Operating Instructions

Adolf Schuch GmbH
Mainzer Str. 172 • D-67547 Worms
+49 6241 4091-0 • info@schuch.de
www.schuch.de

Explosion-proof
LED-Ceiling- or Wall-mounting light fitting

ExGLOBE

Series e9312



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 subject to particular stresses - chemical, mechanical, thermal and electrical, as well as vibrations or moisture - prior consultation with Adolf Schuch GmbH is required.
- **Every structural modification will cause dangerous situations and consequently the certification of this light fitting will be null and void.**
- **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 parts by original spare parts from the Adolf Schuch GmbH only.
- The LED-module with integrated 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.

2. Operating Advice

- Any application of the light fitting that is incorrect or even forbidden will lead to the fact that the manufacturer's warranty is lost.
- 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.

3. Technical Data

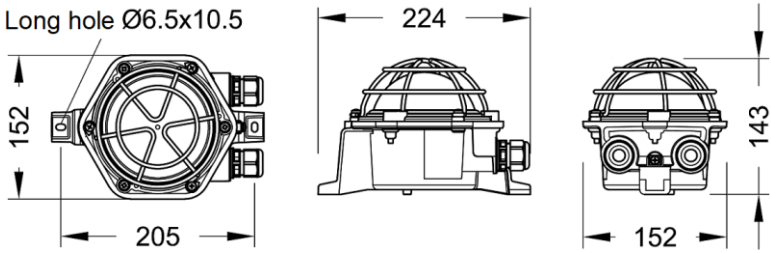
Series:	e9312 Explosion-proof LED light fitting for operating in hazardous areas of zones 1, 2, 21 and 22.
Explosion protection:	Ⓔx II 2 G Ex eb mb IIC T4 Gb Ⓔx II 2 D Ex tb IIIC T80 °C Db
Certification:	IBExU20ATEX1092 IECEx IBE 20.0013
Rated voltage:	220…240 V AC; 50/60 Hz 198…264 V DC
Power consumption:	ca. 11 W
Isolation class:	I
Ingress protection:	IP66
Ambient temperature:	-25 °C ... +40 °C
Energy efficiency class:	This light fitting contains a light source of the energy efficiency class: G
Operation position:	in any direction
Cable entry:	Ex-cable gland with thread size M25 x 1.5 Sealing range: 8 - 17 mm (for 10 - 17 mm remove the small sealing ring) Torques: Connection thread 3 Nm; Pressing screw 2 Nm Torque of Ex locking screw: 5 Nm See information label on the front page when having special versions!
Connection per terminal:	Ampacity: 16 A max. (At maximum current load, a cross section of 2.5 mm² is required) Clamping range: 2 x 1 - 4 mm² max. Required stripping length: 10 - 11 mm See information label on the front page when having special versions!

Possible number of light fittings per circuit breaker*:

Type	B 10 A	B 16 A	C 10 A	C 16 A
e9312	81	130	135	221

*) Typical values; possible deviations depending on make, cable impedance and temperature

Dimensions:
(all measures in mm)



Equipotential bonding: Connection terminal for equipotential bonding on the outside of the light fitting; Clamping range: 4 mm² max.; Torque of terminal screw: 2 Nm max.

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 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

- Loose the fastening screws of the glass retaining ring.
- The LED module forms a unit with the covering glass and glass retaining ring. This unit can now be removed from the light fitting housing, but remains connected by a cord with the light fitting housing.

4.2 Electrical connection

- Screw the Ex cable gland and Ex locking screw supplied with the fitting into the borings of the housing (Torques see section 3, Technical Data)
- Mount the light fitting in the closed state and then insert the connection cable through the Ex cable gland. An inlaid dust protective disc, if existing, must be removed before.
- Fasten the pressing screw of the Ex cable gland (Torque see section 3, Technical Data).



- Appropriate measures (e.g. pull relief clips) must be taken to protect the connection cable from twist and it must be ensured that no tensile forces react on the wiring and the Ex cable gland!
- The diameter of the connection cable must correspond to the sealing range of the Ex cable gland (see section 3, Technical Data)!
- 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 of the connection cable to the right terminals as per marking.
  To ensure enough space for the LED module, lay the connected conductors as close as possible to the bottom of the light fitting housing.



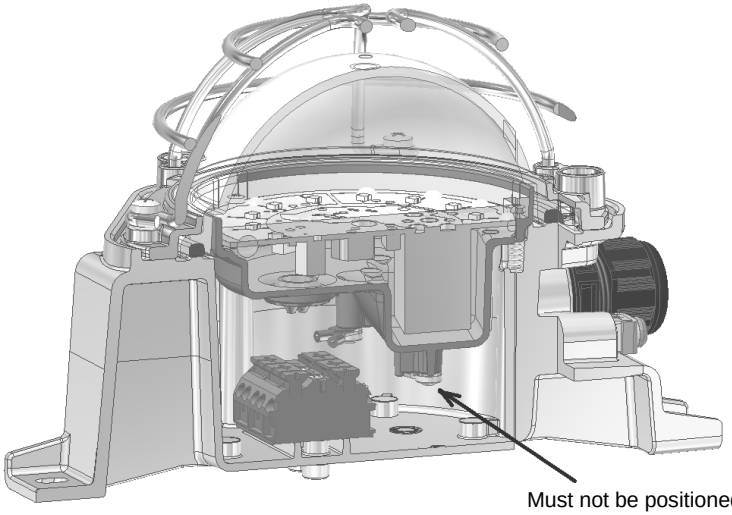
- It is important to ensure that the bare conductor is fully inserted into the terminal and that no cable insulation is clamped!

4.3 Replacing the LED-module

The replacement of the LED-module is described in a separate manual which is included to the spare part delivery.

4.4 How to close the light fitting

- When installing the unit, consisting of LED module, covering glass and glass retaining ring, in the light fitting housing, ensure that it is in the correct position - see the illustration below.



- When joining the two light fitting parts, make sure that the conductors of the LED module and the retaining cord are not pinched and that the gasket in the covering glass is properly seated on the edge of the housing.
- Tighten the fastening screws in the glass retaining ring evenly.

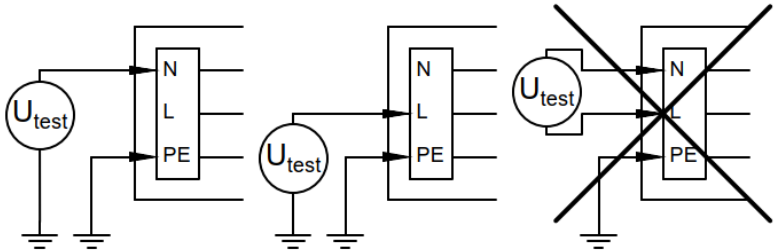
5. Commissioning

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 Ex cable gland resp. Ex locking screw are securely fixed in the housing (Torques see section 3, Technical Data).
- the pressing screw of every Ex 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

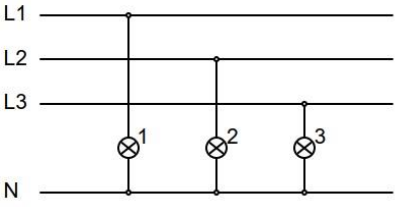
For measuring the isolating resistance the test voltage must be put on between the outer conductor and the earth conductor or between the neutral conductor and the earth conductor only.



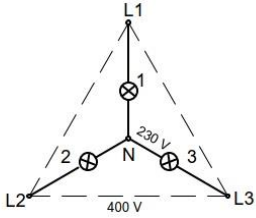
After finishing the isolation test the conductor between the mains and the light fitting must be reconnected safely. Before starting operation the connection of the neutral conductor must be safe for avoiding any damage whatsoever of the electronic control gear caused by any inadmissible excess-voltage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

5.2 Electronic gear in 3-phase-operation

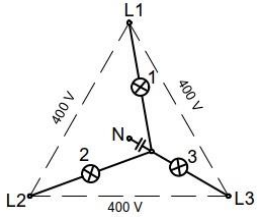
The diagram shows the wiring for light fittings or light fitting groups in 3-phase circuits and with a common neutral conductor N.
If the common neutral conductor is interrupted and voltage is present, then light fittings or groups of light fittings may be exposed to unacceptably high voltages and consequently the electronic gear may be destroyed.



Light fittings with electronic gear



OK



fault

6. Maintenance

6.1 Repair- and maintenance works

- The light fitting may only be opened if it has been disconnected from the mains supply completely!
- For applications in dusty atmospheres the light fitting must be cleaned before opening!
- Ensure that no dust can get into the light fitting when it is open!
- Replace damaged parts by original spare parts from the Adolf Schuch GmbH only!

Spare Parts:
For spare parts inquiries, in addition to the complete type designation of the light fitting, the serial number of the light fitting must be stated. The serial number is printed on the type plate of the light fitting – on the bottom left.

6.2 Cleaning the light fitting



- Danger of ignition due to electrostatic charging at the plastic parts of the light fitting! For cleaning the covering glass and housing 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! When using any kind of cleaning agent make sure that there is no damaging influence at all especially on the sealing material!

Pay attention to the following in case of application of this light fitting in dusty atmospheres:
Dust deposits show heat-insulating properties and thus reduce the service life of the light fitting. 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.

6.3 Regular maintenance work



- Follow the instructions of section 6.1!

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 to be checked very carefully:

- covering glass, housing and gaskets for any kind of damages.
- the correct installation and tightness of Ex cable gland and Ex locking screw (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 properly and tightly closed by the fastening screws of the glass retaining ring.

The test certificates are ready to be loaded down from our homepage - www.schuch.de - or we shall send it on request.

EU-Konformitätserklärung
EU-Declaration of Conformity
Déclaration UE de Conformité

SCHUCH

Bezeichnung des Betriebsmittels Name of product Nom du produit	e 9312...
Beschreibung des Betriebsmittels Description of product Description du produit	Explosionsgeschützte Leuchte Explosion-proof luminaire Luminaire antidéflagrant
EG/EU-Baumusterprüfbescheinigung EC/EU type examination certificate Attestation d'examen CE/UE de type	IBExU 20 ATEX 1092 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 L 96 29.03.2014 S. 309) 2014/34/EU ATEX Directive (OJ L 96 29.03.2014 S. 309) 2014/34/UE Directive ATEX (JOUE L 96 29.03.2014 S. 309)
Angewandte Normen Applied standards Normes appliquées	EN IEC 60079-0:2018/AC:2020-02, EN IEC 60079-7:2015+A1:2018, EN 60079-31:2014 EN 60598-1:2015+A1:2018, EN IEC 60598-2-1:2021
Relevante EU-Richtlinie Relevant EU directive Directive UE importante	2014/30/EU EMV-Richtlinie (ABL L 96 29.03.2014 S. 79) 2014/30/EU Electromagnetic compatibility (OJ L 96 29.03.2014 S. 79) 2014/30/UE Compatibilité électromagnétique (JOUE L 96 29.03.2014 S. 79)
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Relevante EU-Richtlinie Relevant EU directive Directive UE importante	2011/65/EU RoHS-Richtlinie (ABL L 174 01.07.2011 S. 88) 2011/65/EU RoHS-Directive (OJ L 174 01.07.2011 S. 88) 2011/65/UE Directive RoHS (JOUE L 174 01.07.2011 S. 88)
Angewandte Normen Applied standards Normes appliquées	EN IEC 63000:2018

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, 17.02.2022
Ort und Datum
Place and date
Lieu et date

ppa. Prof. Dr. Bruno Weis
Technischer Leiter
Technical Director
Directeur de technique

EU-Konformitätserklärung
EU-Declaration of Conformity
Déclaration UE de Conformité

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Technischer Leiter
Technical Director
Directeur de technique

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