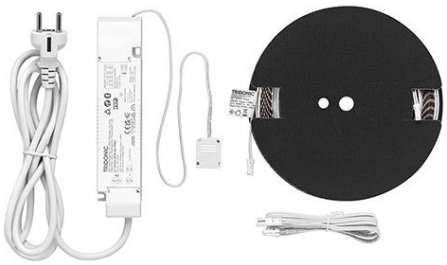
TRIDONIC

LLE FLEX R2A 35W 24V MTR R05

LLE FLEX Kit



Product description
_ Made in Austria Plug and play kit with all the necessary components for decorative ambient lighting
_ 5 meter LLE FLEX SNC4 Module and 24V certified Matter driver with pre-assembled cables, extension cable and isolation foils
_ Easy to control via app or voice
_ Thread Border Router is required (e.g. Apple HomePod mini or Google NestHub)
_ Dimming range 1 – 100 % without additional dimmer
_ Lifetime up to 60,000 hours
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Optical properties
_ Colour temperature 3,000 K
_ Typ. luminous flux 643 lm/m at tp = 25 °C
_ Efficacy of the luminaire up to 111 lm/W
_ High CRI90 and small color tolerance (SDCM3)
_ 24 V driver 35 W Matter technology

Mechanical properties
_ High design freedom due to 5 cm cut-options
_ Independent constant voltage LED driver

Website
http://www.tridonic.com/28005599

Linear | High bay | **Decorative** | Downlights | Spotlights | Free-standing | Area | Floor | Wall | Street

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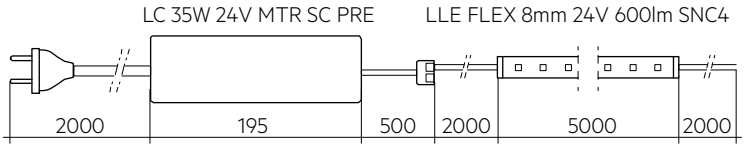


Ordering data

Type	Article number	Packaging	Weight per pc.
LLE FLEX R2A 35W24V 600 930 MTR R05	**28005599**	1 pc(s).	0.701 kg

Technical data

Rated supply voltage	220 – 240 V
Input voltage AC	198 – 264 V
Mains frequency	50 / 60 Hz
λ over full operating range (max.)	0.94C
λ over full operating range (min.)	0.67C
THD (at 230 V, 50 Hz, full load)	< 6.7 %
Starting time (at 230 V, 50 Hz, full load)	≤ 0.6 s
Output P_ST_LM (at full load)	≤ 1
Output SVM (at full load)	≤ 0.4
Ambient temperature ta	-20 … +40 °C
tp rated	65 °C
tc	75 °C
Colour tolerance ①	3 SDCM
Risk group (IEC 62471)	RG0
Protection class	LED driver: II, luminaire: III
Type of protection	LED driver: IP20, luminaire: IP00
Lumen maintenance L70B50	60,000 h
Guarantee (conditions at www.tridonic.com)	5 Year(s)

Approval marks

RoHS

Standards

EN 60598-1, EN 60598-2-1, EN 61547

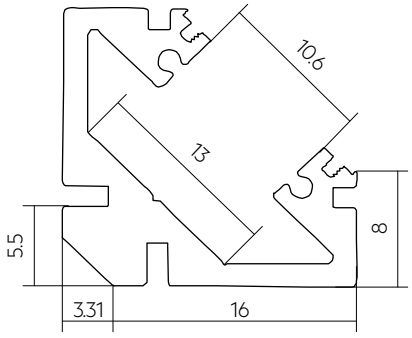
Specific technical data

Type	Article number	Typ. luminous flux at tp = 25 °C ②	Typ. luminous flux at ta = 25 °C	Typ. current consumption (at 230 V, 50 Hz)	Typ. power consumption (at 230 V, 50 Hz) ③	Efficacy of the luminaire at tp = 25 °C	Efficacy of the luminaire at ta = 25 °C	Beam characteristic	Colour rendering index CRI
Operating mode with 1 m FLEX									
LLE FLEX R2A 35W24V 600 930 MTR R05	**28005599**	643 lm	631 lm	48.4 mA	7.6 W	90 lm/W	83 lm/W	120°	>90
Operating mode with 3 m FLEX									
LLE FLEX R2A 35W24V 600 930 MTR R05	**28005599**	1,803 lm	1,770 lm	88.2 mA	18.1 W	107 lm/W	98 lm/W	120°	>90
Operating mode with 5 m FLEX									
LLE FLEX R2A 35W24V 600 930 MTR R05	**28005599**	2,742 lm	2,691 lm	123.1 mA	26.7 W	111 lm/W	101 lm/W	120°	>90

① Integral measurement over the complete module.
② Tolerance of typ. luminous flux at tp = 25 °C is ± 15 %. Measurement uncertainty ± 10 %.
③ Tolerance of power consumption Pon ± 15 %. Measurement uncertainty ± 5 %.

ACL ALU PROFILE

Accessory



Product description
_ Aluminum LED profile in anodized silver color
_ Ideal for surface mounting installation
_ Easy to assembly and install with compatible covers and mounting accessories available
_ Suitable for up to 8 mm width flexible strips
_ Up to 30 W/m
_ Made in Europe
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Available profile length 2 m
_ Compatible Tridonic covers

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

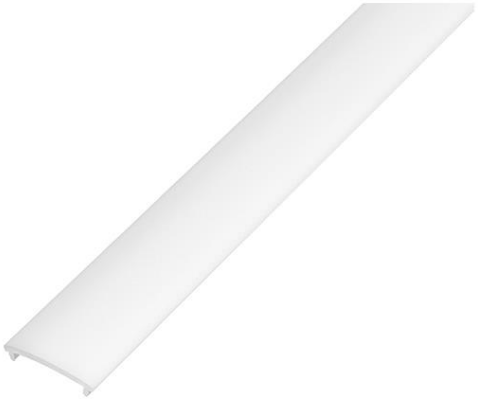
Website
http://www.tridonic.com/28005790

Ordering data

Type	Article number	Colour	Length L	Maximum power	Packaging, carton	Weight per pc.
ACL ALU-PROFILE SURFACE 16x7MM L=2M	**28005790**	Silver	2,000 mm	20 W/m	72 pc(s).	0.238 kg
ACL ALU-PROFILE SURFACE 16X11MM L=2M	**28005791**	Silver	2,000 mm	30 W/m	96 pc(s).	0.284 kg
ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	**28005792**	Silver	2,000 mm	15 W/m	128 pc(s).	0.276 kg
ACL ALU-PROFILE RECESSED 16X12MM L=2M	**28005793**	Silver	2,000 mm	20 W/m	96 pc(s).	0.332 kg
ACL ALU-PROFILE CORNER 16x18.5MM L=2M	**28005794**	Silver	2,000 mm	30 W/m	40 pc(s).	0.674 kg
ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	**28005795**	Silver	2,000 mm	15 W/m	270 pc(s).	0.118 kg

ACL PC COVER

Accessory



Product description
_ Polycarbonate cover in transparent or frosted finished surface
_ Suitable for all Tridonic aluminum profiles
_ Easy to assembly with click-on system
_ Made in Europe
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Available profile length 2 m
_ Compatible Tridonic profiles

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

Website
http://www.tridonic.com/28005770

Ordering data

Type	Article number	Colour	Length L	Packaging, carton	Weight per pc.
ACL PC-COVER OPAL L=2M	28005770	Opal	2,000 mm	1 pc(s).	0.044 kg
ACL PC-COVER TRANSPARENT L=2M	28005775	Transparent	2,000 mm	250 pc(s).	0.100 kg

ACL ENDCAP

Accessory

Product description
_ Polycarbonate endcap with and without cable holes
_ Suitable for Tridonic aluminum profiles
_ Easy to assembly with click-on system
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Compatible Tridonic profiles

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

Website
http://www.tridonic.com/28005776

Ordering data

Type	Article number	Colour	Packaging, bag	Weight per pc.
ACL ENDCAP SURFACE 16X7MM	28005776	Grey	10 pc(s).	0.001 kg
ACL ENDCAP SURFACE WITH HOLE16X7MM	28005777	Grey	10 pc(s).	0.001 kg
ACL ENDCAP SURFACE 16X11MM	28005778	Grey	10 pc(s).	0.001 kg
ACL ENDCAP SURFACE WITH HOLE 16X11MM	28005779	Grey	10 pc(s).	0.001 kg
ACL ENDCAP RECESSED 16X7.5MM	28005780	Grey	10 pc(s).	0.001 kg
ACL ENDCAP RECESSED 16X12MM	28005781	Grey	10 pc(s).	0.001 kg
ACL ENDCAP CORNER	28005782	Grey	10 pc(s).	0.001 kg
ACL ENDCAP CORNER WITH HOLE	28005783	Grey	10 pc(s).	0.001 kg
ACL ENDCAP FLEXIBLE	28005784	Grey	10 pc(s).	0.001 kg
ACL ENDCAP FLEXIBLE WITH HOLE	28005785	Grey	10 pc(s).	0.001 kg

ACL MOUNTING CLIP

Accessory

Product description
_ Suitable mounting clips for Tridonic aluminum profiles
_ Easy to assembly with screws and click-on to the profile
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Compatible Tridonic profiles

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

Website
http://www.tridonic.com/28005786

Ordering data

Type	Article number	Colour	Packaging, bag	Weight per pc.
ACL MOUNTING CLIP 16X7/7.5MM	28005786	Stainless steel	10 pc(s).	0.002 kg
ACL MOUNTING CLIP 16X11/12MM	28005787	Stainless steel	10 pc(s).	0.001 kg
ACL MOUNTING CLIP CORNER	28005788	Stainless steel	10 pc(s).	0.001 kg
ACL MOUNTING CLIP FLEXIBLE	28005789	Transparent	10 pc(s).	0.001 kg

Combination Matrix – ACL ALU PROFILE

Type	Article no.	ACL ALU-PROFILE CORNER 16x18.5MM L=2M	ACL ALU-PROFILE RECESSED 16X12MM L=2M	ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	ACL ALU-PROFILE SURFACE 16X11MM L=2M	ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	ACL ALU-PROFILE SURFACE 16x7MM L=2M	ACL MOUNTING CLIP FLEXIBLE	ACL MOUNTING CLIP CORNER	ACL MOUNTING CLIP 16X11/12MM	ACL MOUNTING CLIP 16X7/7.5MM	ACL ENDCAP FLEXIBLE WITH HOLE	ACL ENDCAP FLEXIBLE	ACL ENDCAP CORNER WITH HOLE	ACL ENDCAP CORNER	ACL ENDCAP RECESSED 16X12MM	ACL ENDCAP RECESSED 16X7.5MM	ACL ENDCAP SURFACE WITH HOLE 16X11MM	ACL ENDCAP SURFACE 16X11MM	ACL ENDCAP SURFACE WITH HOLE16X7MM	ACL ENDCAP SURFACE 16X7MM	ACL PC-COVER OPAL L=2M	ACL PC-COVER TRANSPARENT L=2M
		28005794	28005793	28005792	28005791	28005795	28005790	28005789	28005788	28005787	28005786	28005785	28005784	28005783	28005782	28005781	28005780	28005779	28005778	28005777	28005776	28005770	28005775
Type	**Article no.**	**suitable combinations**																					
ACL ALU-PROFILE CORNER 16x18.5MM L=2M	28005794								•					•	•							•	•
ACL ALU-PROFILE RECESSED 16X12MM L=2M	28005793									•						•						•	•
ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	28005792										•						•					•	•
ACL ALU-PROFILE SURFACE 16X11MM L=2M	28005791									•								•	•			•	•
ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	28005795							•				•	•									•	•
ACL ALU-PROFILE SURFACE 16x7MM L=2M	28005790										•									•	•	•	•
ACL MOUNTING CLIP FLEXIBLE	28005789					•																	
ACL MOUNTING CLIP CORNER	28005788	•																					
ACL MOUNTING CLIP 16X11/12MM	28005787		•		•																		
ACL MOUNTING CLIP 16X7/7.5MM	28005786			•			•																
ACL ENDCAP FLEXIBLE WITH HOLE	28005785					•																	
ACL ENDCAP FLEXIBLE	28005784					•																	
ACL ENDCAP CORNER WITH HOLE	28005783	•																					
ACL ENDCAP CORNER	28005782	•																					
ACL ENDCAP RECESSED 16X12MM	28005781		•																				
ACL ENDCAP RECESSED 16X7.5MM	28005780			•																			
ACL ENDCAP SURFACE WITH HOLE 16X11MM	28005779				•																		
ACL ENDCAP SURFACE 16X11MM	28005778				•																		
ACL ENDCAP SURFACE WITH HOLE16X7MM	28005777						•																
ACL ENDCAP SURFACE 16X7MM	28005776						•																
ACL PC-COVER OPAL L=2M	28005770	•	•	•	•	•	•																
ACL PC-COVER TRANSPARENT L=2M	28005775	•	•	•	•	•	•																

Type	Article no.	ACL FLEX CONNECTOR WIRE – PCB 100 / 500 / 2000 MM	ACL FLEX CONNECTOR PCB – PCB
		28004985 28004986 28004987	28004988
Type	**Article no.**		
ACL ALU-PROFILE SURFACE 16x7MM L=2M	28005790		•
ACL ALU-PROFILE SURFACE 16X11MM L=2M	28005791	•	•
ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	28005792		•
ACL ALU-PROFILE RECESSED 16X12MM L=2M	28005793	•	•
ACL ALU-PROFILE CORNER 16x18.5MM L=2M	28005794	•	•
ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	28005795		

1. Standards

EN 60598-1
EN 60598-2-1
EN 61547

1.1 Photometric code

Key for photometric code, e. g. 830 / 349

1st digit		2nd + 3rd digit	4th digit	5th digit	6th digit	
Code	CRI	Colour temperature in Kelvin x 100	MacAdam initial	MacAdam after 25% of the lifetime (max.6000h)	Luminous flux after 25% of the lifetime (max.6000h)	
					Code	Luminous flux
7	70 – 79				7	≥ 70 %
8	80 – 89				8	≥ 80 %
9	≥90				9	≥ 90 %

1.2 Risk group

Type	Risk group
LLE FLEX R2A 35W24V 600 930 MTR R05	RG0

1.3 Energy classification

Type	Article number	These products contain a light source of energy efficiency class
LLE FLEX R2A 35W24V 600 930 MTR R05	28005599	E

2. Thermal details

2.1 tc point, ambient temperature and lifetime

The temperature at tp reference point is crucial for the light output and lifetime of a LED product.

For LLE a tp temperature of 65 °C has to be complied in order to achieve an optimum between heat sink requirements, light output and lifetime.

Compliance with the maximum permissible reference temperature at the tc point must be checked under operating conditions in a thermally stable state. The maximum value must be determined under worst-case conditions for the relevant application.

The tc and tp temperature of LED modules from Tridonic are measured at the same reference point.

2.2 Storage and humidity

Storage temperature	-25 … +75 °C

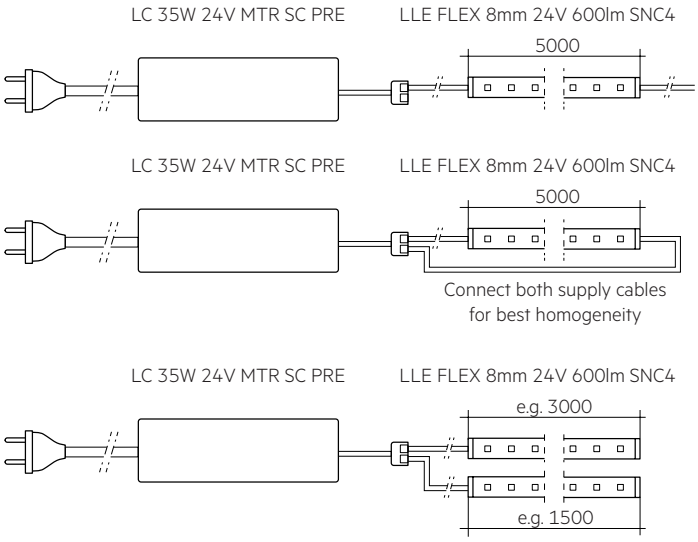
Operation only in non condensing environment.
Humidity during processing of the module should be between 0 to 70 %.

2.3 Thermal design and heat sink

The rated life of LED products depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the LLE will be greatly reduced or the LLE may be destroyed.

3. Installation / wiring

3.1 Wiring examples



3.2 Mounting instruction

None of the components of the LLE (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses.

The LLE FLEX is separable each 50 mm with the full function of each segment. The minimum connection length is 0.75 m.

Insulation must be ensured at the contact area of the segments (e. g. by using additional insulation in the area of the solder connection).

The fixing/cooling surface must be cleaned before installing the LLE FLEX modules to remove all dirt, dust and grease.

Prevent shear- or peel forces

Min. bending radius of the LLE FLEX is 2 cm.

For details see Application Note: www.tridonic.com

Chemical substance may harm the LED module. Chemical reactions could lead to colour shift, reduced luminous flux or a total failure of the module caused by corrosion of electrical connections.

Materials which are used in LED applications (e.g. sealings, adhesives) must not produce dissolver gas. They must not be condensation curing based, acetate curing based or contain sulfur, chlorine or phthalate.
Avoid corrosive atmosphere during usage and storage.

3.3 EOS/ESD safety guidelines

The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board not possible), just normal installation practice. Please note the requirements set out in the document EOS / ESD guidelines (Guideline_EOS_ESD.pdf) at:
http://www.tridonic.com/esd-protection

4. Lifetime

4.1 Lifetime, lumen maintenance and failure rate

The light output of an LED module decreases over the lifetime, this is characterized with the L value.
L70 means that the LED module will give 70 % of its initial luminous flux. This value is always related to the number of operation hours and therefore defines the lifetime of an LED module.

As the L value is a statistical value and the lumen maintenance may vary over the delivered LED modules.
The B value defines the amount of modules which are below the specific L value, e.g. L70B10 means 10 % of the LED modules are below 70 % of the initial luminous flux, respectively 90 % will be above 70 % of the initial value. In addition the percentage of failed modules (fatal failure) is characterized by the C value.

The F value is the combination of the B and C value. That means for F degradation and complete failures are considered, e.g. L70F10 means 10 % of the LED modules may fail or be below 70 % of the initial luminous flux.

4.2 Lumen maintenance

Supply voltage	tp temperature	L90/B10	L90/B50	L80/B10	L80/B50	L70/B10	L70/B50
24 V	40 °C	30k h	44k h	60k h	>60k h	>60k h	>60k h
	45 °C	29k h	43k h	59k h	>60k h	>60k h	>60k h
	50 °C	28k h	41k h	57k h	>60k h	>60k h	>60k h
	55 °C	28k h	41k h	56k h	>60k h	>60k h	>60k h
	60 °C	27k h	39k h	55k h	>60k h	>60k h	>60k h
	65 °C	26k h	38k h	54k h	>60k h	>60k h	>60k h
	70 °C	26k h	37k h	52k h	>60k h	>60k h	>60k h
	75 °C	25k h	36k h	51k h	>60k h	>60k h	>60k h

L0C10 >60 kh. At tp rated, based on 10 swichting cycles per day.

4.3 Switching capability

100,000 cycles

Tridonic test according to IEC 62717 Cl 10.3.3
30 s on / 30 s off at Imax

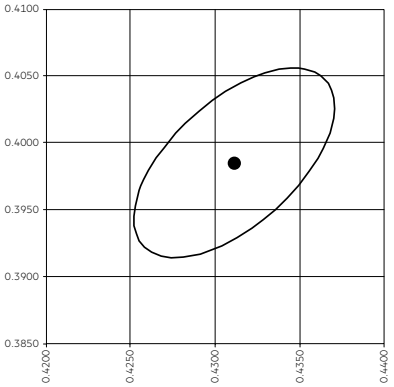
5. Photometric characteristics

5.1 Coordinates and tolerances according to CIE 1931

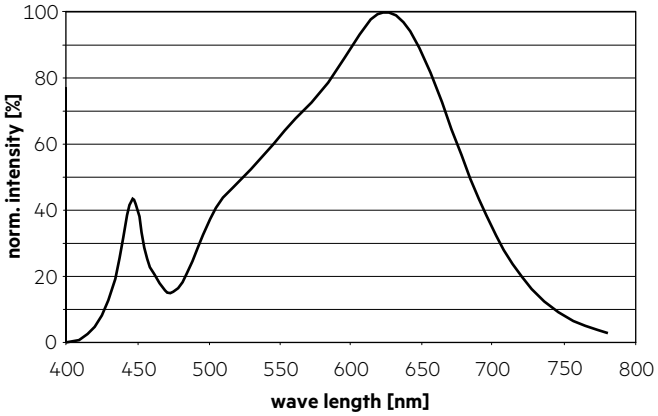
The specified colour coordinates are measured integral by a current impulse with typical values of module and a duration of 100 ms.
The ambient temperature of the measurement is ta = 25 °C.
The measurement tolerance of the colour coordinates are ± 0.01.

3,000 K – CRI90

	x0	y0
Centre 600 lm/m	0.4311	0.3985

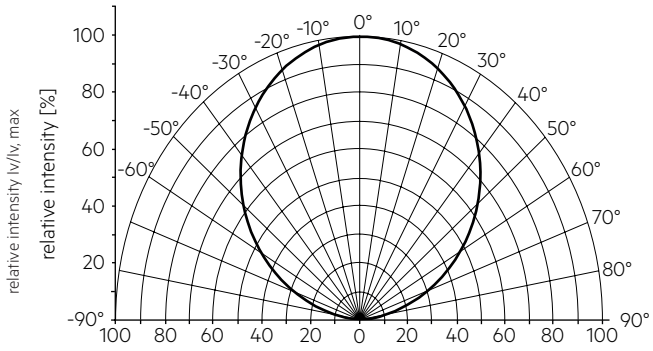


MacAdam Ellipse: 3SDCM



5.2 Light distribution

The optical design of the LLE product line ensures optimum homogeneity for the light distribution.

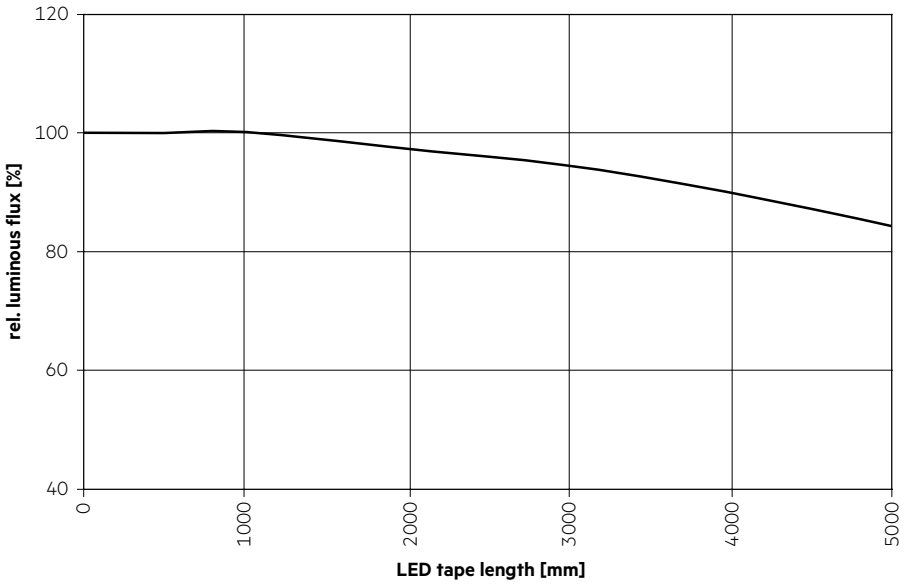


The colour temperature is measured over the complete module. To ensure an ideal mixture of colours and a homogeneous light distribution a suitable optic (e. g. PMMA diffuser) and a sufficient spacing between module and optic (typ. 1.5 cm) should be used.

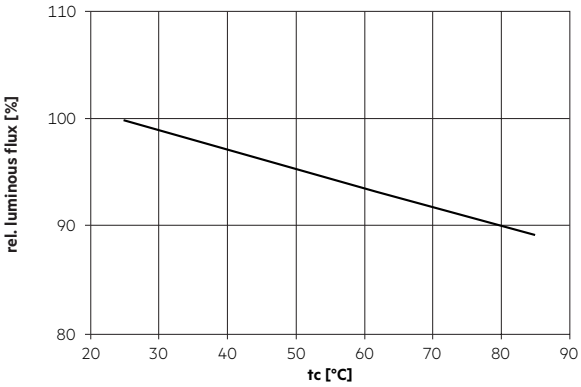
5.3 Relative luminous flux vs. LED tape length

The graphs show the luminous flux drop of the first compare to the last segment over the used tape length.
Statistical values based on nominal supply voltage and tp rated.

LLE FLEX 8mm 24V 600lm 9xx SNC4



5.4 Relative luminous flux vs. tc temperature



6. Miscellaneous

6.1 Additional information

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

Energy label and further information at www.tridonic.com in the certificates tab of the corresponding product page and at the EPREL data base https://eprel.ec.europa.eu/

Lifetime declarations are informative and represent no warranty claim.

Driver LC 35W 24V MTR SC PRE2
premium series 24 V – dimmable (IP20)

1. Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 62384
EN 61547
EN 18031-1
ETSI EN 300 330
ETSI EN 301 489-1
ETSI EN 301 489-3
ETSI EN 300 328
ETSI EN 301 489-17
According to EN 50172 for use in central battery systems
According to EN 60598-2-22 suitable for emergency lighting installations

For devices with strain-reliefs the following test marks apply:

… Class II luminaires

… Independet device

For devices without strain-reliefs the following test mark apply:

… Double or reinforced insulation

1.1 Glow wire test

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

2. Thermal details and lifetime

2.1 Expected lifetime

Expected lifetime

Type	Output load	ta	30 °C	40 °C	50 °C	60 °C
LC 35/24V MTR SC PRE2	35 – 26 W	tc	60 °C	65 °C	75 °C	–
		Lifetime	> 100,000 h	> 100,000 h	55,000 h	–
	25 – 16 W	tc	–	60 °C	70 °C	80 °C
		Lifetime	–	> 100,000 h	95,000 h	55,000 h
	≤ 15 W	tc	–	60 °C	65 °C	75 °C
		Lifetime	–	> 100,000 h	> 100,000 h	65,000 h

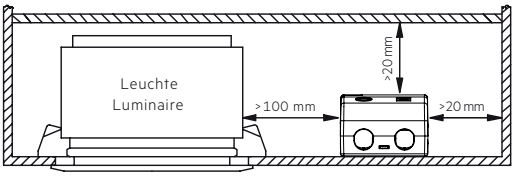
The LED control gear is designed for a lifetime stated above under reference conditions and with a failure probability of less than 10 %.

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 Fixing conditions when using as independent Driver with Clip-On

Dry, acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature (ta) stated on the device. Minimum distances stated below are recommendations and depend on the actual luminaire.
Device is not suitable for fixing in corner.



3.2 Wiring guidelines

- Run the secondary lines separately from the mains connections and lines to achieve good EMC performance.
- For good EMC performance, keep the LED wiring as short as possible.
- To comply with the EMC regulations run the secondary wires (LED module) in parallel.
- Secondary switching is not permitted.
- The LED driver has no inverse-polarity protection on the secondary side. Wrong polarity can damage LED modules with no inverse-polarity protection.
- Wrong wiring of the LED driver can lead to malfunction or irreparable damage.
- 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 is not supported due to residual output voltage of > 0 V.
When connecting an LED load, restart the device to activate the LED output. This can be done via mains reset or interface (basicDIM Wireless).

3.4 Earth connection

The earth connection is conducted as protection earth (PE). The LED driver can be earthed via earth terminal. 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)
- LED glowing at standby
- 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.

3.5 Commissioning

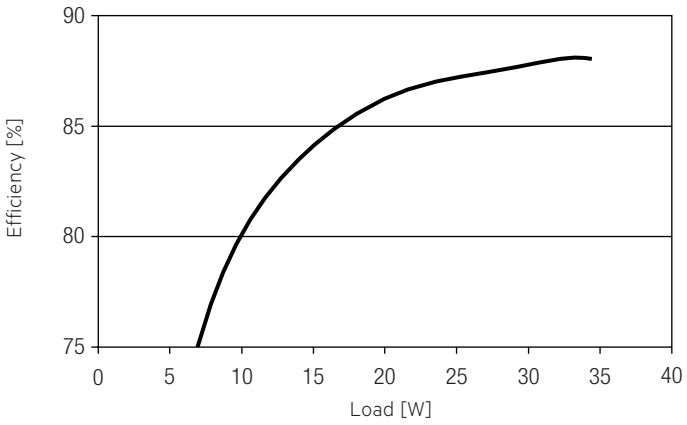
When a Matter device is not yet commissioned, it will send out BLE (Bluetooth Low Energy) handshake communication for 15 min. It's only possible to pair the device in this period of time, afterwards a power cycle is necessary.

Also of importance:
- Network is up and running
- Thread border router compatible with the Matter ecosystem is available and in the network
- Minimum requirements:
  Android / Google: Android O (8.1, API level 27) or newer
  iOS / Apple: iOS version 16.x
- Matter ready devices

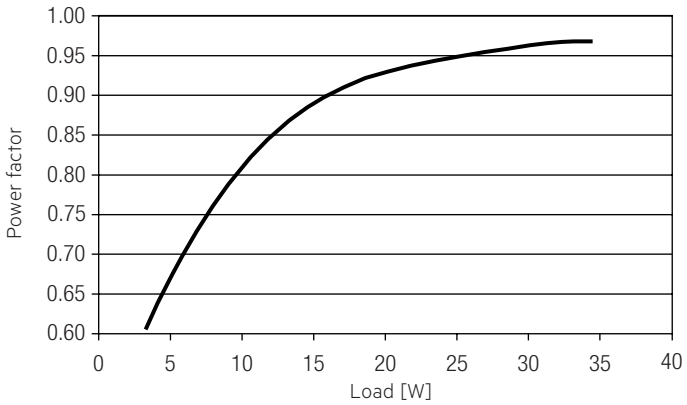
During commissioning and use of the product, do not enter any sensitive personal information or confidential personal information.

4. Electrical values

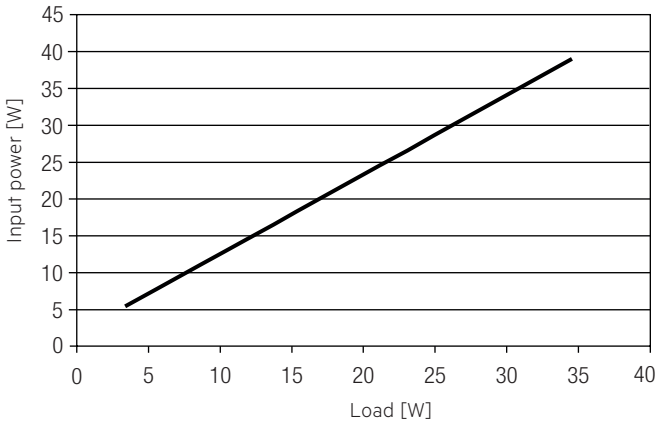
4.1 Efficiency vs. load



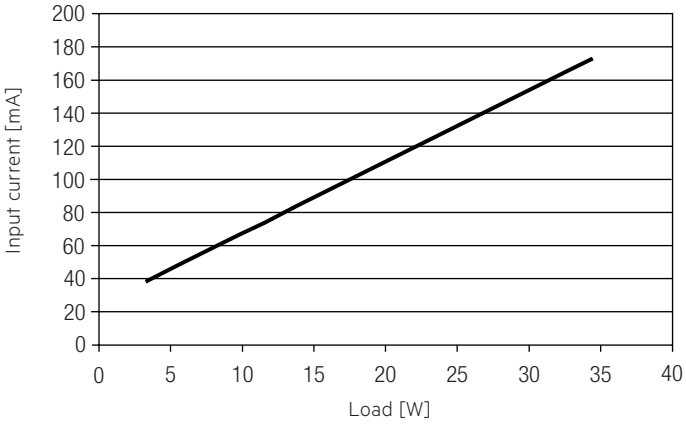
4.2 Power factor vs. Load



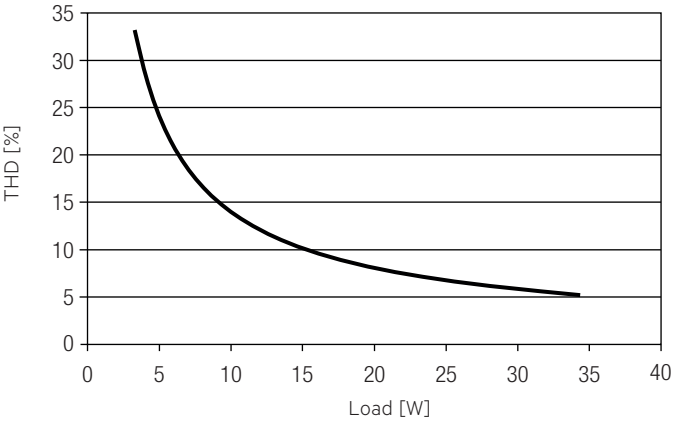
4.3 Input power vs. Load



4.4 Input current vs. Load



4.5 THD vs. Load



4.6 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	2.5 mm²	4 mm²	1.5 mm²	1.5 mm²	2.5 mm²	4 mm²	I_{max}	time
LC 35/24V MTR SC PRE2	27	37	47	60	16	22	28	36	21.6 A	136 µs

These 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.

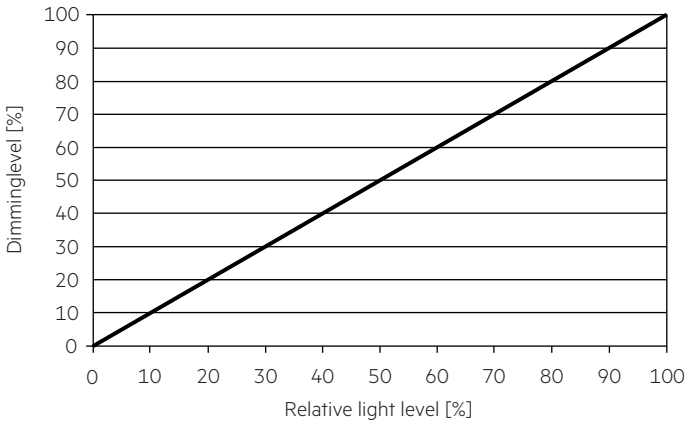
4.7 Harmonic distortion in the mains supply (at 230 V / 50 Hz and full load) in %

	THD	3.	5.	7.	9.	11.
LC 35/24V MTR SC PRE2	6	6	1	2	2	1

4.8 Dimming

Dimming range 1 % to 100 %
Digital control with:
- Matter

4.9 Dimming characteristics



5. Interfaces / communication

5.1 QR code

The unit contains 2 QR codes that are identical. One is permanently attached to the unit and the second is to be torn off and then stuck on the luninaire or stored in the commissioning documentation.

These QR codes contain device-specific data that is required to commission the Matter luminaire. Without this, it is not possible to commission a Matter luminaire.

The QR code that is placed on the luminaire should be easy for the commissioner to reach and scan, but not visible to everyone!
If this is not possible, collect and keep the QR code stickers after commissioning.
Be sure to inform the end customer of the consequences if they are lost. With the QR code it is possible to commission the unit to a network. The QR code represents access to the network itself!

5.2 Use of Bluetooth technology

Use of Bluetooth technology: During initial phase of comissioning, the product communitcates via Bluetooth technology.

6. Functions

6.1 ready2mains – configuration

The ready2mains interface can be used to configure the main parameters of LED drivers via the mains wiring, e.g. CLO and DC level. These parameters can be adjusted via ready2mains-capable configuration software.

6.2 Short-circuit behaviour

In case of a short-circuit at the LED output the LED output is switched off.
After restart of the LED driver the output will be activated again.
The restart can either be done via mains reset or via software or pushBUTTON.

6.3 Overload protection

If the maximum load is exceeded by a defined internal limit, the LED driver turns off the LED output. After restart of the LED driver the output will be activated again.
The restart can either be done via mains reset or via software or pushBUTTON.

6.4 Overtemperature protection

The LED driver is protected against temporary thermal overheating.
If the temperature limit is exceeded the output current of the LED module(s) is reduced. The temperature protection is activated above tc max.
The activation temperature differs depending on the LED load.
On DC operation this function is deactivated to fulfill emergency requirements.

6.5 Constant light output (CLO)

The luminous flux of a LED decreases constantly over the lifetime.
The CLO function ensures that the emitted luminous flux remains stable.
For that purpose the LED current will increase continuously over the LED lifetime.
Via ready2mains it is possible to select a start value (in percent) and an expected lifetime.
The LED driver adjusts the current afterwards automatically.

6.6 Power-up/-down fading

The power-up/-down function offers the opportunity to modify the on-/off behavior. The time for fading on or off can be adjusted in a range of 0.2 to 16 seconds. According to this value, the device dims either from 0 % up to the power-on level or from the current set dim level down to 0 %.

6.7 Light level in DC operation

The LED driver is designed for operation on DC voltage and pulsed DC voltage.

Light output level in DC operation: programmable 1 – 100 % (EOFu = 0.13).
Programming by ready2mains.
In DC operation dimming mode can be activated.

The voltage-dependent input current of Driver incl. LED module is depending on the used load.

6.8 Software / programming

With appropriate software and an interface different functions can be activated and various parameters can be configured in the LED driver.
To do so, a ready2mains programmer or utilityAPP is required.

7. Restore factory defaults

To restore the factory settings, the module must be switched on and off in the following sequence.
If the sequence was entered correctly, the luminaire (driver) flashes 2 times.

Stage	Duration	State
1	< 5 s	ON
2	>30 s	OFF
3	5 – 15 s	ON
4	>30 s	OFF
5	< 5 s	ON
6	>30 s	OFF
7	< 5 s	ON
8	>30 s	OFF
9	permanent	ON

8. Miscellaneous

8.1 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.

8.2 Conditions of use and storage

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

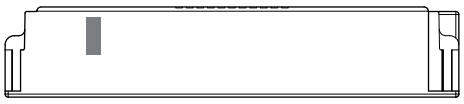
Storage temperature: -40 °C up to max. +80 °C

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

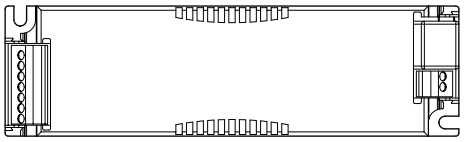
The LED driver is declared as inbuilt LED controlgear, meaning it is intended to be used within a luminaire enclosure.
If the product is used outside a luminaire, the installation must provide suitable protection for people and environment (e.g. in illuminated ceilings).

8.3 Placement

Matter device have an integrated antenna for easy integration. In order to maximize the range in every direction some design guidelines should be taken into consideration when mounting the device.
The antenna is located on the corner of the enclosure. It is on the top side of the internal PCB (Printed Circuit Board).
When the device is mounted on a metal plate (e.g. frame of a luminaire), it may efficiently block the radio frequency signal. In this case, a cut-out underneath the antenna may be needed for the RF signal to exit the structure. The cut-out area should be as large as possible. Also the device should be placed as far away from any vertical metal structures as possible.



■ Antenna location



The range of the communication signal is depending on the environment e.g. luminaire, construction of the building, furnitures or humans and needs to be tested and approved in the installation.

To ensure a good radio connection, do not cover the Matter device completely with metal!

8.4 Matter certified

The device is a Matter certified device and listed in the Matter product database.
There are different ecosystems available in the market.
When selecting an ecosystem, make sure with the owner of the ecosystem that all the functionalities are available and usable.
Functionalities should be tested in advance.
The product functions depend on the Matter ecosystem used.

The Connectivity Standard Alliance (CSA) offers the Certification Transfer Program for re-branding/white labeling while maintaining the Certified status of those products.
To guarantee compliance while integrating these devices into luminaires, it is recommended to verify any additional requirements with the Connectivity Standards Alliance and the Transfer Program:
https://csa-iot.org/certification/transfer-program/

8.5 Maximum number of switching cycles

All LED driver are tested with 50,000 switching cycles.
The actually achieved number of switching cycles is significantly higher.

8.6 Additional information

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

Lifetime declarations are informative and represent no warranty claim.
No warranty if device was opened.