

# EX-FLUORESCENT LIGHT FITTINGS

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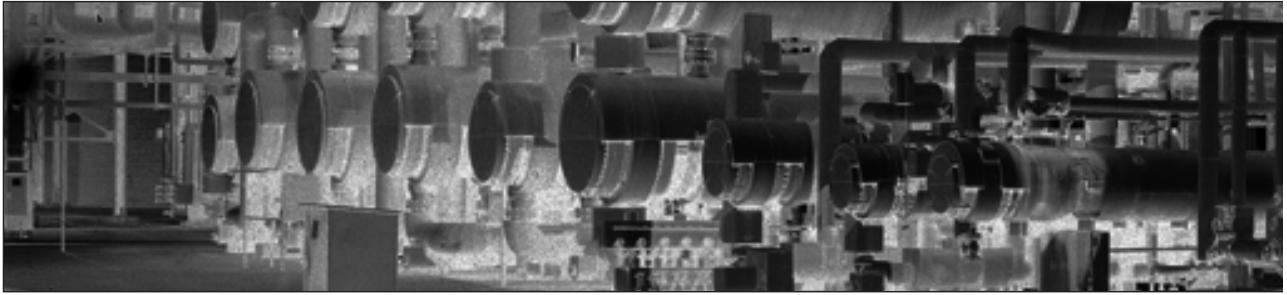
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LIGHTING MOUNTING SYSTEMS

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**| Field of applications and main features |**



The best choice for an economical solution for the illumination of probable explosive environments is the fluorescent lamp.

The advantages of fluorescent lamps in light fittings:

- worldwide availability
- low cost
- very good colour reproduction
- immediate starting
- easy handling
- long service life with EVG-Technology
- immediate restart
- standardised disposal of the fluorescent lamps



eLLK 92...



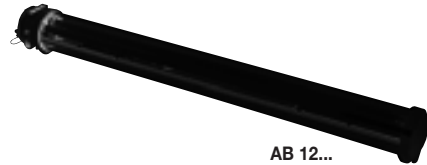
EVF...

Depending on the proposed usage there is a variety of groups to choose from:

- eLLK/M 92...:  
Surface and pole mounted for use in the Zones 1, 2, 21 and 22
- nLLK 08...:  
Surface mounted for use in the Zones 2, 21 and 22
- eLLB 20 and RLF 250.....:  
Recessed ceiling mounting for use in the Zones 1, 2, 21 and 22
- AB 12.../EVF.:  
Flameproof surface mounted for use in the zones 12, 2 and 22



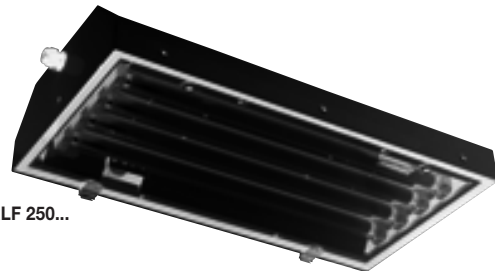
nLLK 08...



AB 12...



eLLB 20...



RLF 250...



**one sided  
through-wiring  
Type 1/6**



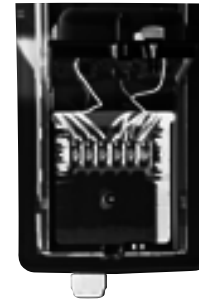
Fluorescent light fittings of the series **eLLK 92... / nLLK 08...** are equipped with a single-end through-wiring **1/6** as standard. Here there are 2 cable entries M25 for cable sizes Ø 8-17 mm, where as one of these is fitted with a certified blanking plug (red) as a stopper.

The **2/6** version is fitted with a cable entry M25 for cable sizes Ø 8-17 mm and a certified blanking plug (red) as stopper on both ends. The mains terminal block has 6 clamps enabling wire of up to 2 x 6 mm<sup>2</sup> (solid) or 2 x 4 mm<sup>2</sup> (multi wire) to be connected. This allows for a comfortable and problem free wiring (L, L1, L2, L3, N and PE) and installation.

The **2/6** version is fitted with a second mains terminal block of 6 clamps on the opposite side. The required internal wiring of the light fitting has been rated for 16 A.

The standard screwable terminal block allows single sided connecting without having to bend the wire. Simply push the hinged cover shut and you already have protection against contact according to BGV A2.

**double sided  
through-wiring  
Type 2/6**



# EX - LIGHT FITTINGS

## Technical Special Features on hand of the eLLK 92

The fluorescent lamp series eLLK 92..., eLLM 92..., nLLK 08... and in some parts the eLLB 20... have in their architecture, the same characteristics, which we show here on hand of the eLLK 92-Series.

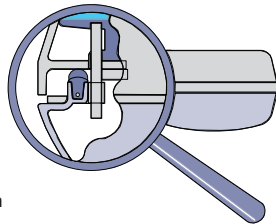
### Materials

The eLLK 92 light fitting is made of highgrade plastics that, in addition to the excellent mechanical properties, also feature a high stability against many chemicals found in industrial plants. All the materials used for the light fitting



### Combination of high resistant materials

provide are effectively protected against corrosion and have already been successfully tried and tested in chemical and off-shore installations.



### Optimized Sealing system

### Sealing system

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 locking mechanism, ensures that the light fitting is sealed tightly for a long time. As was also confirmed by an ERA test, this is the only way to reliably maintain the degree of protection IP66 for a longer period.

### Aptitude tests

The eLLK 92 light fitting has already passed both tests with lateral thrusts due to wind up to 12 Bft and the ERA<sup>1)</sup> test specified for British off-shore installations. Here, for example, the sealing qualities and the resistance to vibration are tested.

<sup>1)</sup> ERA-Test= UK-test institute  
for offshore technology

Standard – two moulded  
plastic or brass (optional)  
cable entries for one-ended  
through-wiring

Double thread (MS)  
for reliable PE contacting of metal gland (optional)

Standard terminal block with  
6 terminals for conductors up to 2 x 6 mm<sup>2</sup>

Optional double-ended  
through-wiring for cable connection

Enclosure made of polyester  
reinforced with glass fibre

Special Ex-EVG in the type of protection Ex d  
to meet high requirements

Locking bolt for operating the  
light fitting locking mechanism on both sides

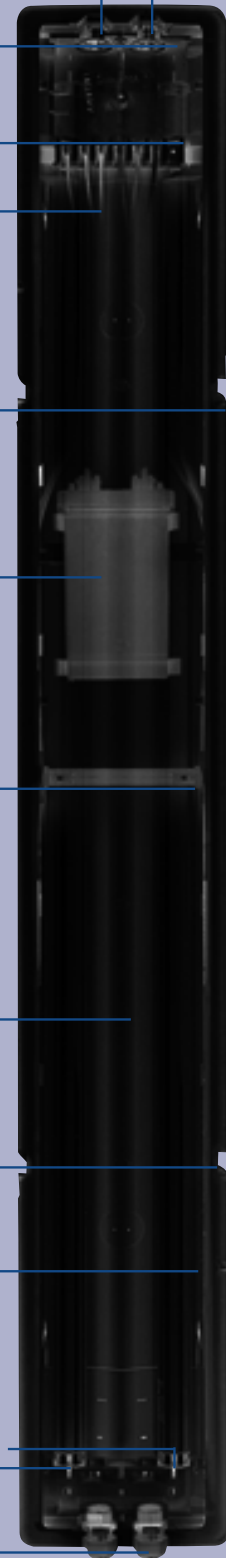
Bowl made of transparent,  
impact-resistant polycarbonate

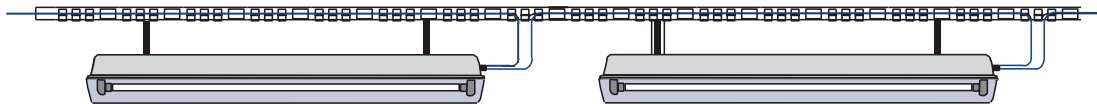
Sockets for the hinges  
of protective bowl – on both sides

Internal sealing system for IP66

Special lamp socket in the type of protection  
Ex e for bi-pin lamps to IEC 81

Moulded plastic or brass cable entries for  
double-ended cable connection (optional)





Cost reduction with single-end through-wiring



generously dimensioned terminal compartments



Plastic cable entries



Metal thread



Myer Hubs (for Conduit-System)

### Standard version for two cables

The standard version of the eLLK 92 is designed for a single-ended through-wiring. According to the verdict in an independent expertise, together with the easily accessible terminal compartment, this connection method results in a time saving of up to 30% compared to conventional light fittings using the classical through-wiring method.

### Installation of the eLLK 92/nLLK 08

Whether it is mounted on rails or suspended from the ceiling, the lion's share 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 permitting the easy connection of cables.

### Three ways – one solution

Depending on the type of installation, different cable entries could be 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

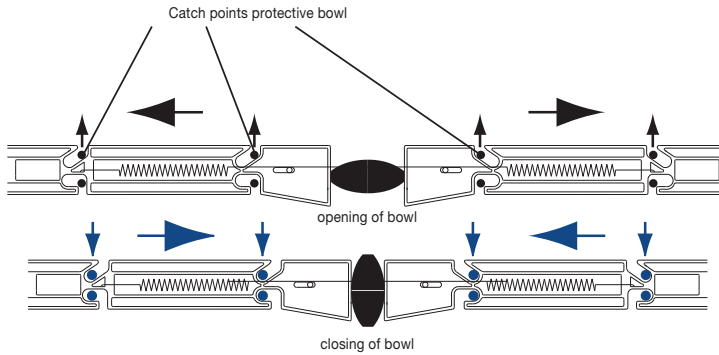
Irrespective of how the light fitting is installed, the locking mechanism can be operated on either side – this means that there are no future surprises with



Easy lamp replacement

light fittings that were installed at a later point in time. The fact that the locking mechanism can be operated on both sides and that the protective bowl is hinged on both sides, means that there is plenty of scope for the arrangement of light fittings. 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.





Closing system using the "strongbox principle" guarantees a correct sealing

### 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 that features as many as 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.



compulsory N/C contact safeguarded against contact

### Double the 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.

### Lamps

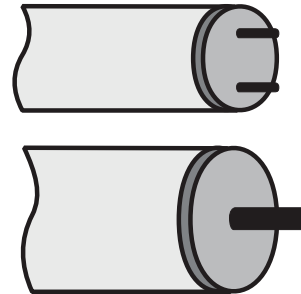
All the light fittings in the eLLK 92/ nLLK 08 /eLLB 20 and RLF 250.. series have been developed and certified for  $\varnothing$  26 mm bi-pin fluorescent lamps with a G 13 lamp cap in accordance with:

IEC 60081 – page 22/20 (18 W)

IEC 60081 – page 24/20 (36 W)

IEC 60081 – page 21/22 (58 W)

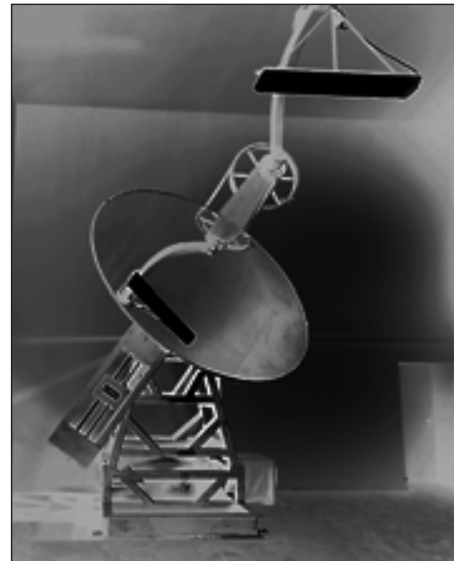
This means that the lamps, that are available all over the world, can be used for both hazardous and non-hazardous areas. Not only does this simplify stock-keeping, but the operator also benefits from all the technical advantages in conjunction with EVG operation. Compared to the old  $\varnothing$  38 mm single-pin fluorescent lamps, the luminous power of the system is increased by a factor of 2.2. Special thermo-lamps with 38 mm diameter can be used in all bi-pin lamp holder of CEAG fluorescent light fittings. This allows an economical use of fluorescent lamps even below ambient temperatures of  $-5^{\circ}\text{C}$



International  $\varnothing$  26 mm bi-pin fluorescent lamp and the old  $\varnothing$  38 mm single-pin fluorescent lamp

### Lighting engineering

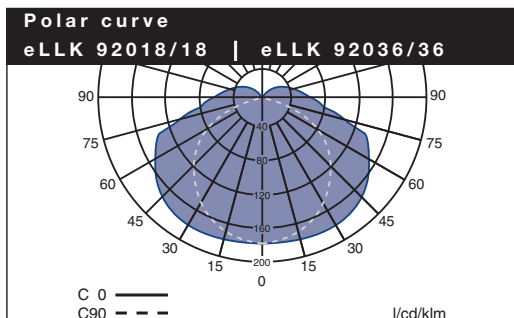
Due to the various fields of application light fittings are equipped with a large variety of lamps and reflectors. The criteria for the selection of the types of lamps and reflectors are basically determined by the type of lighting required (illumination of surfaces or objects, etc.) and the economic 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.



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

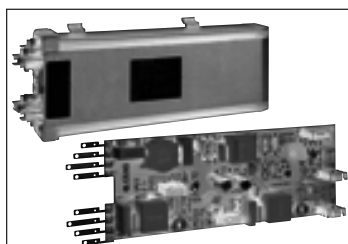
### Polar curves

During the development phase the lighting properties of all explosion-protected light fittings are tested in the Cooper Crouse-Hinds GmbH light-



ing laboratory. In this way it is ensured that the reflectors, as well as the protective bowls for fluorescent light fittings are optimized down to the last detail. In the case of the light fittings eLLK 92..., nLLK 08..., eLLB 20 and

RLF 250.. series of Cooper Crouse-Hinds GmbH has 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.ceag.de](http://www.ceag.de)



### 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:

- possibility of a lamp-sparing cold start
- use of bi-pin lamps, Ø 26 mm
- use with various mains voltages from 110 V up to 254 V  $\pm$  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 of one lamp the second lamp will continue in operation independent from the failed one.

### EOL (END OF LIFE) –

#### What is it?

As with all other lamps, the lifetime of every fluorescent lamp is limited. Users of all Ex fluorescent light fittings reported on some critical situations where, after being in operation for longer periods, they overheated or even caught fire. It is not possible to say for certain to what extent the EOL effects were the cause of this. At the request of the German Manufacturers Association the Physikalisch-Technische Bundesanstalt (PTB) in Braunschweig carried out an independent investigation of this phenomenon. The results of this latest investigation have been published and can be found on the Internet pages of the PTB.

Extract from this report:

*„In the more recent past, luminaires used in conjunction with these fluorescent lamps have been found to fail as a result of local overheating of the lamp cap and the lamp socket. There are different kinds of faults that may have led to these failures. One possible explanation is the end-of-life effect (EOL) of the lamp, which will occur only in exceptional cases at the end of the lamp lifetime. It is for the time being not possible to reproduce this EOL effect in the laboratory in a conclusive manner, but it may be described as follows in qualitatively terms ...“*



**The solution for Zone 1 applications – CEAG EVG 09**

All the EVGs (electronic ballast's) 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 ensured a high level of safety at the service life of the lamps long before the discussions on EOL ever started. The new 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 latest draft of IEC 60079-7 Ed. 4 7/2006 (Electrical Apparatus in the type of protection Increased Safety), for luminaires for use in potentially explosive atmospheres Zone 1. Thus, the CEAG EVG 09, which is certified to: BVS 09 ATEX E 054 U, meets the latest findings and the newest standards.

The advantages for you:

- Time-tested and reliable technology
- Latest lamp circuit monitoring as an additional safety factor
- Meets all requirements of the standard draft IEC 60079-7 for luminaires with fluorescent lamps in "Increased Safety" (EOL)
- EVG designed specially for rough operating conditions of Zone 1 – not just an encapsulated industrial EVG
- Thermally optimised 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 trademark CEAG**

All these functions are just one component in the extensive safety concept of the CEAG EVG 09. The use of high-impact resistant plastic materials for the encapsulation in the type of protection Ex-de, as well as the additional unit fuses for the event that a fault occurs rounds off the whole package.

The new CEAG EVG 09 will become standard for our fluorescent light fittings series:

eLLK 92 .../... , eLLM 92 .../.... NIB as well as fort he recessed ceiling luminaires eLLB 20... and RLF 250...



**Which 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 draft version of 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 shall fulfil all of the relevant conditions of this standard.





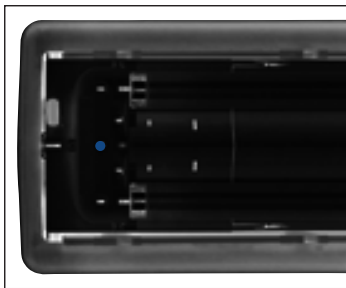


EVG-Capsulation

### Robust technology for extreme applications

The operation of explosion-protected light fittings places high requirements on the reliability and durability of the circuits being used. In addition to temperature, moisture and mechanical stress, mains contamination or voltage peaks can affect the light fittings.

Here the EVGs specially developed by Cooper Crouse-Hinds GmbH 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 + 50°C. The large-scale printed wiring 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. Cooper Crouse-Hinds GmbH, as the leading manufacturer of emergency lighting installations, offers an explosion-protected ballast that can be operated with alternating and direct voltages.

### Quality cannot be left to chance

Extensive testing and a highly automated production process are necessary

to ensure a constant good quality. Cooper Crouse-Hinds GmbH has been manufacturing EVGs for more than 25 years and has the necessary know-how. In addition to the routine verifications and tests carried out on all apparatus, stress tests are carried out on individual batches to ensure safe findings with regard to component specifications.

### Computer-aided final inspections

The uncompromising safety of the explosion-protected eLLK 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 the Cooper Crouse-Hinds GmbH quality assurance system, that is certified to ISO 9001:2000, clearly makes its mark.



Ex-emergency light fitting with self-contained battery system eLLK 92036/36 NIB

**Emergency lighting – central or decentral**

Appertaining to Emergency Lighting in hazardous explosive areas, their are two general philosophies. That of the supply assurance, the test and maintainance effort and that of 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 decentral, independant from central systems. That means the battery, the charger and the electronics are integrated in the light fitting. Taking the availability and the redundance into consideration, this system has with respect to the supply assurance in safety-engineering sensible areas a very high standard. Taking the economic efficiency into consideration, the required effort of testing, maintanance and the environmental effect on the battery life span of eachself-contained battery system has to be taken into account. Taking the above into consideration it is without reason the best solution when emergency light fittings with a self-contained battery system are used in large and spacious explosion hazardous areas where the number of fittings to be used is limited.

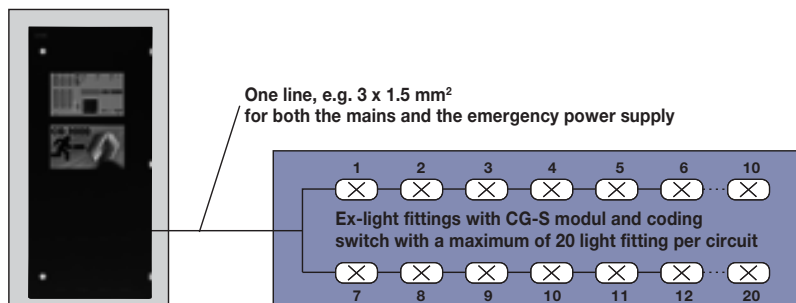
The new **CEAG series of emergency light fittings with self-contained battery systems eLLK 92 NIB, eLLB 20... NIB**

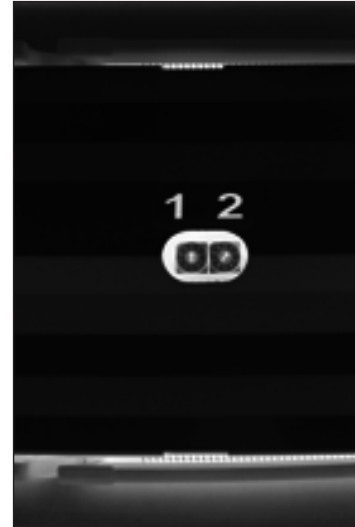
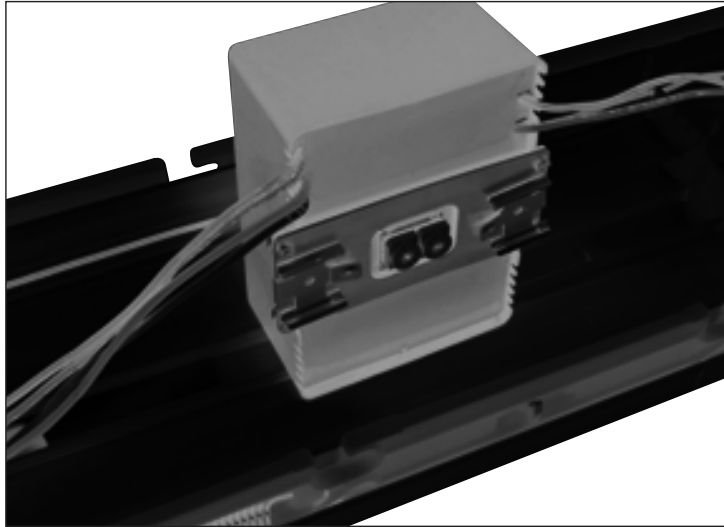
have all the necessary self-control features needed and does the required functionality and operating time tests automatically. Hereby the battery lifespan is optimized.

**Centrally controlled emergency lighting systems with CG-Modules**

A centrally controlled emergency light system using the CEAG group supply and a central battery system is installed when a large number of emergency lights are conglomerated and can be used as a system emergency lighting. These battery systems are generally, not installed in the hazardous areas and therefore do not have to cope with the same environmental conditons as the light fittings themselves. This usually results in an extended life span of the batteries with a minimized maintanance effort. One must of course take into consideration that the cable laying from the central battery to each light fitting in the hazardous areas affords an increased effort.

**CEAG emergency lighting supply unit for non-hazardous areas**





To be able to run on the CEAG emergency light fittings system we can provide the following light fitting series eLLK 92, nLLK 08 and eLLB 20 versions with **"CG-S Modules"**. This controlling module controls amongst other things the data exchange between the main emergency light apparatus and the individual light fittings per power supply cable and reports all functional errors.

In conjunction with the CG-S Modules, it is now possible to connect individually monitored emergency light fittings to a CEAG emergency lighting installation with monitoring system. Here it is now possible to integrate explosion-protected light fittings as system light fittings into the practical monitoring system of CEAG group or central battery installations.

This combination offers the following advantages:

- Automatic performance of the necessary function test with central record-keeping
- Enormous cost savings as manual testing is no longer necessary
- Two-lamp operation with mains supply, single lamp operation with emergency power supply, therefore cost saving for batteries and apparatus
- High degree of safety of emergency lighting due to constant display of availability
- Simplified installation:
  - mains and emergency power supply have a common connection
  - a separate data line is not required
  - a maximum of 20 light fittings can be connected to one circuit
  - automatic performance of the necessary function tests with central record-keeping

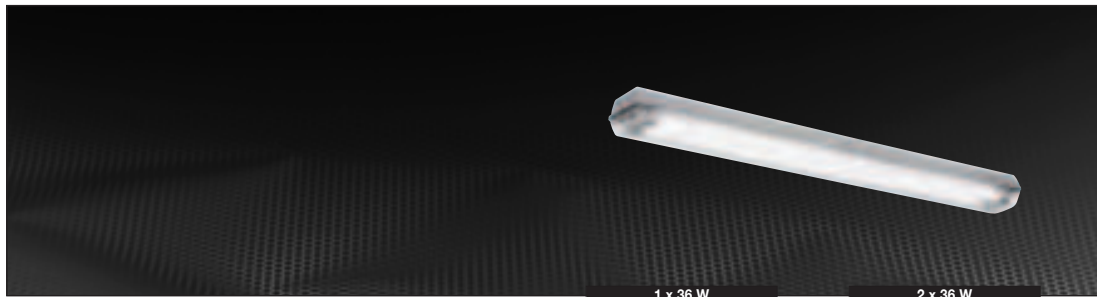
# E X - L I G H T F I T T I N G S

**eLLK 92... 18 W - 58 W**  
**All plastic design for Zone 1 and 21**

The eLLK 92 Ex-protected light fittings for bi-pin fluorescent lamps are fitted with an electronic ballast and conform to the ATEX Directive 94/9/EG. The modern economical ballast EVG 09 according to the latest standards (IEC 60079-7: 2006) allows a safe and economical operation of bi-pin fluorescent lamps G13 according to IEC 60081. Lamps reaching its end of life will be monitored and securely switched off (EOL-effect). The high input voltage range allows international use. Due to the standard dual channel architecture (with double lamp fittings) if one fluorescent lamp fails, the other fluorescent lamp will independently stay in operation. The standard single-sided through-wiring in connection with the variety of possibilities offers a cost efficient installation. Double-sided lock with 10, 20 or 24 latch points allows the protective bowl to be hingeable on both sides meaning the fitting can be mounted without having to pay attention to which side is the right side. Automatic switch built as a safety disconnecter according to EN 60947 (IEC 664) with an automatic switch ensuring the disconnection of all exposed components when the fitting is opened. The optional CG-S module represents an optimum solution for the individual monitoring of light fittings connected to CEAG emergency battery systems.



- **Standard dual channel ballast**
- **Double-sided safety lock**
- **Safety locking system due to an integrated forced isolating switch**
- **Safety standard IP66**
- **Connection to CEAG emergency light monitoring systems possible**
- **International Approvals**



### Technical data

eLLK 92018/18   eLLK 92036 / eLLK 92036/36   eLLK 92058 / eLLK 92058/58	
Marking to 94/9/EC	⊕ II 2 G Ex de IIC T4 / ⊕ II 2 G Ex de mb II T4 (CG-S variant) ⊕ II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEX-Certificate of Conformity	IECEX BVS 09.0033
Marking to IECEx	Ex de mb IIC T4 Ex tD A21 IP66 T 80 °C
Permissible ambient temperature	-25 °C to +55 °C (U <sub>n</sub> ≥ 220 V) -25 °C to +50 °C (U <sub>n</sub> < 220 V) <sup>1)</sup>
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG resp. EVG/CG-S
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure entry holes	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M20 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	eLLK 92018/18	eLLK 92036	eLLK 92036/36
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.18 A 0.19 A (CG-S variant)	0.18 A	0.34 A 0.35 A (CG-S variant)
Lamp/illuminant	2 x T26 / 18 W (T8)	1 x T26 / 36 W (T8)	2 x T26 / 36 W (T8)
Rated luminous flux <sup>2)</sup>	2700 lm	3350 lm	6700 lm
Light efficiency in operation	78 %	86 %	78 %
Dimensions (L x W x H)	760 x 188 x 130 mm	1360 x 188 x 130 mm	1360 x 188 x 130 mm
Weight	approx. 5.2 kg / approx. 5.6 kg (CG-S variant)	approx. 7.2 kg	approx. 7.4 kg / approx. 7.7 kg (CG-S variant)

	eLLK 92058	eLLK 92058/58
Rated voltage	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.27 A	0.53 A / 0.54 A (CG-S variant)
Lamp/illuminant	1 x T26 / 58 W (T8)	2 x T26 / 58 W (T8)
Rated luminous flux <sup>2)</sup>	5200 lm	10400 lm
Light efficiency in operation	83 %	72 %
Dimensions (L x W x H)	1660 x 188 x 130 mm	1660 x 188 x 130 mm
Weight	approx. 8.2 kg	approx. 9.1 kg / approx. 9.6 kg (CG-S variant)

<sup>1)</sup> eLLK 92058/58: max. +40 °C

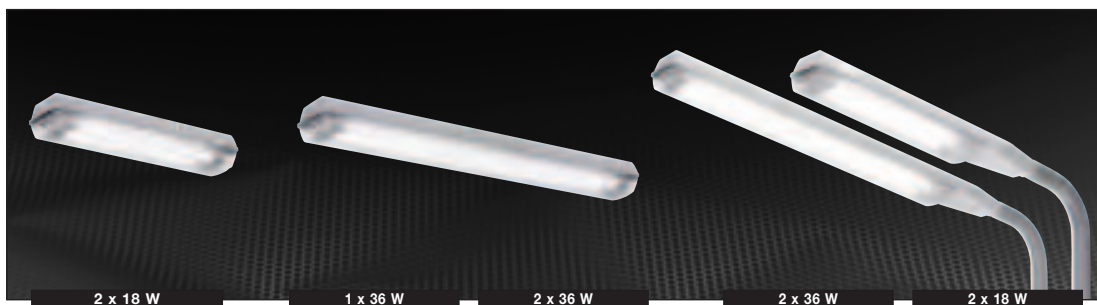
<sup>2)</sup> depends on used lamps



## Technical data

eLLM 92018/18   eLLM 92036/36	
Marking to 94/9/EC	II 2 G Ex de IIC T4 II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEX-Certificate of Conformity	IECEX BVS 09.0033
Marking to IECEx	Ex de IIC T4 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	-25 °C to +55 °C ( $U_n \geq 220$ V) -25 °C to +50 °C ( $U_n < 220$ V)
Rated voltage	110 - 254 V AC / 110 - 250 V DC
Frequency	50 - 60 Hz
Power factor $\cos \varphi$	$\geq 0.95$
Circuit	EVG
Connecting terminals	L1, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure entry holes	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	eLLM 92018/18	eLLM 92036/36
Rated voltage	110 - 254 C AC / 110 - 250 V DC	
Rated current	0.18 A	0.34 A
Lamp/illuminant	2 x T26 / 18 W (T8)	2 x T26 / 36 W (T8)
Rated luminous flux <sup>1)</sup>	2700 lm	6700 lm
Light efficiency in operation	78 %	78 %
Dimensions (L x W x H)	1060 x 188 x 130 mm	1660 x 188 x 130 mm
Pole socket	Ø 44 mm x 150 mm	Ø 44 mm x 150 mm
Weight	approx. 7.0 kg	approx. 9.5 kg



### Ordering details

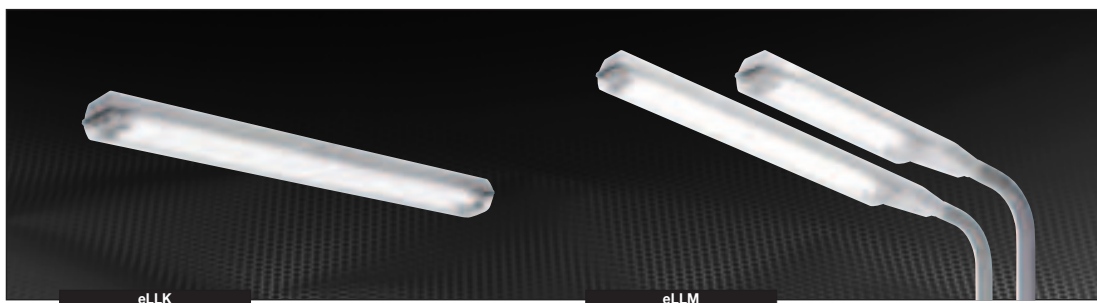
Type	Terminals	Through-wiring		Cable glands <sup>3)</sup>	Plugs	Order No.
		single-ended	double-ended			
<b>eLLK 92018/18 (2 x 18 W)</b>						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2265 875 101</b>
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2265 875 103</b>
1/6-1 M <sup>1)</sup>	1 x 6	x	–	2 x M20 x 1.5	1 x threaded	<b>1 2265 875 109</b>
2/6-2 M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2265 875 111</b>
<b>eLLK 92018/18 (2 x 18 W)</b>						
Level gauge P2	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2265 875 126</b>
<b>eLLK 92018/18 CG-S<sup>2)</sup> (2 x 18 W)</b>						
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2265 881 103</b>
2/6-2M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2265 881 211</b>
<b>eLLM 92018/18 (2 x 18 W)</b>						
1/6-1	1 x 3	–	–	1 x M25 x 1.5		<b>1 2268 875 101</b>
<b>eLLK 92036 (1 x 36 W)</b>						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2263 875 101</b>
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2263 875 103</b>
1/6-1 M	1 x 6	x	–	2 x M20 x 1.5	1 x threaded	<b>1 2263 875 111</b>
<b>eLLK 92036 (1 x 36 W)</b>						
Level gauge P3 1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2263 875 125</b>
<b>eLLK 92036/36 (2 x 36 W)</b>						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2266 875 101</b>
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2266 875 103</b>
1/6-1 M <sup>1)</sup>	1 x 6	x	–	2 x M20 x 1.5	1 x threaded	<b>1 2266 875 109</b>
2/6-2 M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2266 875 111</b>
<b>eLLK 92036/36 CG-S<sup>2)</sup> (2 x 36 W)</b>						
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2266 881 103</b>
2/6-2M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2266 881 211</b>
<b>eLLM 92036/36 (2 x 36 W)</b>						
1/6-1	1 x 3	–	–	1 x M25 x 1.5		<b>1 2269 875 101</b>
<b>eLLK 92058 (1 x 58 W)</b>						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2264 875 101</b>
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2264 875 103</b>
2/6-2 M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2264 875 111</b>
<b>eLLK 92058/58 (2 x 58 W)</b>						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	<b>1 2267 875 101</b>
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2267 875 103</b>
2/6-2 M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2267 875 111</b>
<b>eLLK 92058/58 CG-S<sup>2)</sup> (2 x 58 W)</b>						
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 2267 881 103</b>
2/6-2 M <sup>1)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 2267 881 211</b>

<sup>1)</sup> M: with metal thread, without cable gland

<sup>2)</sup> CG-S: design single monitored emergency light fitting for use in CEAG emergency light supply unit

<sup>3)</sup> With dustcover if entry/thread is not closed

Scope of delivery without lamp and fixing accessories.



## Accessories

### Lamp for luminaire eLLK92/eLLM92

Type of lamp socket/ diameter	Power	Luminous flux light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	<b>3 2475 900 001</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	<b>3 2475 900 002</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	<b>3 2475 900 003</b>
Aura-Ultimate T26/Ø 26 mm (T8) Longlife	18 W	1300 lm white	<b>3 2475 900 087</b>
G13-socket	36 W	3350 lm white	<b>3 2475 900 088</b>
	58 W	5200 lm white	<b>on request</b>
Aura Super Ex T-HS 26/Ø 26 mm <sup>1)</sup>	18 W	1150 lm white	<b>3 2475 900 084</b>
	36 W	3000 lm white	<b>3 2475 900 085</b>
Single pin cap Fa6	58 W	4800 lm white	<b>on request</b>

### Series eLLK 92... and eLLM 92...

Type	Order No.
Hexagon screw SW 13	<b>3 2485 000 005</b>

### Series eLLM 92018/18 and eLLM 92036/36

Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	<b>2 2218 602 000</b>

### Fixing materials eLLK 92

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	<b>2 2480 002 000</b>
Hexagon screw S4	stainless steel	2	<b>2 2480 054 000</b>
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	<b>2 2480 092 000</b>

### Fixing materials

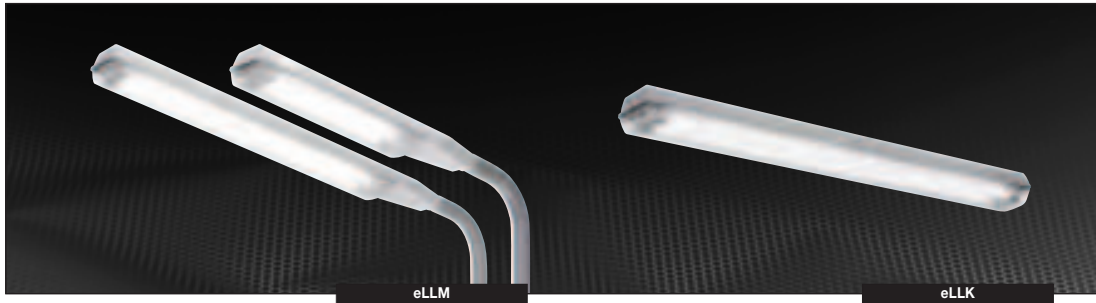
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp R12	hot galvanized	1 1/4"	38 - 42	2	<b>2 2480 462 000</b>
R14	CrNi	1 1/4"	38 - 42	2	<b>2 2480 464 000</b>
R22	hot galvanized	1 1/2"	47 - 51	2	<b>2 2480 472 000</b>
R24	CrNi	1 1/2"	47 - 51	2	<b>2 2480 474 000</b>
R32	hot galvanized	2"	56 - 60	2	<b>2 2480 482 000</b>
R34	CrNi	2"	56 - 60	2	<b>2 2480 484 000</b>
Wall bracket W27	hot galvanized		42.4	1	<b>2 2483 027 000</b>
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	<b>2 2480 000 122</b>

<sup>1)</sup> For luminaires eLLK 923../.. and eLLM 923../.. with single pin caps Fa6

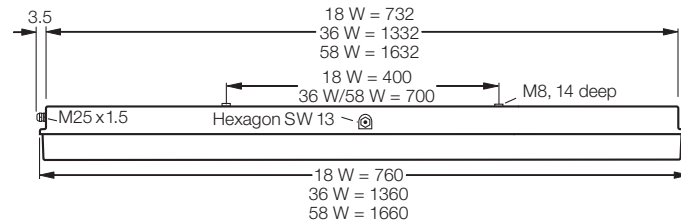
**Metal cable glands M20/M25 see page 8.10.**

**Complete Mounting Systems see page 2.70 to 2.76.**

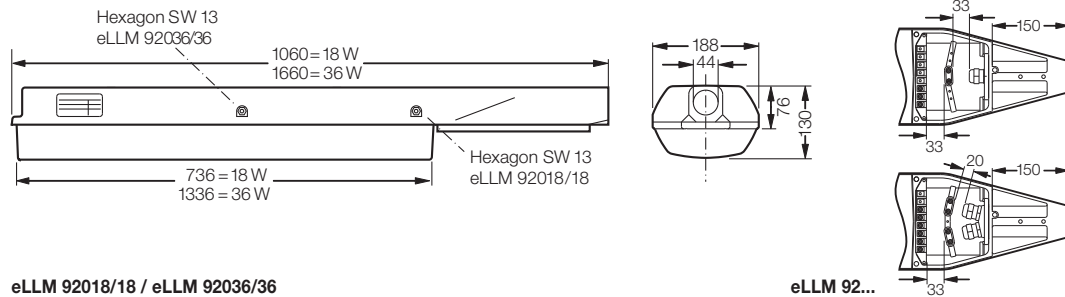




Dimension drawing | Polar curve | Accessories



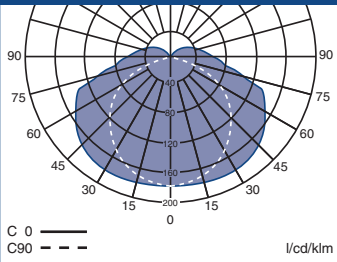
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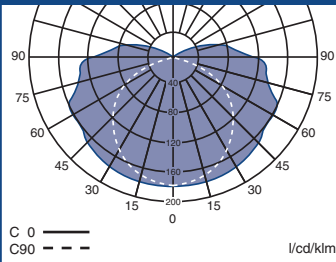
eLLM 92018/18 / eLLM 92036/36

eLLM 92...

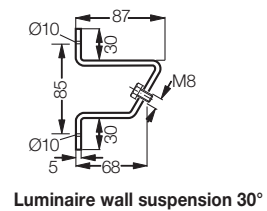
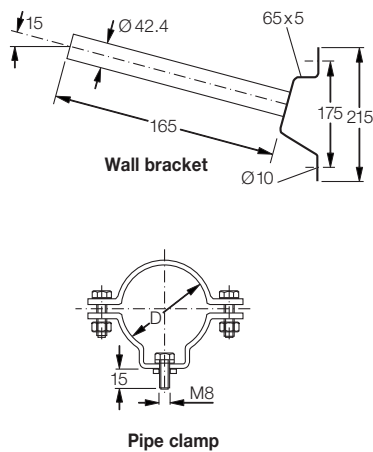
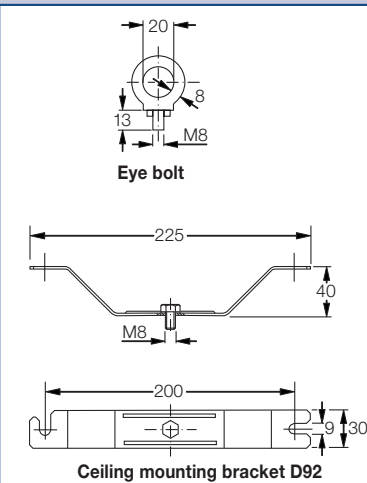
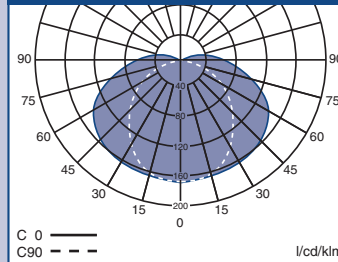
Polar curve  
eLLK 92018/18 / eLLK 92036/36



Polar curve  
eLLK 92036 / eLLK 92058



Polar curve  
eLLK 92058/58



Dimensions in mm

## EX - EMERGENCY LIGHT FITTINGS

**eLLK 92... NIB/eLLM 92... NIB 18 W - 36 W**  
**All-plastic for Zone 1 and 21**

The new Ex-emergency light fittings with self-contained battery unit, types eLLK 92... NIB, for bi-pin fluorescent lamps are fitted with an electronic ballast (EVG). They meet the requirements of ATEX Directive 94/9/EC. The electronic ballast EVG 09, according to the newest standard (IEC 60079-7:2006) enables the safe and economic use of G13 bi-pin lamps according to IEC 60081. Lamps are monitored and safety shut down at the event that the lamp does not strike. Due to a new charging and monitoring technology with intelligent microelectronics, they provide reliable safety and reduced maintenance costs. A function test lasting 5 minutes, that is carried out automatically on a weekly basis, even during mains operation, and a quarterly partial duty-cycle test provide additional safety and drastically reduce the necessary amount of manual tests. The charging and discharging functions are monitored constantly by the micro-processor and are indicated via a diode display. Only the spent energy is recharged – therefore, overcharging is not possible. The so-called memory effect cannot occur – the service life of the battery is optimized. The need to replace a battery, a fault in the emergency lighting circuit or a faulty battery is indicated by the LED display. Due to a new type of battery connection, the battery can be replaced in the hazardous area. The emergency lighting cycle can be set locally for 1.5 or 3 hours. A remote switch inquiry is standard.

Two-channel EVG with EOL monitoring as standard

Automatic weekly 5 minute function test

Automatic quarterly partial duty cycle test

Fault indication by flashing red LED with reset after fault elimination

Monitoring of battery cells with fault indication

Capacity-dependant charging: indication of charged capacity and remaining operating time by 5 green LEDs

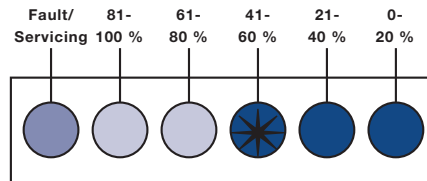
Easy replacement of battery, even in Ex-area

International approvals

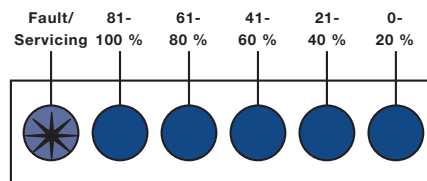




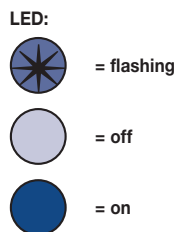
red LED green LEDs  
Monitoring Display



Capacity larger than 40 %, Charging (flashing), no faults



Capacity 100 %, Charging, Fault after Function or duty cycle



**Emergency light fittings with self-contained battery systems**

Emergency light fittings with self-contained battery systems provide the required emergency lighting from a decentralized source and function independent of the central system. These light fittings are particularly economical when used in extensive plants. Until now, compared to the centrally operated and monitored installations, the disadvantage of the emergency light fittings with self-contained battery systems was that they do not supply any information on the state of the light fittings. With the introduction of the eLLK 92 .... NIB, Cooper Crouse-Hinds GmbH has now incorporated monitoring. Five LEDs supply constant information on the charging state, and the available battery capacity.

**Monitoring functions NIB**

A novelty is the enlarged self-monitoring function with automatic function and duration tests. For further safety, all battery cells are permanently monitored. In the event of a fault, the red LED lights up. Then the battery must be changed. Resetting is not possible for safety reasons.

Guarded by a lens, the 5 green LEDs continuously indicate the charging state and the battery capacity. Charging is indicated by flashing green LEDs. The loaded capacity is shown in 20 % steps. An automatic 5 minute function test is carried out on a weekly basis. Thereby, the electronics of the emergency lamp switches from mains to emergency operation, while the mains lamp stays in normal operation. The battery capacity and also the converter- and lamp-function is being tested and possible faults are shown by a flashing red LED. After removing the fault (p.e. by lamp change) and a new function test the fault indication resets automatically.

A partial duty cycle-test (35 min.) is initiated automatically after approx. 3 months. If the min. operation time of 30 minutes is not reached, this is indicated by a flashing red LED. When the cause of the fault has been eliminated, the fault indication is reset during the next emergency lighting operation (manual or automatic) when the minimum operating time of approx. 30 minutes has been reached.

**Handling**

The battery is installed in a separate, certified housing. There are up to 7 Ex-d connectors for the data transfer between the battery unit and the luminaire. Therefore, a battery change is also possible in hazardous areas – at any time. If the luminaire is closed all contacts are safely closed (Fig. 1).

**After opening**

After loosening the screw plug the battery can be taken away. Thereby the Ex-d switching contact first is cutoff and disconnect the battery circuit (Fig. 2). So the battery can be completely cut off from the charging circuit of the luminaire (Fig. 2a). A battery change in hazardous areas can be done at every time. A detachable strap protects the insert from being dropped inadvertently (Fig. 3).

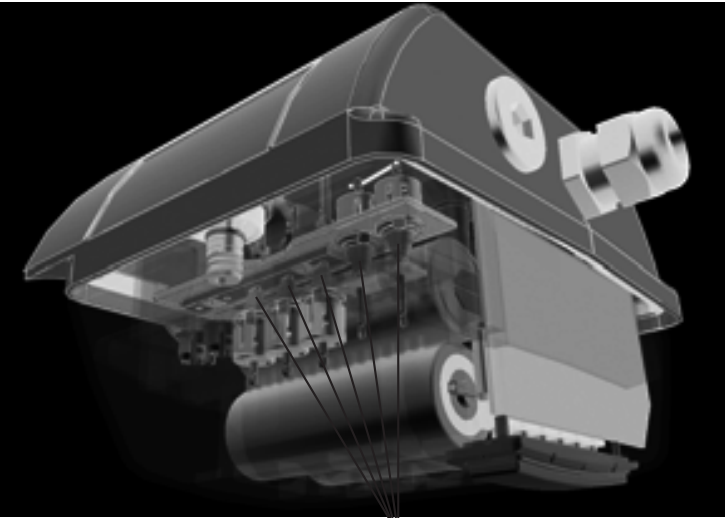


Fig. 1: Ex-d Contact pins

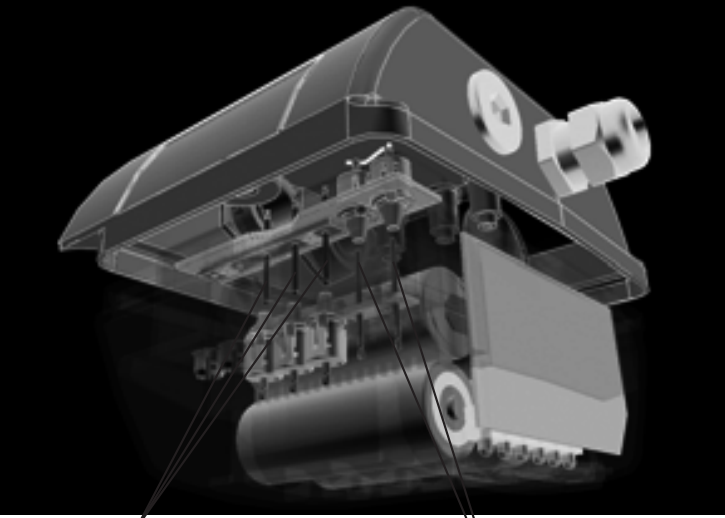


Fig. 2: Ex-d contact for battery circuit

Fig. 2 a: Ex-d switching contact

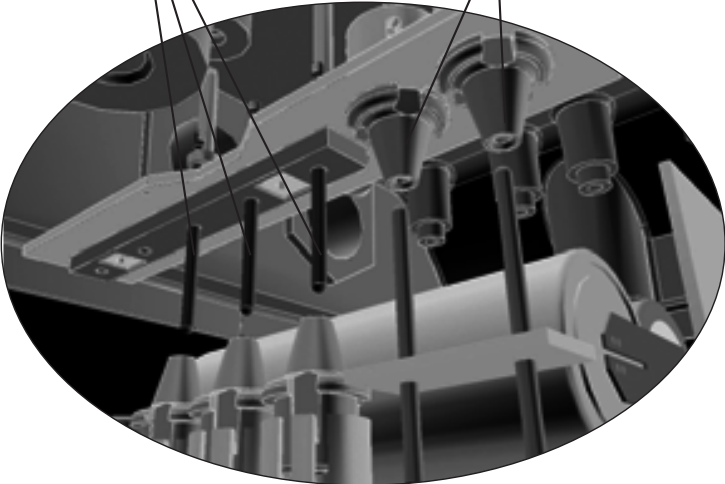


Fig. 3



### Technical data

eLLK 92018/18 NIB   eLLK 92036/36 NIB   eLLM 92018/18 NIB	
Marking to 94/9/EC	⊕ II 2 G Ex de mb ib IIC T4 / ⊕ II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEX-Certificate of Conformity	IECEX BVS 09.0033
Marking to IECEx	Ex de mb [ib] IIC T4 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	-25 °C to +50 °C (specified data: -5 °C to +35 °C)
Rated voltage	220 - 254 V AC
Rated voltage (option)	110 - 127 V AC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG with emergency lighting supply
Insulation class	I
Lamp cap	G13 accord. to IEC 60081
Light efficiency in operation	78 %
Battery	Battery set with 7 Ah-NC battery, with LED display and monitoring via microprocessor
Rated emergency lighting operation	1-lamps can be set on site for an emergency lighting duration of 1.5 or 3 hours
Charging duration	> 14 h
Degree of protection accord. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M20 x 1.5 metal thread (eLLK 92 NIB)
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	eLLK 92018/18 NIB	eLLK 92036/36 NIB	eLLM 92018/18 NIB
Rated current	0.23 A	0.40 A	0.23 A
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal
Lamp/illuminant	2 x T26 / 18 W (T8)	2 x T26 / 36 W (T8)	2 x T26 / 18 W (T8)
Rated luminous flux <sup>1)</sup>	2700 lm	6700 lm	2700 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>1)</sup>	1215 lm (90 %)	1507 lm (45 %)	1215 lm (90 %)
Luminous flux in emergency operation (3 h, one lamp) <sup>1)</sup>	607 lm (45 %)	873 lm (25 %)	607 lm (45 %)
Dimensions (L x W x H)	900 x 188 x 130 mm	1500 x 188 x 130 mm	1205 x 188 x 130 mm
Pole socket			Ø 44 x 150 mm
Weight	approx. 8.8 kg	approx. 12 kg	approx. 10.5 kg

<sup>1)</sup> depends on used lamps



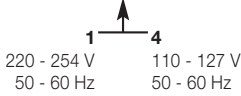
**Ordering details**

Type	Terminals	Through-wiring		Cable glands <sup>2)</sup>	Plugs	Order No.
		single-ended	double-ended			
<b>eLLK 92018/18 NIB (2 x 18 W)</b>						
1/6-1	1 x 6	x	-	2 x M25 x 1.5	1 x blanking	<b>1 2260 879 101</b>
2/6-2	2 x 6	-	x	2 x M25 x 1.5	2 x threaded	<b>1 2260 879 103</b>
2/6-2 M <sup>1)</sup>	2 x 6	-	x	4 x M20 x 1.5	3 x threaded	<b>1 2260 879 111</b>
<b>eLLK 92036/36 NIB (2 x 36 W)</b>						
1/6-1	1 x 6	x	-	2 x M25 x 1.5	1 x blanking	<b>1 2261 879 101</b>
2/6-2	2 x 6	-	x	2 x M25 x 1.5	2 x threaded	<b>1 2261 879 103</b>
2/6-2 M <sup>1)</sup>	2 x 6	-	x	4 x M20 x 1.5	3 x threaded	<b>1 2261 879 111</b>
<b>eLLM 92018/18 NIB (2 x 18 W)</b>						
2/6-1	1 x 8	x	-	1 x M25	-	<b>1 2273 879 101</b>

<sup>1)</sup> M: with metal thread, without cable gland

<sup>2)</sup> With dustcover if entry/thread is not closed

**Scope of delivery without lamp and fixing accessories**



**Accessories**

<b>Lamp for luminaire eLLK92... NIB/eLLM92... NIB</b>			
Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	<b>3 2475 900 001</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	<b>3 2475 900 002</b>
Aura-Ultimate T26/Ø 26 mm (T8) Longlife Socket G13	18 W 36 W	1300 lm white 3350 lm white	<b>3 2475 900 087</b> <b>3 2475 900 088</b>
Aura Super Ex T-HS 26/Ø 26 mm <sup>1)</sup> Single pin cap Fa6	18 W 36 W	1150 lm white 3000 lm white	<b>3 2475 900 084</b> <b>3 2475 900 085</b>

<sup>1)</sup> For luminaires eLLK 923../. and eLLM 923../. single-pin caps Fa6



## Accessories

### Series eLLK 92... NIB and eLLM 92... NIB

Type	Order No.
Hexagon key SW 13	3 2485 000 005

### Series eLLM 92018/18 NIB and eLLM 92036/36 NIB

Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	2 2218 602 000

### Fixing materials eLLK 92... NIB

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	2 2480 002 000
Hexagon screw S4	stainless steel	2	2 2480 054 000
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	2 2480 092 000

### Fixing materials

Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1 1/4"	38 - 42	2	2 2480 462 000
R14	CrNi	1 1/4"	38 - 42	2	2 2480 464 000
R22	hot galvanized	1 1/2"	47 - 51	2	2 2480 472 000
R24	CrNi	1 1/2"	47 - 51	2	2 2480 474 000
R32	hot galvanized	2"	56 - 60	2	2 2480 482 000
R34	CrNi	2"	56 - 60	2	2 2480 484 000
Wall bracket W27	hot galvanized		42.4	1	2 2483 027 000
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	2 2480 000 122

### Battery

Type	Order No.
eLLK 92..., eLLM 92... NIB Battery set type 2710-3 with LED display and micro-processor monitoring, complete	2 2710 904 000

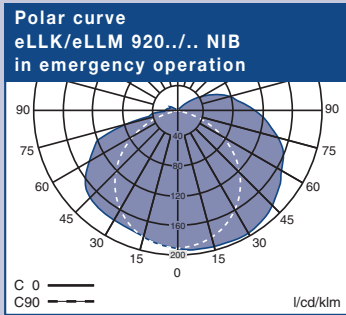
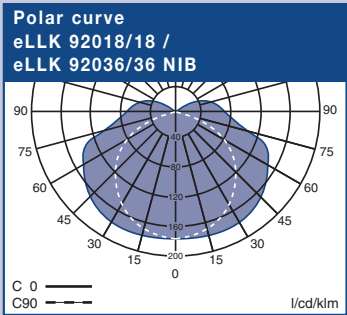
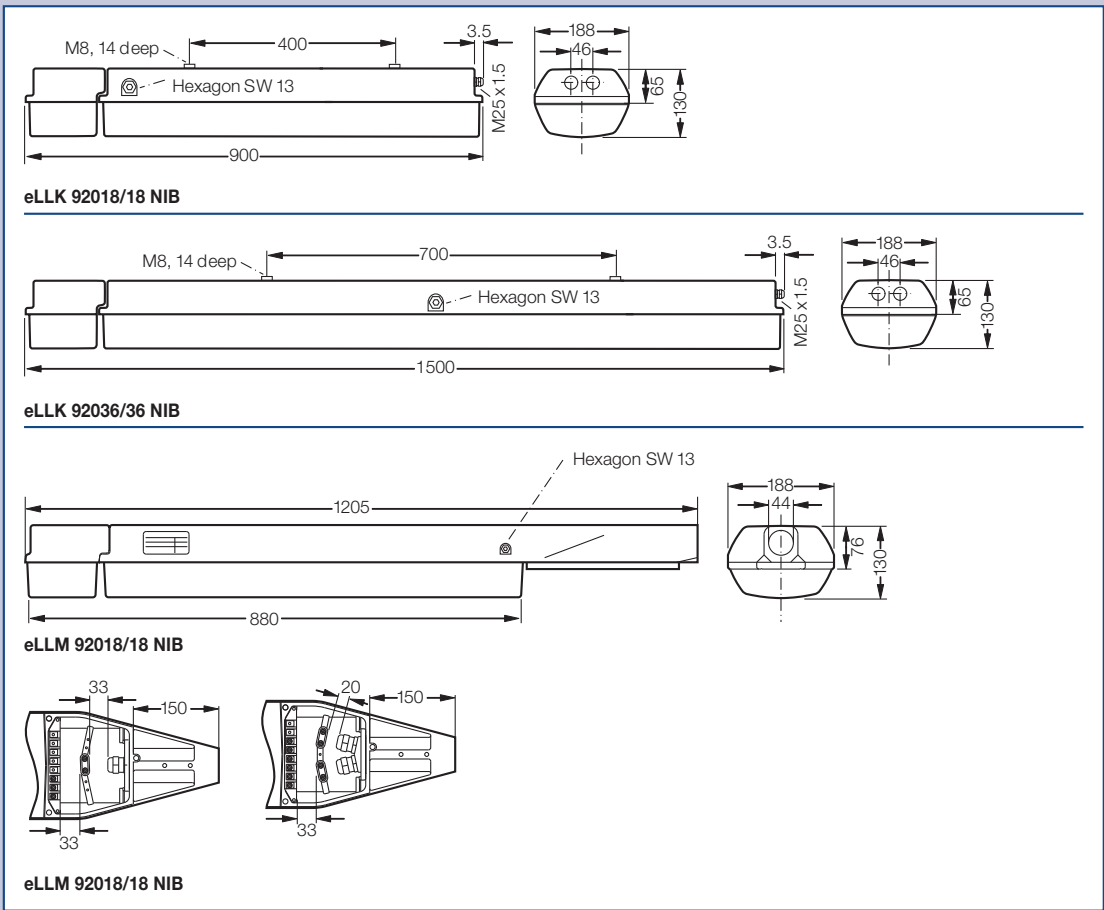
<sup>1)</sup> For luminaires eLLK 923../. and eLLM 923../. with single pin caps Fa6

**Metal cable glands M20/M25 see page 8.10.**

**Complete Mounting Systems see page 2.70 to 2.76.**

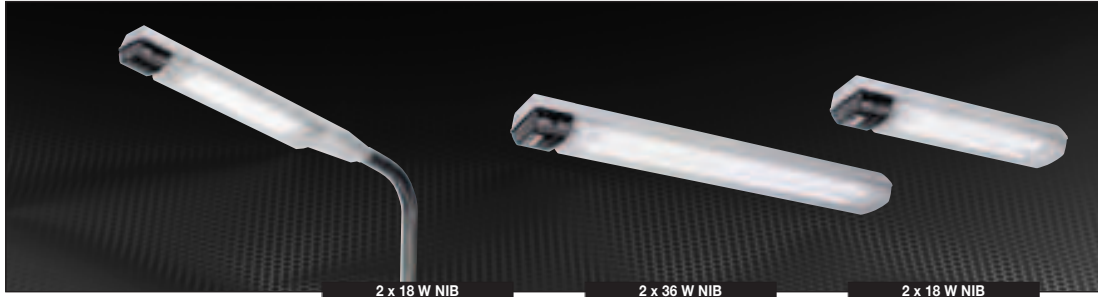


**Dimension drawing | Polar curve**

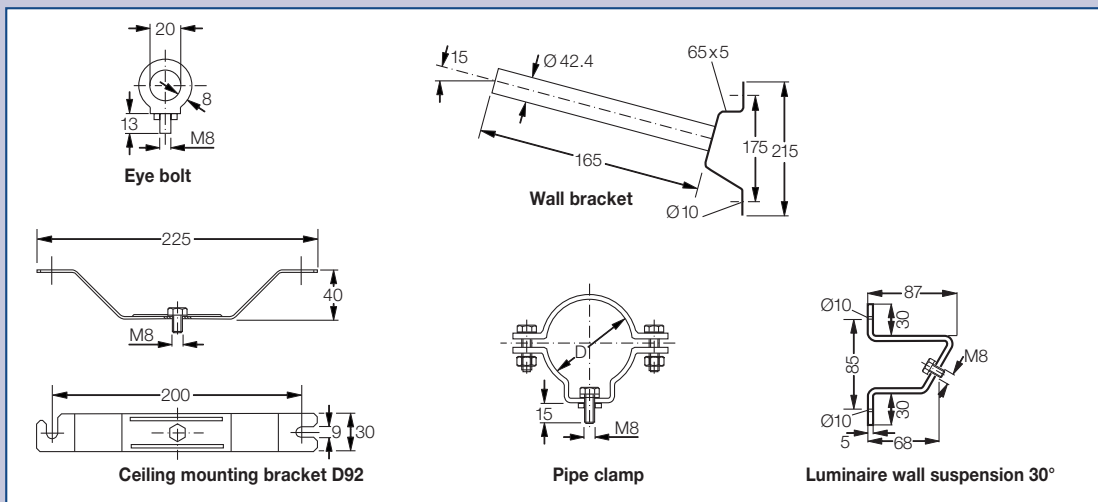


Dimensions in mm





**Dimension drawing**



Dimensions in mm

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

## EX-RECESSED CEILING LIGHT FITTINGS

**eLLB 20... 18 - 58 W**  
**Metallic design for Zone 1 and 21**

The eLLB 20 explosion-protected ceiling light fitting with electronic ballast meet the requirements of ATEX-Directive 94/9/EC and are suitable for two-pin fluorescent lamps.

These lamps are used for surface and flush mounting in ceilings, in particular in clean rooms where smooth, flush surfaces are very important. The area of application is in the pharmaceutical and chemical industry and in engineering as well as in paint shops and spraying cabinets. The housing comprises white-painted steel sheet with integrally moulded covering frame or, optionally, made of polished stainless steel. Safe installation in the ceiling is ensured with special fixing elements, who allows a universal and simple mounting in recessed clean room ceiling from 25 up to 90 mm thickness. In addition, it can also be fixed by means of two M8 drilled holes on the top of the housing.

The hinged, frameless pane made of 6 mm thick safety glass is fixed with captive screws and has inside hinges. The sealing material is guaranteed silicone-leak-proof. The modern economical ballast EVG 09 according to the latest standards (IEC 60079-7: 2006) allows a safe and economical operation of bi-pin fluorescent lamps G13 according to IEC 60081. Lamps reaching its end of life will be monitored and securely switched off (EOL-effect). The high input voltage range allows international use. The standard two-channel structure means that if one lamp fails, the other one remains in operation.

The standard two-sided through-wiring together with the generous terminal housing offers a cost-saving installation.

The light switch is designed as an automatic disconnecter pursuant to EN 60947-1 (IEC 60664) and reliably prevents the lamp from being switched on when the cover disc is open.

With the optional CG-S module, single monitoring of the lamp is possible with the CEAG Emergency Light Supply Systems.

Two channel EVG with EOL monitoring as standard

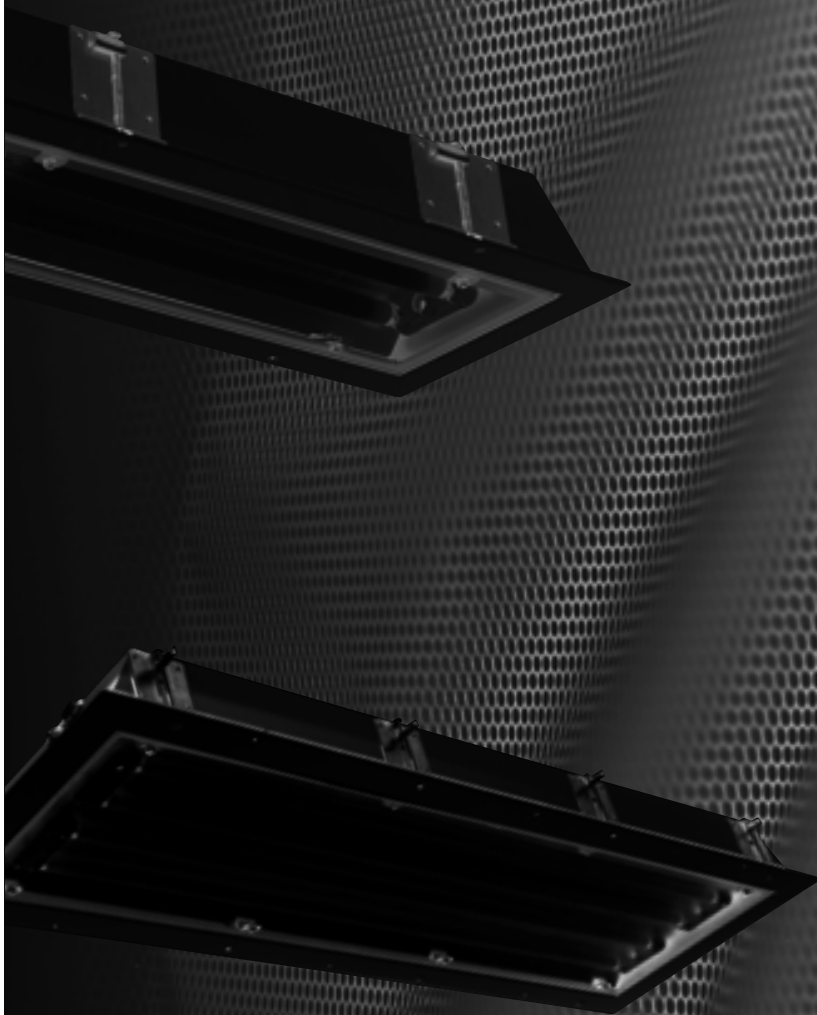
Flush Installation Specially for Clean Rooms

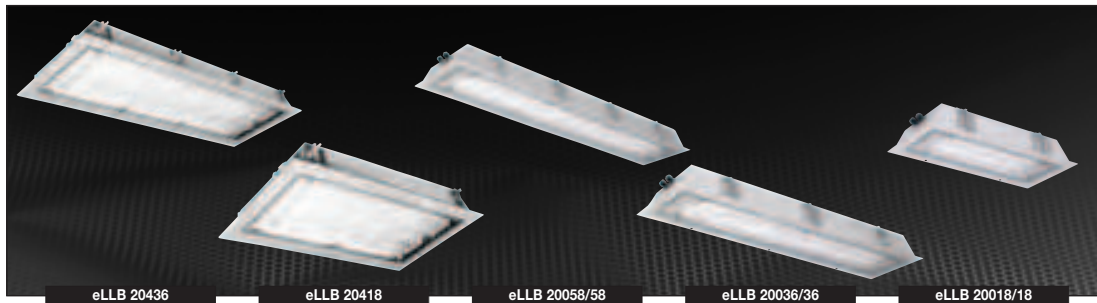
Optionally in painted sheet steel or stainless steel

Safety locking due to integral automatic disconnecter

High degree of protection IP66

Connection to CEAG Emergency Light Supply Systems possible





## Technical data

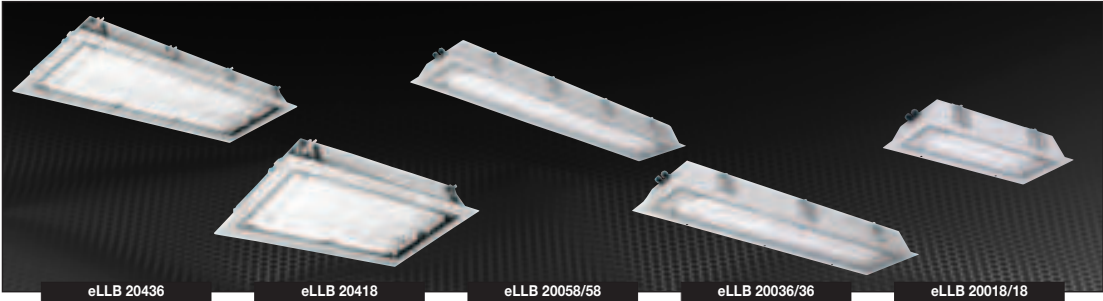
eLLB 20018/18	eLLB 20418	eLLB 20036/36	eLLB 20436	eLLB 20058/58
Marking to 94/9/EC	II 2 G EEx ed IIC T4 /  II 2 G EEx dem ib IIC T4 (CG-S variant) II 2 D IP66 T80 °C			
(new standard – applies for)	II 2 G Ex de IIC T4 /  II 2 G Ex de ib m IIC T4 (CG-S variant) II 2 D Ex tD A21 IP66 T80 °C			
EC-Type Examination Certificate	DMT 02 ATEX E 069			
Permissible ambient temperature	-25 °C to +50 °C			
Frequency	50 - 60 Hz			
Power factor cos φ	≥ 0.95			
Circuit	EVG resp. EVG/CG-S			
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal, through-wiring double-ended			
Insulation class	I			
Lamp cap	G13 accd. to IEC 60081			
Degree of protection accd. EN 60529	IP66			
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: metal thread M20 x 1.5			
Enclosure material	Painted steel sheet, white optional polished stainless steel			
Enclosure colour	white RAL 9010, optional stainless steel			
Protective cover/protective bowl	Single-safety glass pane of 6 mm thick			
Permissible ceiling tickness for fixing accessories	min. 25 mm to max. 90 mm			

	eLLB 20018/18	eLLB 20418
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.18 A / 0.19 A (CG-S variant)	0.36 A / 0.37 A (CG-S variant)
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux <sup>1)</sup>	2700 lm	5400 lm
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	862 x 340 x 120 mm	862 x 490 x 120 mm
Weight	apx. 15 kg / apx. 15.5 kg (CG-S variant)	apx. 25 kg / apx. 25.5 kg (CG-S variant)

	eLLB 20036/36	eLLB 20436
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.34 A / 0.35 A (CG-S variant)	0.68 A / 0.69 A (CG-S variant)
Lamp/illuminant	2 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous flux <sup>1)</sup>	6700 lm	13400 lm
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	1460 x 340 x 120 mm	1460 x 490 x 120 mm
Weight	apx. 22 kg / apx. 22.5 kg (CG-S variant)	apx. 34 kg / apx. 34.5 kg (CG-S variant)

	eLLB 20058/58
Rated voltage	220 - 254 V AC / 195 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC
Rated current	0.53 A / 0.54 A (CG-S variant)
Lamp/illuminant	2 x T26 / 58 W (T8)
Rated luminous flux <sup>1)</sup>	10400 lm
Light efficiency in operation	68 %
Dimensions (L x W x H)	1760 x 340 x 120 mm
Weight	approx. 26 kg / approx. 26.5 kg (CG-S variant)

<sup>1)</sup> depends on used lamps



### Ordering details

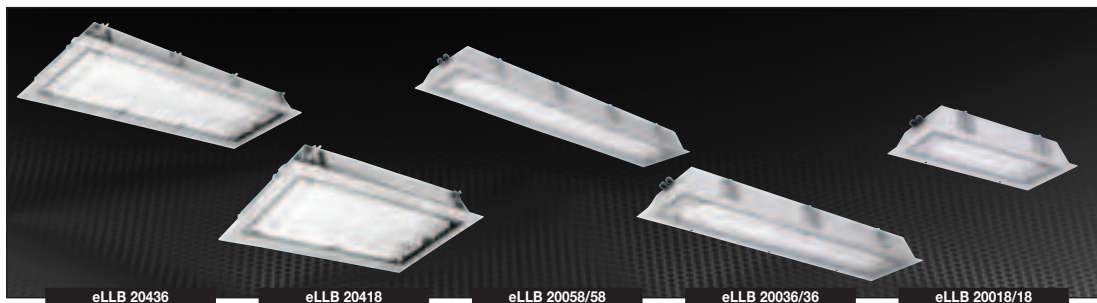
Type	Cable gland <sup>3)</sup>	Enclosure	Order No.
<b>Type eLLB 20018/18</b>			
eLLB 20018/18	M20M <sup>2)</sup>	stainless steel 316	1 2190 218 111
eLLB 20018/18	M20M <sup>2)</sup>	painted steel sheet	1 2190 218 101
eLLB 20018/18	M25K	stainless steel 316	1 2190 218 011
eLLB 20018/18	M25K	painted steel sheet	1 2190 218 001
eLLB 20018/18 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	stainless steel 316	1 2190 218 723
eLLB 20018/18 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	painted steel sheet	1 2190 218 713
eLLB 20018/18 CG-S <sup>1)</sup>	M25K	stainless steel 316	1 2190 218 733
eLLB 20018/18 CG-S <sup>1)</sup>	M25K	painted steel sheet	1 2190 218 703
<b>Type eLLB 20036/36</b>			
eLLB 20036/36	M20M <sup>2)</sup>	stainless steel 316	1 2190 236 111
eLLB 20036/36	M20M <sup>2)</sup>	painted steel sheet	1 2190 236 101
eLLB 20036/36	M25K	stainless steel 316	1 2190 236 011
eLLB 20036/36	M25K	painted steel sheet	1 2190 236 001
eLLB 20036/36 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	stainless steel 316	1 2190 236 723
eLLB 20036/36 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	painted steel sheet	1 2190 236 713
eLLB 20036/36 CG-S <sup>1)</sup>	M25K	stainless steel 316	1 2190 236 733
eLLB 20036/36 CG-S <sup>1)</sup>	M25K	painted steel sheet	1 2190 236 703
<b>Type eLLB 20058/58</b>			
eLLB 20058/58	M20M <sup>2)</sup>	stainless steel 316	1 2190 258 111
eLLB 20058/58	M20M <sup>2)</sup>	painted steel sheet	1 2190 258 101
eLLB 20058/58	M25K	stainless steel 316	1 2190 258 011
eLLB 20058/58	M25K	painted steel sheet	1 2190 258 001
eLLB 20058/58 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	stainless steel 316	1 2190 258 723
eLLB 20058/58 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	painted steel sheet	1 2190 258 713
eLLB 20058/58 CG-S <sup>1)</sup>	M25K	stainless steel 316	1 2190 258 733
eLLB 20058/58 CG-S <sup>1)</sup>	M25K	painted steel sheet	1 2190 258 703
<b>Type eLLB 20418</b>			
eLLB 20418	M20M <sup>2)</sup>	stainless steel 316	1 2190 418 111
eLLB 20418	M20M <sup>2)</sup>	painted steel sheet	1 2190 418 101
eLLB 20418	M25K	stainless steel 316	1 2190 418 011
eLLB 20418	M25K	painted steel sheet	1 2190 418 001
eLLB 20418 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	stainless steel 316	1 2190 418 723
eLLB 20418 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	painted steel sheet	1 2190 418 713
eLLB 20418 CG-S <sup>1)</sup>	M25K	stainless steel 316	1 2190 418 733
eLLB 20418 CG-S <sup>1)</sup>	M25K	painted steel sheet	1 2190 418 703
<b>Type eLLB 20436</b>			
eLLB 20436	M20M <sup>2)</sup>	stainless steel 316	1 2190 436 111
eLLB 20436	M20M <sup>2)</sup>	painted steel sheet	1 2190 436 101
eLLB 20436	M25K	stainless steel 316	1 2190 436 011
eLLB 20436	M25K	painted steel sheet	1 2190 436 001
eLLB 20436 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	stainless steel 316	1 2190 436 723
eLLB 20436 CG-S <sup>1)</sup>	M20M <sup>2)</sup>	painted steel sheet	1 2190 436 713
eLLB 20436 CG-S <sup>1)</sup>	M25K	stainless steel 316	1 2190 436 733
eLLB 20436 CG-S <sup>1)</sup>	M25K	painted steel sheet	1 2190 436 703

<sup>1)</sup> CG-S: design single monitored emergency light fitting for use in CEAG emergency light supply unit

<sup>2)</sup> M: with metal thread, without cable gland

<sup>3)</sup> With dustcover if entry/thread is not closed

**Scope of delivery without lamp and fixing accessories.**



## Accessories

### Lamp for luminaire eLLB 20...

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	3 2475 900 001
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	3 2475 900 002
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	3 2475 900 003
Aura-Ultimate	18 W	1300 lm white	3 2475 900 087
T26/Ø 26 mm (T8) Longlife	36 W	3350 lm white	3 2475 900 088
G13-socket	58 W	5200 lm white	on request

### Fixing materials eLLB 20...

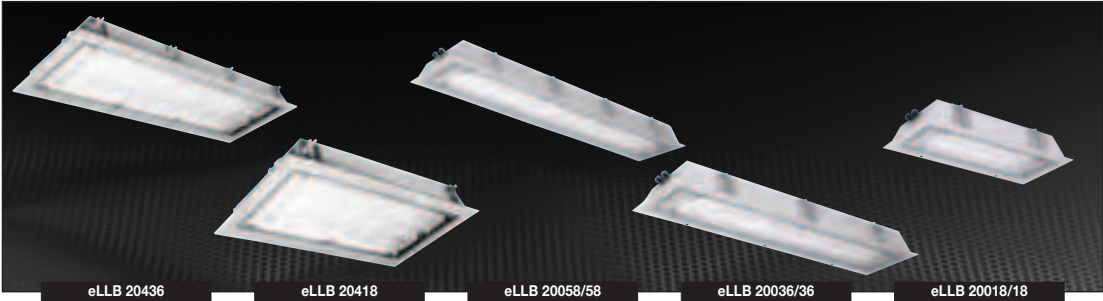
Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	2 2480 002 000
Hexagon screw S4	stainless steel	2	2 2480 054 000
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	2 2480 092 000

### Fixing materials eLLB 20...

Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1 1/4"	38 - 42	2	2 2480 462 000
R14	CrNi	1 1/4"	38 - 42	2	2 2480 464 000
R22	hot galvanized	1 1/2"	47 - 51	2	2 2480 472 000
R24	CrNi	1 1/2"	47 - 51	2	2 2480 474 000
R32	hot galvanized	2"	56 - 60	2	2 2480 482 000
R34	CrNi	2"	56 - 60	2	2 2480 484 000
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	2 2480 000 122

Metal cable glands M20/M25 see page 8.10.

Complete Mounting Systems see page 2.70 to 2.76.



**Dimension drawing | Polar curve**

	A	B	C
eLLB 20018/18	802	400	862
eLLB 20036/36	1400	700	1460
eLLB 20058/58	1700	700	1760
eLLB 20418	802	400	862
eLLB 20436	1400	700	1460

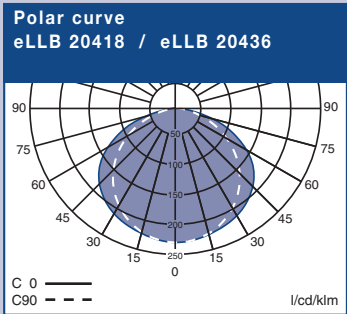
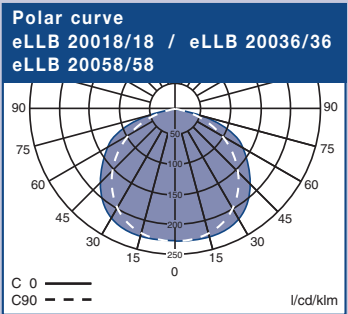
	A	B
eLLB 20018/18	315+3	832+5
eLLB 20036/36	315+3	1432+5
eLLB 20058/58	315+3	1732+5
eLLB 20418	465+3	832+5
eLLB 20436	465+3	1432+5

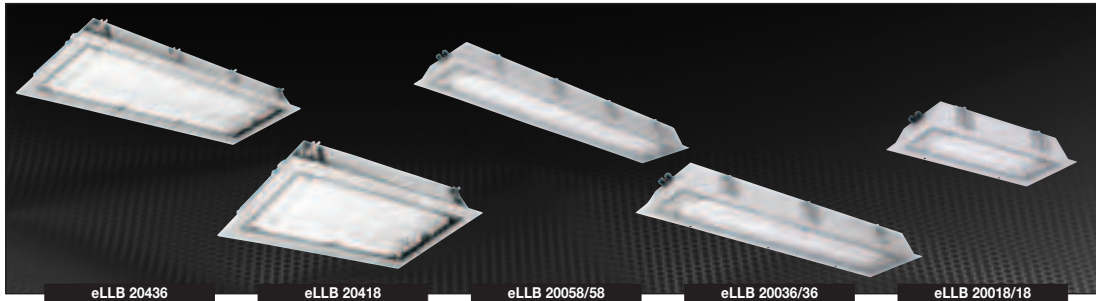
Thickness of the ceiling  $t_c$

	A	B
eLLB 20018/18	315+3	832+5
eLLB 20036/36	315+3	1432+5
eLLB 20058/58	315+3	1732+5
eLLB 20418	465+3	832+5
eLLB 20436	465+3	1432+5

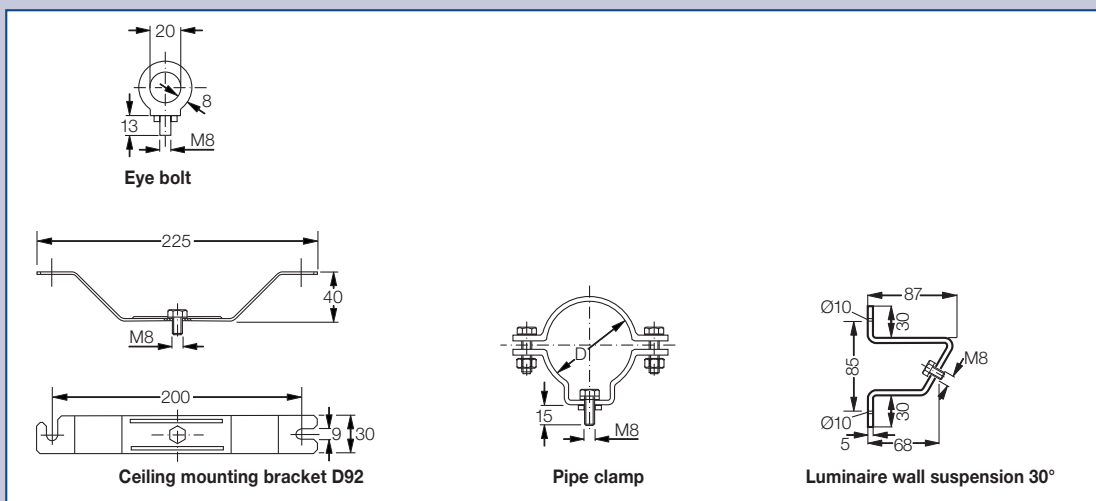
eLLB 20018/18 / eLLB 20036/36 / eLLB 20058/58 / eLLB 20418 / eLLB 20436



Dimensions in mm



**Dimension drawing**



Dimensions in mm

## EX-EMERGENCY RECESSED CEILING LIGHT FITTINGS

**eLLB 20... NIB 18-36 W**  
**Metallic design for Zone 1 and 21**

The new Ex-emergency light fittings with self-contained battery unit, type eLLB 20 ... NIB for bi-pin fluorescent lamps are fitted with an electronic ballast (EVG). They meet the requirements of ATEX-Directive 94/9/EC. The electronic ballast EVG 09, according to the newest standard (IEC 60079-7:2006) enables the safe and economic use of G13 bi-pin lamps according to IEC 60081. Lamps reaching its end of life will be monitored and securely switched off (EOL-effect). Due to a new charging and monitoring technology with intelligent microelectronics, they provide reliable safety and reduced maintenance costs. A function test lasting 5 minutes, that is carried out automatically on a weekly basis, even during mains operation, and a quarterly partial duty-cycle test provide additional safety and drastically reduce the necessary amount of manual tests.

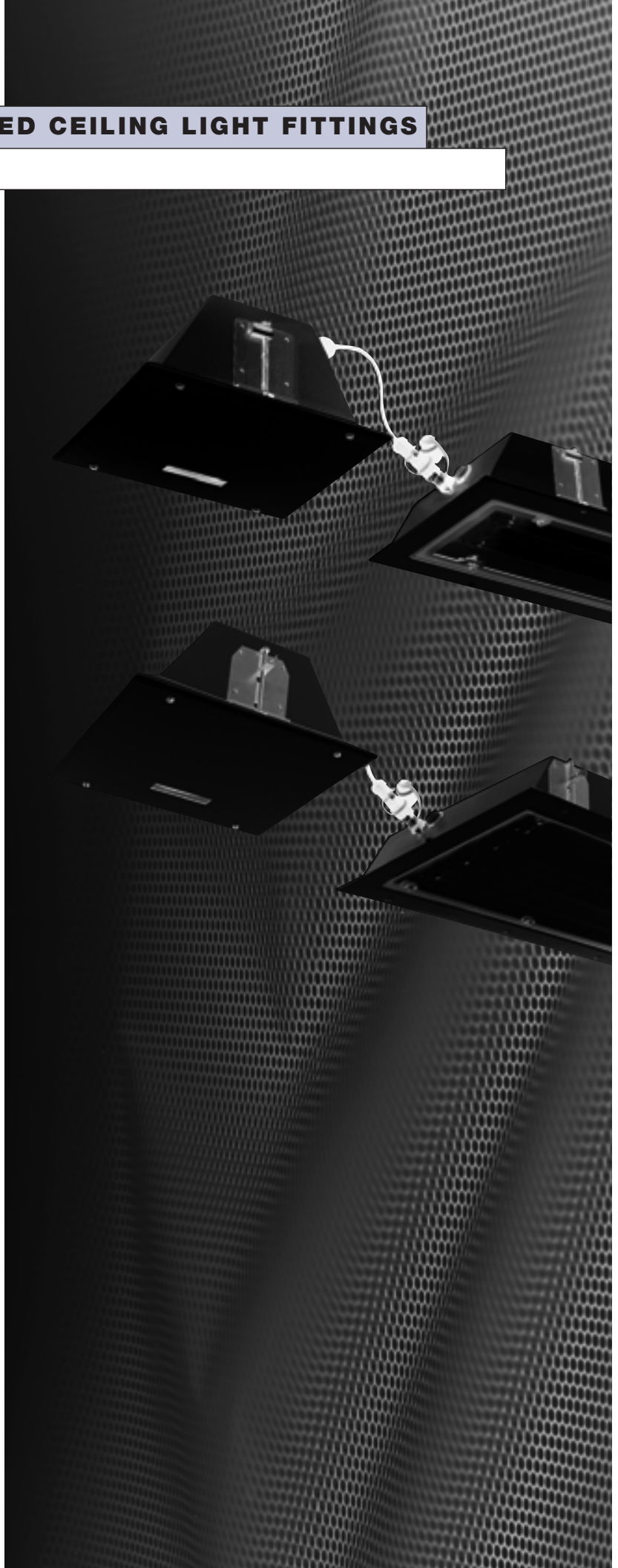
The charging and discharging functions are monitored constantly by the micro-processor and are indicated via a diode display. Only the spent energy is recharged – therefore, overcharging is not possible. The so-called memory effect cannot occur – therefore life of the battery is optimized. The need to replace a battery, a fault in the emergency lighting circuit or a faulty battery is indicated by the LED display.

Due to a new type of battery connection, the battery can be replaced in the hazardous area. The emergency lighting cycle can be set locally for 1.5 or 3 hours.

A remote switch inquiry is standard.

All the other mechanical details are corresponding to the eLLB 20... serie. The separate battery housing with a 1.5 m long connecting lead can be mounted directly in line with the light fitting or, depending on the ceiling raster, alongside it.

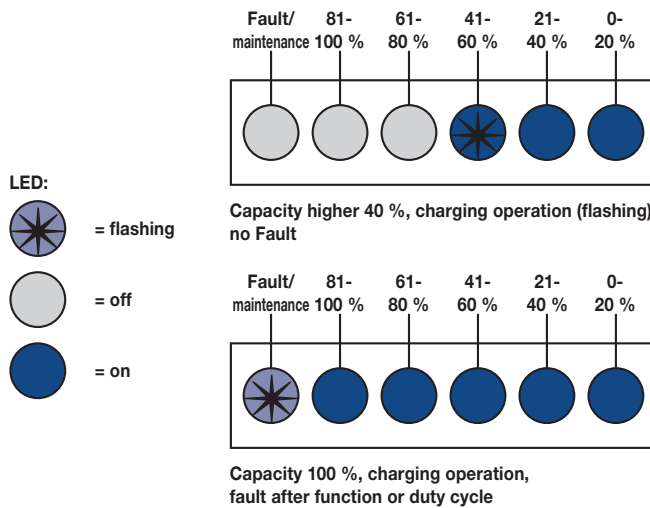
- **Two channel EVG with EOL monitoring as standard**
- **Automatic weekly 5 min. function test**
- **Automatic quarterly partial duty cycle test**
- **Fault indication by flashing red LED with reset after fault elimination**
- **Capacity-dependent charging: indication of charged capacity and remaining operating time by 5 green LEDs**
- **Easy replacement of battery, even in Ex-area**
- **Separate mounted no battery housing**







red LED green LEDs  
Monitoring display



**Monitoring functions NIB**

Guarded by a lens, the 5 green LEDs continuously indicate the charging state and the battery capacity. Charging is indicated by flashing green LEDs. The loaded capacity is shown in 20 % steps.

A novelty is the enlarged self-monitoring function with automatic function and duration tests. An automatic 5 minute function test is carried out on a weekly basis. Thereby, the electronics of the emergency lamp switches from mains to emergency operation, while the mains lamp stays in normal operation. The battery capacity and also the converter and lamp-function is being tested and possible faults are shown by a flashing red LED. After removing the fault (p.e. by lamp change) and a new function test the fault indication resets automatically.

A partial duty cycle-test (35 min.) is initiated automatically after approx. 3 months. If the min. operation time of 30 minutes is not reached, this is indicated by a flashing red LED. When the cause of the fault has been eliminated, the fault indication is reset during the next emergency lighting operation (manual or automatic) when the minimum operating time of approx. 30 minutes has been reached.

**Handling**

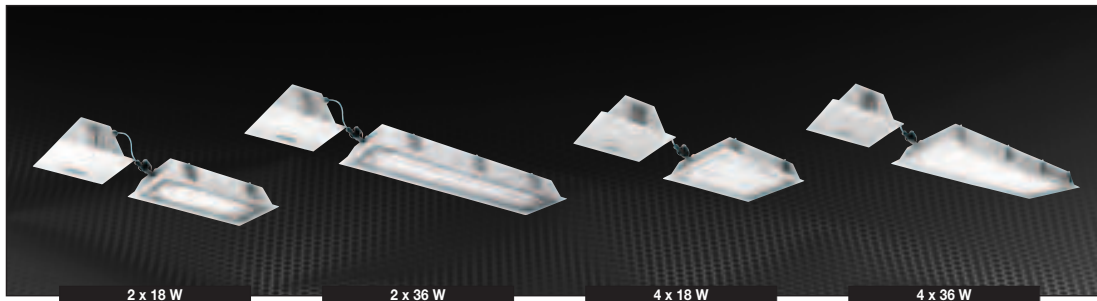
The battery is installed in a separate, certified housing. There are up to 7 Ex-d connectors for the data transfer between the battery unit and the luminaire. Therefore, a battery change is also possible in hazardous areas – at any time. The run-down battery set can be replaced by loosening the screws and simply pulling off the battery set. A detachable strap protects the insert from being dropped inadvertently.



Battery set NIB

**Emergency light fittings with self-contained battery systems**

Emergency light fittings with self-contained battery systems provide the required emergency lighting from a decentralized source and function independent of the central system. These light fittings are particularly economical when used in extensive plants. Until now, compared to the centrally operated and monitored installations, the disadvantage of the emergency light fittings with self-contained battery systems was that they do not supply any information on the state of the light fittings. With the introduction of the eLLB 20 ... NIB, Cooper Crouse-Hinds has now incorporated monitoring. Five LEDs supply constant information on the charging state and the available battery capacity.



## Technical data

eLLB 20018/18 NIB   eLLB 20418 NIB   eLLB 20036/36 NIB   eLLB 20436 NIB	
Marking to 94/9/EC (new standard – applies for)	⊕ II 2 G EEx edm ib IIC T4 / ⊕ II 2 G IP66 T80 °C ⊕ II 2 G Ex dem ib IIC T4 / ⊕ II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	DMT 02 ATEX E 069
Permissible ambient temperature	-20 °C to +50 °C (appecified data: -5 °C to +35 °C)
Rated voltage	220 - 254 V AC
Rated voltage (option)	110 - 127 V AC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG with emergency lighting supply
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm <sup>2</sup> per terminal, through-wiring double-ended
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Battery	Battery set with 7 Ah-NC battery, with LED display and monitoring via microprocessor
Battery housing	Connection via 1.5 long connection lead with plugs
Rated emergency lighting operation	1-lamps can be set on site for an emergency lighting duration of 1.5 or 3 hours
Charging duration	> 14 h
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables Ø 8 - 17 mm Option: M20 x 1.5 metal thread
Enclosure material	Painted steel sheet, white optional polished stainless steel
Enclosure colour	white, optional stainless steel
Protective cover/protective bowl	Single-safety glass pane of 6 mm thick
Permissible ceiling tickness for fixing accessories	min. 25 mm to max. 90 mm

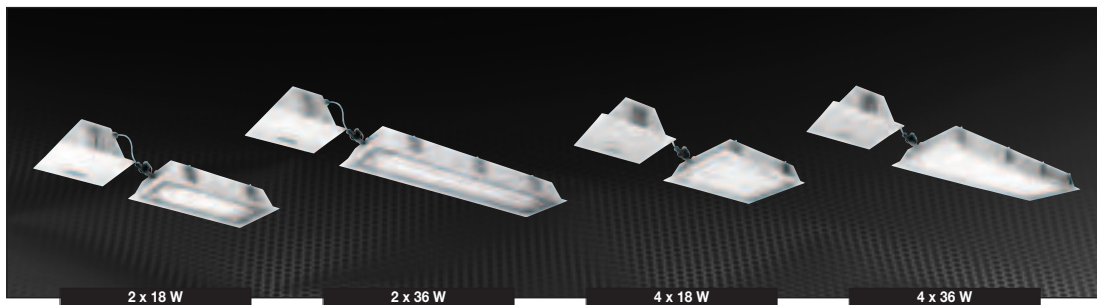
	eLLB 20018/18 NIB	eLLB 20418 NIB
Rated current	0.23 A	0.41 A
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux	2700 lm	5400 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>1)</sup>	1215 lm (90 %)	1215 lm (90 %)
Luminous flux in emergency operation (3 h, one lamp) <sup>1)</sup>	607 lm (45 %)	607 lm (45 %)
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	862 x 340 x 120 mm	862 x 490 x 120 mm
Weight	approx. 18 kg	approx. 29 kg

	eLLB 20036/36 NIB	eLLB 20436 NIB
Rated current	0.40 A	0.74 A
Lamp/illuminant	2 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous flux	6700 lm	13400 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>1)</sup>	1507 lm (45 %)	1507 lm (45 %)
Luminous flux in emergency operation (3 h, one lamp) <sup>1)</sup>	873 lm (25 %)	873 lm (25 %)
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	1460 x 340 x 120 mm	1460 x 490 x 120 mm
Weight	approx. 25 kg	approx. 38 kg

### Battery housing

Cable glands/gland plates/enclosure drilling <sup>1)</sup>	Connection via 1.5 long connection lead with plugs eXLink
Dimensions (L x W x H)	350 x 340 x 143 mm
Weight	approx. 5.7 kg

<sup>1)</sup> depends on used lamps



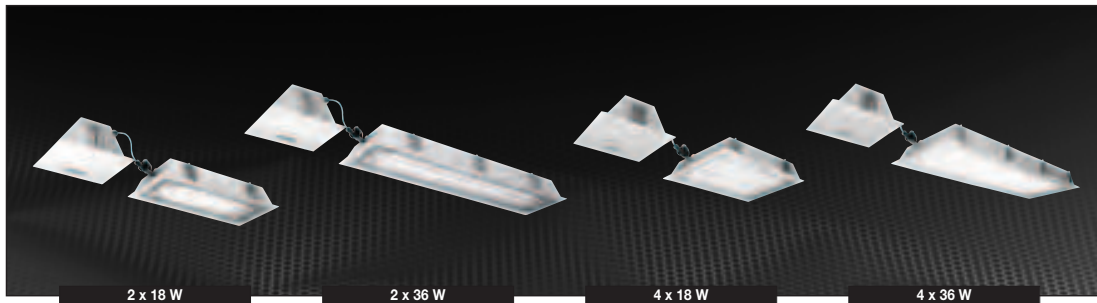
### Ordering details

Type	Cable gland <sup>2)</sup>	Enclosure	Order No.
<b>Type eLLB 20018/18 NIB</b>			
eLLB 20018/18 NIB	M25K	painting steel sheet	<b>1 2190 218 002</b>
eLLB 20018/18 NIB	M25K	stainless steel 316	<b>1 2190 218 012</b>
eLLB 20018/18 NIB	M20M <sup>1)</sup>	painting steel sheet	<b>1 2190 218 102</b>
eLLB 20018/18 NIB	M20M <sup>1)</sup>	stainless steel 316	<b>1 2190 218 112</b>
<b>Type eLLB 20036/36 NIB</b>			
eLLB 20036/36 NIB	M25K	painting steel sheet	<b>1 2190 236 002</b>
eLLB 20036/36 NIB	M25K	stainless steel 316	<b>1 2190 236 012</b>
eLLB 20036/36 NIB	M20M <sup>1)</sup>	painting steel sheet	<b>1 2190 236 102</b>
eLLB 20036/36 NIB	M20M <sup>1)</sup>	stainless steel 316	<b>1 2190 236 112</b>
<b>Type eLLB 20418 NIB</b>			
eLLB 20418 NIB	M25K	painting steel sheet	<b>1 2190 418 002</b>
eLLB 20418 NIB	M25K	stainless steel 316	<b>1 2190 418 012</b>
eLLB 20418 NIB	M20M <sup>1)</sup>	painting steel sheet	<b>1 2190 418 102</b>
eLLB 20418 NIB	M20M <sup>1)</sup>	stainless steel 316	<b>1 2190 418 112</b>
<b>Type eLLB 20436 NIB</b>			
eLLB 20436 NIB	M25K	painting steel sheet	<b>1 2190 436 002</b>
eLLB 20436 NIB	M25K	stainless steel 316	<b>1 2190 436 012</b>
eLLB 20436 NIB	M20M <sup>1)</sup>	painting steel sheet	<b>1 2190 436 102</b>
eLLB 20436 NIB	M20M <sup>1)</sup>	stainless steel 316	<b>1 2190 436 112</b>

<sup>1)</sup> M: with metal thread, without cable gland

<sup>2)</sup> With dustcover if entry/thread is not closed

**Scope of delivery without lamp and fixing accessories.**



## Accessories

### Lamp for luminaire eLLB 20... NIB

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	<b>3 2475 900 001</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	<b>3 2475 900 002</b>
Aura-Ultimate T26/Ø 26 mm (T8) Longlife G13-socket	18 W 36 W	1300 lm white 3350 lm white	<b>3 2475 900 087</b> <b>3 2475 900 088</b>

### Fixing materials eLLB 20... NIB

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	<b>2 2480 002 000</b>
Hexagon screw S4	stainless steel	2	<b>2 2480 054 000</b>
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	<b>2 2480 092 000</b>

### Fixing materials eLLB 20... NIB

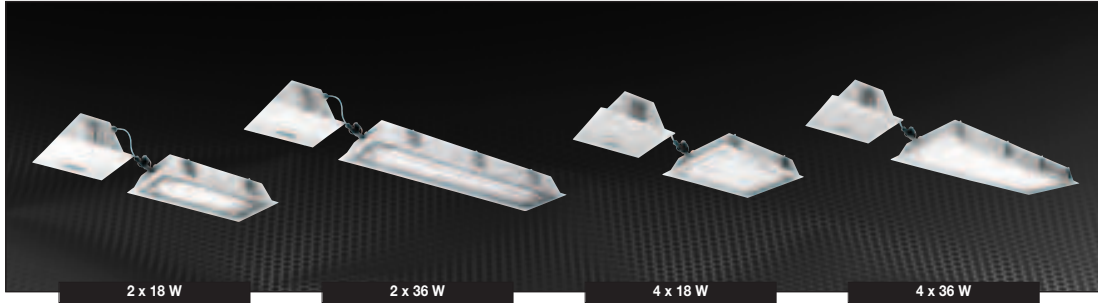
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp R12	hot galvanized	1 1/4"	38 - 42	2	<b>2 2480 462 000</b>
R14	CrNi	1 1/4"	38 - 42	2	<b>2 2480 464 000</b>
R22	hot galvanized	1 1/2"	47 - 51	2	<b>2 2480 472 000</b>
R24	CrNi	1 1/2"	47 - 51	2	<b>2 2480 474 000</b>
R32	hot galvanized	2"	56 - 60	2	<b>2 2480 482 000</b>
R34	CrNi	2"	56 - 60	2	<b>2 2480 484 000</b>
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	<b>2 2480 000 122</b>

### Spare part battery eLLB 20... NIB

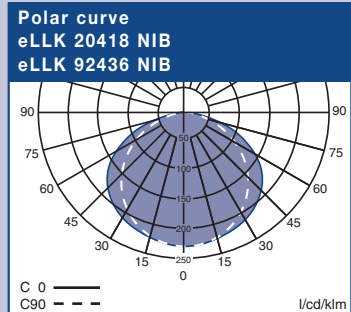
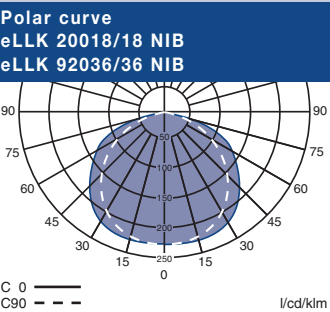
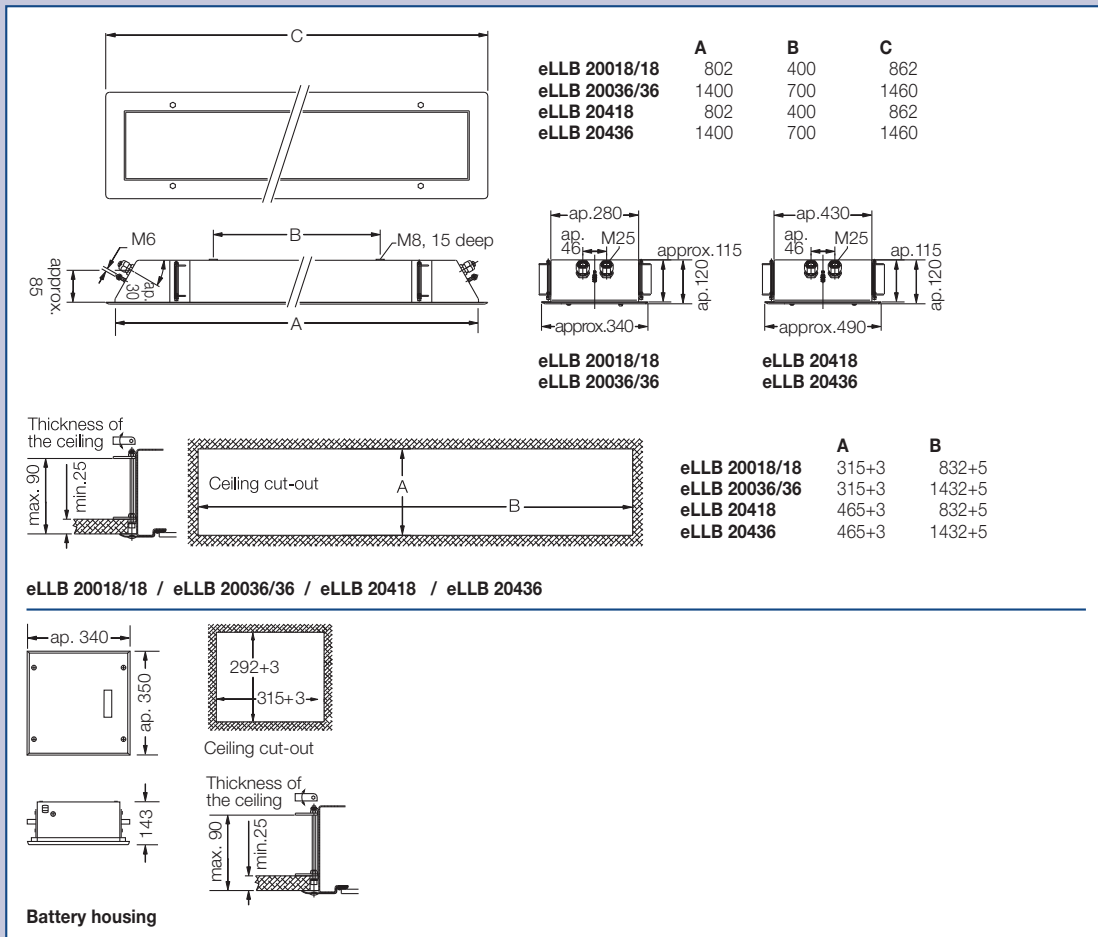
Type	Order No.
Battery set Type 2710-3 with LED display and micro-processor monitoring, complete	<b>2 2710 904 000</b>

Metal cable glands M20/M25 see page 8.10.

Complete Mounting Systems see page 2.70 to 2.76.



Dimension drawing | Polar curve



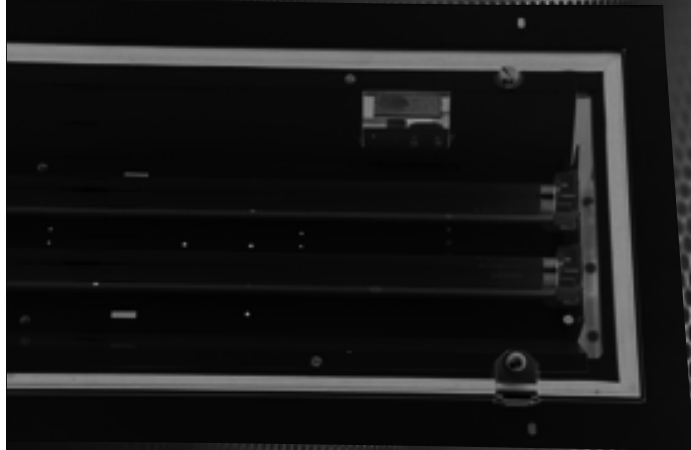
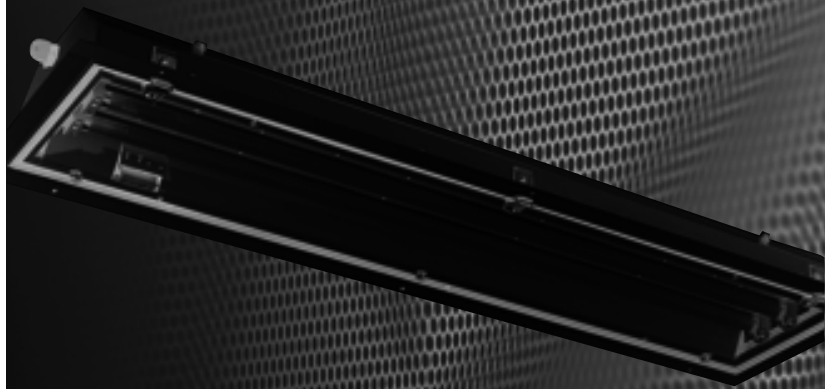
Dimensions in mm

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12

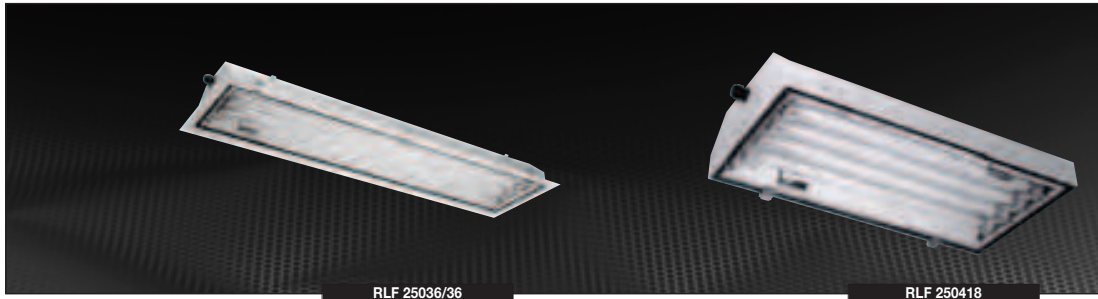
## EX-RECESSED CEILING LIGHT FITTINGS

**RLF/RLF-INOX 250 18 - 58 W / RLF/RLF-INOX 250... N 18 - 36 W**  
**Metallic design for Zone 1 and Zone 21**

The RLF... explosion-protected recessed ceiling light fittings with electronic ballast meet the requirements of ATEX-Directive 94/9/EC and are suitable for two-pin fluorescent lamps. These lamps are used for surface and flush mounting in ceilings, in particular in clean rooms where smooth, flush surfaces are very important. The area of application is in the pharmaceutical and chemical industry and in labs as well as in paint shops and spraying cabinets. The housing comprises white-painted steel sheet with an optionally integrally moulded covering frame for safe installation in the ceiling. The type RLF-INOX is made of stainless steel. In addition, it can also be fixed by means of two M8 drilled holes on the top of the housing. The hinged, frameless pane made of 5 mm thick safety glass is fixed with 3 alt. 4 captive screws. The sealing material is EPDM and guarantees the high protection IP65. The electronic ballasts of the latest generation can be used internationally due to their large input voltage range and contents the "End of Life" disconnection acc. latest standard. The standard two-channel structure means that if one lamp fails, the other one remains in operation. The standard two-sided through-wiring together with the generous terminal housing offers a cost-saving installation. The light switch reliably prevents the lamp from being switched on when the cover pane is open. An emergency light fitting version with self-contained battery-system allows a decentral emergency light with an emergency lighting cycle of 1.5 or 3 hours.



- Flush installation specially for lean rooms by using the accessed mounting frame
- Standard, two-channel electronic
- Enclosure polished available made of stainless steel 304 (RLF-INOX 250...)
- Safety locking due to integral disconnecter
- High degree of protection IP65
- Version with self-contained battery system



**Technical data**

**RLF 250... / RLF-INOX 250...**

Marking to 94/9/EC	⊕ II 2 G Ex de IIC T4 / ⊕ II 2 D Ex tD A21 IP65 T60 °C
EC-Type Examination Certificate	FTZU 06 ATEX 0050 X
Permissible ambient temperature	-20 °C to +40 °C
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG
Connecting terminals	L1, L2, L3, N, PE; max. 2 x 4.0 mm <sup>2</sup> Through-wiring double-ended
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP65
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M20 x 1.5 metal thread
Enclosure material	Painted steel sheet (RLF-INOX 250...: polished stainless steel 304 (1.4301)
Enclosure colour	white, stainless steel
Protective cover/protective bowl	Single-safety glass pane of 5 mm thick

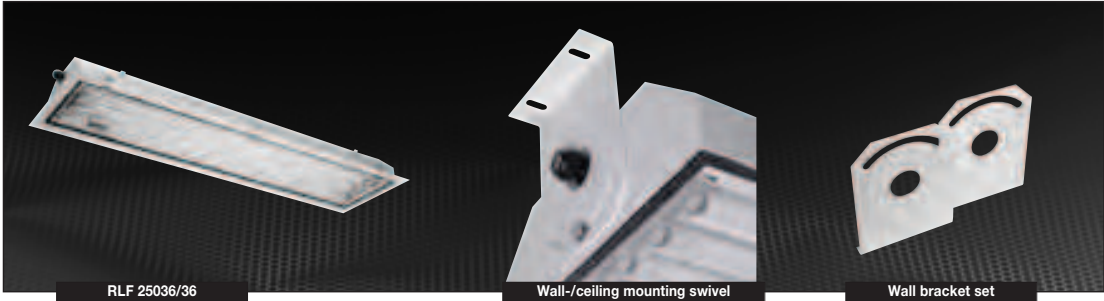
	<b>RLF... 25018/18</b>	<b>RFL... 250418</b>
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated current	0.18 A	0.36 A
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux <sup>1)</sup>	2700 lm	5400 lm
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	701 x 302 x 130 mm	701 x 362 x 130 mm
Weight	6.9 kg	9.5 kg

	<b>RLF... 25036/36</b>	<b>RFL... 250336</b>	<b>RFL... 250436</b>
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated current	0.34 A	0.51 A	0.68 A
Lamp/illuminant	2 x T26 / 36 W (T8)	3 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous flux <sup>1)</sup>	6700 lm	10050 lm	13400 lm
Light efficiency in operation	70 %	68 %	69 %
Dimensions (L x W x H)	1312 x 302 x 130 mm	1312 x 302 x 130 mm	1312 x 362 x 130 mm
Weight	12.9 kg	13.4 kg	16.5 kg

	<b>RLF... 25058/58</b>	<b>RFL... 250358</b>	<b>RFL... 250458</b>
Rated voltage	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.53 A	0.80 A	1.06 A
Lamp/illuminant	2 x T26 / 58 W (T8)	3 x T26 / 58 W (T8)	4 x T26 / 58 W (T8)
Rated luminous flux <sup>1)</sup>	10400 lm	15600 lm	20800 lm
Light efficiency in operation	68 %	66 %	67 %
Dimensions (L x W x H)	1611 x 302 x 130 mm	1611 x 302 x 130 mm	1611 x 362 x 130 mm
Weight	17.2 kg	17.8 kg	19.8 kg

<sup>1)</sup> depends on used lamps

**RLF ...**



**Ordering details**

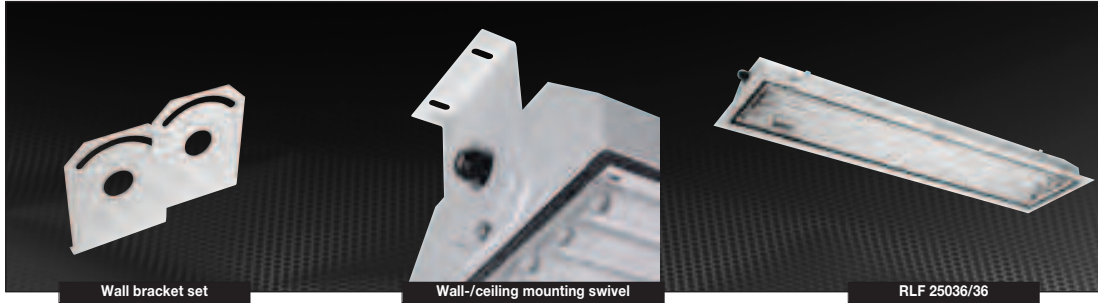
Type	Cable gland <sup>1)</sup>	Thread <sup>1)</sup>	Order No.
<b>Type RLF 250... made of sheet steel</b>			
RLF 25018/18 2/5-2 K	M25 x 1.5	-	1 2283 218 001
RLF 25036/36 2/5-2 K	M25 x 1.5	-	1 2283 236 001
RLF 25058/58 2/5-2 K	M25 x 1.5	-	1 2283 258 001
RLF 25018/18 2/5-2 M	-	M20 x 1.5	1 2283 218 002
RLF 25036/36 2/5-2 M	-	M20 x 1.5	1 2283 236 002
RLF 25058/58 2/5-2 M	-	M20 x 1.5	1 2283 258 002
RLF 250336 2/5-2 K	M25 x 1.5	-	1 2283 336 011
RLF 250358 2/5-2 K	M25 x 1.5	-	1 2283 358 011
RLF 250336 2/5-2 M	-	M20 x 1.5	1 2283 336 012
RLF 250358 2/5-2 M	-	M20 x 1.5	1 2283 358 012
RLF 250418 2/5-2 K	M25 x 1.5	-	1 2283 418 011
RLF 250436 2/5-2 K	M25 x 1.5	-	1 2283 436 011
RLF 250458 2/5-2 K	M25 x 1.5	-	1 2283 458 011
RLF 250418 2/5-2 M	-	M20 x 1.5	1 2283 418 012
RLF 250436 2/5-2 M	-	M20 x 1.5	1 2283 436 012
RLF 250458 2/5-2 M	-	M20 x 1.5	1 2283 458 012
<b>Type RLF-INOX 250... made of stainless steel</b>			
RLF-INOX 25018/18 2/5-2 K	M25 x 1.5	-	1 2283 218 004
RLF-INOX 25036/36 2/5-2 K	M25 x 1.5	-	1 2283 236 003
RLF-INOX 25058/58 2/5-2 K	M25 x 1.5	-	1 2283 258 003
RLF-INOX 25018/18 2/5-2 M	-	M20 x 1.5	1 2283 218 003
RLF-INOX 25036/36 2/5-2 M	-	M20 x 1.5	1 2283 236 004
RLF-INOX 25058/58 2/5-2 M	-	M20 x 1.5	1 2283 258 004
RLF-INOX 250336 2/5-2 K	M25 x 1.5	-	1 2283 336 001
RLF-INOX 250358 2/5-2 K	M25 x 1.5	-	1 2283 358 001
RLF-INOX 250336 2/5-2 M	-	M20 x 1.5	1 2283 336 002
RLF-INOX 250358 2/5-2 M	-	M20 x 1.5	1 2283 358 002
RLF-INOX 250418 2/5-2 K	M25 x 1.5	-	1 2283 418 001
RLF-INOX 250436 2/5-2 K	M25 x 1.5	-	1 2283 436 001
RLF-INOX 250458 2/5-2 K	M25 x 1.5	-	1 2283 458 001
RLF-INOX 250418 2/5-2 M	-	M20 x 1.5	1 2283 418 002
RLF-INOX 250436 2/5-2 M	-	M20 x 1.5	1 2283 436 002
RLF-INOX 250458 2/5-2 M	-	M20 x 1.5	1 2283 458 002

<sup>1)</sup> With dustcover if entry/thread is not closed

Scope of delivery without lamps and fixing material.

**Note: mounting frames are not part of the delivery. Please see accessories.**



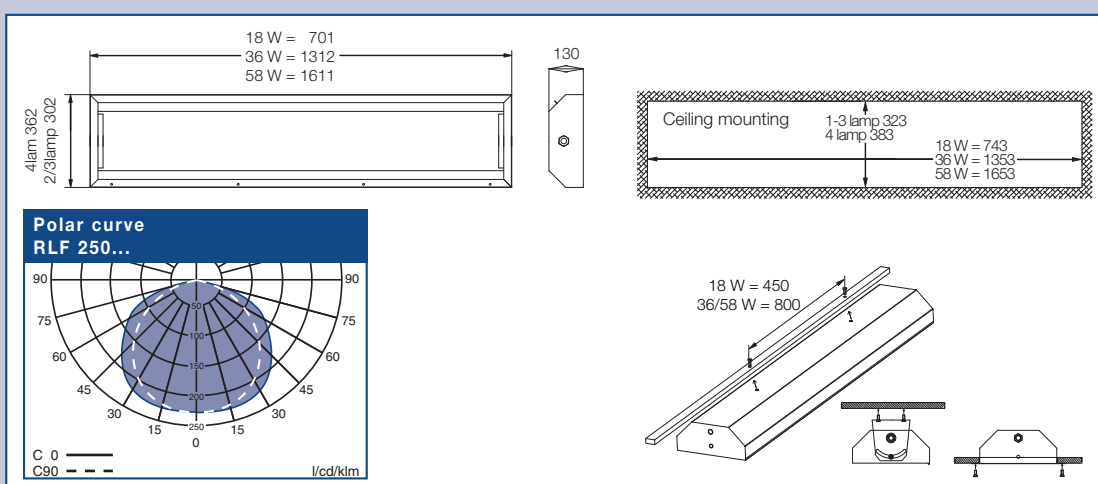


**Accessories**

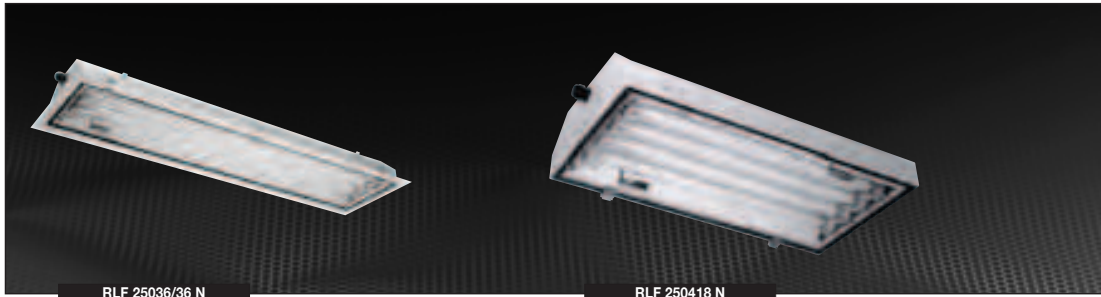
RLF ...			
Type	Version	Application	Order No.
Wall bracket set	2 pcs.	RLF 250...	<b>3 2283 000 007</b>
Mounting frame for ceiling mounting:	for luminaires 2 x 18 W	RLF 250...	<b>3 2283 000 001</b>
	for luminaires 4 x 18 W	RLF 250...	<b>3 2283 000 002</b>
	for luminaires 2 x/3 x 36 W	RLF 250...	<b>3 2283 000 003</b>
	for luminaires 4 x 36 W	RLF 250...	<b>3 2283 000 004</b>
	for luminaires 2 x/3 x 58 W	RLF 250...	<b>3 2283 000 005</b>
Wall bracket set INOX	2 pcs.	RLF-INOX 250...	<b>3 2283 000 014</b>
Mounting frame INOX for ceiling mounting:	for luminaires 2 x 18 W	RLF-INOX 250...	<b>3 2283 000 008</b>
	for luminaires 4 x 18 W	RLF-INOX 250...	<b>3 2283 000 009</b>
	for luminaires 2 x/3 x 36 W	RLF-INOX 250...	<b>3 2283 000 010</b>
	for luminaires 4 x 36 W	RLF-INOX 250...	<b>3 2283 000 011</b>
	for luminaires 2 x/3 x 58 W	RLF-INOX 250...	<b>3 2283 000 012</b>
	for luminaires 4 x 58 W	RLF-INOX 250...	<b>3 2283 000 013</b>

Metal cable glands M20/M25 see page 8.10.  
 Complete Mounting Systems see page 2.70 to 2.76.

**Dimension drawing | Polar curve**



Dimensions in mm

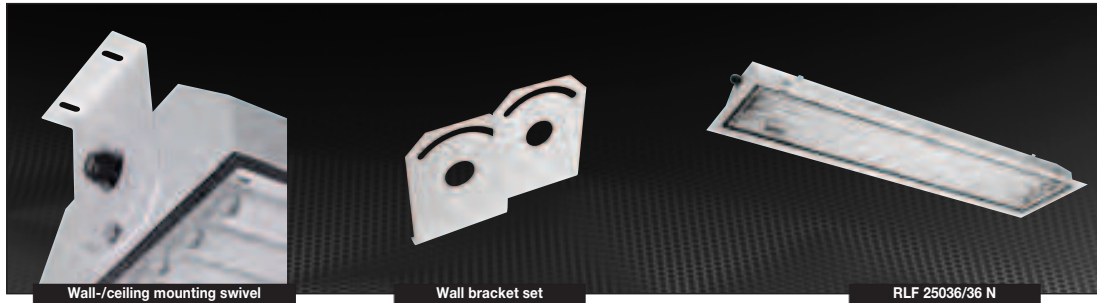


## Technical data

RLF 250... N / RLF-INOX 250... N	
Marking to 94/9/EC	⊕ II 2 G Ex de mb IIC T4 / ⊕ II 2 D Ex tD A21 IP65 T60 °C
EC-Type Examination Certificate	FTZU 08 ATEX 0188 X
Permissible ambient temperature	-5 °C to +40 °C
Rated voltage	230 - 240 V AC
Frequency	50 - 60 Hz
Circuit	EVG with emergency lighting supply
Connecting terminals	L, L1, L2, L3, N, PE max. 6 x 4.0 mm <sup>2</sup> , through-wiring double-ended
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Battery	3.6 V/4 Ah (18 W) / 6 V/4 Ah (36 W)
Rated emergency lighting operation	1.5 h / 3 h
Charging duration	> 24 h
Degree of protection accd. EN 60529	IP65
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M20 x 1.5 metal thread
Enclosure material	Painted steel sheet (RLF-INOX 250.. N: polished stainless steel)
Enclosure colour	white, stainless steel
Protective cover/protective bowl	Single-safety glass pane of 5 mm thick

	RLF... 25018/18 N	RFL... 250418 N
Rated current	0.20 A	0.36 A
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux <sup>1)</sup>	2700 lm	5400 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>1)</sup>	270 lm (20 %)	270 lm (20 %)
Luminous flux in emergency operation (3 h, one lamp) <sup>1)</sup>	216 lm (16 %)	216 lm (16 %)
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	701 x 302 x 130 mm	701 x 362 x 130 mm
Weight	8.9 kg	11.5 kg

	RLF... 25036/36 N	RFL... 250436 N
Rated current	0.36 A	0.68 A
Lamp/illuminant	2 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous		



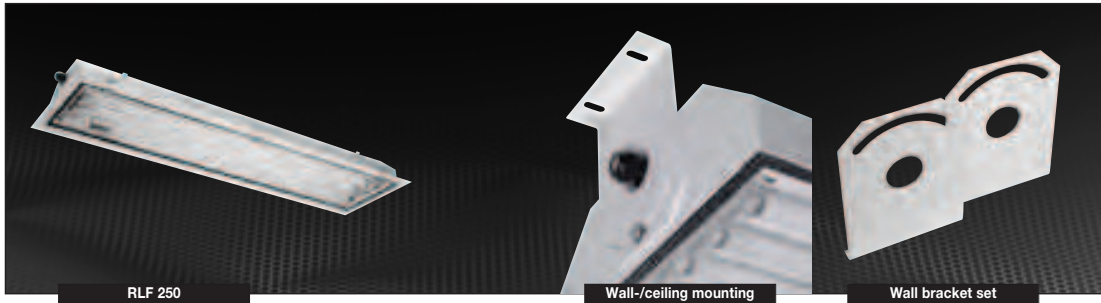
**Bestellangaben**

Type	Cable gland	Thread	Order No.
<b>Typ RLF 250.. made of sheet steel</b>			
RLF 25018/18 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 218 201
RLF 25036/36 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 236 201
RLF 25018/18 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 218 202
RLF 25036/36 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 236 202
RLF 250418 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 418 201
RLF 250436 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 436 201
RLF 250418 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 418 202
RLF 250436 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 436 202
RLF 25018/18 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 218 301
RLF 25036/36 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 236 301
RLF 25018/18 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 218 302
RLF 25036/36 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 236 302
RLF 250418 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 418 301
RLF 250436 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 436 301
RLF 250418 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 418 302
RLF 250436 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 436 302
<b>Typ RLF-INOX 250.. made of stainless steel</b>			
RLF-INOX 25018/18 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 218 203
RLF-INOX 25036/36 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 236 203
RLF-INOX 25018/18 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 218 204
RLF-INOX 25036/36 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 236 204
RLF-INOX 250418 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 418 203
RLF-INOX 250436 N 2/6-2 K – 1.5 h	M25 x 1.5	–	1 2283 436 203
RLF-INOX 250418 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 418 204
RLF-INOX 250436 N 2/6-2 M – 1.5 h	–	M20 x 1.5	1 2283 436 204
RLF-INOX 25018/18 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 218 303
RLF-INOX 25036/36 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 236 303
RLF-INOX 25018/18 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 218 304
RLF-INOX 25036/36 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 236 304
RLF-INOX 250418 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 418 303
RLF-INOX 250436 N 2/6-2 K – 3 h	M25 x 1.5	–	1 2283 436 303
RLF-INOX 250418 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 418 304
RLF-INOX 250436 N 2/6-2 M – 3 h	–	M20 x 1.5	1 2283 436 304

<sup>1)</sup> With dustcover if entry/thread is not closed

Scope of delivery without lamps and fixing material.

**Note: mounting frames are not part of the delivery. Please see accessories.**



## Accessories

### Lamp for luminaire RLF 250...

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	<b>3 2475 900 001</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	<b>3 2475 900 002</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	<b>3 2475 900 003</b>
Aura-Ultimate T26/Ø 26 mm (T8) Longlife	18 W 36 W	1300 lm white 3350 lm white	<b>3 2475 900 087</b> <b>3 2475 900 088</b>
G13-socket	58 W	5200 lm white	<b>on request</b>

### RLF 250...

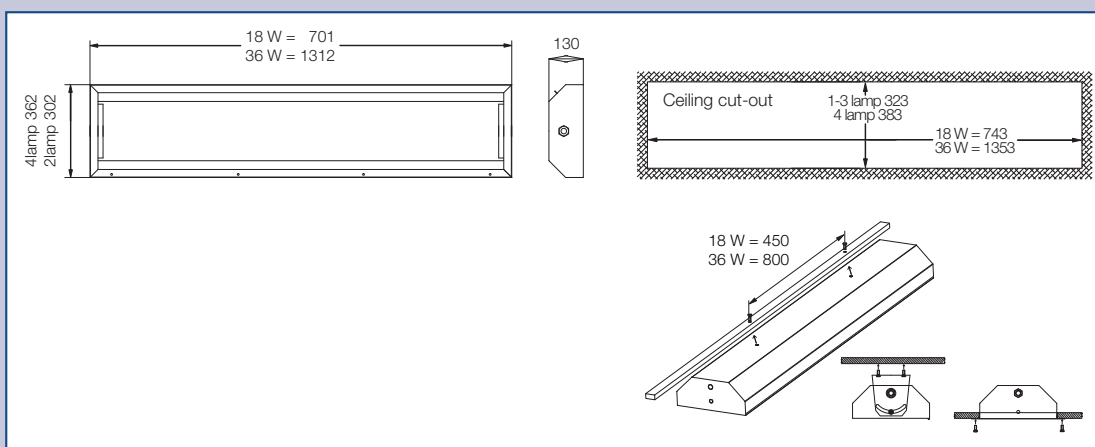
Type	Version	Application	Order No.
Wall bracket set	2 pcs.	RLF 250...	<b>3 2283 000 007</b>
Mounting frame for ceiling mounting:	for luminaires 2 x 18 W	RLF 250...	<b>3 2283 000 001</b>
	for luminaires 4 x 18 W	RLF 250...	<b>3 2283 000 002</b>
	for luminaires 2 x/3 x 36 W	RLF 250...	<b>3 2283 000 003</b>
	for luminaires 4 x 36 W	RLF 250...	<b>3 2283 000 004</b>
	for luminaires 2 x/3 x 58 W	RLF 250...	<b>3 2283 000 005</b>
Wall bracket set INOX	2 pcs.	RLF-INOX 250...	<b>3 2283 000 014</b>
Mounting frame INOX for ceiling mounting:	for luminaires 2 x 18 W	RLF-INOX 250...	<b>3 2283 000 008</b>
	for luminaires 4 x 18 W	RLF-INOX 250...	<b>3 2283 000 009</b>
	for luminaires 2 x/3 x 36 W	RLF-INOX 250...	<b>3 2283 000 010</b>
	for luminaires 4 x 36 W	RLF-INOX 250...	<b>3 2283 000 011</b>
	for luminaires 2 x/3 x 58 W	RLF-INOX 250...	<b>3 2283 000 012</b>
	for luminaires 4 x 58 W	RLF-INOX 250...	<b>3 2283 000 013</b>
Battery set	3.6 V/4 Ah		<b>on request</b>
Battery set	6 V/4 Ah		<b>on request</b>

**Metal cable glands M20/M25 see page 8.10.**

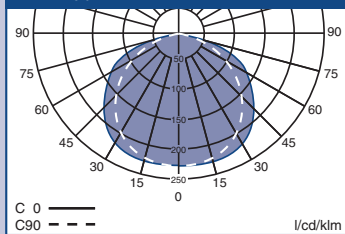
**Complete Mounting Systems see page 2.70 to 2.76.**



Dimension drawing | Polar curve



Polar curve  
RLF 250... N



Dimensions in mm

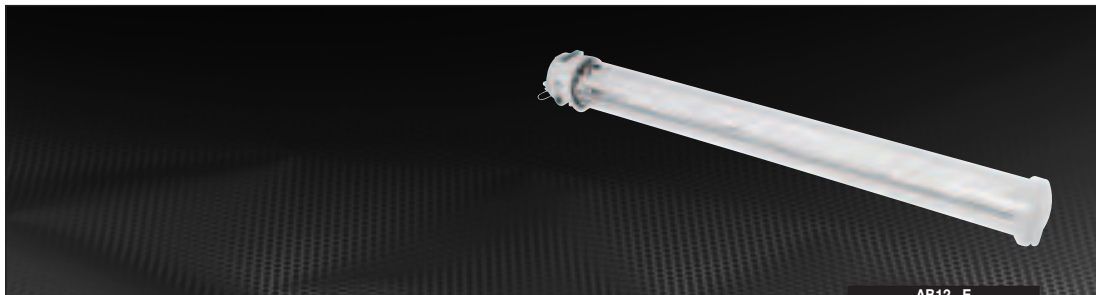
# E X - L I G H T F I T T I N G S

## **AB 12... and EVF... 18 - 58 W Metal version for Zone 1 and Zone 21 (AB 12...)**

The light fittings series AB12 and EVF for fluorescent lamps are in accordance with the ATEX-Directive 94/9/EC and can be used in the Zones 1, 2 (for EVF...) and Zone 1, 2, 21 and 22 (for AB 12...). They are fitted alternatively with electronic or electromagnetic ballasts for fluorescent lamps with G13 sockets. The flameproof housing is made of copperfree aluminium (Cu < 0.1 %), the protective tube is made of borosilicate glass with high mechanical and thermal stability. The easy to open threaded cover, the large terminal compartment and lamp guide on a guide carriage make it simple for servicing.



- Robust housing
- Easy opening due to screw plug on end
- 2 individual circuits (double lamp version)
- Large terminal compartment



### Technical data

#### AB 12...E with electronic ballast

Marking to 94/9/EC	⊕ II 2 G Ex d IIB T5 / ⊕ II 2 D Ex tD A21 IP67 T78 °C <sup>1)</sup>
EC-Type Examination Certificate	LOM 02 ATEX 2013 X
IECEX Certificate of Conformity	IECEX BK1 07.0008 X
Marking accd. to IECEX	Ex d IIB T5 Ex tD A21 IP67 T76 °C
Permissible ambient temperature	-20 °C to + 40 °C
Rated voltage	198 V - 254 V AC / 175 - 280 V DC
Frequency	50/60 Hz
Power factor cos φ	> 0.9
Circuit	EVG
Connecting terminals	L1, N and PE: 2 x 2.5 mm <sup>2</sup> / PE ext. 2 x 6 mm <sup>2</sup>
Insulation class	I
Light efficiency in operation	73%
Lamp cap	G 13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x 3/4" ISO 7/1, 1 x Ex d plugs 3/4", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

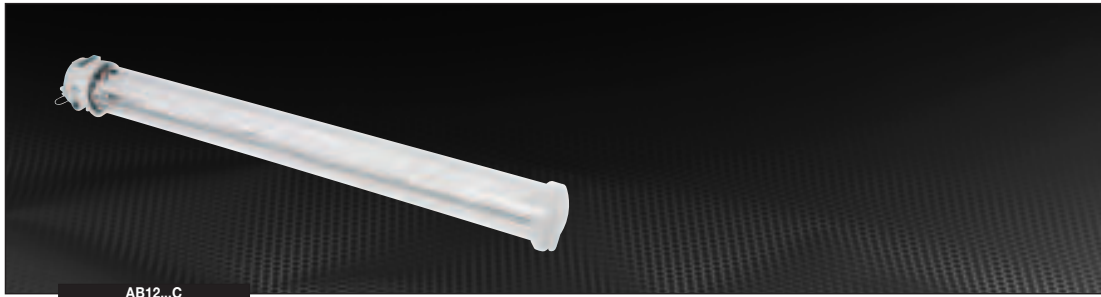
	AB 12220 E	AB 12240 E	AB 12265 E
Rated current	0.17 A	0.48 A	0.49 A
Lamp/illuminant	2 x T26 / 18 W	2 x T26 / 36 W	2 x T26 / 58 W
Rated luminous flux <sup>2)</sup>	2700 lm	6700 lm	10400 lm
Dimensions (L x W x H)	707 x 144 x 140 mm	1320 x 144 x 140 mm	1620 x 144 x 140 mm
Weight	7 kg	12 kg	14 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm <sup>2</sup> , other lamps, single lamp versions
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<sup>1)</sup> certification accd. to new standard applies for

<sup>2)</sup> depends on used lamps

## AB 12...C with electromagnetic ballast



### Technical data

#### AB 12... C/PL with conventional ballast

Marking to 94/9/EC	⊕ II 2 G Ex d IIB T5 / ⊕ II 2 D Ex tD A21 IP67 T93 °C <sup>1)</sup>
EC-Type Examination Certificate	LOM 02 ATEX 2013 X
IECEX Certificate of Conformity	IECEX BKI 07.0008 X
Marking accd. to IECEx	Ex d IIB T5 Ex tD A21 IP67 T93 °C
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	230 V
Frequency	50 Hz
Power factor cos φ	> 0.9
Circuit	conventional ballast with ignitor
Connecting terminals	L1, N and PE: 2 x 2.5 mm <sup>2</sup> / PE ext. 2 x 6 mm <sup>2</sup>
Insulation class	I
Light efficiency in operation	70 %
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x 3/4" ISO 7/1, 1 x Ex d plugs 3/4", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

	AB 12220 C	AB 12236PL
Rated current	0.37 A	0.39 A
Lamp/illuminant	2 x T26/ 18 W / T38/ 20 W	2 x TC-L 36 W
Luminous flux <sup>1)</sup>	2700 lm	2900 lm
Lamp cap	G 13 accd. to IEC 60081	2G11
Dimensions (L x W x H)	707 x 144 x 140 mm	707 x 144 x 140 mm
Weight	7 kg	8.5 kg

	AB 12240 C	AB 12265 C
Rated current	0.43 A	0.67 A
Lamp/illuminant	2 x T26 / 36 W / T38/ 40 W	2 x T26 / 58 W / T38/ 65 W
Luminous flux <sup>1)</sup>	6700 lm	10400 lm
Lamp cap	G 13 accd. to IEC 60081	G 13 accd. to IEC 60081
Dimensions (L x W x H)	1320 x 144 x 140 mm	1620 x 144 x 140 mm
Weight	12 kg	14 kg

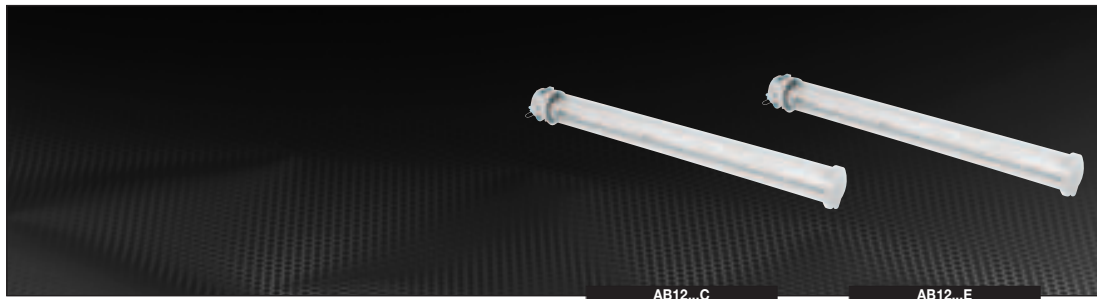
Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm <sup>2</sup> , other lamps, single lamp versions
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<sup>1)</sup> certification accd. to new standard applies for

<sup>2)</sup> depends on used lamps



**AB 12...E | with electronic ballast |**  
**AB 12...C | with electromagnetic ballast |**



### Ordering details

Type	Lamp	Rated current	Cable gland for cable	Order No.
<b>Type AB 12...E</b>				
AB12220E	2 x 18 W	0.17 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 301</b>
	2 x 18 W	0.17 A	-	<b>NOR 000 005 060 300</b>
AB12240E	2 x 36 W	0.32 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 309</b>
	2 x 36 W	0.32 A	-	<b>NOR 000 005 060 308</b>
AB12265E	2 x 58 W	0.49 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 317</b>
	2 x 58 W	0.49 A	-	<b>NOR 000 005 060 316</b>
<b>Type AB 12...C</b>				
AB12220C	2 x 18/20 W	0.37 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 347</b>
	2 x 18/20 W	0.37 A	-	<b>NOR 000 005 060 346</b>
AB12236PL	2 x 36 W-TC-L	0.39 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 670</b>
	2 x 36 W-TC-L	0.39 A	-	<b>NOR 000 005 060 669</b>
AB12240C	2 x 36/40 W	0.43 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 355</b>
	2 x 36/40 W	0.43 A	-	<b>NOR 000 005 060 354</b>
AB12265C	2 x 58/65 W	0.67 A	1 x 3/4" Ø 9 - 14 mm	<b>NOR 000 005 060 363</b>
	2 x 58/65 W	0.67 A	-	<b>NOR 000 005 060 362</b>

### Accessories

#### Lamp for luminaire AB12..

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
T26/Ø 26 mm (T8) Bi-pin socket G13	18 W	1350 lm white	<b>3 2475 900 001</b>
	36 W	3350 lm white	<b>3 2475 900 002</b>
	58 W	5200 lm white	<b>3 2475 900 003</b>
T26/Ø 26 mm (T8) Longlife Bi-pin socket G13 Aura-Ultimate	18 W	1300 lm white	<b>3 2475 900 087</b>
	36 W	3350 lm white	<b>3 2475 900 088</b>
	58 W	5200 lm white	<b>on request</b>
TC-L four-pin/Ø 18 mm Socket 2G11 for AB 12236 PL	36 W	2900 lm white	<b>on request</b>

#### Reflector for luminaire AB12..

Type	Material	Version	Application	Order No.
Reflector RAB 220	AISI 304		for AB 12220../AB 12236 PL	<b>NOR 003 045 060 403</b>
Reflector RAB 240	AISI 304		for AB 12240..	<b>NOR 003 045 060 411</b>
Reflector RAB 265	AISI 304		for AB 12265..	<b>NOR 003 045 060 429</b>
Reflector RAB 220	AISI 316		for AB 12220	<b>NOR 003 165 060 403</b>
Reflector RAB 240	AISI 316		for AB 12240	<b>NOR 003 165 060 411</b>
Reflector RAB 265	AISI 316		for AB 12265	<b>NOR 003 165 060 429</b>
Reflector GRAB 220	AISI 304	with wire guard (steel, white epoxid coated)	for AB 12220../AB 12236 PL	<b>NOR 003 045 060 479</b>
Reflector GRAB 240	AISI 304	with wire guard (steel, white epoxid coated)	for AB 12240..	<b>NOR 003 045 060 487</b>
Reflector GRAB 265	AISI 304	with wire guard (steel, white epoxid coated)	for AB 12265	<b>NOR 003 045 060 485</b>
Reflector GRAB 220	AISI 316	with wire guard (steel, white epoxid coated)	for AB 12220../AB 12236 PL	<b>NOR 003 165 060 479</b>
Reflector GRAB 240	AISI 316	with wire guard (steel, white epoxid coated)	for AB 12240..	<b>NOR 003 165 060 487</b>
Reflector GRAB 265	AISI 316	with wire guard (steel, white epoxid coated)	for AB 12265..	<b>NOR 003 165 060 495</b>

Scope of delivery without lamps and fixing material.

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**| AB 12...E | with electronic ballast |**  
**| AB 12...C | with electromagnetic ballast |**



**Accessories**

Type	Material	Order No.
Eye bolt A1	galvanized steel	<b>NOR 000 005 009 261</b>
Ceiling mounting bracket A5	galvanized steel	<b>NOR 000 005 009 162</b>
Wall suspension BFP 45	galvanized steel	<b>NOR 000 005 009 196</b>
Pipe clamp A8 1" 1/2 D 47 – 51 mm	hot galvanized steel	<b>NOR 000 005 009 211</b>
Pipe clamp A9 2" D 56 – 60 mm	hot galvanized steel	<b>NOR 000 005 009 229</b>

For these applications, it will be necessary to have 2 parts for each luminaire.

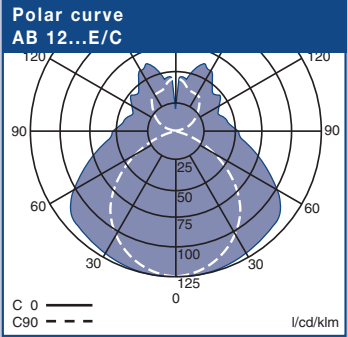
**Metal cable glands M20/M25 see page 8.10.**  
**Complete Mounting Systems see page 2.70 to 2.76.**

**Dimension drawing | Polar curve**

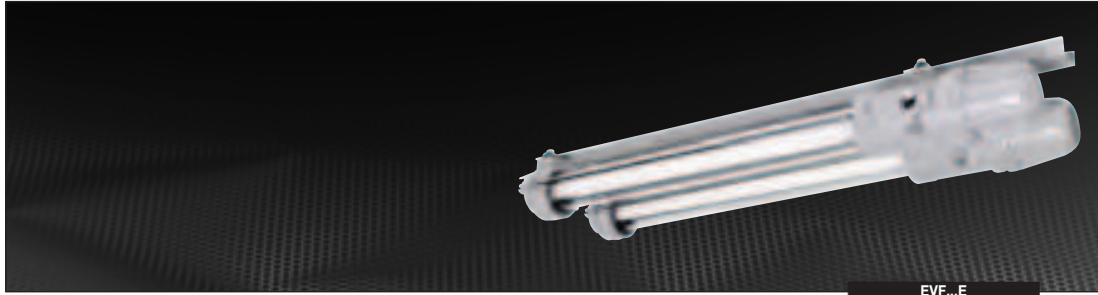
▼ optional entries, on request  
 ▼ entries

Type	A	B
<b>AB 12220</b>	652	707
<b>AB 12236 PL</b>	652	707
<b>AB 12240</b>	1265	1320
<b>AB 12265</b>	1565	1620

**AB 12220E / AB 12220C / AB 122236PL**



Dimensions in mm



EVF...E

### Technical data

#### EVF...E

Marking to 94/9/EC	II 2 G Ex d IIC T6 <sup>1)</sup> II 2 D Ex tD A21 IP67 T76 °C
EC-Type Examination Certificate	LOM 02 ATEX 2019 X
IECEX Certificate of Conformity	IECEX BKI 07.0033 X
Marking accd. to IECEX	Ex d IIC T6 Ex tD A21 IP67 T76 °C
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	198 V - 254 V AC / 175 V - 280 V DC
Frequency	50/60 Hz
Power factor cos φ	> 0.9
Circuit	EVG
Connecting terminals	L1, N and PE: 2 x 2.5 mm <sup>2</sup> / PE ext. 2 x 6 mm <sup>2</sup>
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x 3/4" ISO 7/1, 1 x Ex d plugs 3/4", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

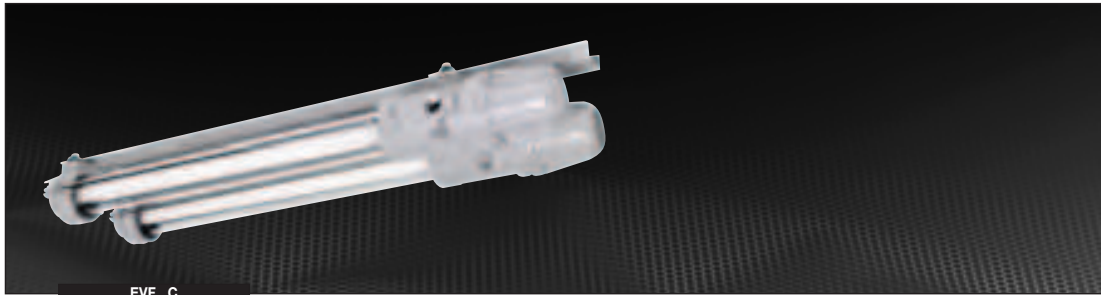
	EVF 120 E	EVF 140 E/240 E	EVF 165 E / 265 E
Rated current	0.09 A	0.16 A / 0.32 A	0.25 A / 0.49 A
Lamp/illuminant	1 x T26 / 18 W	1 x T26 / 36 W, 2 x T26 / 36 W	1 x T26 / 58 W, 2 x T26 / 58 W
Rated luminous flux <sup>2)</sup>	1350 lm	3350 lm / 6700 lm	5200 lm / 10400 lm
Light efficiency in operation	83 %	83 % / 73 %	83 % / 73 %
Dimensions (L x W x H)	990 x 120 x 145 mm	1598 x 120 x 145 mm 1598 x 275 x 150 mm	1908 x 120 x 145 mm 1908 x 275 x 150 mm
Weight	6.2 kg	9.0 kg / 16.9 kg	14.6 kg / 26.4 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm <sup>2</sup> other lamps, single lamp versions
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<sup>1)</sup> certification accd. to new standard applies for

<sup>2)</sup> depends on used lamps

## EVF...C with electromagnetic ballast



EVF...C

### Technical data

#### EVF...C with conventional ballast

Marking to 94/9/EC	II 2 G Ex d IIC T6 <sup>1)</sup> II 2 D Ex tD A21 IP67 T76 °C
EC-Type Examination Certificate	LOM 02 ATEX 2019 X
IECEX Certificate of Conformity	IECEX BK1 07.0033 X
Marking accd. to IECEx	Ex d IIC T6 (58/65 W T5 bei T <sub>a</sub> > +40 °C) Ex tD A21 IP67 T76 °C
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	230 V
Frequency	50 Hz
Power factor cos φ	> 0.90
Circuit	conventional ballast with ignitor
Connecting terminals	L1, N and PE: 2 x 2.5 mm <sup>2</sup> / PE ext. 2 x 6 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x 3/4" ISO 7/1, 1 x Ex d plugs 3/4", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

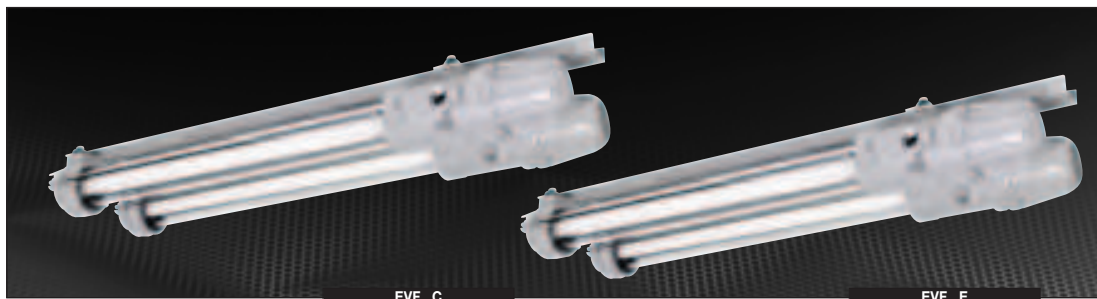
	EVF 120 C	EVF 140 C	EVF 165 C
Rated current	0.15 A	0.25 A	0.39 A
Lamp/illuminant	1 x T26 / 18 W, 1 x T38 / 40 W	1 x T26 / 36 W, 1 x T38 / 40 W	1 x T26 / 58 W, 1 x T38 / 65 W
Rated luminous flux	1350 lm	3350 lm	5200 lm
Light efficiency in operation	81 %	81 %	81 %
Dimensions (L x W x H)	990 x 120 x 145 mm	1598 x 120 x 145 mm	1908 x 120 x 145 mm
Weight	6.2 kg	9.0 kg	14.6 kg

	EVF 240 C	EVF 265 C
Rated current	0.50 A	0.78 A
Lamp/illuminant	2 x T26 / 36 W, 2 x T38 / 40 W	2 x T26 / 58 W, 2 x T38 / 65 W
Rated luminous flux <sup>2)</sup>	6700 lm	10400 lm
Light efficiency in operation	71 %	71 %
Dimensions (L x W x H)	1598 x 275 x 150 mm	1908 x 275 x 150 mm
Weight	16.9 kg	26.4 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm <sup>2</sup> other lamps, single lamp versions
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<sup>1)</sup> certification accd. to new standard applies for

<sup>2)</sup> depends on used lamps



### Ordering details

Type	Lamp	Rated current (230 V/50 Hz)	Cable gland for cable	Order No.
<b>Type EVF...E</b>				
EVF120E	1 x 18 W	0.09 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 301
	1 x 18 W	0.09 A	-	NOR 000 005 070 300
EVF140E	1 x 36 W	0.16 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 309
	1 x 36 W	0.16 A	-	NOR 000 005 070 308
EVF165E	1 x 58 W	0.25 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 317
	1 x 58 W	0.25 A	-	NOR 000 005 070 316
EVF240E	2 x 36 W	0.32 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 329
	2 x 36 W	0.32 A	-	NOR 000 005 070 328
EVF265E	2 x 58 W	0.49 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 335
	2 x 58 W	0.49 A	-	NOR 000 005 070 333
<b>Type EVF...C</b>				
EVF120C	1 x 18/20 W	0.15 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 065
	1 x 18/20 W	0.15 A	-	NOR 000 005 070 064
EVF140C	1 x 36/40 W	0.25 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 031
	1 x 36/40 W	0.25 A	-	NOR 000 005 070 030
EVF165C	1 x 58/65 W	0.39 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 403
	1 x 58/65 W	0.39 A	-	NOR 000 005 070 402
EVF240C	2 x 36/40 W	0.50 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 023
	2 x 36/40 W	0.50 A	-	NOR 000 005 070 022
EVF265C	2 x 58/65 W	0.78 A	1 x 3/4" Ø 9 - 14 mm	NOR 000 005 070 429
	2 x 58/65 W	0.78 A	-	NOR 000 005 070 428

### Accessories

#### Lamp for luminaire EVF..

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
T26/Ø 26 mm (T8) Bi-pin socket G13	18 W	1350 lm white	3 2475 900 001
	36 W	3350 lm white	3 2475 900 002
	58 W	5200 lm white	3 2475 900 003
T26/Ø 26 mm (T8) Longlife Bi-pin socket G13 Aura-Ultimate	18 W	1300 lm white	3 2475 900 087
	36 W	3350 lm white	3 2475 900 088
	58 W	5200 lm white	on request

#### Wire guard for luminaire EVF..

Type	Version	Order No.
Wire guard REVF 20 (steel, white epoxid coated)	for EVF 120	NOR 000 000 507 385
Wire guard REVF 40 (steel, white epoxid coated) <sup>1)</sup>	for EVF 140/240	NOR 000 000 507 393
Wire guard REVF 65 (steel, white epoxid coated) <sup>1)</sup>	for EVF 165/265	NOR 000 000 507 319

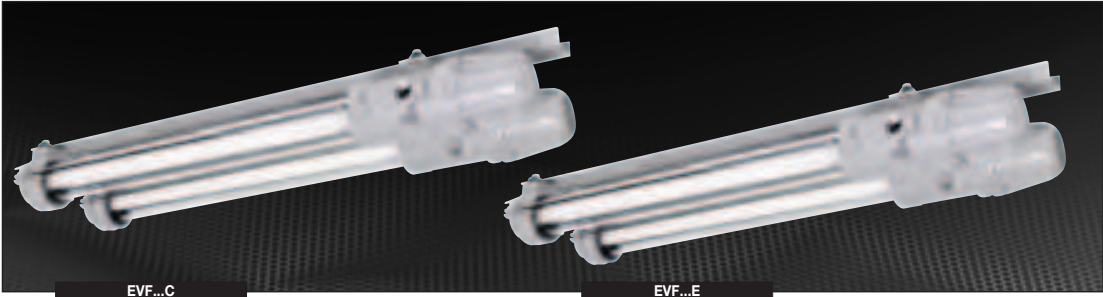
<sup>1)</sup> EVF 240 and 265-two wire guards per fitting.

Scope of delivery without lamps and fixing accessories.

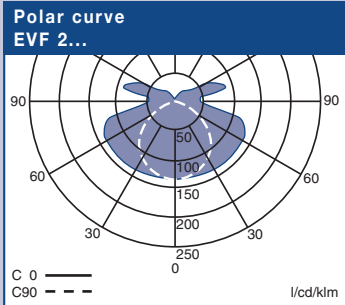
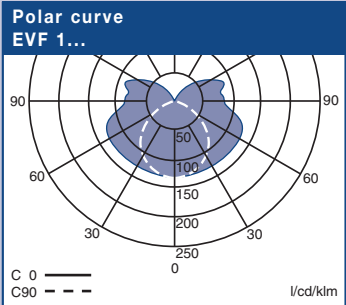
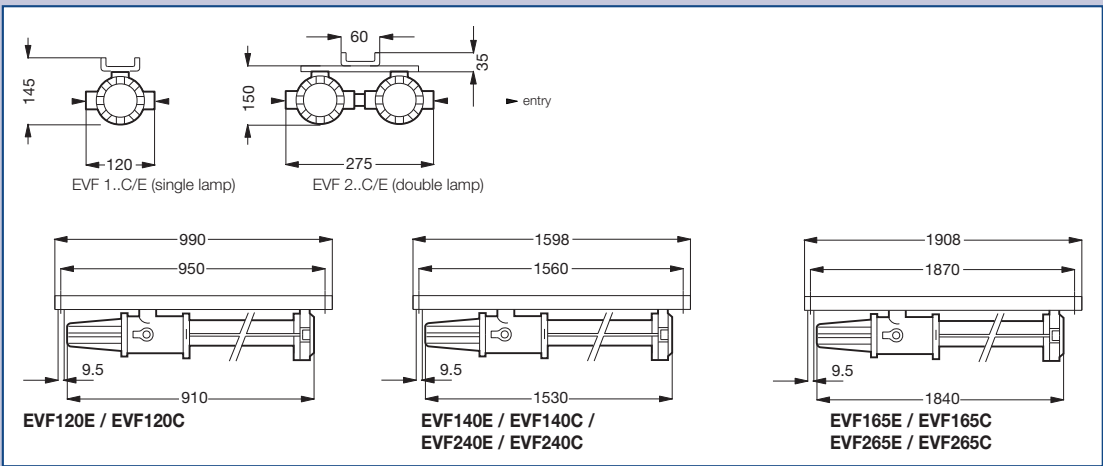
**Metal cable glands M20/M25 see page 8.10.**

**Complete Mounting Systems see page 2.70 to 2.76.**

**| EVF...E with electronic ballast |**  
**| EVF...C with electromagnetic ballast |**



**Dimension drawing | Polar curve**



Dimensions in mm

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# EX - LIGHT FITTINGS

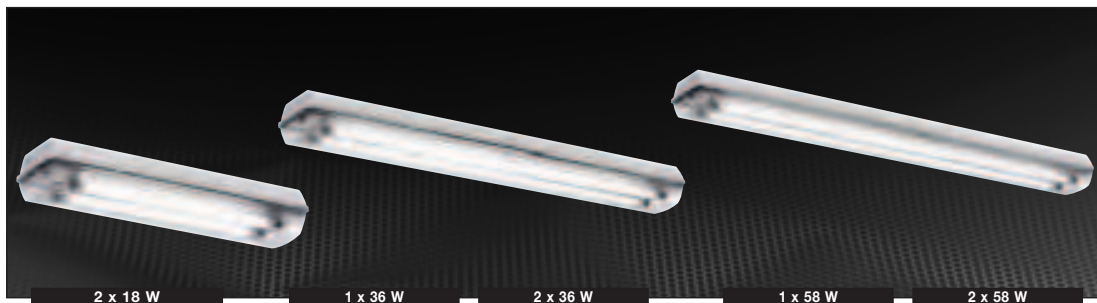
**nLLK 08... 18 - 58 W**  
**All-plastic design for Zone 2 and Zone 21/22**

The explosion-protected light fittings of the series nLLK 08 conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the latest standard IEC EN 60079-15 for Ex equipment for use in zone 2 and EN 61241-1 for use in Zone 21 and Zone 22 of dust Ex-areas. They are equipped with electronic ballasts (EVGs) for G13 bi-pin fluorescent lamps. The new EVG additionally fulfills the relevant requirements of "End of Life" (EOL) acc. IEC 60079-7 for explosion protected fluorescent light fittings design "increased safety". The standard single-sided through-wiring architecture in conjunction with the generously large terminal compartment offers a cost efficient installation. Double-sided lock with 10, 20 or 24 latch points allows the protective bowl to be hingeable on both sides meaning the fitting can be mounted without having to pay attention to which side is the right side. With the optional CG-S module, single monitoring of the lamp is possible with the CEAG Emergency Light Supply Systems.



- Cost efficient installation due to single-sided through-wiring
- With electronic ballast incl. EOL set-up
- Double-sided safety lock
- Safety standard IP66
- Integration in the CEAG Emergency Light Supply System





## Technical data

nLLK 08018/18   nLLK 08036   nLLK 08036/36   nLLK 08058   nLLK 08058/58	
Marking to 94/9/EC	Ⓢ II 3 G Ex nA de/de mb IIC T4 Ⓢ II 3 D Ex tD A22 IP66 T80 °C Ⓢ II 2 D Ex tD A21 IP66 T80 °C
Examination Certificate	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162
Permissible ambient temperature	-25 °C to +50 °C / -25 °C to +40 °C (2 x 58 W) -25 °C to +45 °C (2 x 36 W 2/5 + 2/6, excl. CG-S-Version)
Rated voltage AC	220 V - 240 V AC
Rated voltage AC (CG-S)	220 V - 254 V AC
Rated voltage DC	220 V - 240 V DC
Rated voltage DC (CG-S)	195 V - 250 V DC
Frequency	50 - 60 Hz
Power factor cos φ	>= 0.95
Circuit	EVG resp. EVG/CG-S
Connecting terminals	L1, N, PE (option L1, L2, L3, N, PE) max. 2 x 2.5 mm <sup>2</sup> , clamp terminals; optional screw-type terminals max. 2 x 6 mm <sup>2</sup> (L1, L2, L3, L, N, PE)
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm Option: M20 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

nLLK 08018/18	
Rated current	0.16 A / 0.17 A (CG-S variant)
Lamp/illuminant	2 x T26 / 18 W
Rated luminous flux <sup>1)</sup>	2700 lm
Light efficiency in operation	78 %
Dimensions (L x W x H)	760 x 188 x 130 mm
Weight	approx. 3.6 kg / approx. 5.6 kg (CG-S variant)

	nLLK 08036	nLLK 08036/36
Rated current	0.16 A	0.34 A / 0.35 A (CG-S variant)
Lamp/illuminant	1 x T26 / 36 W	2 x T26 / 36 W
Rated luminous flux <sup>1)</sup>	3350 lm	6700 lm
Light efficiency in operation	86 %	78 %
Dimensions (L x W x H)	1360 x 188 x 130 mm	1360 x 188 x 130 mm
Weight	approx. 5.6 kg	approx. 5.8 kg / approx. 8.0 kg (CG-S variant)

	nLLK 08058	nLLK 08058/58
Rated current	0.27 A	0.53 A / 0.54 A (CG-S variant)
Lamp/illuminant	1 x T26 / 58 W	2 x T26 / 58 W
Rated luminous flux <sup>1)</sup>	5200 lm	10400 lm
Light efficiency in operation	83%	72%
Dimensions (L x W x H)	1660 x 188 x 130 mm	1660 x 188 x 130 mm
Weight	approx. 6.7 kg	approx. 6.9 kg / approx. 9.0 kg (CG-S variant)

<sup>1)</sup> depends on used lamps

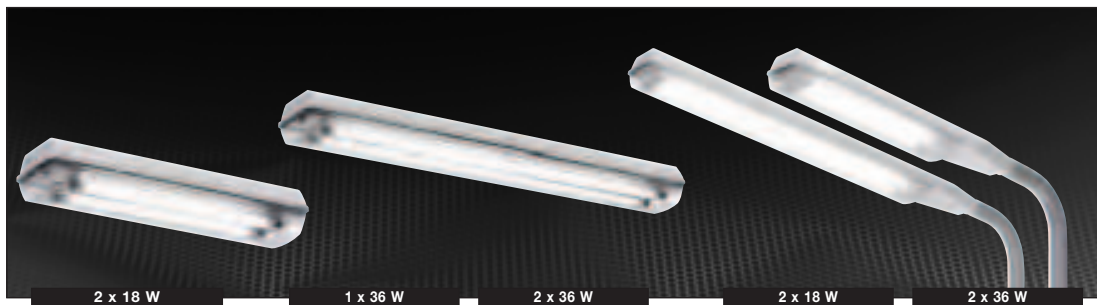


## Technical data

nLLM 08018/18   nLLM 08036/36	
Marking to 94/9/EC	II 3 G Ex nA de/de mb IIC T4 II 3 D Ex tD A22 IP66 T80 °C II 2 D Ex tD A21 IP66 T80 °C
Examination Certificate	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162
Permissible ambient temperature	-25 °C to +50 °C
Rated voltage	220 V - 240 V AC
Rated voltage	220 V - 240 V DC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG
Connecting terminals	L, N, PE screw-type terminals max. 2 x 6 mm <sup>2</sup>
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands	1 x Ex e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	nLLM 08018/18	nLLM 08036/36
Rated current	0.16 A	0.34 A
Lamp/illuminant	2 x T26 / 18 W	2 x T26 / 36 W
Rated luminous flux <sup>1)</sup>	2700 lm	6700 lm
Light efficiency in operation	78 %	78 %
Dimensions (L x W x H)	760 x 188 x 130 mm	1360 x 188 x 130 mm
Pole socket	Ø 44 mm x 150 mm	Ø 44 mm x 150 mm
Weight	approx. 6.1 kg	approx. 8.4 kg

<sup>1)</sup> depends on used lamps



### Ordering details

Type	Terminals	Through-wiring		Cable glands <sup>2)</sup>	Plugs	Order No.
		single-ended	double-ended			
Type nLLK 08018/18 (2 x 18 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	1 3465 218 001
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	1 3465 218 011
2/6-2 M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 218 021
Type nLLK 08018/18 CG-S <sup>3)</sup> (2 x 18 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	1 3465 218 912
2/6-M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 218 922
Type nLLM 08018/18 (2 x 18 W)						
1/3-1	1 x 3	–	–	1 x M25 x 1.5	–	1 3465 218 101
Type nLLK 08036 (1 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	1 3465 136 001
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	1 3465 136 011
2/6-2M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 136 021
Type nLLK 08036/36 (2 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	1 3465 236 001
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	1 3465 236 011
2/6-2M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 236 021
Type nLLK 08036/36 CG-S <sup>3)</sup> (2 x 36 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	1 3465 236 912
2/6-2M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 236 922
Type nLLM 08036/36 (2 x 36 W)						
1/3-1	1 x 3	–	–	1 x M25 x 1.5	–	1 3465 236 101
Type nLLK 08058 (1 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	1 3465 158 001
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	1 3465 158 011
2/6-2M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 158 021
Type nLLK 08058/58 (2 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	1 3465 258 001
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	1 3465 258 011
2/6-2M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 258 021
Type nLLK 08058/58 CG-S <sup>3)</sup> (2 x 58 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	1 3465 258 912
2/6-2M <sup>1) 4)</sup>	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	1 3465 258 922

<sup>1)</sup> M: with metal thread, without cable gland

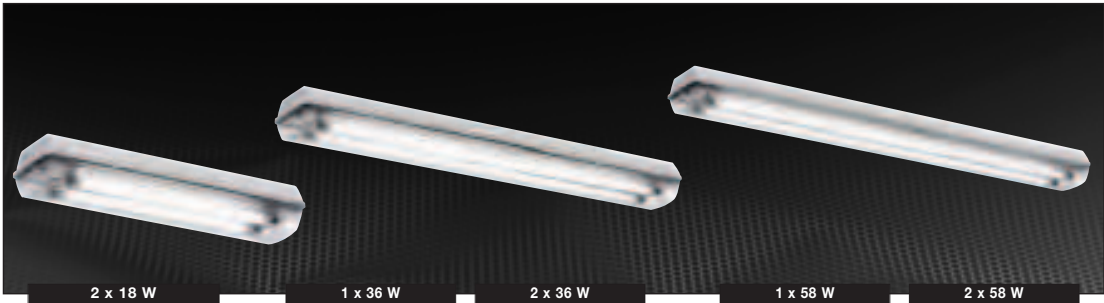
<sup>2)</sup> CG-S: design single monitored emergency light fitting for use in CEAG emergency light supply unit

<sup>3)</sup> With dustcover if entry/thread is not closed

<sup>4)</sup> With screw-type terminals max. 2 x 6 mm<sup>2</sup>

**Version with integrated isolating switch on request**

**Scope of delivery without lamp and fixing accessories**



## Accessories

### Lamp for luminaire nLLK08/nLLM08

Type of lamp	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	<b>3 2475 900 001</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	<b>3 2475 900 002</b>
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	<b>3 2475 900 003</b>
Aura-Ultimate T26/Ø 26 mm (T8) Longlife Socket G13	18 W 36 W 58 W	1300 lm white 3350 lm white 5200 lm white	<b>3 2475 900 087</b> <b>3 2475 900 088</b> <b>on request</b>

### Series nLLK 08... and nLLM 08...

Type	Order No.
Hexagon screw SW 13	<b>3 2485 000 005</b>

### Series nLLM 08018/18 and nLLM 08036/36

Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	<b>2 2218 602 000</b>

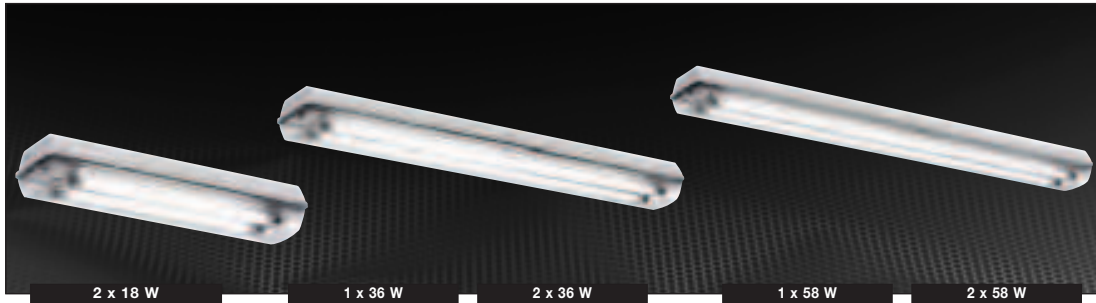
### Fixing materials nLLK 08

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	<b>2 2480 002 000</b>
Hexagon screw S4	stainless steel	2	<b>2 2480 054 000</b>
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	<b>2 2480 092 000</b>

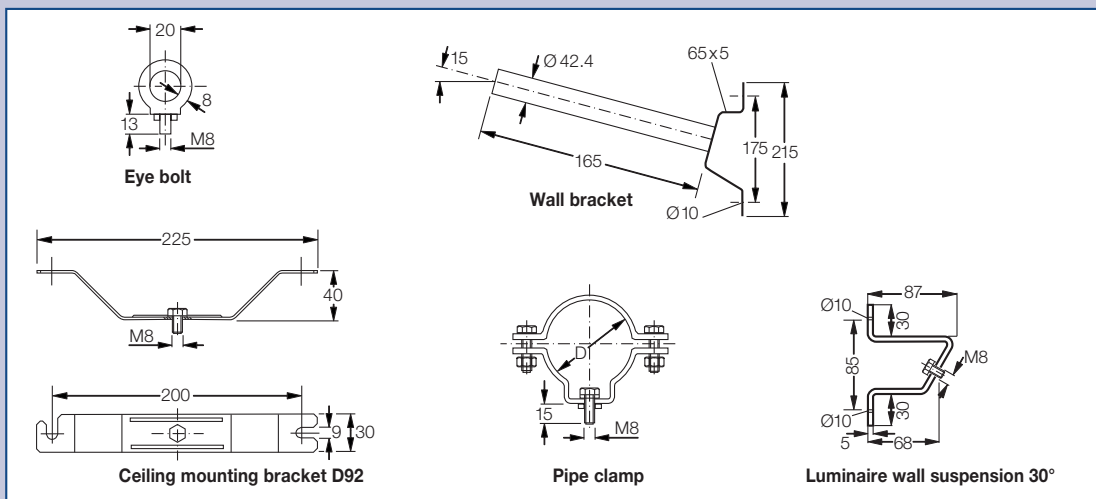
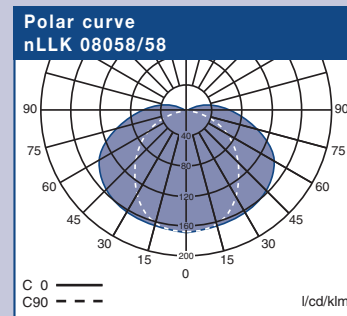
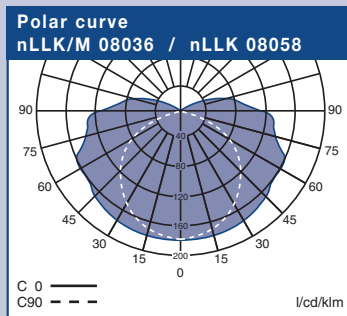
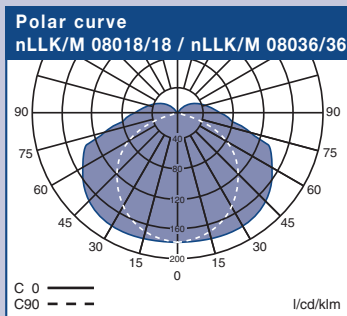
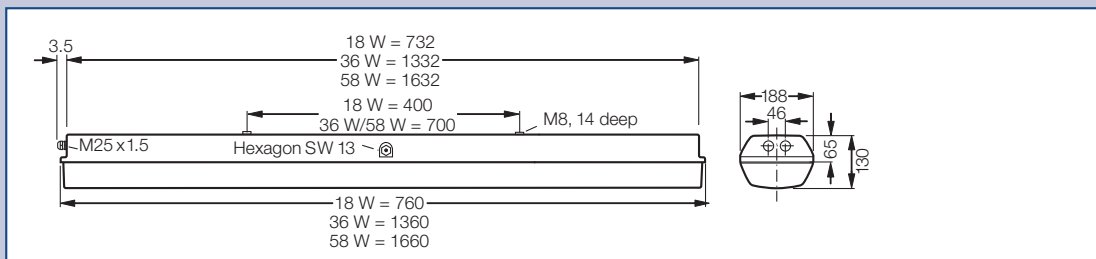
### Fixing materials nLLK 08... and nLLM 08...

Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp R12	hot galvanized	1 1/4"	38 - 42	2	<b>2 2480 462 000</b>
R14	CrNi	1 1/4"	38 - 42	2	<b>2 2480 464 000</b>
R22	hot galvanized	1 1/2"	47 - 51	2	<b>2 2480 472 000</b>
R24	CrNi	1 1/2"	47 - 51	2	<b>2 2480 474 000</b>
R32	hot galvanized	2"	56 - 60	2	<b>2 2480 482 000</b>
R34	CrNi	2"	56 - 60	2	<b>2 2480 484 000</b>
Wall bracket W27	hot galvanized		42.4	1	<b>2 2483 027 000</b>
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	<b>2 2480 000 122</b>

**Metal cable glands M20/M25 see page 8.10.**  
**Complete Mounting Systems see page 2.70 to 2.76.**



Dimension drawing | Polar curve | Accessories



Dimensions in mm

## EX - EMERGENCY LIGHT FITTINGS

**nLLK 08...N 18 - 36 W**  
**Plastic version for Zone 2 and Zone 21/22**

The explosion-protected light fittings of the series nLLK 08 N are conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the latest standard IEC EN 60079-15 for Ex equipment for use in zone 2 and EN 61241-1 for use in Zone 21 and Zone 22 of dust Ex-areas.

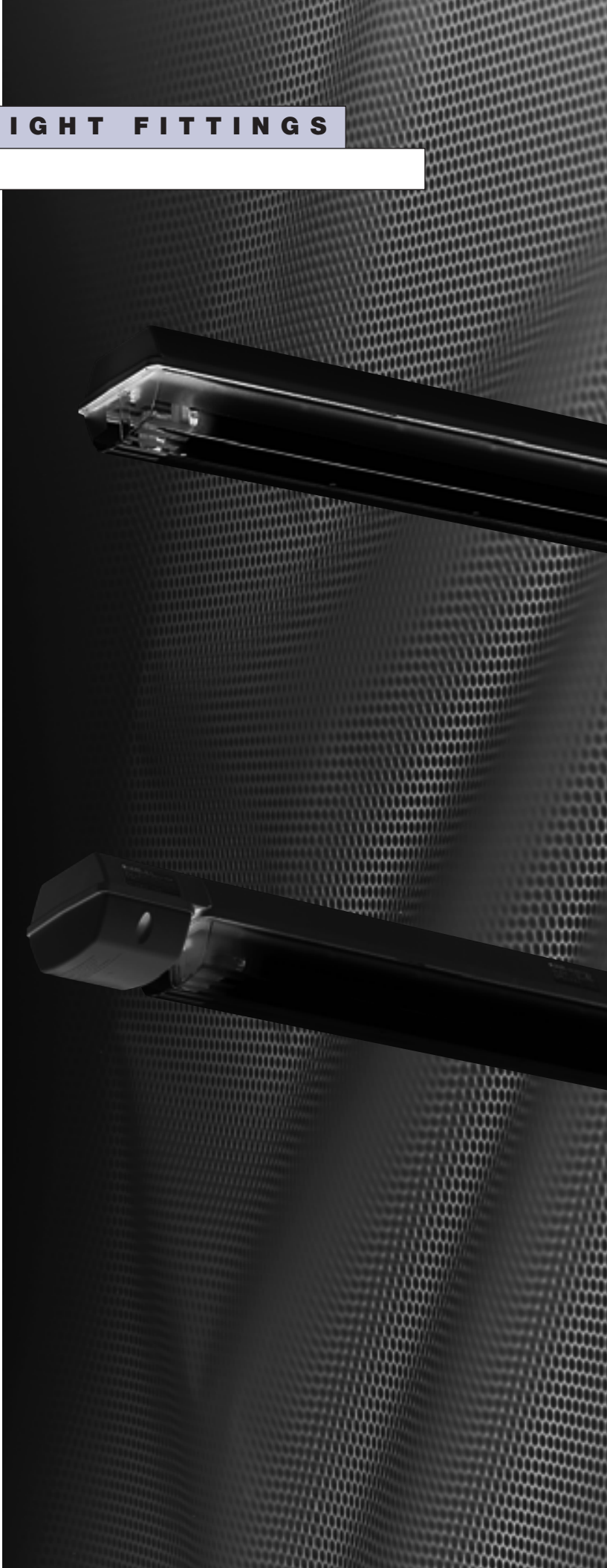
They are equipped with electronic ballasts (EVGs) for G13 bi-pin fluorescent lamps and are available for 18 W and 36 W.

Additionally it fulfills the relevant requirements „End of Life“ (EOL) acc. IEC 60079-7 for explosion protected fluorescent light fittings design „increased safety“ as well as for mains operation and for emergency light operation. Additionally the light fittings fulfill the requirements acc. EN 60598 part 2-22 for emergency light fittings.

They are fitted with a self contained battery for maintained and non maintained mode. The light fitting has an emergency lighting duration time of 1.5 h, alternativ 3.0 h and a green indication LED for charging current and fault indication.

The standard single-sided through-wiring architecture in conjunction with the generously large terminal compartment offers a cost efficient installation.

Double-sided lock with 10 resp. 20 latch points allows the protective bowl to be hingeable on both sides meaning the fitting can be mounted without having to pay attention to which side is the right side. Maintenance-friendly the self-contained battery is mounted beneath a reflector-flap. Versions with double sided through wiring have a flanged battery housing.



**Cost efficient installation due to single-sided through-wiring**

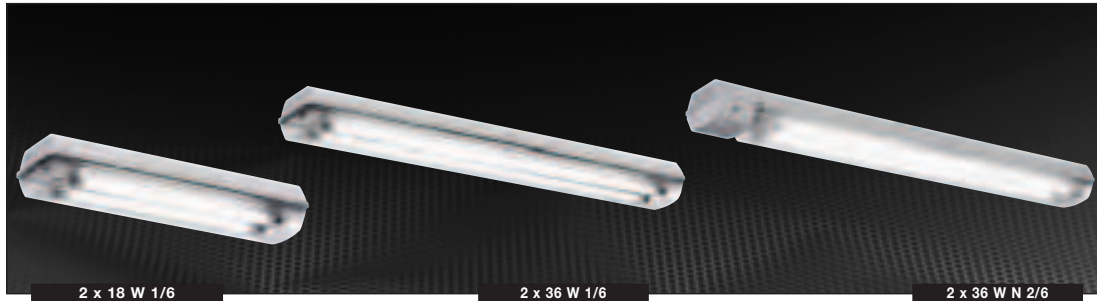
**With electronic ballast incl. EOL set-up**

**Double-sided safety lock**

**High degree of protection IP66**

**Self-contained NC-battery for emergency lighting 1.5 h, alt. 3.0 h**

**Easy battery change**



### Technical data

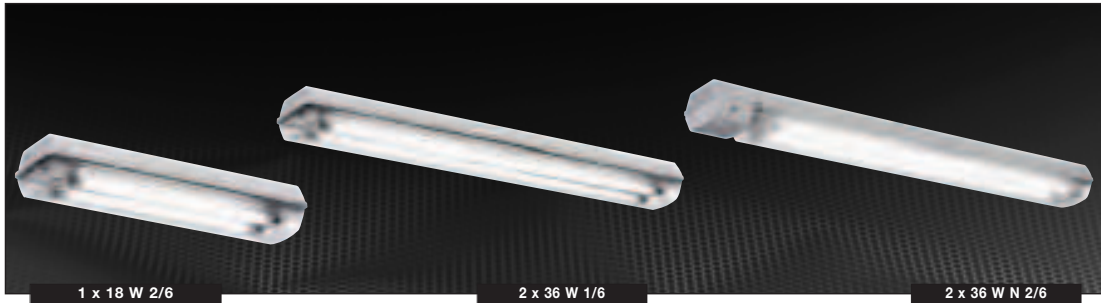
nLLK 08018/18 N 1/6   nLLK 08018/18 N 2/6   nLLK 08036/36 N 1/6   nLLK 08036/36 N 2/6	
Marking to 94/9/EC	Ⓢ II 3 G Ex nA de/de mb IIC T4 Ⓢ II 3 D Ex tD A22 IP66 T80 °C Ⓢ II 2 D Ex tD A21 IP66 T80 °C
Examination Certificate	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162
Permissible ambient temperature	-25 °C to + 45 °C / -25 °C to +40 °C (2 x 36 W 2/6) (specified data: -5 °C to +35 °C)
Rated voltage	220 V - 240 V AC
Frequency	50 - 60 Hz
Power factor cos φ	>= 0.95
Circuit	EVG with emergency lighting supply
Connecting terminals	L1, L2, L3, L, N, PE, max. 2 x 6 mm <sup>2</sup> per terminal
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Light efficiency in operation	78%
Rated emergency operation duration	1.5 h / 3 h
Charging duration	> 24 h
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling <sup>1)</sup>	Ex e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm Option: M20 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	nLLK 08018/18 N 1/6	nLLK 08018/18 N 2/6 <sup>2)</sup>
Rated current	0.18 A	0.18 A
Lamp/illuminant	2 x T26 / 18 W	2 x T26 / 18 W
Rated luminous flux <sup>1)</sup>	2700 lm	2700 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>1)</sup>	880 lm (65 %)	880 lm (65 %)
Luminous flux in emergency operation (3 h, one lamp) <sup>1)</sup>	415 lm (30 %)	415 lm (30 %)
Battery	6 V/4 Ah NC Accu	6 V/4 Ah NC Accu
Dimensions (L x W x H)	760 x 188 x 130 mm	900 x 130 x 188 mm
Weight	approx. 4.5 kg	approx. 6.0 kg

	nLLK 08036/36 N 1/6	nLLK 08036/36 N 2/6 <sup>2)</sup>
Rated current	0.36 A	0.36 A
Lamp/illuminant	2 x T26/ 36 W	2 x T26/ 36 W
Rated luminous flux <sup>1)</sup>	6700 lm	6700 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>1)</sup>	1200 lm (36 %)	1200 lm (36 %)
Luminous flux in emergency operation (3 h, one lamp) <sup>1)</sup>	---	1040 lm (31 %)
Battery	6 V/4 Ah NC Accu	6 V/4 Ah NC Accu (1.5 h), 6 V/7 Ah NC Accu (3.0 h)
Dimensions (L x W x H)	1360 x 188 x 130 mm	1500 x 130 x 188 mm
Weight	approx. 6.8 kg	approx. 8.3 kg (1.5 h), approx. 9.3 kg (3.0 h)

<sup>1)</sup> depends on used lamps

<sup>2)</sup> Version 2/6 with separate battery housing



## Ordering details

Type	Connecting terminals	Through-wiring		With M25 plastic cable glands	For M20 metal <sup>2)</sup> cable glands	Rated emergency lighting operation	Order No.
		single-ended	double-ended				
Type nLLK 08018/18 N 1/6 (2 x 18 W)							
1/6-1	1 x 6	X	-	X	-	1.5 h	1 3470 218 001
1/6-1 M <sup>1)</sup>	1 x 6	X	-	-	X	1.5 h	1 3470 218 031
1/6-1	1 x 6	X	-	X	-	3 h	1 3469 218 001
1/6-1 M <sup>1)</sup>	1 x 6	X	-	-	X	3 h	1 3469 218 031
Type nLLK 08018/18 N 2/6 (2 x 18 W) <sup>3)</sup>							
2/6-2	2 x 6	-	X	X	-	1.5 h	1 3470 218 011
2/6-2 M <sup>1)</sup>	2 x 6	-	X	-	X	1.5 h	1 3470 218 131
2/6-2	2 x 6	-	X	X	-	3 h	1 3469 218 011
2/6-2 M <sup>1)</sup>	2 x 6	-	X	-	X	3 h	1 3469 218 131
Type nLLK 08036/36 N 1/6 (2 x 36 W)							
1/6-1	1 x 6	X	-	X	-	1.5 h	1 3470 236 001
1/6-1 M <sup>1)</sup>	1 x 6	X	-	-	X	1.5 h	1 3470 236 031
Type nLLK 08036/36 N 2/6 (2 x 36 W) <sup>3)</sup>							
2/6-2	2 x 6	-	X	X	-	1.5 h	1 3470 236 011
2/6-2 M <sup>1)</sup>	2 x 6	-	X	-	X	1.5 h	1 3470 236 131
2/6-2	2 x 6	-	X	X	-	3 h	1 3469 236 011
2/6-2 M <sup>1)</sup>	2 x 6	-	X	-	X	3 h	1 3469 236 131

<sup>1)</sup> M: with metal thread, without cable gland

<sup>2)</sup> With dustcover if entry/thread is not closed

<sup>3)</sup> Version 2/6 with separate battery housing

**Version with integrated isolating switch on request**

**Scope of delivery without lamp and fixing accessories**

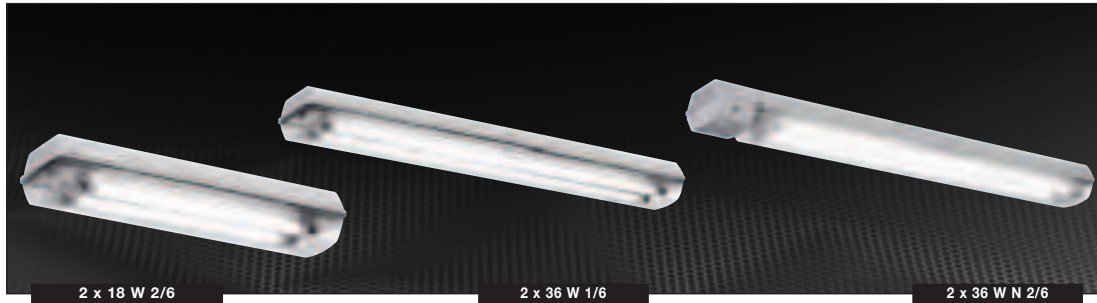
## Accessories

Lamp for luminaire nLLK08... N/nLLM08... N			
Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	3 2475 900 001
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	3 2475 900 002
Aura-Ultimate T26/Ø 26 mm (T8) Longlife Socket G13	18 W 36 W	1300 lm white 3350 lm white	3 2475 900 087 3 2475 900 088

**Metal cable glands M20/M25 see page 8.10.**

**Complete Mounting Systems see page 2.70 to 2.76.**





## Accessories

### Series nLLK 08... N

Type	Order No.
Hexagon screw SW 13	3 2485 000 005

### Series nLLK 08... N

Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	2 2218 602 000

### Fixing materials nLLK 08... N

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	2 2480 002 000
Hexagon screw S4	stainless steel	2	2 2480 054 000
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	2 2480 092 000

### Fixing materials nLLK 08... N

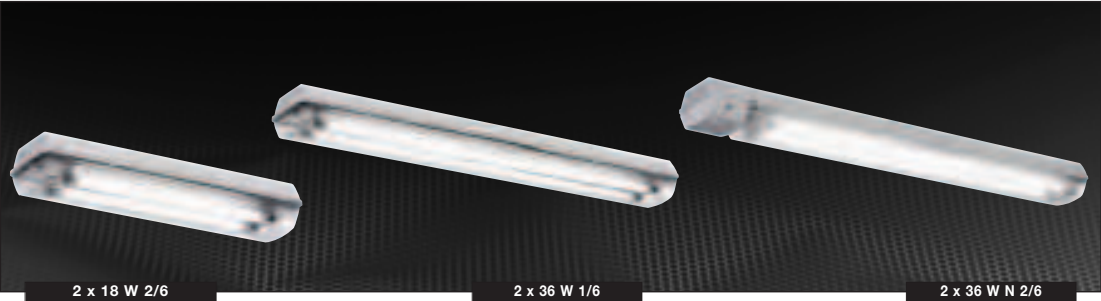
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1 1/4"	38 - 42	2	2 2480 462 000
R14	CrNi	1 1/4"	38 - 42	2	2 2480 464 000
R22	hot galvanized	1 1/2"	47 - 51	2	2 2480 472 000
R24	CrNi	1 1/2"	47 - 51	2	2 2480 474 000
R32	hot galvanized	2"	56 - 60	2	2 2480 482 000
R34	CrNi	2"	56 - 60	2	2 2480 484 000
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	2 2480 000 122

### Battery nLLK 08... N

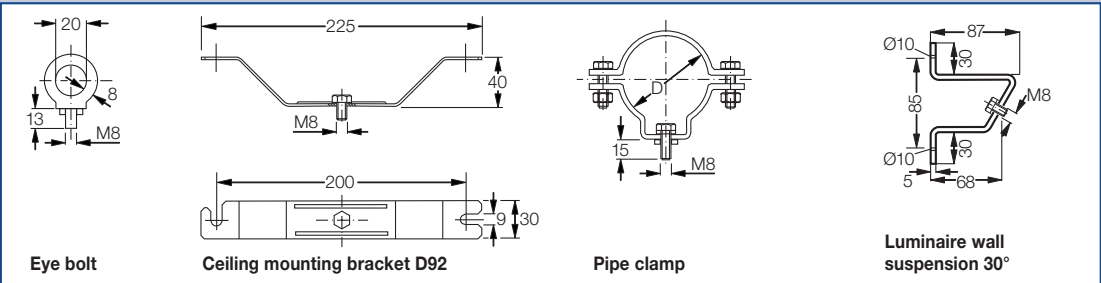
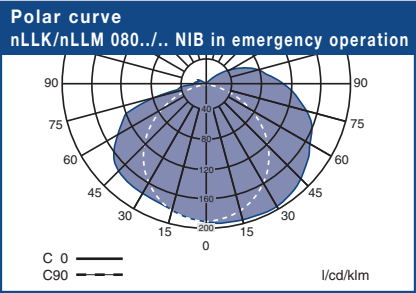
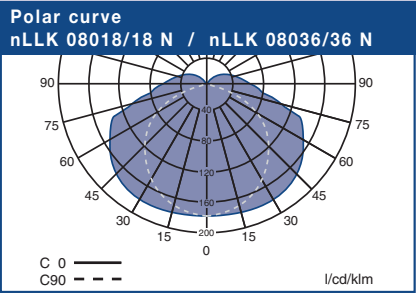
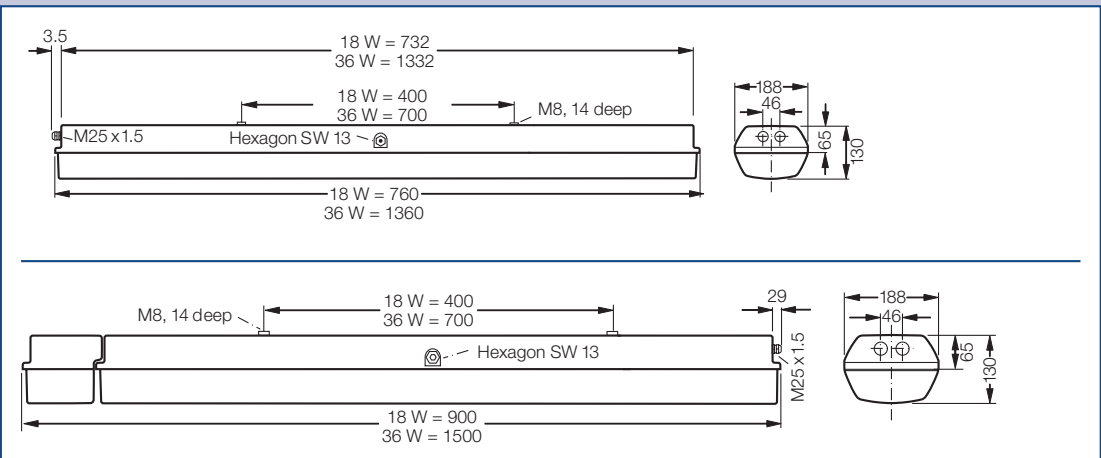
Type	Order No.
nLLK 08... N 1/6, nLLK 08... N 2/6	
Battery set 6 V/4 Ah (... 18/18 N 1/6, 1.5 h and 3 h, 36/36 N 1/6, 1.5 h)	2 3468 236 902
Battery set 6 V/4 Ah (... 18/18 N 1/6, 1.5 h and 3 h, 36/36 N 1/6, 1.5 h)	2 3468 236 903
Battery set 6 V/7 Ah (... 36/36 N 2/6, 3 h)	2 3468 236 904

Metal cable glands M20/M25 see page 8.10.

Complete Mounting Systems see page 2.70 to 2.76.



Dimension drawing | Polar curve



Dimensions in mm

1

2

3

4

5

6

7

8

9

10

11

12

# E X P H O T O R E L A Y

for use in Zone 1 and 2

This photorelay can be used for comfortable and automatic control of the illumination in hazardous areas.

This screw-in photorelay is proved for the direct installation in ex-d and ex-e enclosures.

The electronic and the photoelectric sensor is encapsulated in a flameproof light alloy enclosure with a M32 x 1.5 mm threaded connection. The encapsulated connection cables are 1.5 mm<sup>2</sup> and 500 mm long.

The photoelectric relay has an electronic circuit with low power consumption of approximately 0.3 W, operates with 105 VAC up to 305 VAC 50/60Hz and has a rated current of 10 A resp. a power of up to 1800 VA.

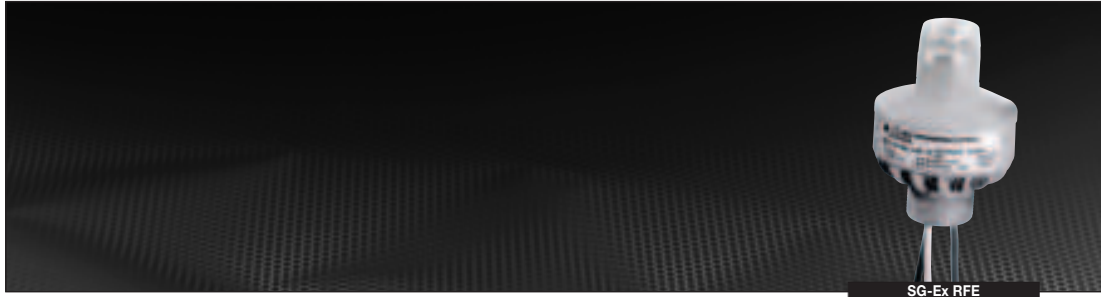
It turns ON immediately but has a 2 to 5 second delay in turning OFF to avoid accidental switching due to a flash, with a high degree of precision in recognizing the light level (lumens) and maintaining its sensibility over a long period of time.



Switching capacity up to 1000 W (1800 VA)

High degree of protection IP66

Easy to install



SG-Ex RFE

Technical data

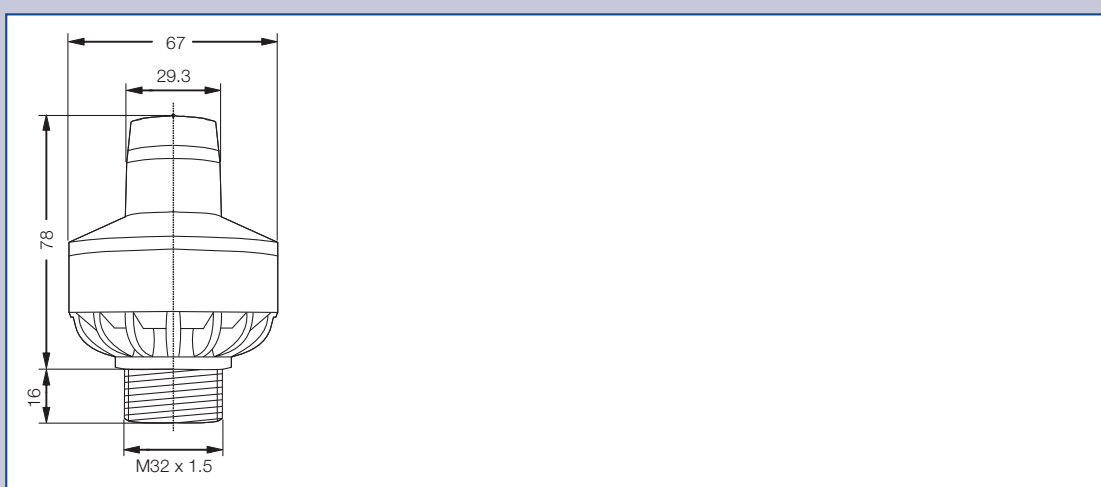
SG-Ex RFE

Marking to 94/9/EC	II 2 G Ex d II C T6
EC-Type Examination Certificate	PTB 06 ATEX 1017 X
Permissible ambient temperature	-40 °C to +70 °C
Rated voltage	105 V to 305 V AC
Rated current	max. 10 A
Frequency	50 - 60 Hz
Power consumption	1 W
Switch rating	1000 W (1800 VA)
Standard cable length	approx. 0.5 m, 1.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP66
Weight	0.25 kg
Type of mounting	Screw in thread M32 x 1.5
Enclosure material	Light alloy
Enclosure colour	Grey

Ordering details

Type	Design	Order No.
Photocell SG-Ex RFE	Sensitivity 10 – 15 lux	GHG 640 9601 P0001
Photocell SG-Ex RFE	Sensitivity 7 – 12 lux	GHG 640 9601 P0002
Photocell SG-Ex RFE	Sensitivity 4 – 11 lux	GHG 640 9601 P0003

Dimension drawing



Dimensions in mm

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12

# F I X I N G S Y S T E M S

## Complete Systems for Light Assembly

Individual assembly system for installing lamp systems can often be realised only at high cost with one-off manufacture. The patented Complete Assembly System stands for low-cost standard fixings for lighting elements on industrial rails, on walls or steel beam constructions.

### Stability and Material

A specially developed shaping method is used for this programme, which ensure a high degree of stability. Stainless steel with optimised material strength is used where aggressive media determine the environment. Components that are not made of stainless steel are hot-galvanised pursuant to DIN EN ISO 1461.

### Assembly

The assembly systems have been designed for inside and outside. The compact system kits can be assembled by only one person in a very short time. All individual parts are simply plugged together and fastened by a screw. Since there is no need for drilling or welding here, it is possible to work without the "work release system" in the areas at risk of explosions.

### Safety

The assembly system is always installed from the safe side of the working platform, i.e. without scaffolding! The prescribed freedom for hands and the avoidance of jutting metallic parts or screws in the construction offers a high standard of safety.

### Cost-Saving Maintenance

The use of tilting luminaire masts results in decisive cost advantages due to minimised maintenance. Thus, for example, changing a lamp without scaffolding or assembly aids is possible for just one person in a very short time. Cleaning and repair work can thus be minimised in terms of cost

Easy to install

Corrosion protected  
(stainless steel or hot galvanized)

Extra solid construction ensures  
high wind load resistance

