



Operating Instructions

Pendant Light Fitting

> L470



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2 General Information

2.1 Manufacturer







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2.2 Information Regarding these Operating Instructions

ID NO.: 647060300030
 Publication Code: S-BA-L470-00-en-23/05/2007
 We reserve the right to make technical changes without notice.

2.3 Symbols used

	Take action: Describes the actions which the user should undertake.
	Reaction symbol: Describes results or reactions to actions taken.
	Checklist symbol
	Commentary symbol: Describes notes and recommendations.
	Warning symbol: Danger live parts!
	Warning symbol: Danger hot surfaces!

3 General Notes Regarding Safety

3.1 Safety instructions for installation and operating personnel

The operating instructions contain fundamental notes regarding safety, which must be observed during installation, operation and maintenance. Non-observance can result in a hazard to persons, plant and environment.

 **WARNING**

Risk due to unauthorised work being performed on the device!

- ▷ There is a risk of injury to persons and material damage.
- ▶ Assembly, installation, commissioning, operation and maintenance must only be performed by authorised personnel who have been trained to do so.

Before assembly/commissioning:

- ▶ Read operating instructions.
- ▶ Provide assembly and operating personnel with adequate training.
- ▶ Ensure contents of operating instructions has been fully understood by responsible personnel.
- ▶ The national assembly and installation directives apply.

When operating the device:

- ▶ Keep operating instructions at the place of installation.
- ▶ Observe safety instructions.
- ▶ Observe national safety and accident prevention regulations.
- ▶ Only operate the devices in accordance with its performance data.
- ▶ Maintenance or repair work, which is not described in the operating instructions must not be carried out without prior agreement with the manufacturer.
- ▶ Any damage might impair the function.
- ▶ Any modifications/alterations is not permitted.
- ▶ The devices may only be fitted and used if they are in an undamaged, dry and clean condition.

If you have questions:

- ▶ Contact the manufacturer.

3.2 Warning notes

In these operating instructions, warnings are sub-divided as follows:

 **WARNING**

Type and source of danger!

- ▷ Possible consequences.
- ▶ Measures for avoiding danger.

They are always identified by the word "WARNING" and sometimes also have a symbol specifying danger.

3.3 Conformity to Standards

The pendant light fitting L470 was designed, produced and tested in accordance with 29001 (ISO 9001).

It also conforms to the following directives and standards:

- X Directive 94/9/EC
- X EN 60598
- X 89/336/EEC "Electromagnetic Compatibility"

4 Intended Area of Application

The pendant light fitting is designed for both indoor and outdoor use.

The specified ambient temperature must be strictly adhered to (see Table, Page 5).

 **WARNING**

Only use device for its intended purpose!

- ▷ The manufacturer's liability and warranty will otherwise be impaired.
- ▶ Only use device in accordance with operating conditions specified.
- ▶ Only use device at permissible ambient temperature.

5 Technical Data

Rated operational voltage U_e	230 V, AC \pm 10%, 50 Hz, others upon request Observe the data given on the rating plate.				
Rated current	Type of lamp	Power	Lampholder	I_N	
	All-purpose lamp	A	200 W	E 27	0,87 A
			500 W	E 40	2,27 A
	Halogen lamp	QT	150 W	E 27	0,65 A
			250 W	E 27	1,10 A
			500 W	E 40	2,10 A
	Blended lamp	LME	160 W	E 27	0,65 A
			250 W	E 40	1,17 A
			500 W	E 40	2,17 A
	Metal halide lamp	HIE	70 W	E 27	0,95 A
100 W			E 27	0,78 A	
150 W			E 27	0,88 A	
250 W			E 40	1,55 A	
400 W			E 40	2,10 A	
High-pressure sodium discharge lamp	HSE	50 W	E 27	0,77 A	
		70 W	E 27	0,44 A	
		100 W	E 40	0,70 A	
		110 W	E 27	0,72 A	
		150 W	E 40	1,80 A	
		250 W	E 40	1,40 A	
		400 W	E 40	2,10 A	
600 W	E 40	3,10 A			
Mercury vapour lamp	HME	125 W	E 27	0,70 A	
		250 W	E 40	2,22 A	
		400 W	E 40	1,96 A	
Induction lamp	QL	55 W	special	0,26 A	
		85 W	special	0,40 A	
		165 W	special	0,70 A	
Power factor	$\cos \varphi \geq 0.9$ (compensated)				
Protection class	I (PE-connection)				
Connection	L1 + N for 4 mm ² stranded copper and 6 mm ² single wire, via internal terminal block				
Material					
Enclosure material	salt water resistant aluminium				
Protective glass	temperature-change resistant borosilicate glass				
Cover seal	silicone rubber				
Glass seal	silicone rubber				
Fixing bracket	stainless steel				
Outer reflector	powder coated galvanized sheet steel / fibre-glass reinforced polyester				
Wire guard	salt water resistant aluminium				
Casing fastener	securing screw M 8 (stainless steel)				
Mounting	wall and ceiling mounting, mast mounting, suspended by ringbolts, mounting bracket or pipework				
Installation orientation	pendant or pivot range (30° and 45°)				
Degree of protection	IP 66				
Ambient temperature	- 20 °C ... + 40 °C all types - 30 °C ... + 55 °C for sodium vapour and metal halide lamps - 50 °C ... + 55 °C for mercury vapour lamps, halogen lamps, all-purpose lamps and blended lamps				
Wire guard and outer reflector	can easily be retro-fitted using M 6 screws				

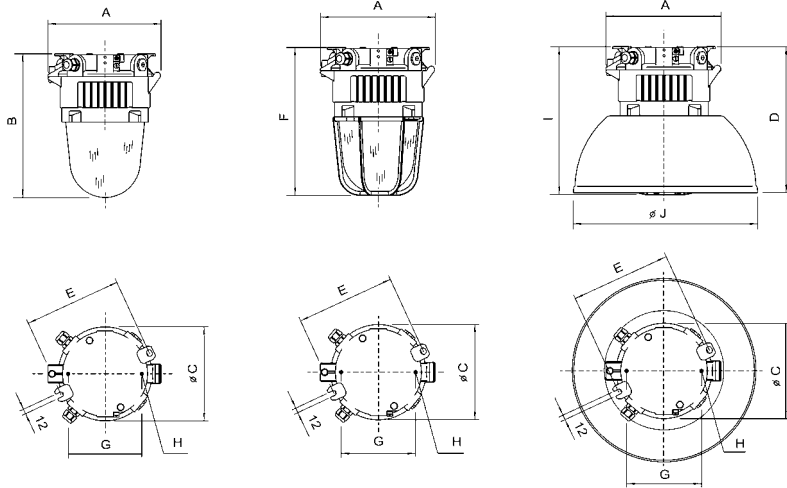
Cable glands	Certified cable glands with an ingress protection of IP66 minimum must be used (in acc. with 94/9/EC). The number of cable entries depends on the type of mounting. Standard M 25 x 1,5 Special M 20 x 1,5, others upon request
Screw-in thread for mast mounted lights	1 1/4" BSP, 1 1/2" BSP, 3/4" NPT, 1" NPT

Version	Type of lamp ¹⁾	Lampholder	Lamp power	Weight kg
Pendant Light Fitting IEC Series L470 Size 1 up to 150 W	A	E 27	200 W	5,217
	QT	E 27	150 W	8,900
	QT	E 27	250 W	8,300
	LME	E 27	160 W	5,217
	HIE	E 27	70 W	6,797
	HIE	E 27	100 W	7,197
	HIE	E 27	150 W	8,115
	HSE	E 27	50 W	6,297
	HSE	E 27	70 W	6,797
	HSE	E 27	110 W	6,463
	HME	E 27	125 W	6,463
	QL	Special	55 W	5,857
Pendant Light Fitting IEC Series L470 Size 2 up to 250 W	LME	E 40	250 W	6,091
	HIE	E 40	250 W	9,596
	HSE	E 40	100 W	10,000
	HSE	E 40	150 W	9,260
	HSE	E 40	250 W	9,596
	HME	E 40	250 W	8,139
	QL	Special	85 W	6,535
Pendant Light Fitting IEC Series L470 Size 3 up to 600 W	A QT LME	E 40	500 W	10,868
	HIE	E 40	250 W	14,834
	HIE	E 40	400 W	15,545
	HSE	E 40	250 W	14,834
	HSE	E 40	400 W	15,545
	HSE	E 40	600 W	18,103
	HME	E 40	250 W	13,377
	HME	E 40	400 W	13,708
	QL	Special	165 W	11,189

Notes:

1) A	→ All-purpose lamp
QT	→ Halogen lamp
LME	→ Blended lamp
HIE	→ Metal halide lamp
HSE	→ High-pressure sodium discharge lamp
HME	→ Mercury vapour lamp
QL	→ Induction lamp (is delivered with the light fitting)

Dimension drawings (all dimensions in mm) - subject to alterations

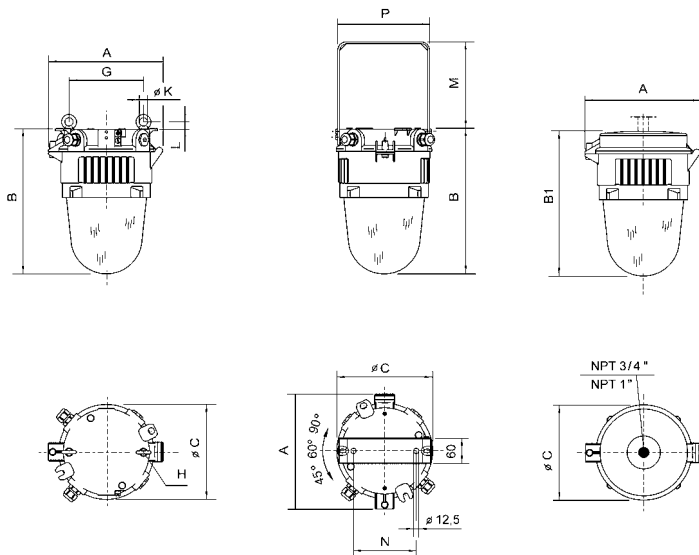


Dimensions in mm	L470/11	L470/12	L470/13
A	277	277	372
B	352	414	514
C	230	230	310
D	353	353	521
E	240	240	329
F	357	423	533
G	180	180	260
H	M 8	M 8	M 10
I	358	424	535
J	444	444	715

Ceiling mount without wire guard

Ceiling mount with wire guard

Ceiling mount with reflector



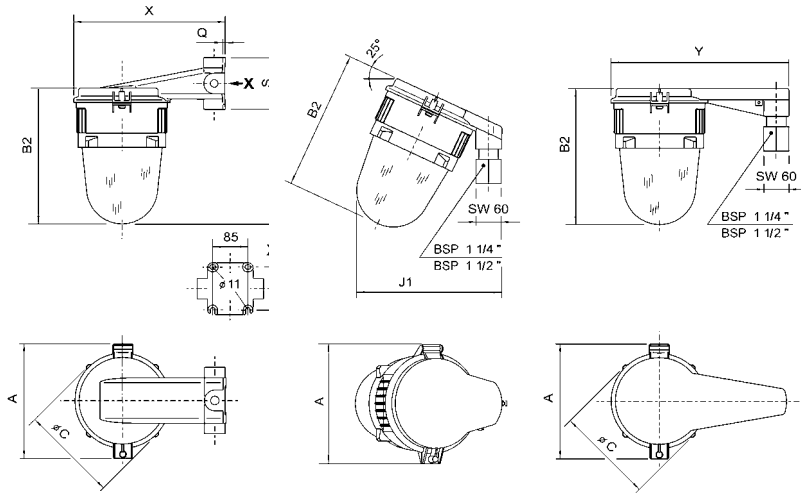
Dimensions in mm	L470/11	L470/12	L470/13
A	277	277	372
B	352	414	514
B1	350	412	517
C	230	230	310
G	180	180	260
H	M 8	M 8	M 10
K	20	20	25
L	18	18	22.5
M	208	208	209
N	150	150	200
P	220	220	302

Pendant mount via ring bolts

Pendant mount via mounting bracket

Pendant mount via NPT

Dimension drawings (all dimensions in mm) - subject to alterations



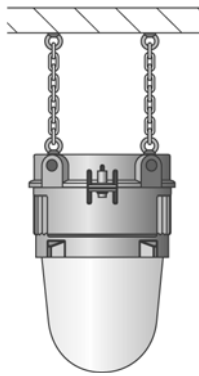
Dimensions in mm	L470/11	L470/12	L470/13
A	277	277	372
B2	331	393	498
C	230	230	310
J1	340	367	511
Q	7	7	8
R	250	250	422
S	105	125	160
T	405	466	592
V	105	105	139
X	366.5	366.5	579
Y	427	427	628

Wall mount

Stanchion mount 25°

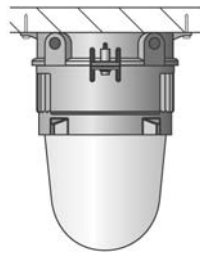
Stanchion mount 90°

Types of mounting



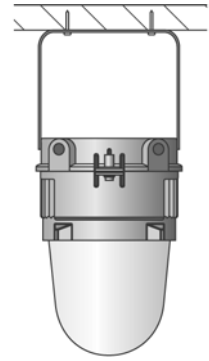
11415E00

Ringbolt mounting



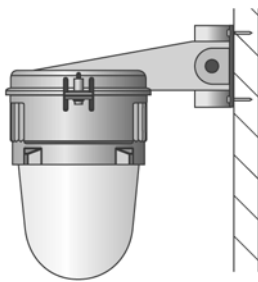
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Ceiling mounting



11417E00

Fixing bracket



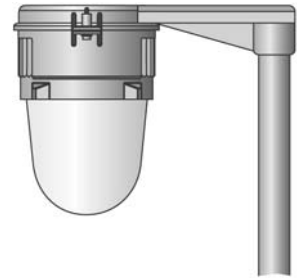
11418E00

Wall mounting



11419E00

Mast fitting 25°



11420E00

Mast fitting 90°

6 Transport, Storage and Disposal

Transport

- ▶ Shock free in its original carton, do not drop, handle with care.


Storage

- ▶ Store in a dry place in its original packing.

Disposal

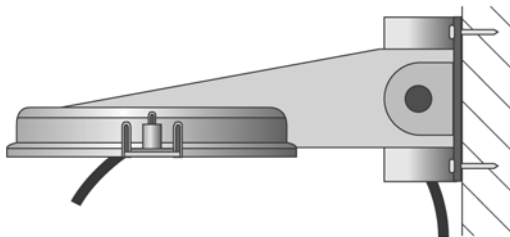
- ▶ Ensure that all components are disposed of in an environmentally friendly manner, in accordance with legal regulations.

7 Mounting

	The light fitting is delivered in component form, i.e. the light fitting does not need to be disassembled to fit the fixture.
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7.1 Fitting the fixture

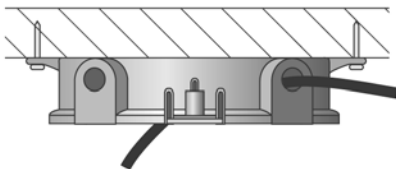
Wall mounting



11421E00

- ▶ Feed the connection cable through the corresponding cable entry and through fixture.
- ▶ Secure fixture by means of four screws (see dimension drawing).

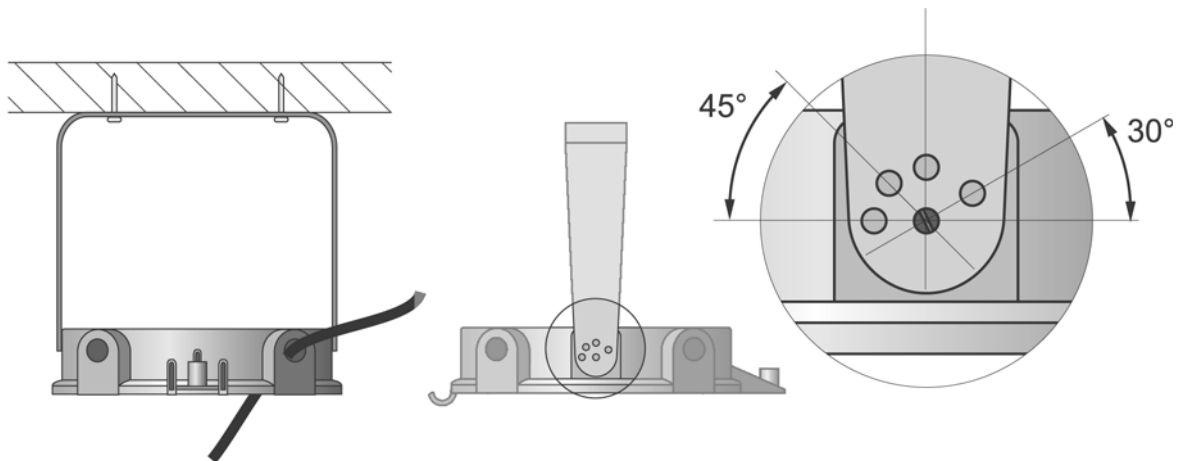
Ceiling mounting



11422E00

- ▶ Feed the connection cable through the corresponding cable entry and through fixture.
- ▶ Secure fixture by means of two screws (see dimension drawing).

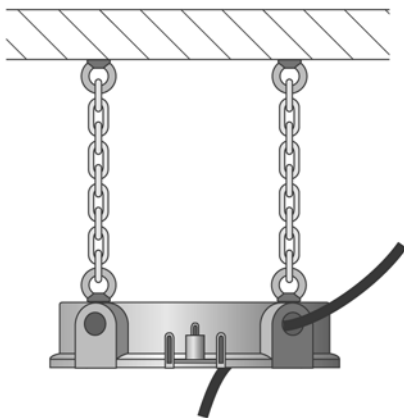
Fixing bracket mounting



11423E00

- ▶ Secure fixing bracket with the desired pivoting range to fixture by means of four screws.
- ▶ Feed the connection cable through the corresponding cable entry.

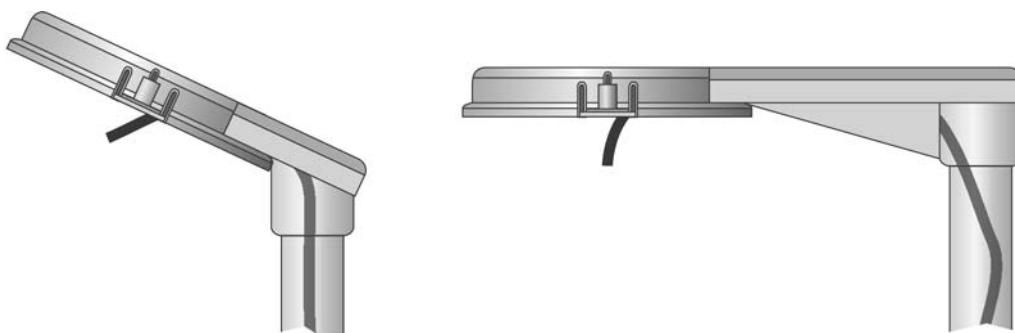
Ringbolt mounting



11424E00

- ▶ Screw two ringbolts into fixture.
- ▶ Secure the fixture (e.g. with chains) to the ceiling.
- ▶ Feed the connection cable through the corresponding cable entry.

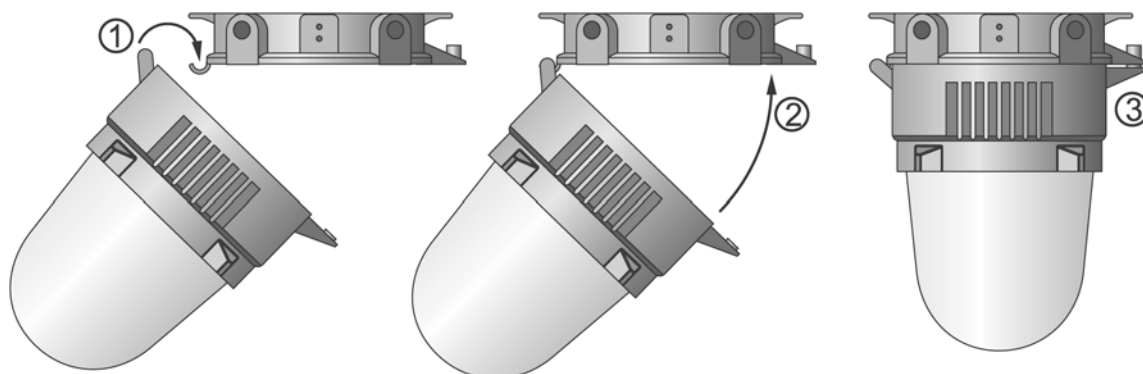
Mounting the mast fitting



11425E00

- ▶ Feed the connection cable through the mast.
- ▶ Feed the connection cable through the fixture.
- ▶ Insert the adapter between mast and fixture and secure it by means of screws.
- ▶ Screw the mast fitting to the mast (mast screw-in thread).
- ▶ Tighten screw.

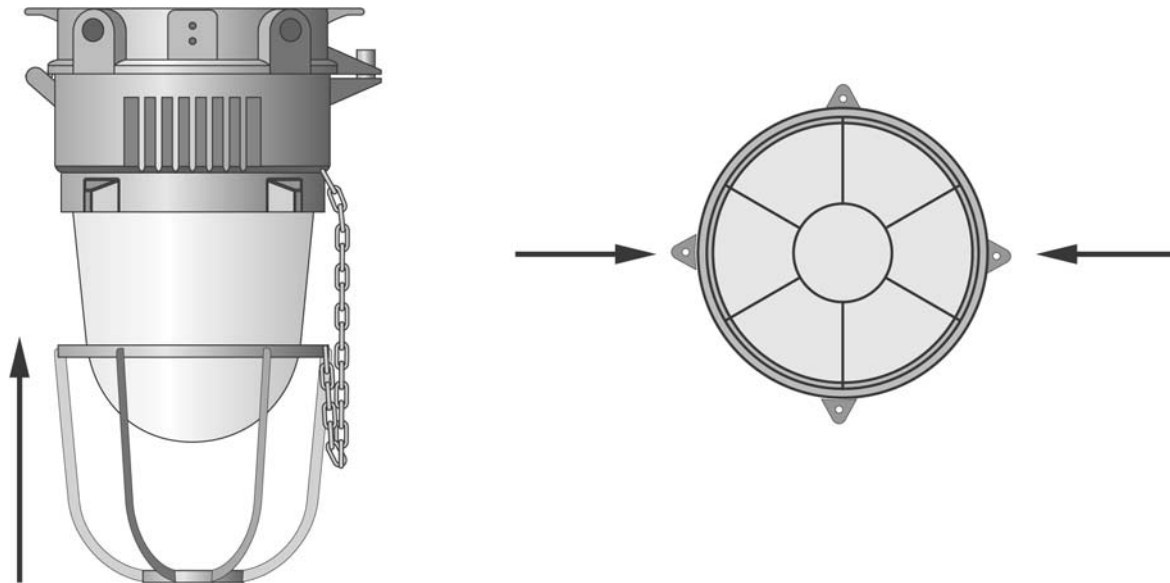
7.2 Mounting the body of the light fitting



11426E00

- ▶ Hook the body of the light into the fixture (1).
- ▶ Pivot the body of the light against the fixture (2).
- ▶ Tighten torque screw (M8) (3).

7.3 Fitting the wire guard

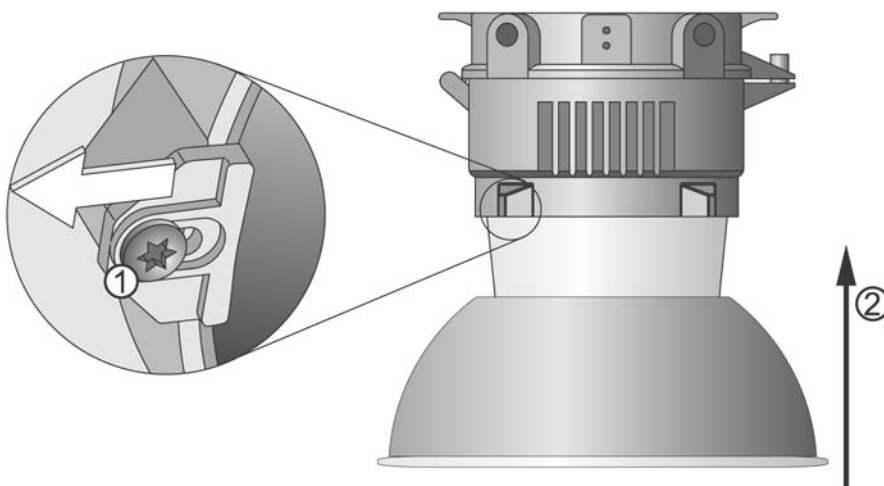


11427E00

- ▶ Fit wire guard, from below, over the glass and secure the retaining chain.
- ▶ Secure the wire guard with two screws.

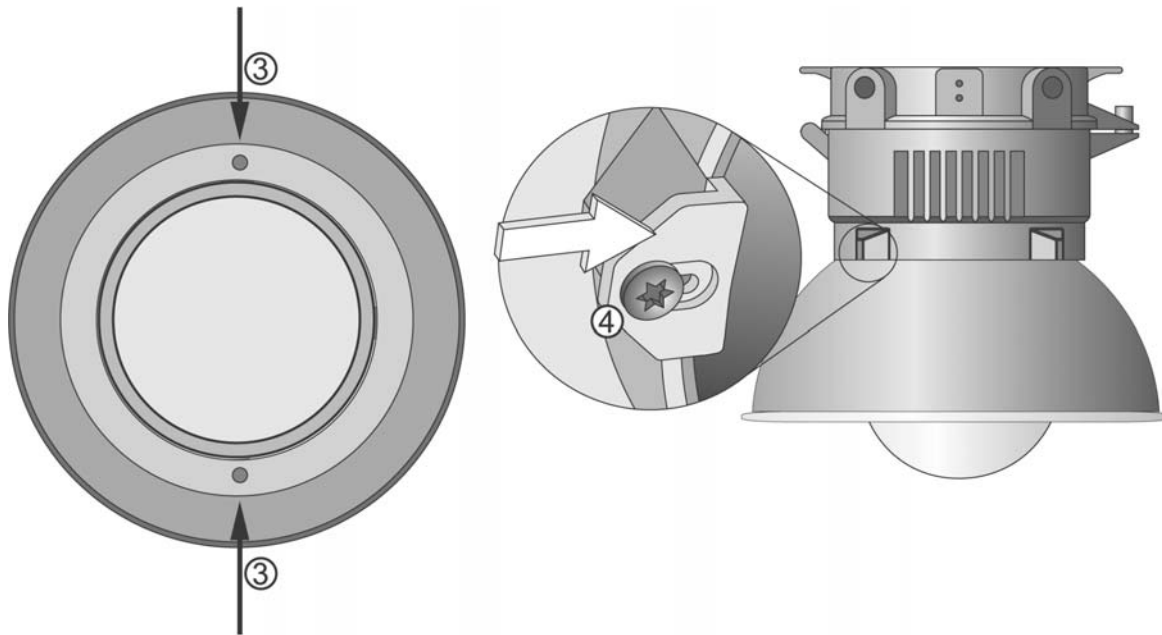
7.4 Mounting the reflector

⚠ WARNING
Danger if mounted incorrectly!
▷ Risk of material damage.
▶ Ensure that the plate (item 4) is correctly inserted!



11428E00

- ▶ Loosen screw and remove plate (1).
- ▶ Fit reflector to glass from below (2).



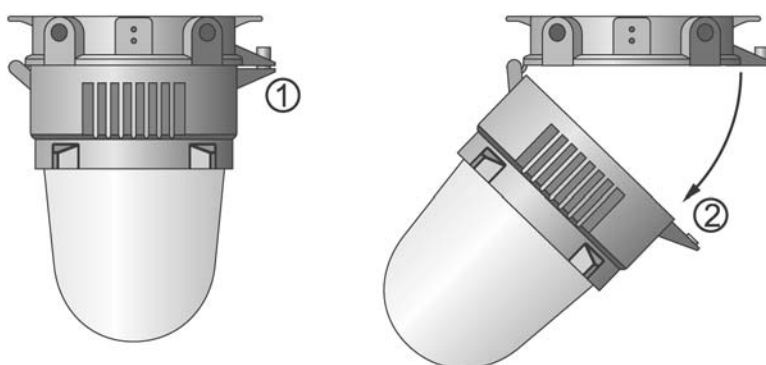
11429E00

- ▶ Secure reflector with two screws (3).
- ▶ Turn plate, press it against glass and tighten screw (4).

8 Installation

⚠ WARNING	
	<p>Danger from live parts!</p> <ul style="list-style-type: none"> ▶ Risk of serious injury. ▶ All connections and wiring must be disconnected from the power supply. ▶ Secure connections against unauthorised re-connection.

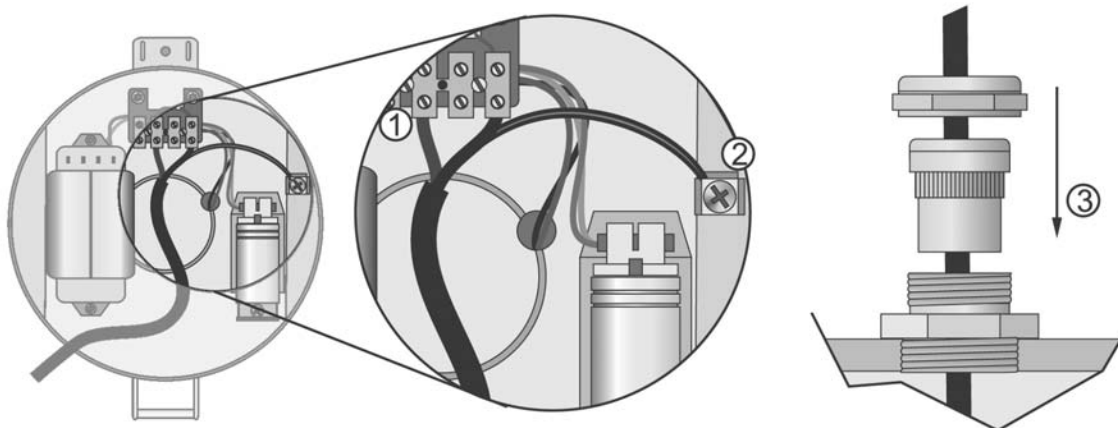
8.1 Opening of light fitting




11430E00

- ▶ Loosen the torque screw (M8) (1).
- ▶ Pivot the body of the light carefully from the fixture (2) and allow it to hang in this position.

8.2 Mains connection

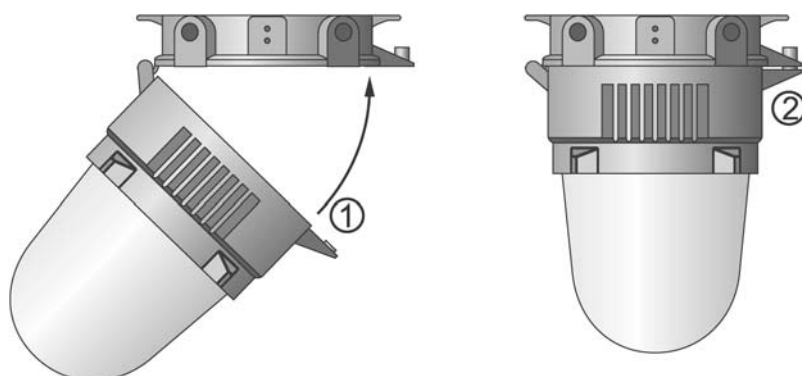


11431E00

	<p>Choke and starter are wired according to the type of lamp fitted when delivered. No further installation work is necessary.</p>
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- ▶ Fit silicone sleeves provided (2 or 4 off) over the conductors L and N.
- ▶ Connect conductors to corresponding terminals and secure them (1).
- ▶ The protective earth conductor is factory fitted to the PE connection on the lid of the cover.
- ▶ Secure the PE conductors, from lid and connection cable, to the cover (2).
- ▶ Close off the cable entry (3).
- ▶ Route and secure connection cable, in such a way, that it can not be pulled out.

8.3 Closing of light fitting



11432E00


- ▶ Pivot the body of the light fitting against the fixture (1).
- ▶ Tighten the torque screw (M8) (2).

9 Commissioning





Before commissioning

- ▶ Check that no cable connections are loose.
- ▶ Cable glands used must have an ingress protection class of IP 66 minimum and conform to data given in Chapter 5, "Technical Data".
- ▶ Inspect the cover for damage.
- ▶ Inspect the cover for foreign bodies (screws, nuts, tools, etc.).
- ▶ Note nominal voltage.
- ▶ Ensure that all unused cable glands and entries are blanked off.
- ▶ Check lamp is fitted correctly.


During operation

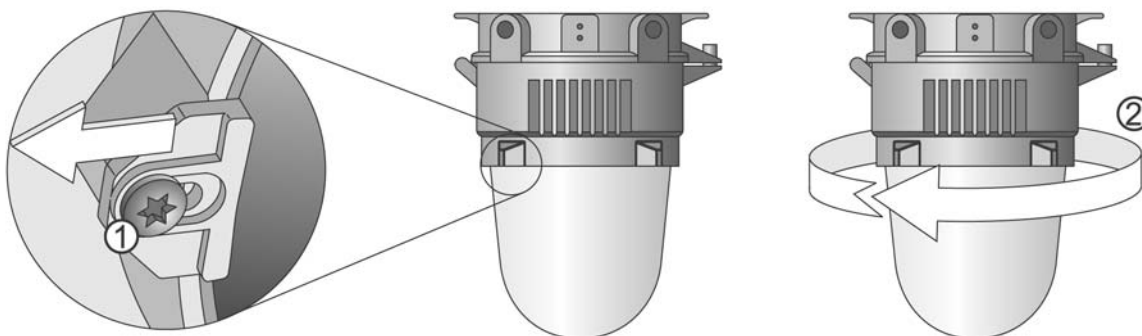
	The pendant light fitting can be switched ON or OFF during operation. These are the only operating states.
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10 Maintenance

 WARNING	
	<p>Hot surfaces!</p> <ul style="list-style-type: none"> ▷ Danger of burning hands. ▶ Allow the casing, protective glass and lamp to cool down for approx. 15 min. before touching.
 WARNING	
	<p>Danger from live parts!</p> <ul style="list-style-type: none"> ▷ Risk of serious injury. ▶ All connections and wiring must be disconnected from the power supply. ▶ Secure connections against unauthorised re-connection.

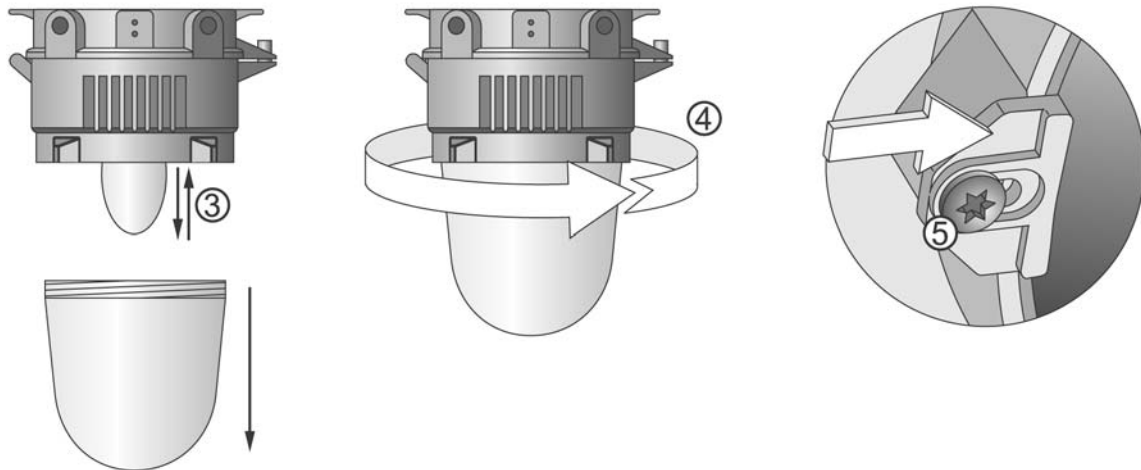
10.1 Replacing lamp

 WARNING	
<p>Danger if mounted incorrectly!</p> <ul style="list-style-type: none"> ▷ Risk of material damage. ▶ Make sure the plate is correctly positioned: Mounting without reflector: see page 17, item 5 Mounting with reflector: see page 13, item 4 	



11433E00

- ▶ Remove the screw and remove the plate (1) from the glass.
- ▶ Unscrew the protective glass in an anti-clockwise direction and remove it (2).



11434E00

- ▶ Place the protective glass carefully to one side.
- ▶ Unscrew and remove defective lamp (3).
- ▶ Select new lamp, which conforms with the circuit and screw it in (3).
- ▶ Screw in protective glass **hand tight** in a clockwise direction (4).
- ▶ Press plate against glass and tighten screw (5).

10.2 Regular Maintenance Work

- ▶ Refer to corresponding national regulations for the type and scope of tests.
- ▶ The maintenance intervals must be chosen, such that the occurrence of deficiencies, anticipated in the system, can be avoided.








The following items must be checked as part of the maintenance schedule:

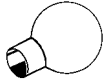



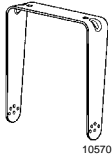
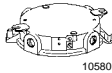
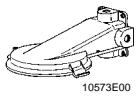

- ✗ Check that no cable connections are loose.
- ✗ Inspect device for visible signs of damage.
- ✗ Check that permitted temperatures are adhered to.
- ✗ Check that the device is functioning correctly.

10.3 Cleaning

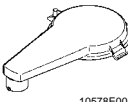






- ✗ Clean with a cloth, brush, vacuum cleaner or similar items.
- ✗ When cleaning with a damp cloth use water or mild, non-abrasive, non-scratching cleaning agents.
- ✗ Never use aggressive cleaning agents or solvents.

11 Accessories and Spare Parts

Designation	Illustration	Description				Ordering code	Weight kg	
		Power	Lamp- holder	Voltage	Luminous flux			
All-purpose lamps A	 04958E00	200 W	E 27	230 V	3100 lm	5126250	0,034	
		500 W	E 40	230 V	10000 lm	4609960	0,140	
Halogen lamps QT	 05355E00	150 W	E 27	230 V	2550 lm	4646120	0,040	
		250 W	E 27	230 V	4200 lm	4616400	0,060	
		500 W	E 40	230 V	10000 lm	4616410	0,132	
Blended lamps LME	 04963E00	160 W	E 27	230 V	3150 lm	4616660	0,082	
		250 W	E 40	230 V	5500 lm	4611100	0,160	
		500 W	E 40	230 V	13000 lm	4611110	0,280	
Metal-halide lamps HIE	 04963E00	70 W	E 27	230 V	6500 lm	4637750	0,080	
		100 W	E 27	230 V	8000 lm	4637760	0,160	
		150 W	E 27	230 V	12000 lm	4637770	0,170	
		250 W	E 40	230 V	20000 lm	4616500	0,180	
		400 W	E 40	230 V	31500 lm	4616520	0,284	
High-pressure sodium vapour lamps HSE	 04963E00	50 W	E 27	230 V	3500 lm	4646200	0,010	
		70 W	E 27	230 V	6000 lm	4618880	0,074	
		110 W *	E 27	230 V	8000 lm	4646080	0,150	
		* to operate without starter						
		100 W	E 40	230 V	9500 lm	4647750	0,081	
		150 W	E 40	230 V	15000 lm	4616670	0,216	
		250 W	E 40	230 V	28000 lm	4616680	0,200	
		400 W	E 40	230 V	48000 lm	4616700	0,214	
High-pressure sodium vapour lamps HSE (TwinArc)	 05355E00	50 W	E 27	230 V	3600 lm	4647640	0,560	
		70 W	E 27	230 V	6000 lm	4647650	0,074	
		100 W	E 40	230 V	9500 lm	4647660	0,100	
		150 W	E 40	230 V	17000 lm	4647670	0,216	
		250 W	E 40	230 V	32000 lm	4647680	0,200	
		400 W	E 40	230 V	55000 lm	4647690	0,214	
Mercury lamps HME	 04963E00	125 W	E 27	230 V	6500 lm	5126080	0,320	
		250 W	E 40	230 V	20000 lm	5126090	0,092	
		400 W	E 40	230 V	31500 lm	5126100	0,305	

Designation	Illustration	Description	Ordering code	Weight kg
Induction lamps QL	 10579E00	55 W special 230 V 3500 lm	5126760	0,020
		85 W special 230 V 6000 lm	5126770	0,212
		165 W special 230 V 12000 lm	5126780	0,300
Replacement glass	 10572E00	temperature-change resistant borosilicate glass with screw-in thread		--
		for L470/11	648080580010	3,370
		for L470/12	648080580210	4,400
		for L470/13	648080580310	6,600
Wire guard	 10571E00	salt water resistant aluminium, with fittings		--
		for L470/11	648080140010	0,250
		for L470/12	648080140210	0,300
		for L470/13	648080140310	0,600
Standard reflector	 10288E00	powder coated galvanised sheet steel, with fittings		--
		for L470/11 and L470/12	648080580020	2,250
		fibre-glass reinforced polyester, with fittings		--
		for L470/13	648080580320	5,500
Mounting bracket	 10570E00	stainless steel, with fittings		--
		for L470/11 and L470/12	647080180010	1,200
		for L470/13	647080180310	1,500
Cover for ceiling mounting	 10580E00	The light is ceiling mounted by means of lugs, which are on the cover. A mounting bracket or ringbolts can be retrofitted to the cover (must be ordered as accessories).		--
		with thread M 20 x 1.5 for L470/11 and for L470/12	647080050020	1,264
		with thread M 20 x 1.5 for L470/13	647080050320	1,850
		with thread M 25 x 1.5 for L470/11 and for L470/12	647080050010	1,264
		with thread M 25 x 1.5 for L470/13	647080050310	1,850
Cover for wall mounting	 10573E00	with thread M 20 x 1.5 for L470/11 and for L470/12	648080050080	2,137
		with thread M 20 x 1.5 for L470/13	648080050380	3,600
		with thread M 25 x 1.5 for L470/11 and for L470/12	648080050070	2,137
		with thread M 25 x 1.5 for L470/13	648080050370	3,600
Cover for mast mounting 25 °	 10577E00	with thread 1 1/2" BSP for L470/11 and for L470/12	648080050150	1,113
		with thread 1 1/2" BSP for L470/13	648080050450	2,300
		with thread 1 1/4" BSP for L470/11 and for L470/12	648080050160	1,113
		with thread 1 1/4" BSP for L470/13	648080050460	2,300

Accessories and Spare Parts

Designation	Illustration	Description	Ordering code	Weight kg	
Cover for mast mounting 90 °	 10578E00	with thread 1 1/2" BSP for L470/11 and for L470/12	648080050170	1,689	
		with thread 1 1/2" BSP for L470/11 and for L470/12	648080050470	3,000	
		with thread 1 1/4" BSP for L470/11 and for L470/12	648080050180	1,689	
		with thread 1 1/4" BSP for L470/11 and for L470/12	648080050480	3,000	
Cover for pipework mounting	 10581E00	with thread NPT 3/4" for L470/11 and L470/12	648080050050	0,978	
		with thread NPT 3/4" for L470/13	648080050360	1,400	
		with thread NPT 1" for L470/11 and L470/12	648080050060	0,978	
		with thread NPT 1" for L470/1	648080050350	1,400	
Ringbolts	 05378E00	M 8, to mount directly into inserts, 1 pair	6000803900	0,107	
		M 10, to mount directly into inserts, 1 pair	6050801900	0,103	
Cable entries	 05864E00	in moulded plastic, series 8161		--	
		8161/5-M 20-13	1 piece	8161077010	0,012
		8161/5-M 20-13	50 pieces	8161025030	0,600
		8161/5-M 25-17	1 piece	8161078010	0,016
		8161/5-M 25-17	50 pieces	8161026030	0,850
Sealing plugs	 04840E00	moulded, series 8290		--	
		8290/3-M 20 x 1.5	1 piece	8290008590	0,004
		8290/3-M 20 x 1.5	100 pieces	8290045590	0,600
		8290/3-M 25 x 1.5	1 piece	8290009590	0,006
		8290/3-M 25 x 1.5	100 pieces	8290046590	0,800
Special wrench	 05263E00	for tightening the cable glands respectively the cap nuts for cable entries		--	
		Thread size	Packing unit		
		M 20 x 1.5	1	5986140	0,132
Manual ignition protection test device	 11006E00	for testing ignition protection of EEx nR ignition protected enclosures.	9400603680	0,730	