

SH 15.866

Wir (We; Nous) Adolf Schuch GmbH, Lichttechnische Spezialfabrik, Mainzer Str. 172, D 67547 Worms	
erklären in alleiniger Verantwortung, dass das Produkt <i>hereby declare in our sole responsibility, that the product</i> déclarons de notre seule responsabilité, que le produit	Explosiongeschützte Leuchten Typ nD 866... <i>Ex-proof light fitting Type nD 866...</i> Luminaires anti-déflagrants Type nD 866...
auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt <i>which is the subject of this declaration, is in conformity with the following standard(s) or normative documents</i> auquel cette déclaration se rapporte, est conforme aux norme (s) ou aux documents normatifs suivants	
Bestimmungen der Richtlinie <i>Terms of the directive</i> Préscription de la directive	Titel und/oder Nr. sowie Ausgabedatum <i>Title and/or No. and date of issue of the standard</i> Titre et/ou No. ainsi que date d'émission des normes
94/9 EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen <i>94/9 EC: Equipment and protective systems intended for use in potentially explosive atmospheres</i> 94/9 CE: Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles	EN 60079-0:2012 EN 60079-15:2010 EN 60079-31:2014 EN 60598-1
2004/108/EG: Elektromagnetische Verträglichkeit <i>2004/108/EC: Electromagnetic compatibility</i> 2004/108/CE: Compatibilité électromagnétique	EN 55015 EN 61000-3-2 EN 61000-3-3 EN 61547
2011/65/EU: RoHS-Richtlinie <i>2011/65/EU: RoHS-Directive</i> 2011/65/EU: RoHS-directive	EN 50581
Worms, 12.05.2015 Ort und Datum <i>Place and date</i> Lieu et date	 Geschäftsführer General manager Directeur général
	 Leiter Qualitätsmanagement Head of quality management dept. Chef du dept.assurance de qualité

- Operating Instructions

Explosion-proof LED-Light Fitting
of series

nD 866



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.
- Caution - Risk of electrostatic discharge!
Fitting to be cleaned with damp cloth only!
- In areas where there is a 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 Sparking Electrodes or Particle Streams). Reason is to avoid any electrostatic charge of the light fitting itself.
- The application of this light fitting in areas with explosive gases combined with combustible dusts is not allowed.
- Replace damaged explosion-proof parts by original spare parts from the Adolf Schuch GmbH only.

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. Such breathing gland is installed into an opening that is not required for mounting any cable gland. The mentioned IP rate of the light fitting is given by vertical, downwards vectored installation of the breathing gland only. Each other mounting position of the breathing gland will reduce the IP rate of the light fitting to IP64.
- 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.
- Opening the LED compartment is allowed for repair work only.
- 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.

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. Dust layers exceeding 5 mm reduce the maximum admissible surface temperature. The dust layer must not exceed 50 mm at any time.

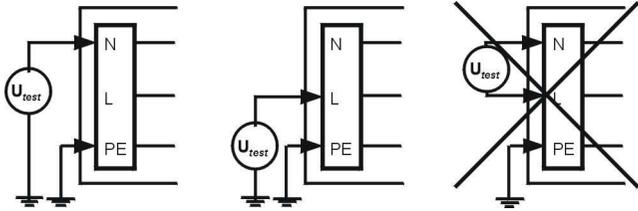
6.2 Repair- and maintenance works



- ▶ 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!

5.1 Isolation measurement

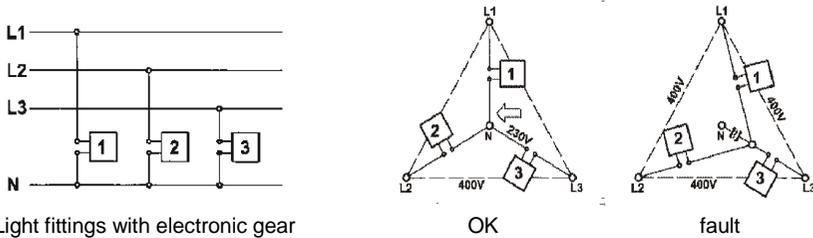
For measuring the isolating resistance the test voltage must be put on between the outer conductor and the earth conductor or between the neutral conductor and the earth conductor only.



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

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!

- 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.

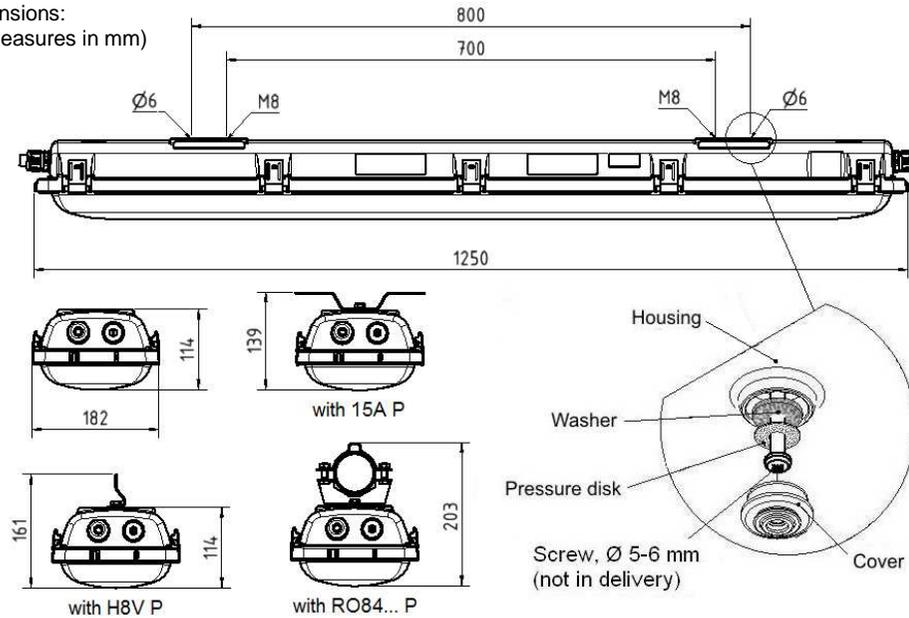
3. Technical Data

- Series: nD866
Explosion-proof LED-Light Fitting for operating in hazardous areas of zones 2 and 22.
- Explosion protection: Ⓜ II 3 G Ex nA IIC T4 Gc
Ⓜ II 3 D Ex tc IIIC T80 °C Dc
- Certification: SH 15.866
- Rated voltage: 220...240 V ±10%; 50/60 Hz
176...264 V DC
- Isolation class: I
- Ingress protection: IP66
- Ambient temperature: -30 °C ... +40 °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:
nD866 12L42: 37 W
nD866 12L60: 56 W
nD866 12L85: 73 W
- Cable entry: 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
See information label on the front page when having special versions!
- Connection per terminal: Clamping range: 2 x 0.75 - 2.5 mm² (solid core or finely stranded)
Ampacity: 16 A max.
Required stripping length: 8 - 9 mm
See information label on the front page when having special versions!
- Operation position: in any direction - except upwards light output
- Locking: Both sides with clips, one per side is designed as a safety lock (to open with a screw driver)

Possible number of light fittings per circuit breaker:

	Type B 10 A	Type B 16 A	Type C 10 A	Type C 16 A
nD866	8	12	13	21

Dimensions:
(all measures in mm)



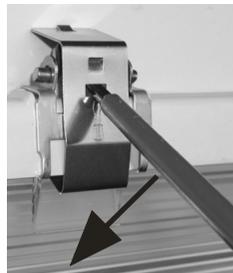
4. Installation



- ▶ 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 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

- Open the clips of the light fitting.
The safety locking device can be opened by means of a suitable screw driver only (see picture).
- Remove the diffuser with the included reflector.



4.2 Electrical connection

- screw the explosion-proof cable glands and explosion-proof locking screw supplied with the fitting into the borings of the housing by using the lock nuts (Torques see section 3, Technical Data).
- After mounting the light fitting housing insert the connection cable through the explosion-proof cable gland.
- 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)!
- ▶ 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.



- ▶ 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 LED circuit boards and electronic gear

Replacement of the LED boards and/or of the electronic gear has been described in the separate instructions which can be found attached to the spare parts to be supplied.

4.4 How to close the light fitting

- Join diffuser with included reflector and housing together.
- Hook the clips into the diffuser and fix it.
- 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.