BARTEC

Line Ex1

LED Lighting fixture for zone 1/21

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Lighting fixture for zone 1/21

Note on instructions

When working in potentially explosive areas, the safety of people and systems depends on compliance with the relevant safety regulations. Persons responsible for assembly and maintenance bear a special responsibility. A prerequisite for this is precise knowledge of the applicable rules and regulations.

The instructions summarise the most important safety measures and must be read by everyone working with the product in order to make sure that they are familiar with the correct handling of the product.

The instructions must be retained and must be available throughout the life of the product.

Description

The Line Ex1 series is a range of robust linear luminaires designed for use in hazardous areas, certified for ATEX Zone 1/21. Built with a durable polycarbonate body (RAL 7035) and a high_resistance opal polycarbonate cover, the luminaire ensures excellent light homogeneity while effectively reducing glare. A silicone gasket provides long_term sealing reliability.

Equipped with certified electronic components, including an encapsulated LED module and driver, the fixture delivers high efficiency up to 158 lm/W and an extended LED lifetime of up to 110,000 hours, even in demanding temperature conditions. It is suitable for ambient temperatures ranging from -30 °C to +55 °C, depending on the model.

Designed for operation in harsh environments, the luminaire features IP66/IP67 protection against dust, splashes, and water ingress, as well as IK10 impact resistance. Its lightweight yet durable construction supports multiple mounting options, including supplied stainless-steel clips and mounting lugs, enabling snap_on or hinge installation for maximum flexibility.

Safety Instructions

The Line Ex1 lighting fixture may only be used within the specified temperature range. Unprotected, incorrect installation may result in malfunctions or loss of explosion protection.
The connection and installation/disassembly of the Line Ex1 lighting fixtures must be carried out by qualified personnel who are authorized and trained to install lighting fixtures in potentially explosive atmospheres. Use in any areas other than those specified or modification of the product by anyone other than the manufacturer releases BARTEC from liability for defects and further liability.

When setting up explosion-protected lighting fixtures, the relevant installation and operating regulations must be observed. The generally applicable legal rules and other binding guidelines on occupational safety, accident prevention and environmental protection must be observed.
The Line Ex1 lighting fixture may only be operated in a clean, undamaged condition. Any modifications and alterations are not permitted.

Reference standards

Directive 2014/34/EU	
ATEX Ex protection type	Ⓔx II 2G Ex eb mb IIC T4 Gb Ⓔx II 2D Ex tb IIIC T85°C Db
ATEX certificate number	FTZÚ 26 ATEX 0027X
Rules of compliance	EN/IEC 60079-0: 2018; EN 60079-7: 2015 + A1:2018; EN 60079-18: 2015 + A1:2018; EN 60079-31: 2024;
IECEx certificate number	IECEx FTZU 26.0016X
Ingress protection	IP66 / IP67
Impact Protection	IK10
Ambient temperature	–30 °C to +55 °C

Electrical characteristics

Power supply	220-240 VAC Vac electronic driver 50/60 Hz 220-240 Vdc 0 Hz (normal version only)
Lamp source	LED 5000K, CRI +80 Lifetime: > 110.000 hours L80B50 @ta50
Terminals	Screwless three-pole terminal block, max. cross section of wires 4,0mm², lighting fixture is ready for looping (option to connect two cables, required to order additional cable gland)

Mechanical characteristics

Body	PC (polycarbonate), grey colour RAL 7035
Diffuser	UV resistant polycarbonate
Closing clips	2 pcs stainless steel fastening bracket - AISI 304
Cable entry	2x Ex plastic cable gland M20x1,5 for cable Ø 7-13 mm 2x Ex plastic cable plug M20
Glow wire test	850 °C
Fastening	2x stainless steel fixing pen (AISI304) for direct fixing of the luminaire to the mounting surface

Marking

Particularly important points in these instructions are marked with a symbol:

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is used to address practices not related to personal injury.

NOTE Important instructions and information on effective, economical and environmentally compatible handling.

Standards conformed to

Please See Attestations of Conformity.

Assembly, installation and commissioning

WARNING

Risk of serious injury due to incorrect procedures.

- Work on assembly, disassembly, installation and commissioning may only be carried out by authorised specialist personnel.
- Suitable tools shall be used.

Assembly/Disassembly

Prior to the assembly/disassembly, it must be ensured that the Line Ex1 lighting fixture is in s condition (no cracks or damage).

Installation

WARNING

Potential danger of electrostatic charging.

- The luminaire must be installed in a position that prevents contact between people and parts of the fixture.
- The luminaire is intended for fixed installation.
- The luminaire should only be cleaned with a damp duster. It is necessary to maintain periodic cleaning intervals for the lighting fixture.
- Do not open while under voltage.
- Replace broken protective cover.
- The battery inside the luminaire may only be replaced with a battery of the same type and specifications!!

SPECIFIC CONDITIONS OF USE:

1. Ambient temperature range: - see Annex to the certificate IECEx FTZU 26.0016X
2. The luminaire is intended for fixed installation and must be labelled “Warning - potential danger of electrostatic charging” - see Technical conditions.
3. The power supply cable shall be effectively fixed to prevent pulling or twisting.
4. Shall be used only Ex equipment cable glands and Ex equipment blanking elements with Ex protection Ex eb and Ex tb with IP 66 and with Service temperature range -30 °C to +60 °C.
5. The Technical conditions for mounting and maintainance must be complied.
6. The battery pack must not be replaced in hazardous areas (unless the area is shown to be free from a hazardous atmosphere).
7. The luminaire shall be installed to avoid a risk from propagating brush discharges for application in explosive dust.

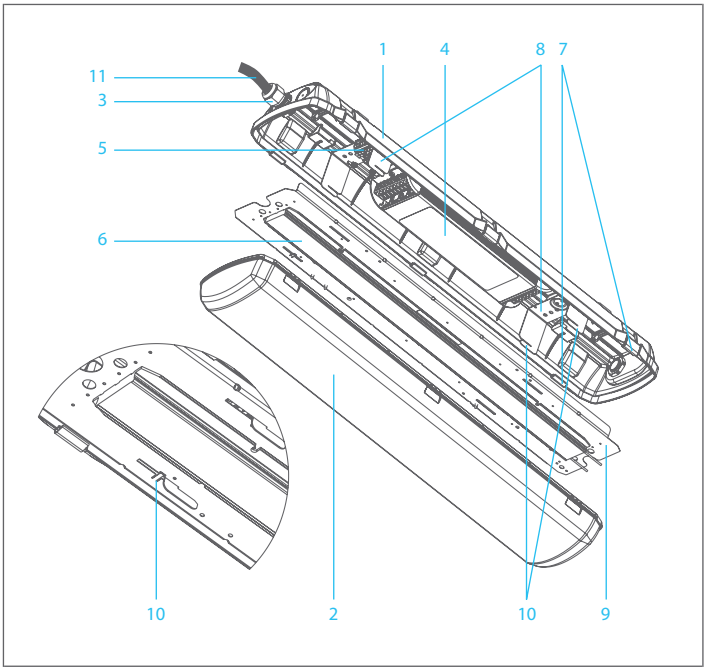
The luminaire can only be installed by an authorized person. When installing the luminaire, observe ESD safety using appropriate tools. After the light source is changed, it is necessary to also change the gasket in the luminaire.
After the driver is changed, it is necessary to also change the gasket in the driver’s part. During commissioning, it is not necessary to perform the routine test of the luminaire.
The replacement of the light source, gasket, and other repairs of this luminaire can only be done by the manufacturer, its contractual service technician, or a similarly qualified person authorized by the manufacturer, and only with original spare parts. If the mounting instructions are not followed, the manufacturer cannot be held responsible for any incidental damages incurred.

Installation instructions:

1. Remove the plastic cover from the luminaire (2).
2. Release the hooks securing the reflector (10) and hang the reflector on the safety cables.
3. Remove the accessory bag.
4. Install the cable gland and the cable plug on the luminaire. Tighten to the luminaire with a torque of 2.7 Nm. Each gland must be secured with two nuts.
5. Snap the stainless steel clips (7) provided with the fixture onto the fixture hinges.
6. Feed the supply cable (3) through the cable gland (4). Tighten the gland until the rubber gasket is slightly deformed. Torque: 2.0 Nm.
7. Plug the power cord into the free part of the supply terminal block as in table “Connection of luminaire”
8. Return the metal reflector (9) to its original position, then secure it with the hook (10).
9. Place the fixture cover (2) and snap the clips (7) into place.

*** After closing the fixture, the clips can only be opened using a screwdriver.**

Luminaire construction

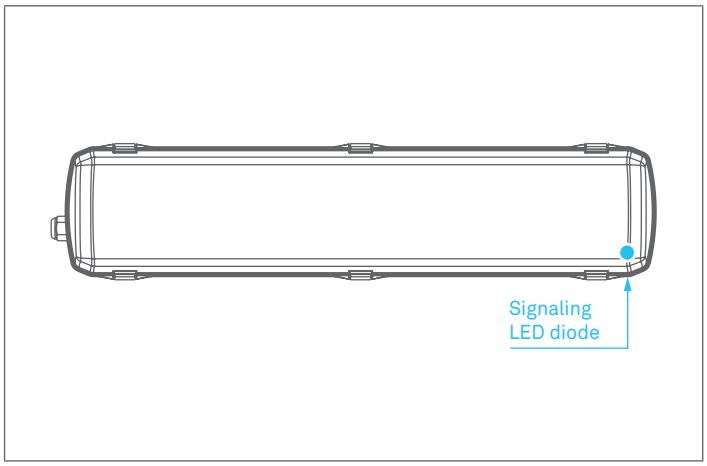


1	Luminaire housing
2	Luminaire cover
3	Ex cable gland
4	Ex LED driver
5	Ex terminal block
6	Ex LED module
7	Stainless clamp
8	Metal reflector bracket
9	Metal reflector
10	Mounting hooks
11	Supply cable

Functionality Test of the Emergency Lighting System

To ensure proper operation of the luminaire, the enclosed emergency lighting test record must be followed. Disconnect the luminaire from the mains. The LED module in the emergency circuit must light up. The LED indicator will turn off. If the emergency light goes out before the rated autonomy period has elapsed, even though the battery is fully charged, the battery must be replaced.

NOTE
The battery reaches full capacity after approximately three charge/discharge cycles.

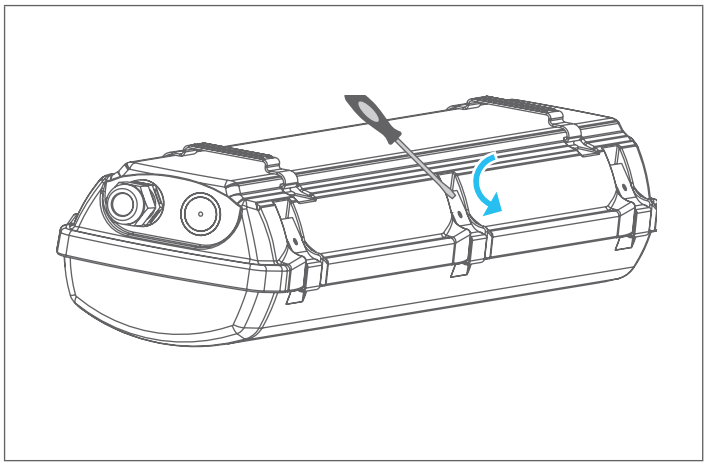


Battery replacement

Battery replacement is necessary once the luminaire no longer meets the requirements of its rated operating duration. Replace the battery in a non-explosion-hazardous environment.

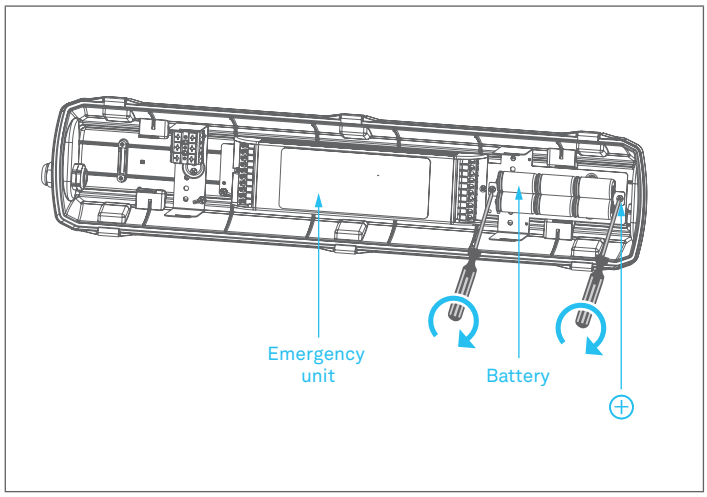
1. Disconnect the luminaire from the power supply.
2. Loosen the M5 locking screws on the optical cover.
3. Remove the cover using a flathead screwdriver.
4. Release the reflector hook and tilt it.
5. Disconnect and remove the old battery using a Phillips screwdriver to unscrew the two screws holding the battery.
6. Mount the new battery (mark installation date).
7. Connect the battery to the emergency unit.
8. Return the reflector to its final position until secured.
9. Reattach the luminaire cover and secure it with M5 screws using a tightening torque of 1.0 Nm. Snap the latches into the correct position.
10. Reconnect to power and verify emergency operation.
11. Confirm that battery charging is indicated properly.

Remove the cover using a flathead screwdriver:



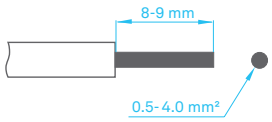
WARNING: Use only batteries of the same type and parameters as indicated on the battery label.

Battery disconnection and removal using a Phillips screwdriver:



NOTE
The connection of the device must be carried out in accordance to IEC/EN 60079-14 and with the information in the applicable operating instructions for the built-in devices. The applicable operating instructions can be downloaded from www.bartec.com or ordered directly from BARTEC GmbH.

Connection of luminaire

Clamp	Type of luminaire				Stripping the wire
	N0	ND	EA / E1	A1 / AD / ED / D1	
L1	phase wire	phase wire	phase wire	phase wire	
L2	-	-	charging phase wire	charging phase wire	
DA+	-	DALI +	-	DALI +	
DA-	-	DALI -	-	DALI -	
N	neutral wire	neutral wire	neutral wire	neutral wire	
T	protective wire	protective wire	protective wire	protective wire	

Legend

N0	normal version
ND	normal version with DALI2 driver
E1	maintained emergency version with 1h autonomy, ON/OFF driver
EA	maintained emergency version with 3h autonomy and emergency autotes , ON/OFF driver
A1	maintained emergency version with 1h autonomy and emergency autotest, DALI inverter and DALI2 driver
AD	maintained emergency version with 3h autonomy and emergency autotest, DALI inverter and DALI2 driver
ED	maintained emergency version with 3h autonomy, DALI inverter and DALI2 driver
D1	maintained emergency version with 1h autonomy, DALI inverter and DALI2 driver

Maximum allowed number of lighting fixture for circuit breaker

Maximal short circuit current must not be higher than 10kA

Typ of lighting fixture	Order number	B10 A	B16 A	C10 A	C16 A
Line Ex1	LIXZ1**********FE	15	24	25	40

Positions and information relative to the labels

1	Brand, name and address of the manufacturer
2	Equipment type designation given by manufacturer
3	Nominal electrical characteristic
4	Ambient temperature range
5	Identification of Notified Body that have issued the certificate and its relative number
6	Distinctive community mark specific of explosion protection
7	ATEX / IECEx marking
8	Graphic symbol of conformity CE marking
9	Identifying number of Notified Body responsible of production surveillance on “ATEX” equipment

Connection of luminaire

Screwless three-pole terminal block, max. cross section of wires 4.0mm², lighting fixture is ready for looping.

The marking of individual terminals and connections may differ, depending on the required equipment of the luminaire. In case of confusion contact the technical support of BARTEC.

Commissioning

The following points must be observed before installation work may be commenced:

– The device is installed correctly
– The device is not damaged.

NOTE
The spare parts, attachments or switching and lighting modules are listed in the data sheet.

Operation

DANGER
Death or risk of injury due to improper use.
- The Line Ex1 lighting fixture may only be operated within the applicable technical limits.

Transport and storage

NOTICE
Damage to the Line Ex1 lighting fixture due to incorrect transport or incorrect storage.
- Transport and storage is permissible in original packaging only.

Maintenance and Troubleshooting

WARNING
Risk of serious injury due to incorrect procedure.
- Any maintenance and troubleshooting work may only be carried out by authorised specialist personnel.
- IEC/EN 60079-17 must be observed.

Maintenance

The operator of the Line Ex1 lighting fixture must keep it in good condition, operate it properly, monitor it, clean it and check it regularly for any cracks and/or damage.

Fault Clearance

The Line Ex1 lighting fixture is defective if it is cracked and/or damaged. Damaged or defective control and display devices cannot be repaired. They must be replaced in accordance with this user manual.

Accessories, Spare Parts

Please see the BARTEC catalogue.

Disposal

The components of the Line Ex1 lighting fixture contain metal, NO, glass and plastic parts. Therefore, the legal requirements for the disposal of electronic waste must be observed (e.g. disposal by an approved disposal company).

Service Address

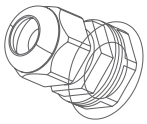
ESS BU
BARTEC F.N.
Srl via Mario Pagano 3
20090 Trezzano sul Naviglio (Mi)
Italy

Phone: +39 02 48471
info@bartec.com
www.bartec.com

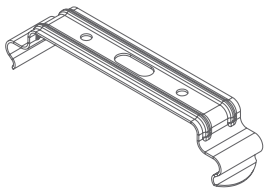
Reference details

Standard equipment →

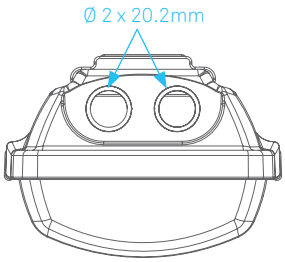
2x Ex plastic cable plug M20

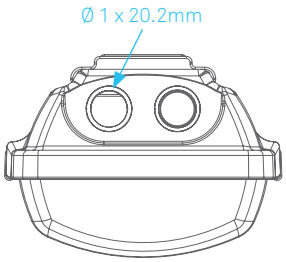


2x Ex plastic cable gland M20

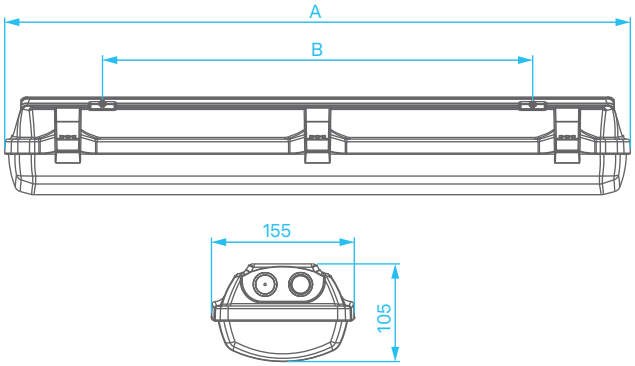


2x stainless mounting clip (AISI 304)





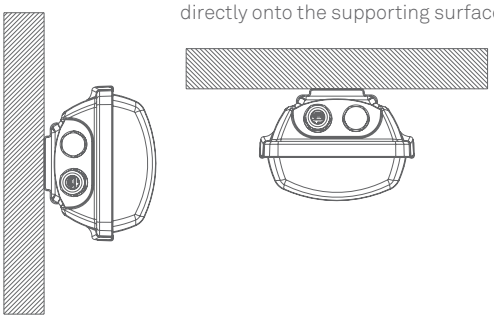
Dimensions in mm →



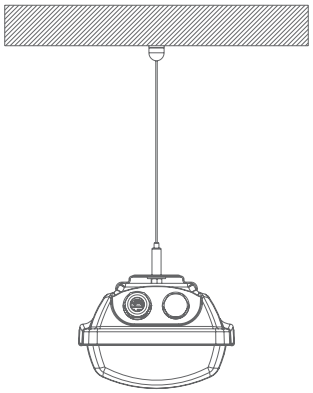
A (in mm)	670	1280	1580
B (in mm)	460	880	1000

Available on request →

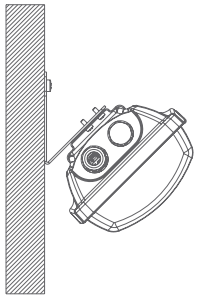
Mounting procedure using fastening brackets directly onto the supporting surface



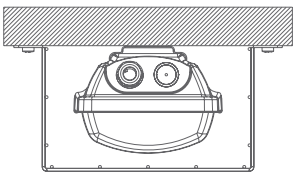
With suspensions bracket



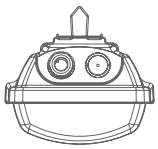
With wall bracket - angle 45°



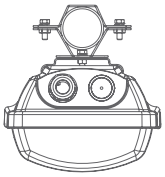
With protective cage



With Chain suspension

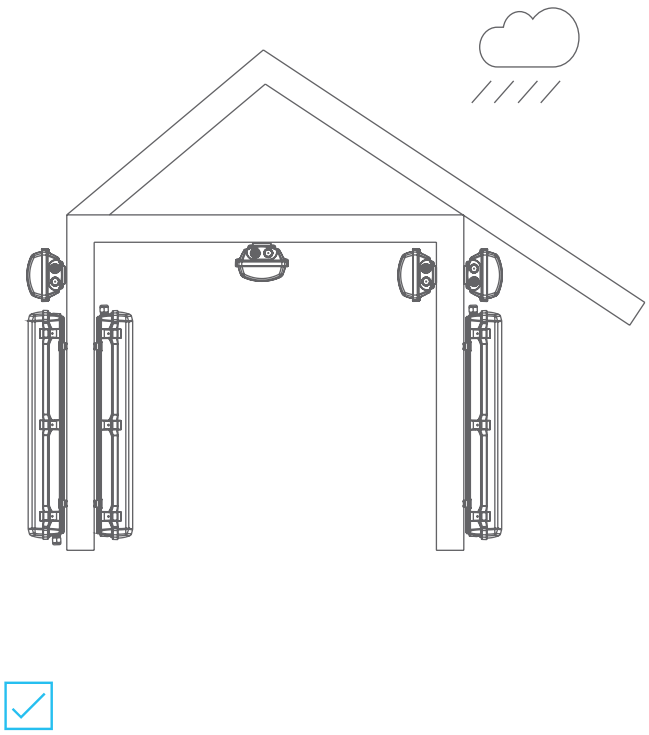


Mounting procedure using a tube bracket

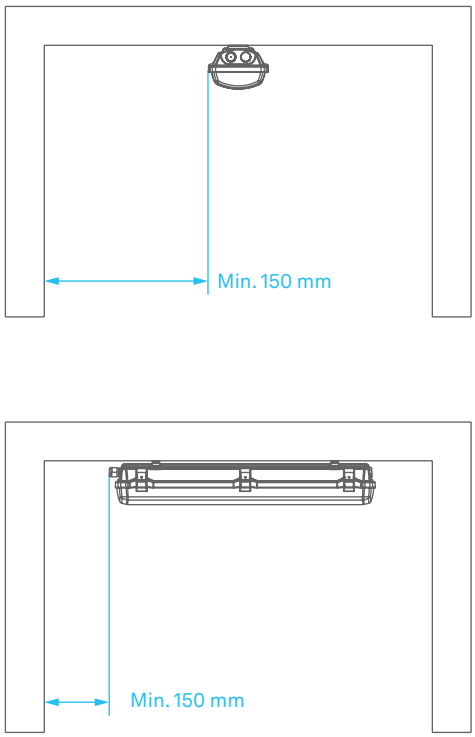


Conditions of outdoor assembly

The light fixture can be installed in both covered and uncovered outdoor areas →

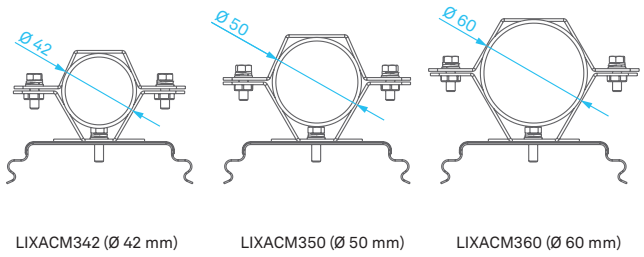


Minimum distance of the light fixture from the wall →



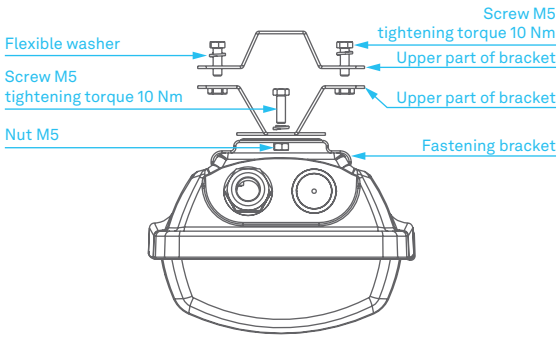
Mounting procedure using a tube bracket

1



LIXACM342 (Ø 42 mm) LIXACM350 (Ø 50 mm) LIXACM360 (Ø 60 mm)

2



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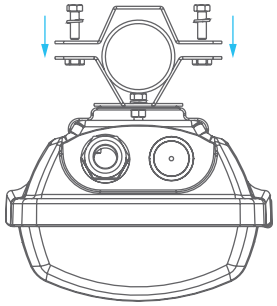

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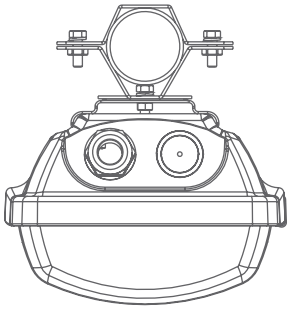
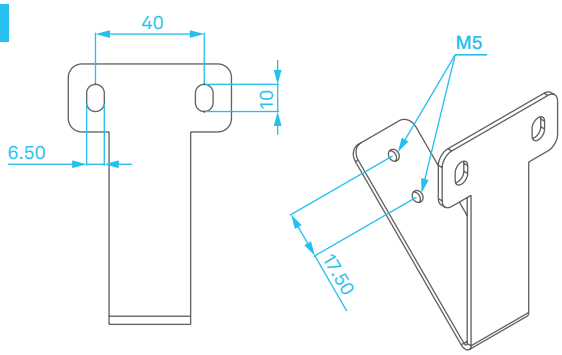


Mounting procedure using a 45° wall bracket

1



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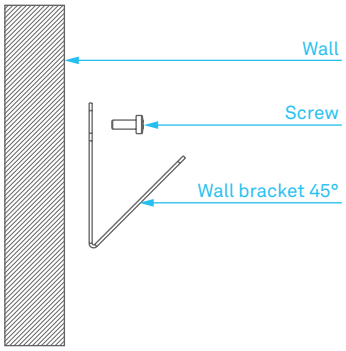

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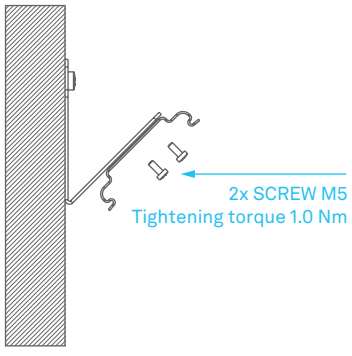

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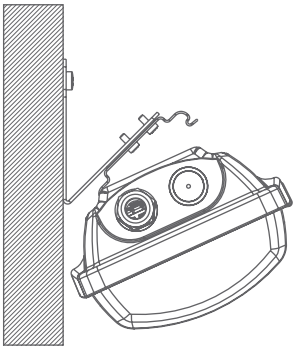

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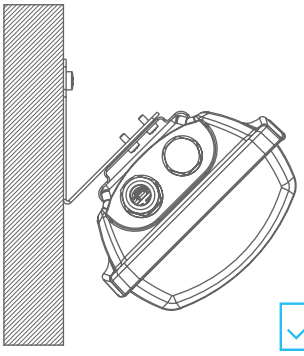
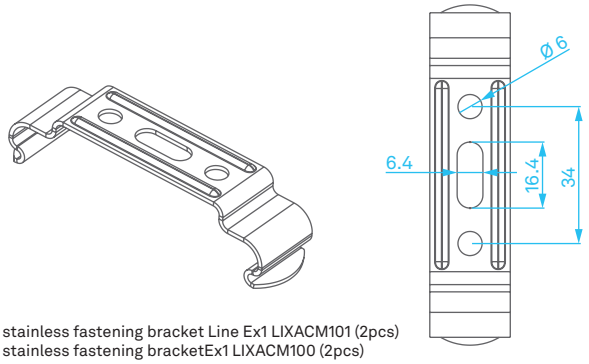


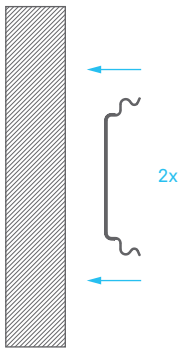
Mounting procedure using fastening brackets directly onto the supporting surface

1



Set of stainless fastening bracket Line Ex1 LIXACM101 (2pcs)
Set of stainless fastening bracketEx1 LIXACM100 (2pcs)

2



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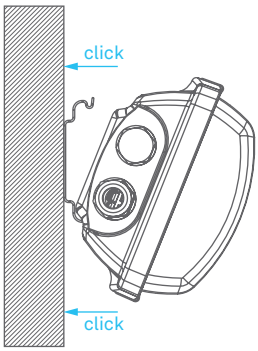
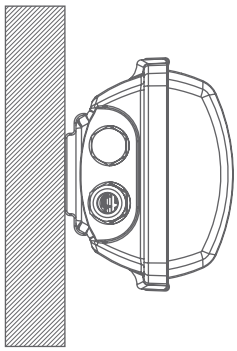
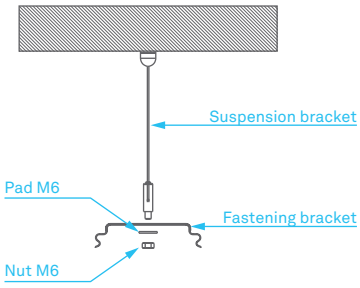


4



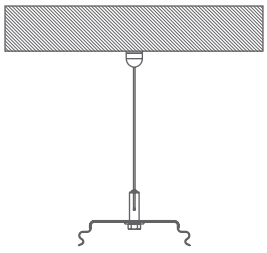
Mounting with suspensions bracket

1



Line Ex1 LIXACM201 Suspensions bracket 3 m (2 pcs)

2



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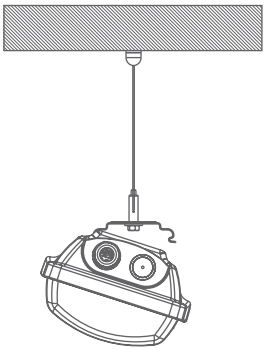

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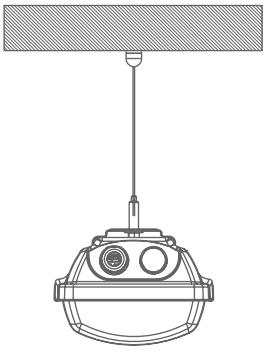
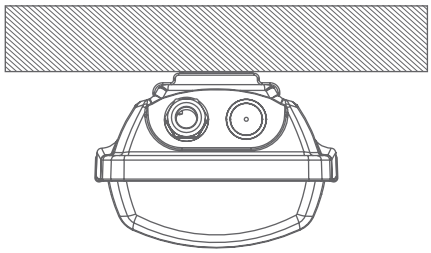


Mounting procedure with protective cage

1



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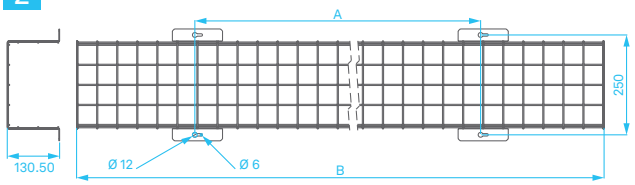
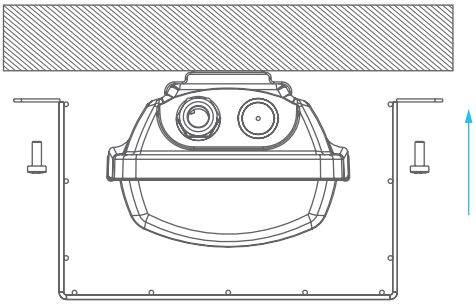
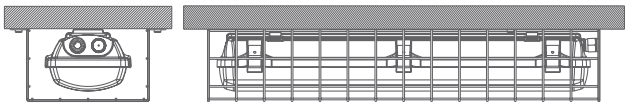


		A	B
LIXACCL06	Protective cage Line Ex1 Model 2	400	700
LIXACCL12	Protective cage Line Ex1 Model 4	700	1300
LIXACCL15	Protective cage Line Ex1 Model 5	1000	1600

3

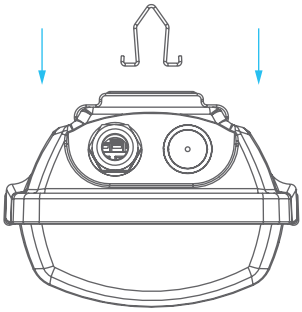


4



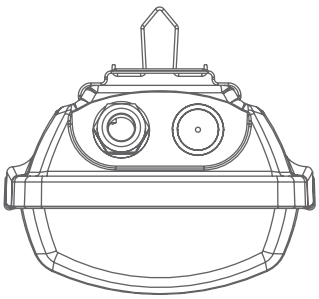
Mounting procedure with wall bracket

1

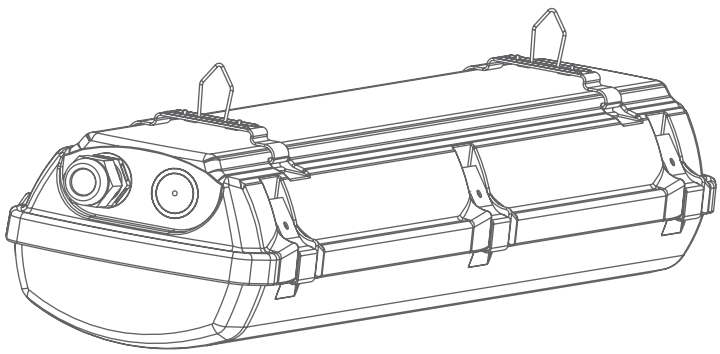


LIXACM201 Set of wire suspension Line Ex1 (2 pcs)

2

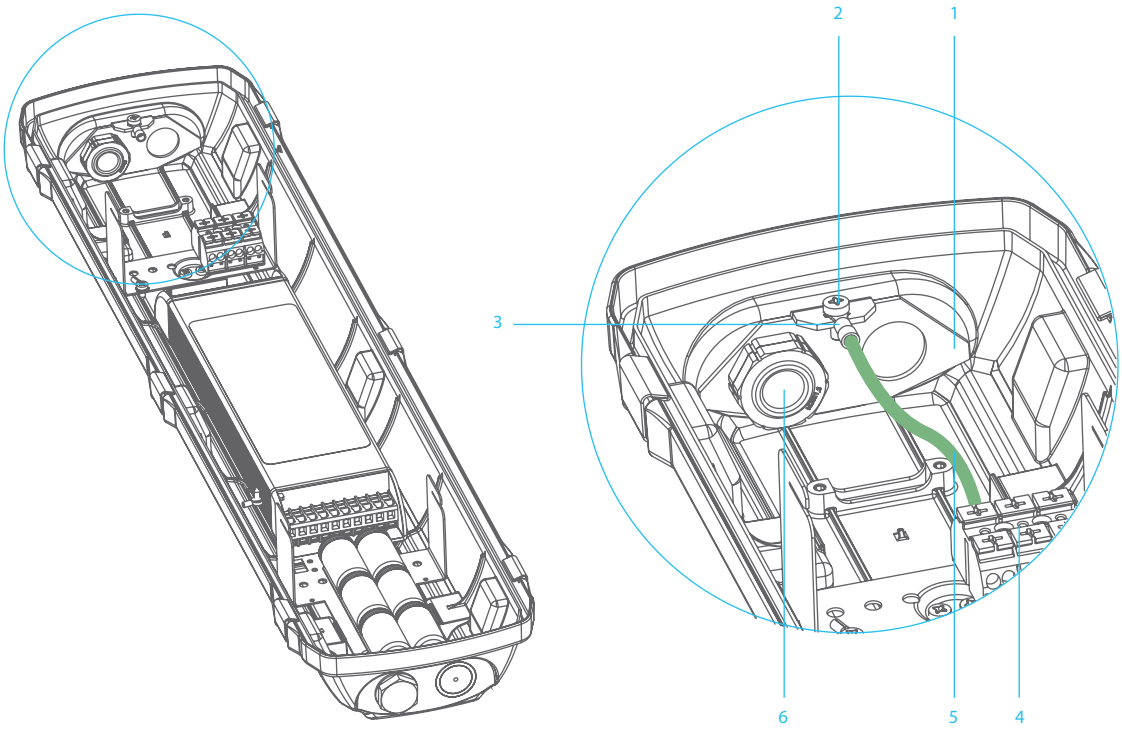


3



Grounding of metal cable glands with armored cable

Line Ex1 equipment – cable glands M20 for armored cable
Line Ex1 equipment – cable glands M25 for armored cable
Line Ex1 – Grounding washer for cable glands – 1 pc



1	Grounding washer
2	M4 screw
3	Cable eye
4	Ex terminal block
5	Protective wire
6	Metal cable gland

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