

FGN LED Type 'n'

28W / 42W / 55W LED



II 3 G Ex ec IICT4 Gc



II 3 D Ex tc IICT80°C Dc



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

- the provision of IEC/EN 60079-14 and IEC/EN 60079-17 for the maintenance of explosion-proof appliances
- the generally accepted rules of technology
- the national health and safety standards
- the safety instructions in this leaflet
- the technical data on the product label and the information in this leaflet



1. Safety Instructions

- Mounting and installation must be done in accordance with the respective regulations.
- The luminaire must be protected against overvoltage, over currents, short circuits and other electrical failures.
- The luminaire must only be operated in an undamaged condition.
- The luminaire must be disconnected from the mains supply before opening.
- Use of the luminaire in a non-fixed installation, as well as any other inappropriate usage is prohibited.
- ONLY operate the luminaire within its certified rating.
- When considering the minimum and maximum ambient temperature, heat or cold from external sources must be considered (e.g. direct heat or solar radiation, cooling units).
- If the luminaire is subject to an 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 Thorlux Lighting before installation.
- Any modification will render the product unsafe and will invalidate certification and warranty
- **Caution - Risk of electrostatic discharge.**
Only use a damp cloth to clean the luminaire
- In areas where there is a risk of accidental electrostatic charge (e.g. by passing by) the luminaire must be protected by appropriate measures.
- The luminaire must not be installed in areas where strong electrical fields may occur (i.e. HV Sparking Electrodes or Particle Streams). This is to avoid any electrostatic charge of the luminaire itself.
- DO NOT install this luminaire in areas where explosive gases combine with combustible dusts.
- Replace damaged explosion-proof parts with original spare parts from Thorlux Lighting only.
- The LED module contained in this luminaire shall only be replaced by Thorlux Lighting or their service agent or a similar qualified person.

2. Operating Advice

- Because of the chemical resistance, only use a damp cloth for cleaning the luminaire. Use with a mild, solvent-free cleaning agent if necessary.
 - The use of a special explosion-proof breathing gland reduces the impact of humidity on the fitting. Only use a breathing gland supplied by Thorlux Lighting. This breathing gland is installed into an opening that is not required for mounting any cable gland. If using a breathing gland please observe the general information of its operation instruction.
 - This luminaire can be through wired at a later date only by using components from Thorlux Lighting.
 - Any incorrect application of the luminaire will void the manufacturer's warranty.
 - ONLY open the LED compartment for repair work.
 - LEDs are sensitive electronic components. Please ensure that they are protected against mechanical and electrostatic attacks whenever the luminaire is open. For this reason the LEDs **must not be touched**.
 - Harmful gases and other corrosive substances (e.g. ammoniac, sulphur, or chlorine compounds) may damage the LEDs. Depending on the substance, the concentration, the temperature and the dwell time, damage including a total black-out are possible. This may also occur to fittings that have a high degree of protection.
 - Due to a high inrush current when switching on the light fitting, the number of luminaires that can be connected to a single fused circuit is limited. (Possible number of light fittings per circuit breaker see section 3, Technical Data).
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3. Technical Data

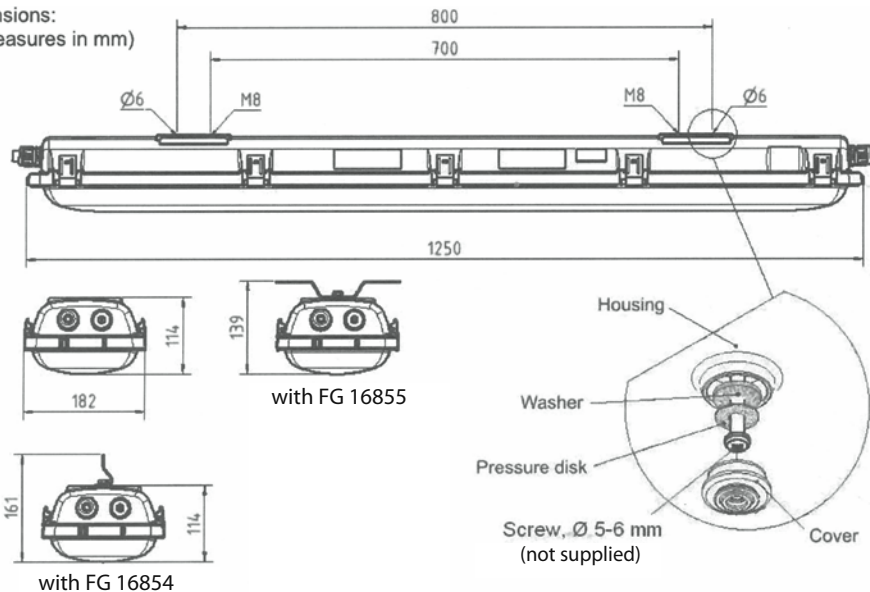
Series:	FG 16851 - FG 16853 Explosion-proof luminaire operating in hazardous areas of zones 2 and 22.
Explosion protection:	 II 3 G Ex ec IIC T4 Gc  II 3 D Ex tc IIIC T80 °C Dc
Certification:	THX 15.1302
Rated voltage:	220...240 V ±10%; 50/60 Hz 176...264 V DC
Isolation class:	I
Ingress protection:	IP66
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: FG16851: 28 W FG16852: 42 W FG16853: 55 W
Cable entry:	Cable gland with thread size M25 x 1.5 only. Sealing range: 7 - 17 mm (for 10 - 17 mm remove the small sealing ring) Torques: Connection thread 3 Nm; Pressing screw 2 Nm
Terminal connection:	Clamping range: 2 x 0.75 - 2.5mm² (solid core) 16 A max. Required stripping length: 8 mm (conductor 0.75 – 1.0 mm²) 9 mm (conductor 1.5 – 2.5 mm²)
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 10A	Type B 16 A	Type C 10 A	Type C 16 A
FG 16851/2/3	8	12	13	21

Through wiring: 5 x 2,5 mm²; 16 A max.

Dimensions:
(all measures in mm)



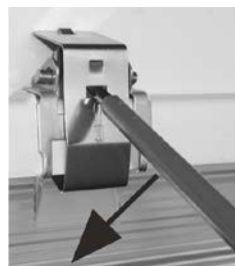
4. Installation



- The safety of this luminaire is only guaranteed as long as it is operated within its certified rating. Installation and maintenance must be done in accordance with the respective regulations.
- The installation of explosion-proof luminaires must ONLY be done by Ex-skilled electricians.
- When considering the minimum and maximum ambient temperature, heat or cold from external sources must be considered (e.g. direct heat or solar radiation, cooling units).
- The application of this luminaire is dependent on the properties of the surrounding dust.
- Ensure there will be an adequate difference between the maximum surface temperature of the fitting and the glowing/ignition temperature of the surrounding dust.
- The light fitting must be mounted in the instructed operation position and with the attached sealing parts (see section 3, Technical Data).

4.1 Open the luminaire

- Open the clips of the light fitting.
The safety locking device can be opened using a suitable screwdriver (see picture).
- Remove the diffuser with the included reflector.



4.2 Electrical connection

- Fasten the supplied explosion-proof cable glands and explosion-proof locking screw supplied into the housing by using the lock nuts (Torques see section 3, Technical Data).
- After mounting the housing, insert the connection cable through the explosion-proof cable gland. An inlaid dust protective disc, if existing, must be removed before.
- Fasten the explosion-proof cable gland (Torque see section 3, Technical Data).



- Appropriate measures (e.g. pull relief clips) must be taken to protect the cable inserted through the cable entry from pulling and twisting.
 - 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 stripping the cable.
 - The cable must be stripped to the correct length (see section 3, Technical Data).
- Connect the conductors of the connection cable to the right terminals as marked.



- Ensure that the bare conductor is fully inserted into the terminal and that no cable insulation is clamped.

4.3 Close the luminaire

- Place the diffuser back onto the housing.
- Hook the clips into the diffuser and fix it.
- After closing the luminaire ensure the gasket is correctly sealing it.

5. Commissioning



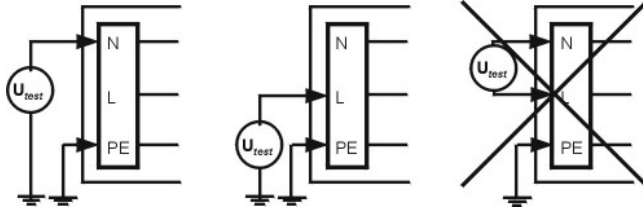
- The tightness and correct torquing of the cover fixings/gland is essential for safe operation

Before commissioning this explosion-proof luminaire please ensure that:

- the luminaire has been installed according to the regulations and in the correct operating position.
 - the explosion-proof cable glands and 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 luminaire is closed correctly.
 - all gaskets are effective.
 - the luminaire is not damaged whatsoever.
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5.1 Insulation resistance

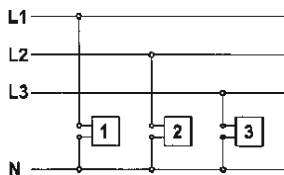
For measuring the insulation resistance the test voltage must be attached between the Live conductor and the earth conductor, or between the neutral conductor and the earth conductor.



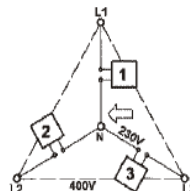
After finishing the insulation test the conductor between the mains and the luminaire must be reconnected safely. Before operation, the neutral connection must be reconnected to avoid any damage from the electronic control gear caused by any excess-voltage in the event of an unbalanced mains load. (see section 5.2)

5.2 Electronic gear in 3-phase-operation

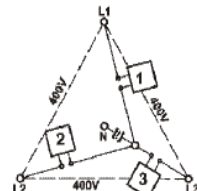
The diagram shows the wiring for luminaires or a luminaire group in 3-phase circuits with a common neutral conductor (N).



Light fittings with electronic gear



OK



fault

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

6. Maintenance

Explosion-proof luminaires need regular maintenance in accordance with the national rules of the country in which they are installed. Components that are essential for the Explosion Category especially have to be carefully checked. Therefore the following must be checked:

- the diffuser, housing and gaskets for any kind of damage.
- the correct installation and tightness of explosion-proof cable glands and explosion-proof locking screws (Torques see section 3, Technical Data).
- that all plastic parts inside the luminaire show no signs of colour change, deformation or damage.
- the tight fit of the conductor and the condition of the cable insulation.
- that the luminaire is closed correctly and the gasket is effective.



- For safe operation ensure the correct torque is used to tighten the cable entry and fixings

6.1 Cleaning the luminaire



- The plastic components of the luminaire produce a danger of ignition due to electrostatic charge
- To clean the luminaire use cold or lukewarm water (and if necessary a mild cleaning agent) with a sponge or a soft fibrous-free cloth. **DO NOT USE A BRUSH**

Installing the luminaire in a dusty environment:

- Dust deposits have got thermal insulation characteristic features.
- It is necessary to clean the luminaire from dust regularly.
- In case the dust layer may be higher than 5mm it must be ensured that the surface temperature of the luminaire 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.

6.2 Repair and maintenance



- The luminaire must be disconnected from the mains supply before opening.
- For installations in dusty environments the luminaire must be cleaned before opening.
- Ensure that no dust can get into the luminaire when it is open.
- Only use Thorlux Lighting spare parts to replace damaged explosion proof parts.

Modifications

Thorlux products should not be modified. Any modification may render the product unsafe and will invalidate any Safety/Approval marks.

Thorlux will not accept any responsibility for any modified products or for any damage caused as a result of their modification.

Important-Safety

Before carrying out any servicing on this luminaire, ensure that the mains supply is fully isolated.

Disconnect luminaire before insulation testing of the installation.

Declaration of Conformity

Directive 2014/34/EU

Document number: THX 15.1302

We, Thorlux Lighting, Merse Road, Redditch, Worcestershire, B98 9HH, hereby declare that this document is issued under the sole responsibility of the manufacturer and that the product range listed below conforms with the below standards and Directives.

RANGE	THORLUX REF	LED
FGN LED	FG16851LF FG16852LF FG16853LF	FGN Zone 2, 28W LED FGN Zone 2, 42W LED FGN Zone 2, 55W LED

Terms of Directive

2014/34/EU Equipment and protective systems intended for the use in potentially explosive atmospheres

2014/30/EU Electromagnetic compatibility

2011/65/EU RoHS Directive

Number of relevant standard/ EHSR reference

BS EN 60079-0:2012+A11:2013
BS EN 60079-7:2015
BS EN 60079-31:2014
BS EN 60598-2-1:1989
BS EN 60598-1:2015

BS EN 55015:2013
BS EN 61000-3-2:2014
BS EN 61000-3-3:2013
BS EN 61547:2009

BS EN 50581:2012

Name and signature of authorised persons



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NOTICE TO CONTRACTOR - PLEASE PASS THIS LEAFLET TO THE END-USER

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