance ± 2 % to nominal current value
- Compatible with LED Driver series PRE, EXC and ADV

Example of calculation

- R [kΩ] = 5 V / I_out [mA] x 1000
- Resistor value tolerance ≤ 1 %; resistor power ≥ 0.1 W; base isolation necessary
- When using a resistor value beyond the specified range, the output current will automatically be set to the minimum value (resistor value too big), respectively to the maximum value (resistor value too small)



Ordering data

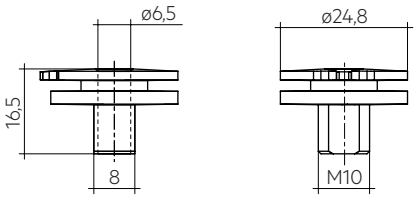
Type	Article number	Colour	Marking	Current	Resistor value	Packaging bag	Weight per pc.
I-SELECT 2 PLUG 350MA BL	**28001110**	Blue	0350 mA	350 mA	14.29 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 375MA BL	**28001111**	Blue	0375 mA	375 mA	13.33 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 400MA BL	**28001112**	Blue	0400 mA	400 mA	12.50 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 425MA BL	**28001251**	Blue	0425 mA	425 mA	11.76 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 450MA BL	**28001113**	Blue	0450 mA	450 mA	11.11 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 475MA BL	**28001252**	Blue	0475 mA	475 mA	10.53 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 500MA BL	**28001114**	Blue	0500 mA	500 mA	10.00 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 550MA BL	**28001115**	Blue	0550 mA	550 mA	9.09 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG 600MA BL	**28001116**	Blue	0600 mA	600 mA	8.33 kΩ	10 pc(s).	0.001 kg
I-SELECT 2 PLUG MAX BL	**28001099**	Blue	MAX	MAX	0.00 kΩ	10 pc(s).	0.001 kg

ACCES-SORIES

ACU ALU NIPPLE M10x1

Product description

- Optional threaded sleeve for luminaire mounting
- Suitable for S-9009/D-M10 threaded nut
- Additional mounting equipment, e.g. M8x1 or M13x1 available at AAG Stucchi (http://www.aagstucchi.it/en/)



Ordering data

Type	Article number	Packaging, bag	Weight per pc.
ACU ALU NIPPLE M10x1	**28002398**	100 pc(s).	0.007 kg

1. Standards

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

1.1 Glow-wire test

according to EN 61347-1 with increased temperature of 850 °C passed.

2. Thermal details and life-time

2.1 Expected life-time

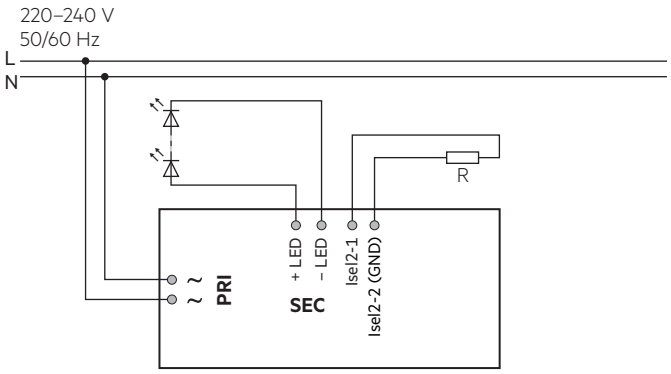
Expected life-time			
Type	**ta**	**25 °C**	**35 °C**
LC 25/350-600/42 flexC T ADV	tc	70 °C①	80 °C①
	Life-time	100,000 h	50,000 h

① Test result at max. output voltage.

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

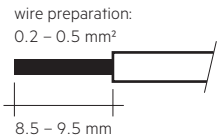
3. Installation / wiring

3.1 Circuit diagram



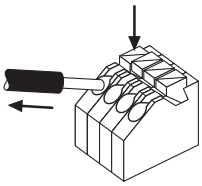
3.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid with a cross section of 0.2–0.5 mm². Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.
Use one wire for each terminal connector only.



3.3 Release of the wiring

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



3.4 Fixing conditions

Dry, acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature (ta) stated on the device.

3.5 Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Max. lenght of output wires is 20 cm.
- Secondary switching is not permitted.
- Incorrect wiring can demage 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.).

3.6 Replace LED module

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

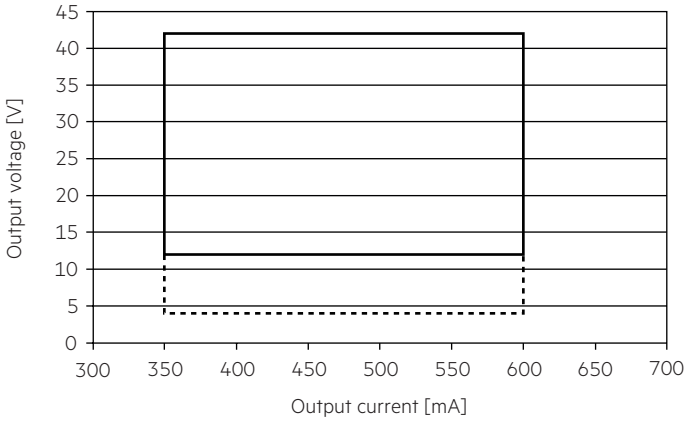
Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

3.7 Mounting luminaire

Max. allowed weight of complete luminaire: 5 kg (50 N)

4. Electrical values

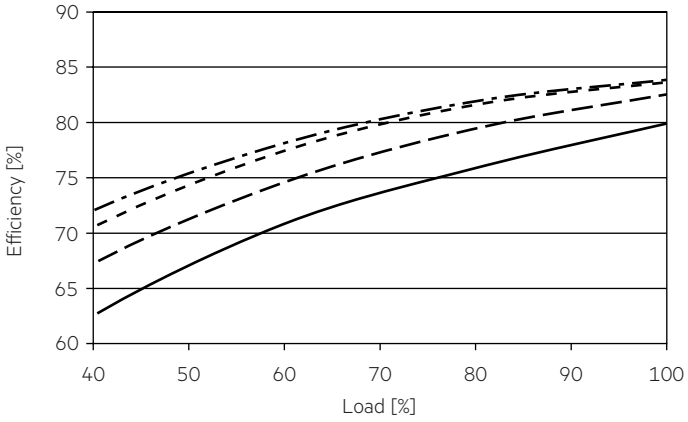
4.1 Operating window



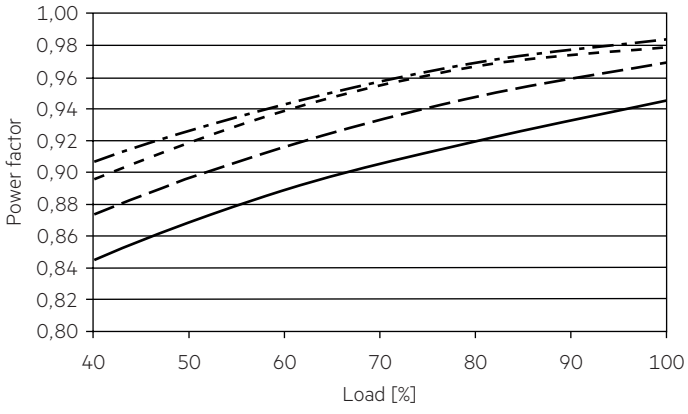
Operating window
Operating window 4 V

Device operates down to 4 V output voltage. It cannot be guaranteed that harmonics and EMI stay inside the limits. This has to be checked individually.

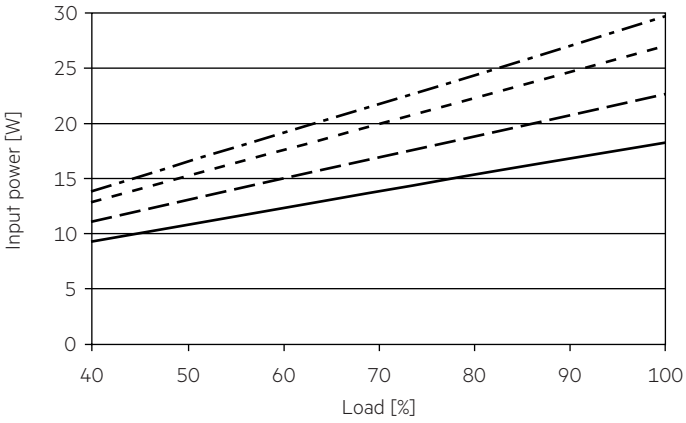
4.2 Efficiency vs load



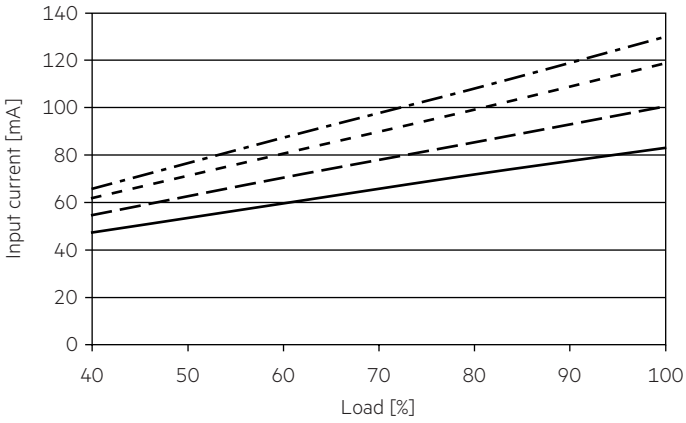
4.3 Power factor vs load



4.4 Input power vs load

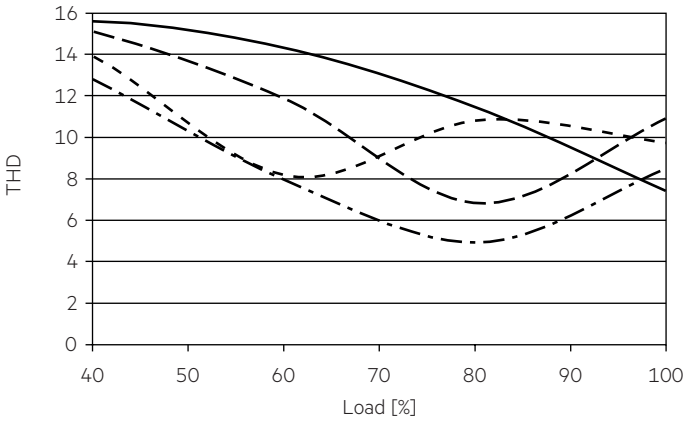


4.5 Input current vs load



4.6 THD vs load

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



350 mA
450 mA
550 mA
600 mA

4.3 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 25/350-600/42 flexC T-B ADV	58	76	94	117	58	76	94	117	8 A	80 µs

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

	THD	3.	5.	7.	9.	11.
LC 25/350-600/42 flexC T-B ADV	< 9	< 7	< 5	< 4	< 1	< 2

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 secondary side (LED) the LED Driver switches off. 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 will recover automatically.

5.4 Overtemperature protection

The LED Driver is protected against temporary thermal overheating.
If the temperature limit is exceeded the LED-Driver will switch off.
It restarts automatically.
The temperature protection is activated typically at 10 °C above tc max.

5.5 Function: adjustable current

The output current of the LED Driver can be adjusted in a certain range.

I-select 2
By inserting a suitable resistor or third party resistor into the I-select 2 interface, the current value can be adjusted. The relationship between output current and resistor value can be found in the chapter "Accessories I-SELECT 2 Plugs".

Please note that the resistor values for I-select 2 are not compatible with I-select (generation 1). Installation of an incorrect resistor may cause irreparable damage to the LED module(s).

Resistors for the main output current values can be ordered from Tridonic (see accessories).

6. Miscellaneous

6.1 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.

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.