Operating Instructions

Explosion-proof LED-Floodlight

ExSTREAM

Series e8820…

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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 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.
- **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.**
- The stated minimum distance between light fitting and illuminated objects must be observed.
- Replace damaged parts by original spare parts from the Adolf Schuch GmbH only.
- LED-module housings with LED-module and control gears of this light fitting must be replaced by Adolf Schuch GmbH, by a service technician who is instructed from Schuch or by any other person with equivalent qualification only.
  Opening of LED module housings (removing the cover glass) is not permitted!

Special versions with seawater-resistant paintwork:

- 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.

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.
- Harmful gases and other corrosive substances (e.g. ammoniac, sulphur- or chlorine compounds) can damage LEDs and impair the explosion protection. 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.
- In accordance with the standard for photo biological safety, we must point out, that the flood light must be installed in such way, that within a radius of ≤ 0.5 m to the floodlight no one is forced to look directly into the light source.
- Precautions must be taken to protect the light fitting against potential overvoltage caused by lightning strikes.
- 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.

3. Technical Data

Series: e8820/...
Explosion-proof LED-Floodlight
for operating in hazardous areas of zones 1, 2, 21 and 22.

Explosion protection: Ⓔx II 2 G Ex eb mb q IIC T4 Gb
Ⓔx II 2 D Ex tb IIIC T100 °C Db

Certification: IBExU 20 ATEX 1117
IECEx IBE 20.0028

Rated voltage: 220...240 V AC; 50…60 Hz
176…264 V DC

Isolation class: I

Ingress protection: IP66

Ambient temperatur: Depending on the version (see type plate)
-30 °C bis +40 °C / +55 °C
-40 °C bis +40 °C / +55 °C (special version)

Energy efficiency class: This light fitting contains a light source of the energy efficiency class: D

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:
e 8820/3 L150…: ca. 125 W
e 8820/3 L120… H55: ca. 87 W
e 8820/6 L300…: ca. 250 W
e 8820/6 L240… H55: ca.174 W

Possible number of light fittings per circuit breaker*:

Type	B 10 A	B 16 A	C 10 A	C 16 A
e8820/3…	7	12	12	20
e8820/6…	4	6	6	10

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

Locking: 4 screws M6x20

Cable entry:
(if supplied) Ex cable glands 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

If other cable glands are used, their operating instructions must be observed!

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

For special versions, the information on the enclosed information sheet must be observed!

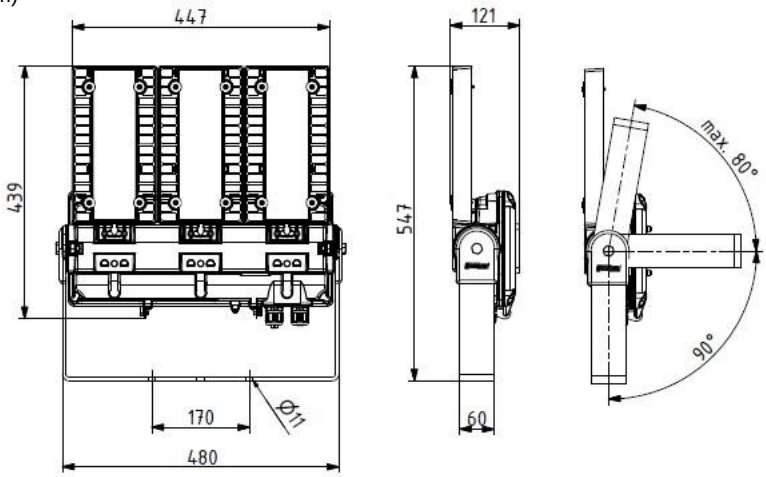
Operation position: Lighting downwards resp. horizontally;
Light fitting is suitable for indoor installation also;
The light fitting must be installed in such a way that sufficient air circulation is ensured for the heat dissipation. A distance of at least 280 mm must be maintained for ceiling mounting.

Mounting: Stainless steel bracket, adjustable in 5° steps

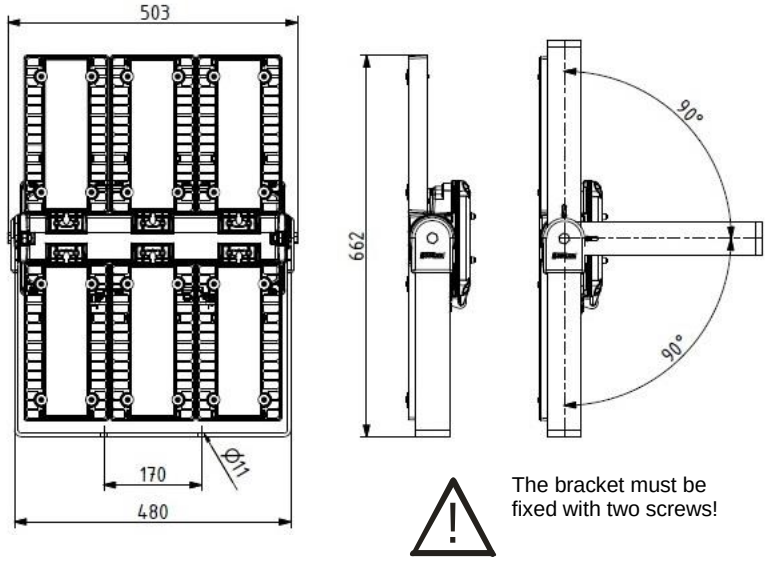
Weight: e 8820/3…: ca. 11,2 kg
e 8820/6…: ca. 17,2 kg

Dimensions:
(all measures in mm)

e8820/3 …:



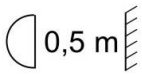
e8820/6 …:



The bracket must be fixed with two screws!

Wind load area: ca. 0,2 m² (e8820/3…)
ca. 0,29 m² (e8820/6…)

Minimum distance to illuminated surface:



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!
- 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 minimum distance to the illuminated surface must be observed (see section 3, Technical Data)!
- When using a fall arrest system for fall protection, the length of the safety wire must be kept as short as possible in order to minimise the fall height!

4.1 How to open the light fitting



- For connecting the light fitting just its device compartment has to be opened! Opening of LED module housings (removing the cover glass) is not permitted!

– Unscrew the four screws in the cover of the device compartment and open the cover.

4.2 Electrical connection

– Screw the Ex cable glands supplied with the fitting into the borings of the housing (Torques see section 3, Technical Data)
– After mounting the light fitting 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).



- Outside the light fitting 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)!
- Ex cable glands that are not used for cable entry must be closed with the enclosed closure plug! 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 on the terminal block.



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

4.3 How to close the light fitting

– Close the device compartment cover and tighten the four screws. The screws must be tightened so far that cover and housing touch each other in the sector of the screws



➤ After closing the light fitting please make sure that the gasket is correctly sealing it!

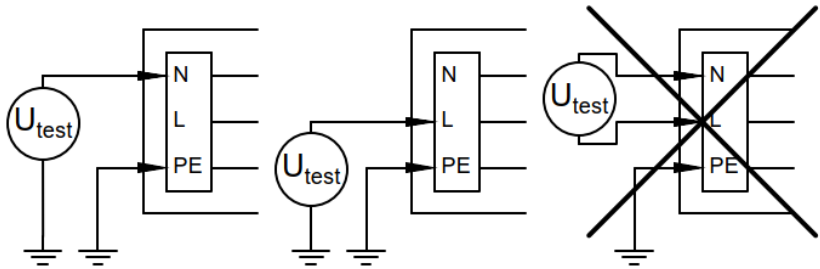
5. Commissioning

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

- the light fitting has been installed according to the regulations.
- the Ex cable glands resp. Ex locking screws 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

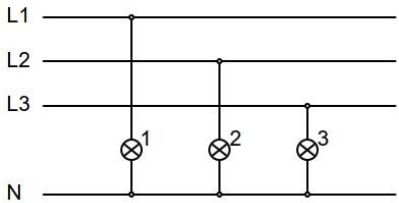
For measuring the isolating resistance the test voltage must be put on between the outer conductor and the earth conductor or between the neutral conductor and the earth conductor only.
After finishing the isolation test the conductor between the mains and the light fitting must be reconnected safely.



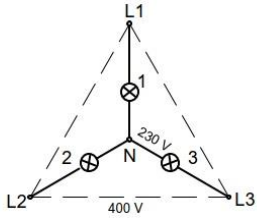
Before starting operation the connection of the neutral conductor must be safe for avoiding any damage whatsoever of the electronic control gear caused by any inadmissible excess-voltage in case of an unbalanced mains load. (see section 5.2)

5.2 Electronic gear in 3-phase-operation

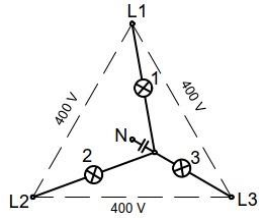
The diagram shows the wiring for light fittings or light fitting groups in 3-phase circuits and with a common neutral conductor N.



Light fittings with electronic gear



OK



fault

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.

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!
- It is allowed to open the light fitting in a non-explosive (non hazardous) atmosphere only!
- 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:
Due to the rapid development of LED technology, LED components quickly become obsolete and are no longer available. In order to be able to determine and offer suitable components nevertheless, in addition to the complete type designation the serial number of the light fitting must be stated when enquiring about spare parts. The serial number is printed on the type plate of the light fitting – on the bottom left.

6.2 Cleaning the light fitting



- Caution - Risk of electrostatic discharge!
  Fitting to be cleaned with damp cloth only!

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:

- Glasses, housings and gaskets for any kind of damages.
- the correct installation and tightness of Ex cable glands and Ex locking screws (Torques see section 3, Technical Data).
- all parts of plastic inside the light fitting to attend to colour change, deformation and damaging, especially the optics on the LED-modules.
- 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.

6.4 Replacing LED and electronic gear

The LED modules of this light fitting must not be exchanged individually, but only as a complete unit (LED module housing with built-in LED-module and cover glass).
Opening of LED module housings (removing the cover glass) is not permitted!

The replacement of the LED module housings and/or electronic gears is described in a separate manual which is included to the spare part delivery.



LED module housings with built-in LED-modules and cover glasses

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

SCHUCH

Bezeichnung des Betriebsmittels Name of product Nom du produit	e 882./. L... ZB
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 1117 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 60079-5:2015, EN IEC 60079-7:2015+A1:2018, EN 60079-18:2015, EN 60079-31:2014 EN 60598-1:2015+A1:2018, EN IEC 60598-2-1:2021, EN 60598-2-5:2015, EN 60598-2-22:2014+AC:2016-05+AC:2016-09+A1:2020
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)
Angewandte Normen Applied standards Normes appliquées	EN IEC 55015:2019+A11:2020, EN IEC 61000-3-2:2019+A1:2021-04, EN 61000-3-3:2013+A1:2019, EN 61547:2009
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

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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

IBExU 20 ATEX 1117-02 Teil/part/partie B/SB-00

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

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ppa. Prof. Dr. Bruno Weis
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IBExU 20 ATEX 1117-02 Teil/part/partie A/SB-00

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

Misprints, modifications and errors are excepted