

## - Operating Instructions

Explosion-proof LED-Light Fitting  
of series

### e855F L..-J

for connection to INOTEC central battery systems



The safety of people and equipment in hazardous areas depends on the observance of all safety standards. Exact knowledge about all applicable regulations and standards is mandatory for installation maintenance and repair of explosion proof equipment, especially

- the determinations of IEC/EN 60079-14 and IEC/EN 60079-17 for maintenance of explosion-proof appliances
- the generally accepted rules of the technical side
- the national rules for prevention of accidents and for safety standards
- the safety instructions of these operating instructions
- the characteristic data on the type plate and the instruction plates

# 1. Safety Instructions

- Mounting and installation must be done in accordance with the respective regulations.
- The light fitting must be protected against overvoltage, overcurrent, short circuits and other electrical failures.
- The light fitting must be operated in an undamaged condition only.
- The light fitting may only be opened if it has been disconnected from the mains supply completely.
- The non-stationary use of the light fitting as well as any other inappropriate usage is prohibited.
- The operation of the light fitting is allowed within its assessment thresholds only.
- In regard to the minimum and maximum admissible ambient temperature potential sources of cold and heat (e.g. direct heat or solar radiation, cooling units) have to be considered.
- If the light fitting is to be subject to a special application that is influenced chemically, mechanically, thermally or electrically or if the light fitting will be subject to any kind of vibrations, it is highly recommended to consult the Adolf Schuch GmbH before starting the installation.
- Every structural modification will cause dangerous situations and consequently the certification of this light fitting will be null and void. So it is not allowed to drill through the housing for installation purposes.
- Caution - Risk of electrostatic discharge!  
Fitting to be cleaned with damp cloth only!
- In areas with risk of accidental electrostatic charge (e.g. by passing by) the light fitting must be protected by appropriate measures.
- The light fitting is not allowed to be installed in process areas where strong electrical fields may occur (i.e. HV Sparkling Electrodes or Particle Streams). Reason is to avoid any electrostatic charge of the light fitting itself.
- Replace damaged explosion-proof parts by original spare parts from the Adolf Schuch GmbH only.
- LED-reflector with mounted LED-modules and Electronic control gear of this light fitting must be replaced by A. Schuch GmbH, by a service technician who is instructed from Schuch or by any other person with equivalent qualification only.  
It is not allowed to replace the individual LED-modules of this light fitting.

# 2. Operating Advice

- Because of the chemical resistance use only a damp cloth for cleaning the light fitting. If necessary with a mild and solvent-free cleaning agent.
- Against penetration of humidity into the light fitting a special explosion-proof breathing gland is often quite effective. It is allowed to use a breathing gland which is released by the Adolf Schuch GmbH only. If using a breathing gland please observe the general informations of it's operation instructions.
- A through wiring system in explosion-proof light fittings can also be installed at a later stage by using original components of the Adolf Schuch GmbH only.
- Any application of the light fitting that is incorrect or even forbidden will lead to the fact that the manufacturer's warranty is lost.
- The diffuser panels above the LED boards must not be removed.
- LED are sensitive electronic components. Please ensure that the LED are protected against mechanical and electrostatic attacks whenever the light fitting is open. For this reason the LED must not be touched either.
- Due to harmful gases and other corrosive substances (e.g. ammoniac- sulphur-, or chlorine compounds) it may come to damages of the LEDs. Depending on the substance, the concentration, the temperature and the dwell time, damages up to total black-out are possible. This may occur also to fittings with high degree of protection. The suitability of the light fitting for the respective application can only be checked by running a test at site.

- Due to a high inrush current when switching on the light fitting, the number of light fittings which can be connected to a single fused circuit is limited (Possible number of light fittings per circuit breaker see section 3, Technical Data).
- All DALI dimmable light fittings have two additional terminals marked „DA“. Lines to the control terminals must be mains voltage proof.
- The electronic gear with integrated monitoring module has a factory-set address (indicated on the gear) which enables communication with an INOTEC central battery system. To change this address: See chapter 5.3, Address modification.
- A separate switching of the light fitting can be managed by an appropriate switch setting of the INOTEC central battery system. Please contact for detailed information the company INOTEC.

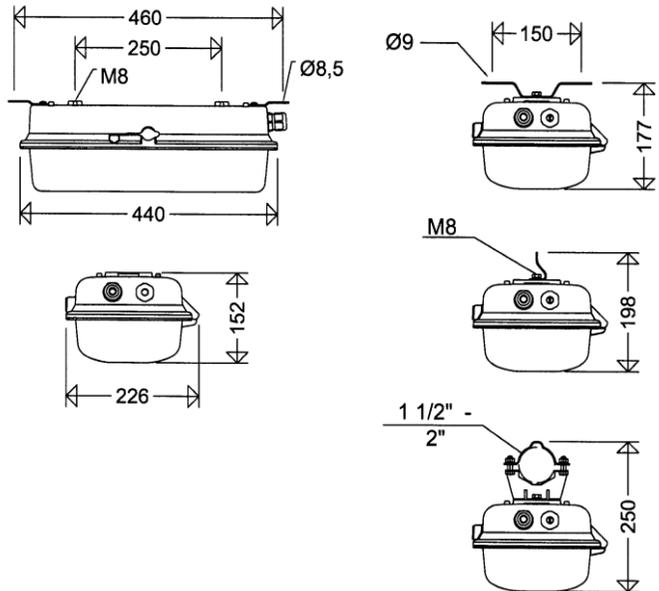
### 3. Technical Data

Series:	e855F L..-J Explosion-proof LED-Light Fitting for operating in hazardous areas of zones 1, 2, 21 and 22.
Explosion protection:	<ul style="list-style-type: none"> <li>⊗ II 2 G Ex eb mb op is q IIC T4 Gb (standard version)</li> <li>⊗ II 2 G Ex db eb mb op is q IIC T4 Gb (with isolating switch)</li> <li>⊗ II 2 D Ex op is tb IIIC T80 °C Db</li> </ul>
Certification:	IBExU17ATEX1132 IECEX IBE 17.0037
Rated voltage:	220...250 V AC; 50 ... 60 Hz (standard version) 176...275 V DC (standard version)
Isolation class:	I
Ingress protection:	IP66 (When using an Ex-breathing gland see section 2)
Ambient temperature:	-30 °C ... +60 °C
Power consumption:	The power consumption of the LED is dependent on production fluctuations as well as on the service temperature. This is why just reference values can be given as follows: e855. L05: 5 W e855. L10: 10 W e855. L20: 18 W
Cable entry: (if supplied)	Cable gland with thread size M25 x 1.5 Sealing range: 7 - 17 mm (for 10 - 17 mm remove the small sealing ring) Torques: Connection thread 3 Nm; Pressing screw 2 Nm Torque of locking screw: 5 Nm See information label on the front page when having special versions!
Connection per terminal:	Clamping range: 2 x 1 - 4 mm <sup>2</sup> max. Ampacity: 16 A max. Required stripping length: 10 - 11 mm See information label on the front page when having special versions!
Looping:	Ambient temperatures over +50 °C limitations to be considered (see type plate)
Locking:	central; actuated by a 13 mm Hexagon socket key (ext. Ø: 18 mm max.)
Operation position:	in any direction - except upwards light output

Possible number of light fittings per circuit breaker:

	Type B 10 A	Type B 16 A	Type C 10 A	Type C 16 A
e855 ...	15	24	25	41

Dimensions:  
(all measures in mm)



## 4. Installation



- ▶ The safety of this light fitting is only guaranteed as long as it is operated within its assessment threshold. Installation and maintenance must be done in accordance with the respective regulations!
- ▶ The installation of explosion-proof light fittings must be done by Ex-skilled electricians only!
- ▶ In regard to the minimum and maximum admissible ambient temperature potential sources of cold and heat (e.g. direct heat or solar radiation, cooling units) have to be considered!
- ▶ The application of this light fitting in an explosive dust atmosphere is depending on the properties of the surrounding dust. Please ensure that there will be an adequate difference between the maximum surface temperature of the fitting and the glowing and the ignition temperature of the respective dust!
- ▶ The light fitting must be mounted in the instructed operation position (see section 3, Technical Data)!

### 4.1 How to open the light fitting

- Turn the hexagon socket at the locking side of the light fitting in direction of the arrow "Open"
- Open the diffuser

### 4.2 Electrical connection

- Turn the wing nuts of the reflector by 90° so that the reflector can be removed from the housing.

- Screw the explosion-proof cable glands and explosion-proof locking screw supplied with the fitting into the borings of the housing (Torques see section 3, Technical Data).
- After mounting the light fitting housing insert the connection cable through the explosion-proof cable gland. An inlaid dust protective disc, if existing, must be removed before.
- Fasten the pressing screw of the explosion-proof cable gland (Torque see section 3, Technical Data).



- ▶ Appropriate measures (e.g. pull relief clips) must be taken to protect the connection cable which is inserted through the cable entry from tractive forces and twist!
- ▶ The diameter of the connection cable must correspond to the sealing range of the explosion-proof cable gland (see section 3, Technical Data)!
- ▶ Cable entries, which are not used, must be closed with the enclosed closure plug (see section 3, Technical Data)! An inlaid dust protective disc, if existing, must be removed before.
- ▶ The conductors must not be damaged when skinning resp. stripping the cable!
- ▶ When stripping the cable special attention needs to be paid to the correct length of the conductor end sections (see section 3, Technical Data)!

- Connect the conductors to the right terminals as per marking.  
L1 and L1' may only be wired with conductors of the same phasing.  
Factory-made there is an electrical conductor connecting L1 and L1'. So the mode of operation of the fitting is "Maintained Operation". To change to the mode of operation "Stand-by Operation", L1 and L1' is to be disconnected.



- ▶ It is important to ensure that the bare conductor is fully inserted into the terminal and that no cable insulation is clamped!

- Put the reflector into the housing and position it correctly. Then lock it by use of the wing nuts.

### 4.3 Replacing LED and electronic gear

LED-reflector with mounted LED-modules and Electronic control gear of this light fitting must be replaced by A. Schuch GmbH, by a service technician who is instructed from Schuch or by any other person with equivalent qualification only. The replacement requires prior consultation of the A. Schuch GmbH.

It is not allowed to replace the individual LED-modules of this light fitting.

### 4.4 How to close the light fitting

- put the diffuser into the hinges and push it into the housing.
- Turn the hexagon socket at the locking side of the light fitting in direction of the arrow "Close".
- After closing the light fitting take care that the whole gasket is effective.

## 5. Commissioning

Before commissioning this explosion-proof lighting fitting please check and ensure that:

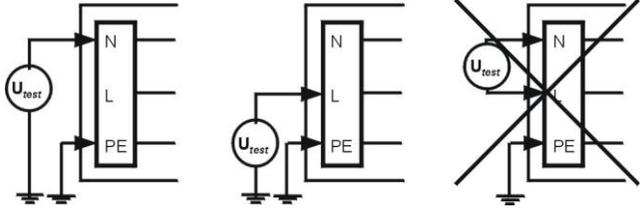
- the light fitting has been installed according to the regulations and in the allowed operating position.
- the explosion-proof cable glands resp. explosion-proof locking screws are securely fixed in the housing (Torques see section 3, Technical Data).
- the pressing screw of every explosion-proof cable gland is tightened with the required torque (Torques see section 3, Technical Data).
- the connection cable has been firmly installed and is not subject to any tension whatsoever.

- the bare conductor is fully inserted into the terminal and that no cable insulation is clamped.
- the light fitting is closed correctly.
- all gaskets are effective.
- the light fitting is not damaged whatsoever.

### 5.1 Isolation measurement

For measuring the isolating resistance the test voltage must be put on between the outer conductor and the earth conductor or between the neutral conductor and the earth conductor only.

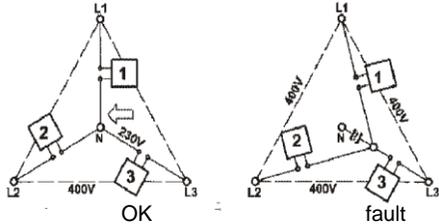
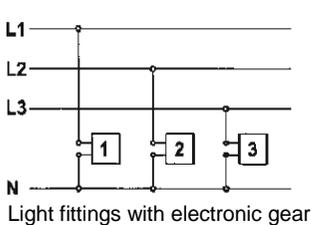
After finishing the isolation test the conductor between the mains and the light fitting must be reconnected safely. Before starting operation the connection of the neutral conductor must be safe for avoiding any damage whatsoever of the electronic control gear caused by any inadmissible excess-voltage in case of an unbalanced mains load. (see section 5.2)



### 5.2 Electronic gear in 3-phase-operation

The diagram shows the wiring for light fittings or light fitting groups in 3-phase circuits and with a common neutral conductor N.

If the common neutral conductor is interrupted and voltage is present, then light fittings or groups of light fittings may be exposed to unacceptably high voltages and consequently the electronic gear may be destroyed.



### 5.3 Address modification



- ▶ The change of the address of the electronic gear of the light fitting may only be carried out in a non-explosive atmosphere, as for the change of the Addressing the power supply of the light fitting must be maintained.

To prepare the address change, proceed as follows:

- Open the light fitting. (Turn the hexagon socket at the locking side of the light fitting in direction of the arrow "Open" and open the diffuser.)
- Turn the wing nuts of the reflector by 90°; remove the reflector from the housing.



- ▶ In the mode of operation of the fitting "Maintained Operation", L1' leads voltage to the electronic gear! Only the monitored conductor L1 is disconnected from the electronic gear by the incooperated isolating switch when the light fitting is opened.

- Connect terminal RS+ with RS- of the electronic gear of the light fitting with help of a electrical conductor.
- Put the reflector into the housing and position it correctly. Then lock it by use of the wing nuts.

- Put the diffuser into the hinges and push it into the housing.

As soon as the diffuser - hanging in its hinges - is pushed into the housing, the light fitting begins to light up and go out again for a few seconds in constant change.

Now, for example, to change the address of the electrical gear to 5, the light fitting must be opened and left open after it has been lit and extinguished for the fifth time.

The change of the address must be completed as follows:

- On the open light fitting: Turn the wing nuts of the reflector by 90° and remove the reflector from the light fitting housing.
- Remove the electrical conductor between the terminals RS+ and RS- of the electronic gear.
- Put the reflector into the housing and position it correctly. Then lock it by use of the wing nuts.
- Put the diffuser into the hinges and push it into the housing.

As soon as the diffuser - hanging in its hinges - is pushed into the housing, the light fitting starts to confirm the new address by repeatedly lighting up. Was e.g. address 5 programmed, the light fitting will light up and go out for five times.

After that, the light fitting will return to its actual mode of operation.

- Finally, close the light fitting (Turn the hexagon socket at the locking side of the light fitting in direction of the arrow "Close".) and then check that the whole gasket is effective.

## 6. Maintenance

Explosion-proof light fittings need regular maintenance according to the national rules of the country they are installed. Especially components which are important for the Explosion Category have to be carefully checked. Therefore it must be checked very carefully:

- glass, housing and gaskets for any kind of damages.
- the correct installation and tightness of explosion-proof cable glands and explosion-proof locking screws (Torques see section 3, Technical Data).
- all parts of plastic inside the light fitting to attend to colour change, deformation and damaging.
- the tight fit of the conductor and the condition of the cable insulation.
- that the light fitting is closed correctly and the gasket is effective.

### 6.1 Cleaning the light fitting



- ▶ At the plastic parts of the light fitting there is a danger of ignition due to electrostatic charging! For cleaning the housing and cover outside and inside and for cleaning internal plastic components use only cold or lukewarm water (if necessary with a mild cleaning agent) together with a viscose sponge or a soft fibrous-free cloth!

#### **Pay attention to the following in case of application of this light fitting in dusty atmospheres:**

Dust deposits have got thermal insulation characteristic features. It is necessary to clean the fitting from dust regularly. In case the dust layer may be higher than 5 mm it must be ensured that the surface temperature of the light fitting does not exceed the maximum permissible surface temperature of the specific dust considering the thickness of the dust layer. The dust layer must not exceed 50 mm at any time.

### 6.2 Repair- and maintenance works



- ▶ For applications in dusty atmospheres the light fitting must be cleaned before opening!
- ▶ Ensure that there will be no dust getting into the light fitting while it is open!
- ▶ Replace damaged explosion-proof parts by original spare parts from the Adolf Schuch GmbH only!

Bezeichnung des Betriebsmittels Name of product Nom du produit	e 855. L...ZB; e 855. L...J
Beschreibung des Betriebsmittels Description of product Description du produit	Explosiongeschützte Leuchte Explosion-proof luminaire Luminaire antidéflagrant
EG/EU-Baumusterprüfbescheinigung EC/EU type examination certificate Attestation d'examen CE/UE de type	IBEXU 17 ATEX 1132 IBEXU - Institut für Sicherheitstechnik GmbH (0637) Fuchsmühlenweg 7, D-09599 Freiberg
Relevante EU-Richtlinie Relevant EU directive Directive UE importante	2014/34/EU ATEX-Richtlinie (Abl. L96) 2014/34/EU ATEX Directive (OJ L96) 2014/34/UE Directive ATEX (JOUE L96)
Angewandte Normen Applied standards Normes appliquées	EN 60079-0:2012+A11:2013, EN 60079-7:2015, EN 60079-31:2014, EN 60079-28:2015 EN 60598-1:2015, EN 60598-2-1:1989, EN 60598-2-22:2014
Relevante EU-Richtlinie Relevant EU directive Directive UE importante	2014/30/EU EMV-Richtlinie (Abl. L96) 2014/30/EU Electromagnetic compatibility (OJ L96) 2014/30/UE Compatibilité électromagnétique (JOUE L96)
Angewandte Normen Applied standards Normes appliquées	EN 55015:2016, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 61547:2009
Relevante EU-Richtlinie Relevant EU directive Directive UE importante	2011/65/EU RoHS-Richtlinie (Abl. L174) 2011/65/EU RoHS-Directive (OJ L174) 2011/65/UE Directive RoHS (JOUE L174)
Angewandte Normen Applied standards Normes appliquées	EN 50581:2012
Relevante EG-Richtlinie Relevant EC directive Directive CE importante	2009/125/EG ErP-Richtlinie (Abl. L285) 2009/125/EC ErP-Directive (OJ L285) 2009/125/CE Directive ErP (JOUE L285)
Angewandte Verordnung Applied regulation Règlement appliqué	1194/2012, 1428/2015

Hiermit erklären wir in alleiniger Verantwortung, dass das oben aufgeführte Produkt mit den Anforderungen der angegebenen Richtlinien und Normen übereinstimmt.

We hereby declare in our sole responsibility that the product above complies with the requirements of the specified directives and standards.

Nous déclarons de notre seule responsabilité que le produit mentionné ci-dessus est conforme aux exigences des directives et des normes indiquées.

**Adolf Schuch GmbH** - Mainzer Str. 172, 67547 Worms, GERMANY

Worms, 02.05.2018

Ort und Datum  
Place and date  
Lieu et date

  
Technischer Leiter  
Technical Director  
Directeur de technique

  
Leiter Qualitätsmanagement  
Head of Quality Management Dept.  
Chef du dept. assurance de qualité

IBEXU 17 ATEX 1132-01 Teil/part/partie B/SB-00

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