Ex-LED-Linear light fitting

eLLK/M 92 LED 400A / eLLK/M 92 LED 800A / eLLK/M 92 LED 400A NE / eLLK 92 LED 800A NE
(Zone 1, 2, 21, 22)

The efficient solution for your explosion-protected lighting concept

The explosion-protected linear light fittings series eLLK/M 92 LED 400A/800A combines the latest LED technology with the protection of a reliable housing solution. As a result, this light fitting series is the ideal solution for lighting tasks in harsh and hazardous environments.

Latest lighting technology for a proven lighting concept

As a leading manufacturer of explosion-protected luminaires, we have redesigned our revolutionary LED module to fit into the eLLK/M... linear light fitting series.

With the new Gen2 modules, our LED linear luminaires are even more efficient and brighter than before. In addition, they now also have an extended temperature range from-25 °C to +55 °C. The new eLLK-2/4-C/W LED module can also be used for converting existing eLLK/M 92 light fittings with fluorescent lamps and an electronic ballast (EVG 09) into LED linear light fittings in just few simple steps.

The LED system design and certification allow the use in the proved Ex e technology of the eLLK/M 92 light fittings. With the use of our electronic ballast EVG 09 as the driver, we can rely on more than 20 years successful and safe operation in harsh and hazardous environments.

The advantages of the LED module:

- Environmentally friendly, no mercury
- Shock and vibration resistant, no filament or glass to break
- Immediate start, instant full illumination
- No life time reduction due to switching cycles
- Reduced disposal costs

Energy and cost savings

- >20% energy savings compared to fluorescent lamps
- Additional energy savings due to operation on demand (night/day and presence-mode)
- Reduced maintenance costs compared to standard fluorescent lamps
- Lower overall cost of ownership

Operating life

- The expected operating life of this LED module is up to 90,000 hours. This is a significant improvement compared to traditional light sources.
- Heat sinks are specifically engineered to remove heat from the LEDs to ensure a longer life, better lumen output and accurate colour temperature.
- Fully operational with V-CG-S modules for connection to CEAG central battery emergency lighting systems.
- Also available as self-contained emergency luminaire eLLK 92 LED ... NE.

Easy and cost-effective installation

Like all the luminaires in the eLLK lighting family, our standard LED linear luminaires feature a single-ended through-wiring, which, in conjunction with the generously dimensioned terminal compartment, allows a cost-effective installation. The double-sided locking facility with 10 or 20 latch points allows the protective bowl to be hinged on both sides, meaning that the fitting can be mounted on either side.

Features

- >20 % energy savings compared to similar fluorescent luminaires
- Special LED design with direct light distribution
- Proved technology; the EVG 09 has been used as a driver for more than 20 years
- Various light colour temperatures available - 4000 K / 5700 K
- Selected LED chips with perfect binning, low power loss and long life
- Ex-e technology for easy maintenance
- For ambient temperatures from -25 °C up to +55 °C

Carefully designed - down to the last detail: the eLLK / nLLK series of linear luminaires with plastic enclosures

Our robust series of fluorescent light fittings with plastic enclosures and their tried and tested technology have been in use under tough conditions for more than 20 years. They are adapted continuously to keep them up-to-date with the latest technological developments. The lamps feature a variety of innovations and have set global standards with regard to safety and reliability in a harsh environment.

Simple and cost effective installation

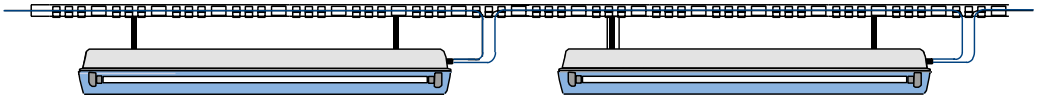
According to an independent assessment, the standard, single-ended through wiring installation with the generously dimensioned terminal compartment can reduce installation times by up to 30% compared to light fittings with a conventional through-wiring! With this method, two lines can always be connected at one end. The standard light fitting is fitted with two cable glands M25, one of which is sealed with a certified plug (red stopper). The version with twin-ended through-wiring includes one cable gland M25 and one certified threaded plug M25 at both ends. There are up to 6 screw terminals for wires up to 2 x 6 mm² (solid) or up to 2 x 4 mm² (stranded) for the connection of cables, thus making it easy to connect all conventional types of wiring (L, L1, L2, L3, N and PE, 3/5/6 pole).

The through-wired (2/6) version is fitted with a second mains terminal block with 6 terminals on the opposite side. The internal wiring of the light fitting has been rated for 16 A. The standard screw terminals allow single-ended connection without having to bend the wire. After connection simply push the cover shut and you have already protection against contact.

Single-ended through-wiring, type 1/6

Double-ended through-wiring Type 2/6

Cost-savings using single-ended through-wiring

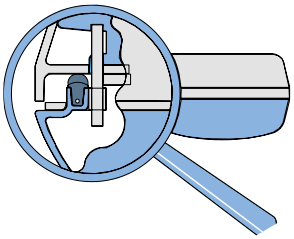


Technical features exemplified at the eLLK 92

The example of the eLLK 92 series is particularly well suited for highlighting the common design features of these fluorescent light fittings series.

Materials

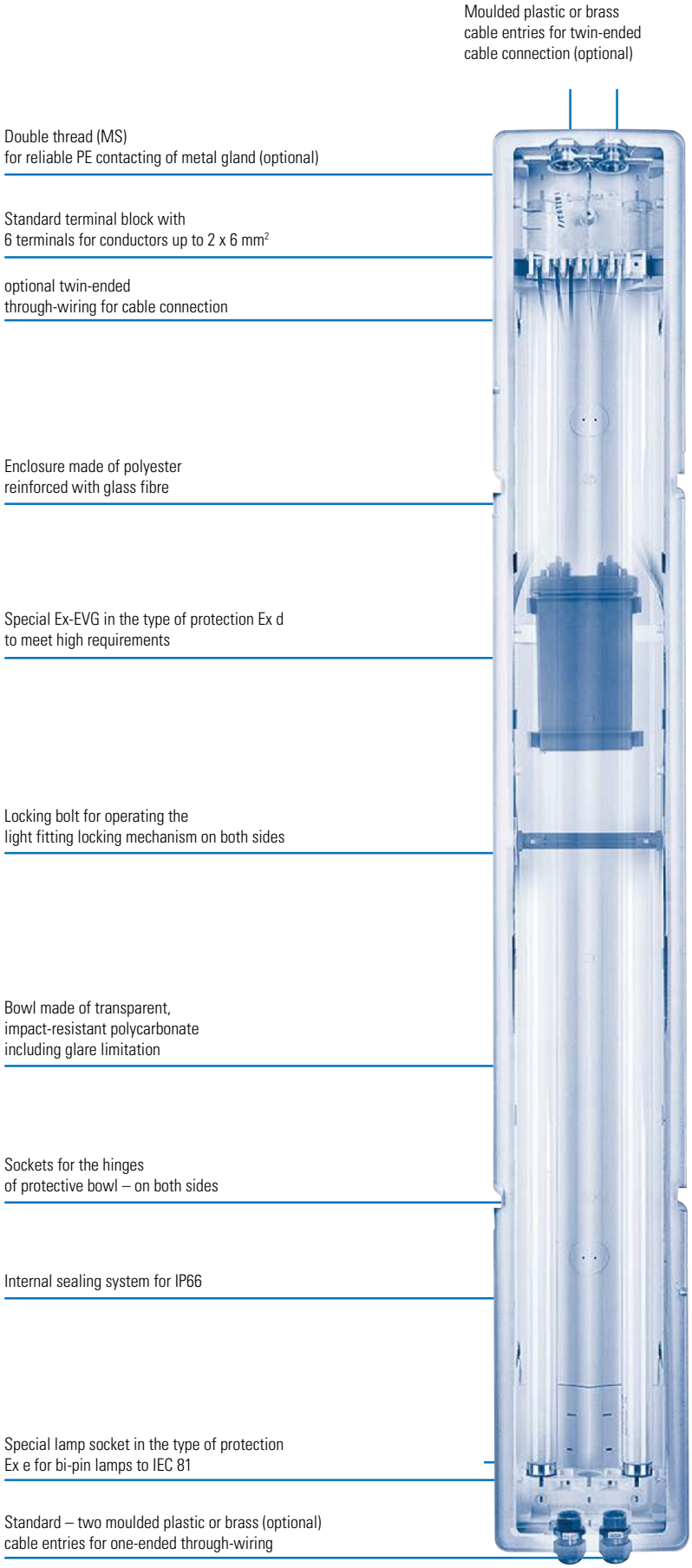
The eLLK 92 light fitting is made of high-grade plastics that, in addition to the excellent mechanical properties Also it features a high stability against many chemicals found in industrial plants. All the materials used for the light fitting provide are effective protection against corrosion and have already been successfully tried and tested in chemical and off-shore installations.



Optimized sealing system

Sealing system

The edges of the bowl and the enclosure form a labyrinth that protects the seal against jet water. The continuous seal is extremely elastic and, in conjunction with the 24-locking bolt mechanism, ensures that the light fitting is sealed tightly for a long time. As was also confirmed by an ERA test[1)], this is the only way to maintain reliably the degree of protection IP66 for a longer period.



Offshore-Proof

Bad weather is not a problem for the eLLK/M 92. It passed the wind tests with lateral thrusts up to 12 Bft and the ERA1) test specified for British off-shore installations brilliantly. Here, among other things, the sealing qualities and the resistance to vibration are tested.

1) ERA-Test = UK test institute for offshore technology

Installation of light fittings

Whether it is mounted on rails or suspended from the sealing, the biggest part of the overall costs is taken up by the installation and electrical connection of the light fitting. Here, due to the standardized fixing clearances and the generously dimensioned terminal compartments, the eLLK 92 provides a high saving potential. The terminal compartment can be opened without removing covers or reflectors, thus allowing the easy connection of cables.

Three ways – one solution

Depending on the type of installation, different cable entries are required for the connection of the light fitting.
Available for all types are the following:

- M25 x 1.5 Plastic cable entries
- M20 x 1.5 Earthed metal thread for metal cable entries
- Non-metric threads, for example Myer Hubs 3/4" NPT-Thread

Lamp replacement made easy

Irrespective of how the light fitting is installed, the locking mechanism can be operated on either side. The bowl can simply be swung open in the respective direction without tools – this is made possible by the hinge fasteners fitted on both sides of the light fitting housing. A quarter turn of the locking bolt and the bowl opens up downwards. The hinges on the cover are fixed in such a way that the replacement lamps can be safely deposited in the bowl, thus saving time when replacing lamps. The bowl cannot fall down, even in wind and rain.

Plastic cable glands

Metal thread for metal cable glands

Myer Hubs (for Conduit-System)

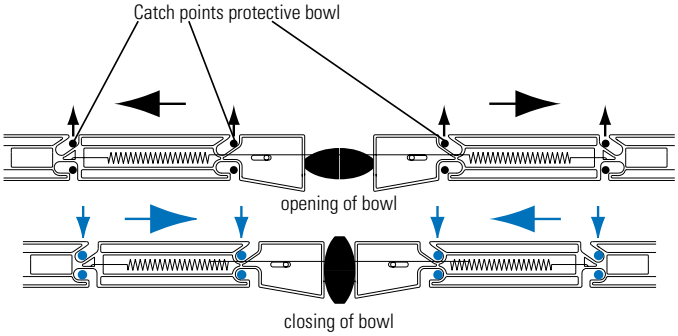
Locking mechanism

The housing and the protective bowl are securely locked by means of a locking mechanism according to the „strongbox principle" on both sides, which features up to 24 latch points. This new type of locking system features stainless steel springs that regulate the pressure applied to the seal, thus guaranteeing the tightness of the light fittings, even in the event of changes due to the ageing of the sealing material and variable climatic influences.

Photo Bayer Leverkusen

Double safety is better

The regulations require the automatic disconnection of the supply voltage when the light fitting is opened. The built-in compulsory NC contact is safeguarded against inadvertent operation and, as soon as the locking mechanism of the light fitting is operated, it de-energizes all parts that can be touched. A second interlock switch increases the safety level for the operator. Therefore, even if the lock of the light fitting is actuated while the protective bowl is still open, the switch cannot be operated, as, in this case, the circuit for the light fitting remains disconnected.



Closing system using the "strongbox principle guarantees a correct sealing

Principles of Ex-linear light fittings

Lighting engineering, LED and electronic ballast (EVG)

Optimized lighting technology

Depending on the application, the light fittings can be equipped with a large variety of lamps and reflectors. The criteria for the selection of the types of lamps and reflectors are basically determined by the type of lighting required (illumination of surfaces or objects, etc.) and the economic efficiency. When planning a lighting installation, the polar curves of the luminous intensity of the light fittings being used are required in order to calculate the illumination distribution.

Polar curves

During the development phase the lighting properties of all explosion-protected light fittings are tested in our lighting laboratory. In the case of the linear light fittings with fluorescent lamps, we have succeeded in optimizing both the illumination of surfaces with the largest possible light distribution and the illumination of objects with the highest possible axial light intensity. The polar curve of each light fitting can be found in the technical data and can be used together with the other lighting values to calculate the illuminance. All lighting design data can be downloaded from our Web page: www.crouse-hinds.de/.

Fluorescent lamps as light source

All light fittings of the eLLK 92 / nLLK 08 / eLLB 20 and RLF 250.. series have been developed and certified for Ø 26 mm bi-pin fluorescent lamps with a G 13 lamp cap and the nLLK 10 for T5-lamps in accordance with IEC 60081. This means that the lamps, which are available all over the world, can be used for both hazardous and non-hazardous areas. Not only does this simplify stock-keeping, but the operator also benefits from all the technical advantages in conjunction with EVG operation. Special thermo-lamps with 38 mm diameter can be used in all bi-pin lamp holders of CEAG fluorescent light fittings. This allows an economical use of fluorescent lamps even below ambient temperatures of-5 °C.

The LED module

As a leading manufacturer of explosion-protected light fittings, we have now designed a revolutionary module with an LED light source to fit into existing eLLK/M 92018/18 and eLLK/M 92036/36 as well as into the emergency variants V-CG-S and NIB. The LED system design and certification allow the use in the well proven Ex e technology of eLLK/M 92. Thus, it can be used in all corresponding fluorescent light fittings as an alternative to the 18 W and 36 W lamps.

Combined with our electronic ballast EVG 09 as the driver, we can rely on more than 20 years of reliable and successful operation in harsh and hazardous environments.

A specially designed reflector system directs the light output of the high power LED module to the working area and there is no multi-shadowing and light pollution.

International Ø 26 mm bi-pin fluorescent lamp

LED-module 400

CEAG products are constanly being advanced and tested in the company's own lighting laboratory

The advantages of the LED Module:

- Environmentally friendly, no mercury
- Shock and vibration resistant, no filament or glass to break
- Immediate start, instant full illumination
- No life time reduction due to switching cycles
- Reduced disposal costs
- Energy and cost savings: 20% energy savings compared to fluorescent lamps
- Additional energy savings by operating on demand (night/day and presence-mode)
- Reduced maintenance costs compared to standard fluorescent lamps
- Lower overall cost of ownership

Operating life

- The expected operating life of a CEAG LED module is 60,000 hours. This is a significant improvement compared to traditional light sources.
- Heat sinks are specifically engineered to remove heat from the LEDs to ensure a longer life, better lumen output and accurate colour temperature.

Versatile

- Unrestricted use with V-CG-S module for connection to a CEAG Central Battery Systems and with self-contained emergency light fittings eLLK 92 ... NIB .

Electronic ballasts (EVG)

Nowadays it is not possible to imagine modern light fittings for fluorescent lamps without the EVG technology. Features such as immediate starting, the absence of flickering during operation or the minimal heat rise are only possible with this technology. With the CEAG EVG technology, fluorescent light fittings for use in hazardous areas also provide decisive advantages:

- Use with various mains voltages from 110 V up to 254 V ± 10 %
- Regulation of luminous flux with fluctuating mains voltage
- Safe lamp ignition at low and high ambient temperatures
- Longer service life for lamps
- AC/DC operation possible
- Standard dual channel ballast, that means on failure when one lamp fails the second lamp will continue in operation independent from the failed one.

Electronic ballasts EVG 09

- Use as drivers for LED modules or bi-pin lamps, Ø 26 mm

EOL issue solved

All the EVGs (electronic ballasts) supplied by CEAG since 1988 feature monitoring of the lamp circuit, detection of the rectifier effect, as well as a shutdown of the circuit in the event that the lamp does not strike. Therefore, the CEAG EVGs already ensures a high level of safety at the end of the service life of the lamps long before the discussions on EOL even starts. The CEAG EVG 09 also fulfils the relevant EOL requirements of the industrial standard IEC 61347-2-3 (§ 17.2 and 17.3), as well as those laid down in the IEC 60079-7 (Electrical equipment in the type of protection Increased Safety). Thus, the CEAG EVG 09, which is certified to BVS 09 ATEX E 054 U, meets the latest findings and the newest standards.

What protective circuits does the new EVG 09 have?

The standard DIN EN 61347-2-3 (VDE 0712-33), which was issued in February 2005, only stipulates a permanent monitoring of the lamp circuit for EOL effects for T4 and T5 lamps (16 mm and thinner). The standard IEC 60079-7, which was derived from this standard, lays down the test requirements for Ex-e

light fittings with cold start EVGs for T6 (26 mm) fluorescent lamps. Unlike industrial luminaires with EVGs, Ex-e luminaires have to meet all the relevant conditions of this standard. The CEAG EVG 09 meets all these requirements and, thanks to the continuous lamp-monitoring, it ensures the safe operation of all functions.

The advantages for you:

- Time-tested and reliable technology
- Latest lamp circuit monitoring as an additional safety factor
- Meets all requirements of the IEC 60079-7 for luminaires with fluorescent lamps in "Increased Safety" (EOL)
- EVG designed specially for rough operating conditions in Zone 1 – not just an "encapsulated industrial EVG"
- Thermally optimized circuitry for long service life, even in high ambient temperatures
- Wide input voltage range and DC operation for universal use
- Two separate lamp circuits (autarkic switching) provide more safety for your employees and installations
- Practically insensitive to network harmonics and over-voltage influences
- Isolation of one lamp circuit for use in emergency lighting installations (economic battery use)

The EVG 09 in practice: Explosion-protected luminaires with the CEAG trademark

All these functions are only one aspect of the extensive safety concept of the CEAG EVG 09. The use of highly impact resistant plastic materials for the encapsulation in the type of protection Ex-d e, as well as the additional unit fuses for the event that a fault occurs, completes the whole package.

The CEAG EVG 09 is standard for our fluorescent light fittings of the series: eLLK 92 .../.., eLLM 92 .../…. NE and the recessed ceiling luminaires eLLB 20… and RLF 250.
It is suitable for the operation of LED-modules and fluorescent lamps.

Robust technology for use under extreme conditions

The operation of explosion-protected light fittings places high requirements on the reliability and durability of the circuits being used. In addition to temperatures, moisture and mechanical stress, mains contamination or voltage peaks can affect the light fittings. Here specially developed CEAG EVGs provide safe protection against harmful influences. Whereas conventional industrial EVGs are designed for an ambient temperature of the light fittings of up to +30 °C, the CEAG EVGs are designed for an ambient temperature of +55 °C. The large-scale printed circuit board layouts ensure an even heat distribution, through-connections and encapsulation of sensitive components provide mechanical protection. A hermetically sealed enclosure provides protection against undesirable substances that could cause damage to the PCB.

Direct or alternating voltage?

Conventional ballasts only work with an alternating voltage and can only be used with group or central battery installations under certain conditions. In combination with the leading manufacturer of CEAG emergency lighting installations, we offer an explosion-protected ballast that can be operated with alternating and direct voltages.

Quality cannot be left to chance

Ensuring a consistently high quality requires extensive testing and a largely automated production process. With our decades of experience in the manufacture of electronic ballasts, in addition to the routine testing of all equipment, we also carry out stress tests on individual batches, whereby we also obtain reliable data relating to component specifications.

Computer-aided final inspections

The uncompromising safety of the explosion-protected eLLK/ M 92 ... light fittings is maintained throughout the various production stages and includes the final inspection. Each light fitting is tested in detail by a computer test program. All data relating to the manufacture and safety is stored and can still be called up years later. This is where our quality assurance system, that is certified to ISO 9001:2008, clearly makes it mark.

Emergency lighting – central or decentral

With regard to emergency lighting in hazardous areas, there are two general philosophies, which are based on the reliability of the supply source, the costs and efforts required for testing and maintenance work and the economic efficiency.

Emergency light fittings with a self-contained battery system

Emergency light fittings with self-contained battery systems provide the required emergency lighting decentrally, independent of central systems. This means that the battery, the charger and the electronics are integrated in the light fitting. With regard to the availability and the redundancy, this system meets the highest requirements when considering the reliability of the supply source, in particular in safety-engineering sensitive areas. However, with regard to economic efficiency, the costs and efforts involved in the testing and maintenance of of each self-contained battery system and the influence of the ambient conditions on the battery life span have to be taken into account. Taking the above safety aspects into consideration, the use of emergency light fittings with a self-contained battery system is undoubtedly the best solution for applications in large and spacious hazardous areas where the number of fittings used is limited.

The CEAG series of emergency light fittings with self-contained battery systems eLLK 92 NE, eLLB 20... NE feature all the requisite monitoring functions and perform the required functionality and operating time tests automatically, whereby the battery lifespan is optimized.

Ordering details

eLLK/M 92 LED 400A/800A

Ordering details

Type	Version	Terminals	Through-wiring single-ended	Through-wiring twin-ended	Cable gland/ thread	Threaded plug	Blanking plug	Order No
eLLK 92 LED 400A								
eLLK 92 LED 400A	1/6-1K	1 x 6	x	–	2 x M25, Plastic		1	**1 2265 504 101**
eLLK 92 LED 400A	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25		**1 2265 504 103**
eLLK 92 LED 400A	1/6-1M [1]	1 x 6	x	–	2 x M20, Metal thread	1 x M20		**1 2265 504 109**
eLLK 92 LED 400A	2/6-2M [1]	2 x 6	–	x	4 x M20, Metal thread	2 x M20		**1 2265 504 111**
eLLK 92 LED 800A								
eLLK 92 LED 800A	1/6-1K	1 x 6	x	–	2 x M25, Plastic		1	**1 2266 504 101**
eLLK 92 LED 800A	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25		**1 2266 504 103**
eLLK 92 LED 800A	1/6-1M [1]	1 x 6	x	–	2 x M20, Metal thread	1 x M20		**1 2266 504 109**
eLLK 92 LED 800A	2/6-2M [1]	2 x 6	–	x	4 x M20, Metal thread	2 x M20		**1 2266 504 111**
eLLM 92 LED 400A/800A								
eLLM 92 LED 400A	1/3-1K	1 x 3	–	–	1 x M25, Plastic			**1 2268 504 101**
eLLM 92 LED 800A	1/3-1K	1 x 3	–	–	1 x M25, Plastic			**1 2269 504 101**
eLLK 92 LED 400 V-CG-S [2]								
eLLK 92 LED 400 V-CG-S	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25		**1 2265 516 103**
eLLK 92 LED 400 V-CG-S	2/6-2M [1]	2 x 6	–	x	4 x M20, Metal thread	2 x M25		**1 2265 516 111**
eLLK 92 LED 800 V-CG-S [2]								
eLLK 92 LED 800 V-CG-S	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25		**1 2266 516 103**
eLLK 92 LED 800 V-CG-S	2/6-2M [1]	2 x 6	–	x	4 x M20, Metal thread	2 x M25		**1 2266 516 111**
eLLK 92 LED 400A NE [3]								
eLLK 92 LED 400A NE	1/6-1K	1 x 6	x	–	2 x M25, Plastic		1	**1 2260 587 101**
eLLK 92 LED 400A NE	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25		**1 2260 587 103**
eLLK 92 LED 400A NE	1/6-1M [1]	1 x 6	x	–	2 x M20, Metal thread	1 x M20		**1 2260 587 109**
eLLK 92 LED 400A NE	2/6-2M [1]	2 x 6	–	x	4 x M20, Metal thread	2 x M20		**1 2260 587 111**
eLLK 92 LED 400A NE	1/6-1M [1]	1 x 6	–	x	2 x M25, Metal thread	2 x M25		**1 2260 587 609**
eLLK 92 LED 400A NE	2/6-2M [1]	2 x 6	–	x	4 x M25, Metal thread	4 x M25		**1 2260 587 611**
eLLK 92 LED 800A NE [3]								
eLLK 92 LED 800A NE	1/6-1K	1 x 6	x	–	2 x M25, Plastic		1	**1 2261 587 101**
eLLK 92 LED 800A NE	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25		**1 2261 587 103**
eLLK 92 LED 800A NE	1/6-1M [1]	1 x 6	x	–	2 x M20, Metal thread	1 x M20		**1 2261 587 109**
eLLK 92 LED 800A NE	2/6-2M [1]	2 x 6	–	x	4 x M20, Metal thread	2 x M20		**1 2261 587 111**
eLLK 92 LED 800A NE	1/6-1M [1]	1 x 6	–	x	2 x M25, Metal thread	2 x M25		**1 2261 587 609**
eLLK 92 LED 800A NE	2/6-2M [1]	2 x 6	–	x	4 x M25, Metal thread	4 x M25		**1 2261 587 611**
eLLM 92 LED 400A NE [3]								
eLLM 92 LED 400A NE	1/3-1K	1 x 3	–	–	1 x M25, Plastic			**1 2273 587 101**

Scope of delivery including LED-module, without fixing material. Metal cable glands see catalogue part 2: 2.3.12 ff

1) with metal thread, without cable gland

2) for operation with CEAG-emergency supply system

3) self-contained emergency light fitting

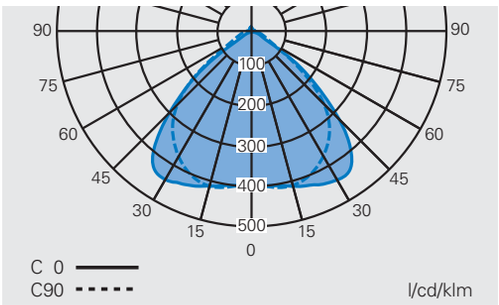
Accessories

Type		Order No.
eLLK-2-C with EMC	for eLLK/M 92 018/18 incl. conversion kit for standard fluorescent light fittings - 5700 K	**CCL 1635 127**
eLLK-4-C with EMC	for eLLK/M 92 036/36 incl. conversion kit for standard fluorescent light fittings - 5700 K	**CCL 1635 128**
eLLK-2-C	for eLLK/M 92 018/18 LED Ready / eLLK 92 LED 400A / eLLK 92 018/18 NE - 5700 K	**CCL 1634 697**
eLLK-4-C	for eLLK/M 92 036/36 LED Ready / eLLK 92 LED 800A / eLLK 92 036/36 NE - 5700 K	**CCL 1634 698**
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material		**2 2218 602 000**
Battery set Type 2710-3 with LED display and microprocessor-monitoring, complete		**2 2710 904 000**
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material for eLLM 92 LED 400A/800A		**2 2218 602 000**
Protective bowl with green filter for eye wash safety shower facilities (eLLK 92 LED 400A)		**2 2215 402 018**

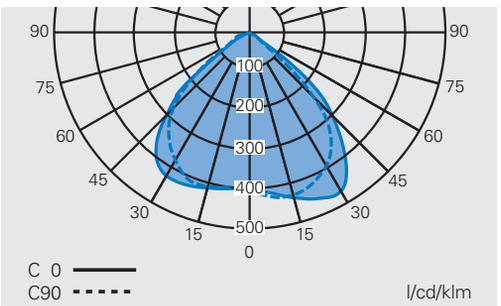
Polar curve / Dimension drawing

eLLK/M 92 LED 400A/800A / NE

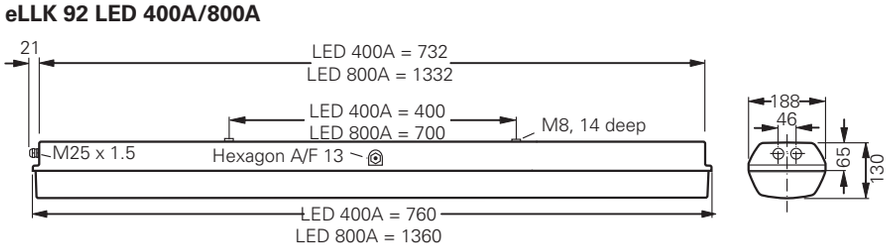
Polar curve eLLK/M 92 LED 400A/800A



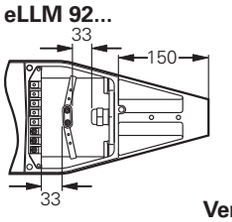
Polar curve eLLK/M 92 LED 400A/800A NE in emergency mode



eLLK 92 LED 400A/800A

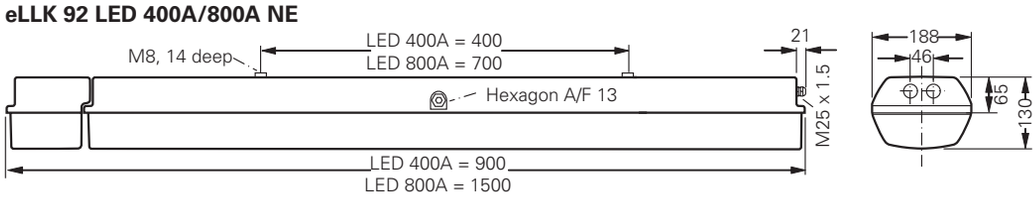


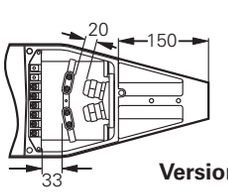
eLLM 92...



Version 1/3

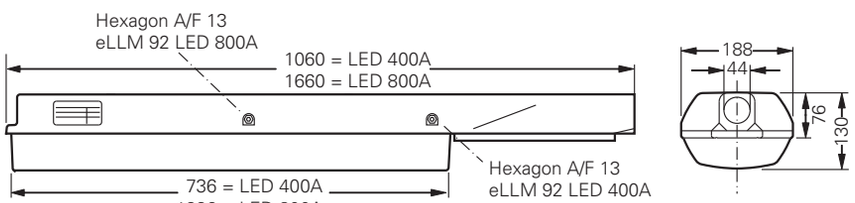
eLLK 92 LED 400A/800A NE





Version 2/6

eLLM 92 LED 400A/800A



Dimensions in mm

Technical data

eLLK 92 LED 400A/800A

Technical data

	eLLK/M 92 LED 400A	eLLK/M 92 LED 800A
EC-Type Examination Certificate	BVS 09 ATEX E 034	BVS 09 ATEX E 034
IECEx Certificate of Conformity	IECEx BVS 09.0033	IECEx BVS 09.0033
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex db eb mb op is IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db IP66	Ⓔx II 2 G Ex db eb mb op is IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db IP66
Marking accd. to IECEx	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db
Permissible ambient temperature	-25 °C up to +55 °C	-25 °C up to +55 °C
IK-class according to IEC/EN 62262	IK 10 ≙ 20 J	IK 10 ≙ 20 J
Rated voltage	110 V - 254 V AC 110 V - 250 V DC	110 V - 254 V AC 110 V - 250 V DC
Power consumtion	29 W	57 W
Frequency	50 - 60 Hz	50 - 60 Hz
Life expectancy LED module	L 70 = 90.000 h at ta=25 °C	L 70 = 90.000 h at ta=25 °C
Power factor cos φ	≥ 0.95	≥ 0.95
Circuit	EVG	EVG
Protection class	I	I
Immunity to surge voltages according to EN 61000-4-5	4 kV, L - N and L - PE	4 kV, L - N and L - PE
Illuminance at measurement plane	comparable with luminaires for fluorescent lamps	comparable with luminaires for fluorescent lamps
CRI	> 70 (>80 für 4000 K)	> 70 (>80 für 4000 K)
Lamp / Illuminant	eLLK-2-C - 2 x 13 W	eLLK-2-C - 2 x 26 W
Light colour	5700 K (4000 K on request)	5700 K (4000 K on request)
Rated luminous flux of the luminaire (typical, ± 10 %)	2700 lm (5700 K) / 2565 lm (4000 K)	5350 lm (5700 K) / 5085 lm (4000 K)
Dimensions (L x W x H)	760 x 188 x 130 mm (eLLK) 1060 x 188 x 130 mm (eLLM)	1360 x 188 x 130 mm
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm^2 per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm^2 per terminal
Enclosure colour	RAL 7035 light grey	RAL 7035 light grey
Enclosure material	Glass-fibre reinforced polyester	Glass-fibre reinforced polyester
Weight	7.2 kg (eLLK) / 9.2 kg (eLLM)	11.1 kg (eLLK) / 13.1 kg (eLLM)
Cable glands / gland plates / enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic), option: M20/M25 x 1.5 metal th'ead1)	Ex-e cable glands M25 x 1.5 (plastic), option: M20/M25 x 1.5 metal th'ead1)
Degree of protection accd. to EN 60529	IP66/IP67	IP66/IP67
Protective cover / protective bowl	Polycarbonat	Polycarbonat

[1] with dustcover if entry/thread is not closed

Technical data

eLLK 92 LED 400A V-CG-S / eLLK 92 LED 800A V-CG-S

Technical data

	eLLK 92 LED 400A V-CG-S	eLLK 92 LED 800A V-CG-S
EC-Tye Examination Certificate	BVS 09 ATEX E 034	BVS 09 ATEX E 034
IECEx Certificate of Conformity	IECEx BVS 09.0033	IECEx BVS 09.0033
Marking to 2014/34/EU	Ⓔx II 2 G Ex db eb mb op is IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db IP66	Ⓔx II 2 G Ex db eb mb op is IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db IP66
Marking to IECEx	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db
Permissible ambient temperature	-25 °C up to +55 °C	-25 °C up to +55 °C
IK-class according to IEC/EN 62262	IK 10 ≙ 20 J	IK 10 ≙ 20 J
Rated voltage	220 - 254 V AC 195 - 250 V DC	220 - 254 V AC 195 - 250 V DC
Power consumtion	29 W	57 W
Frequency	50 - 60 Hz	50 - 60 Hz
Lifetime LED module	L 70 = 90.000 h at ta=25 °C	L 70 = 90.000 h at ta=25 °C
Power factor cos φ	≥ 0,95	≥ 0,95
Circuit	EVG/V-CG-S	EVG/V-CG-S
Insulation class	I	I
Illuminance at measurement plane	comparable with luminaires for fluorescent lamps	comparable with luminaires for fluorescent lamps
CRI	> 70 (>80 für 4000 K)	> 70 (>80 für 4000 K)
Lamp/Illuminant	eLLK-2-C - 2 x 13 W	eLLK-2-C - 2 x 26 W
Light colour	5700 K (4000 K on request)	5700 K (4000 K on request)
Rated luminous flux of the luminaire (typical, ± 10 %)	2700 lm (5700 K) / 2565 lm (4000 K)	5350 lm (5700 K) / 5085 lm (4000 K)
Rated luminous flux in emergency operation of the luminaire (one LED-row)	1282 lm (5700 k) / 1217 lm (4000 K)	1739 lm (5700 k) / 1653 lm (4000 K)
Rated emergency operating time	-	-
Dimensions (L x W x H)	760 x 188 x 130 mm	1360 x 188 x 130 mm
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm^2 per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm^2 per terminal
Enclosure colour	RAL 7035 light grey	RAL 7035 light grey
Enclosure material	Glass-fibre reinforced polyester	Glass-fibre reinforced polyester
Weight	7.6 kg	11.5 kg
Cable glands / Gland plates / Enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic), option: M20/M25 x 1.5 metal th'ead1)	Ex-e cable glands M25 x 1.5 (plastic), option: M20/M25 x 1.5 metal th'ead1)
Degree of protection accd. EN 60529	IP66/IP67	IP66/IP67
Protective cover / protective bowl	Polycarbonat	Polycarbonat

[1] With dustcover if entry/thread is not closed

Technical data

eLLK/M 92 LED 400A NE / eLLK 92 LED 800A NE

Technical data

	eLLK/M 92 LED 400A NE	eLLK 92 LED 800A NE
EC-Tye Examination Certificate	BVS 09 ATEX E 034	BVS 09 ATEX E 034
IECEx Certificate of Conformity	IECEx BVS 09.0033	IECEx BVS 09.0033
Marking to 2014/34/EU	Ⓔx II 2 G Ex db eb mb op is IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db IP66	Ⓔx II 2 G Ex db eb mb op is IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db IP66
Marking to IECEx	Ex db eb mb ib op is IIC T4 Gb Ex tb IIIC T80 °C Db	Ex db eb mb ib op is IIC T4 Gb Ex tb IIIC T80 °C Db
Permissible ambient temperature	-25 °C up to +55 °C (specified data: -5 °C up to +35 °C)	-25 °C up to +55 °C (specified data: -5 °C up to +35 °C)
IK-class according to IEC/EN 62262	IK 10 ≙ 20 J	IK 10 ≙ 20 J
Battery	Battery set with 7 Ah-NC battery, with LED display and monitoring via microprocessor	Battery set with 7 Ah-NC battery, with LED display and monitoring via microprocessor
Rated voltage	120 V - 254 V AC	120 V - 254 V AC
Power consumtion	34 W	62 W
Frequency	50 - 60 Hz	50 - 60 Hz
Charging duration	≥ 14 h	≥ 14 h
Lifetime LED module	L 70 = 90.000 h at ta=25 °C	L 70 = 90.000 h at ta=25 °C
Power factor cos φ	≥ 0,95	≥ 0,95
Circuit	EVG with emergency lighting supply	EVG with emergency lighting supply
Insulation class	I	I
Illuminance at measurement plane	comparable with luminaires for fluorescent lamps	comparable with luminaires for fluorescent lamps
CRI	> 70 (>80 für 4000 K)	> 70 (>80 für 4000 K)
Lamp/Illuminant	eLLK-2-C - 2 x 13 W	eLLK-2-C - 2 x 26 W
Light colour	5700 K (4000 K on request)	5700 K (4000 K on request)
Rated luminous flux of the luminaire (typical, ± 10 %)	2700 lm (5700 K) / 2565 lm (4000 K)	5350 lm (5700 K) / 5085 lm (4000 K)
Rated luminous flux in emergency operation of the luminaire (one LED-row)	1282 lm (5700 k) / 1217 lm (4000 K)	1739 lm (5700 k) / 1653 lm (4000 K)
Rated emergency operating time	877 lm (5700 k) / 834 lm (4000 K)	1204 lm (5700 k) / 1144 lm (4000 K)
Luminous flux relation normal/ emergency opration (one LED line)	1,5 h or 3 h, adjustable on site	1,5 h or 3 h, adjustable on site
luminous flux ratio in emergency mode (one LED line)	95 % (1,5 h) - 65 % (3 h)	65 % (1,5 h) - 45 % (3 h)
Dimensions (L x W x H)	900 x 188 x 130 mm / 1500 x 188 x 130 mm	900 x 188 x 130 mm / 1500 x 188 x 130 mm
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm^2 per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm^2 per terminal
Enclosure colour	RAL 7035 light grey	RAL 7035 light grey
Enclosure material	Glass-fibre reinforced polyester	Glass-fibre reinforced polyester
Weight	10.3 kg	14.4 kg
Cable glands / Gland plates / Enclosure drilling	Ex-e-cable glands M25 x 1,5 (plastic), option: M20 x 1,5 metal thread [1)]	Ex-e-cable glands M25 x 1,5 (plastic), option: M20 x 1,5 metal thread [1)]
Degree of protection accd. EN 60529	IP66/IP67	IP66/IP67
Protective cover / protective bowl	Polycarbonate	Polycarbonate

[1)] With dustcover if entry/thread is not closed