Operating instructions

EN

Linear luminaire with LED

Series EXLUX 6602/1

STAHL

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Contents

EN

1 General information

1.1 Manufacturer

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1.2 Information regarding the operating instructions

- Read these operating instructions, especially the safety notes, carefully before use.
- Observe all other applicable documents (see also chapter 1.3).
- Keep the operating instructions throughout the service life of the device.
- Make the operating instructions accessible to operating and maintenance staff at all times.
- Pass the operating instructions on to each subsequent owner or user of the device.
- Update the operating instructions every time R. STAHL issues an amendment.

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The original instructions are the English edition.
They are legally binding in all legal affairs.

1.3 Further documents

- Data sheet

For documents in other languages, see r-stahl.com.

1.4 Conformity with standards and regulations

For certificates and declaration of conformity, see r-stahl.com.

EN

2 Explanation of symbols

2.1 Symbols used in these operating instructions

Symbol	Meaning
i	Tip for making work easier
⚠ DANGER!	Dangerous situation which can result in fatal or severe injuries causing permanent damage if the safety measures are not complied with.
⚠ WARNING!	Dangerous situation which can result in severe injuries if the safety measures are not complied with.
⚠ CAUTION!	Dangerous situation which can result in minor injuries if the safety measures are not complied with.
NOTICE!	Dangerous situation which can result in material damage if the safety measures are not complied with.

2.2 Symbols on the device

Symbol	Meaning
IECEx	Device certified for hazardous areas according to the marking.

3 Safety

3.1 Intended use

The luminaire 6602/1 is for lighting areas, work areas and objects. The luminaire can be used indoors and outdoors and is intended for stationary mounting.
It is an explosion-protected equipment approved for use in hazardous areas of Zones 2, 21 and 22, and in safe areas.
"Intended use" includes complying with these operating instructions and the other applicable documents, e.g. the data sheet. All other uses are only intended after being approved by R. STAHL.

EN

3.2 Personnel qualification

Qualified specialist personnel is required to perform the activities described in these operating instructions. This primarily applies to work in the following areas:

- Mounting/dismounting the device
- Installation
- Commissioning
- Maintenance, repair, cleaning

Specialists who perform these activities must have a level of knowledge that meets applicable national standards and regulations.
Additional knowledge is required for any activity in hazardous areas!
R. STAHL recommends having a level of knowledge equal to that described in the following standards:

- **IEC 60079-14 (Electrical installations design, selection and erection)**
- **IEC 60079-17 (Electrical installations inspection and maintenance)**
- **IEC 60079-19 (Equipment repair, overhaul and reclamation)**

3.3 Residual risks

3.3.1 Explosion hazard

To reduce the risk in hazardous areas, it is essential to note the following points.

- ▸ Perform all work steps in hazardous areas with the utmost care at all times.
- ▸ Transport, store, plan, mount and operate the device exclusively in compliance with the technical data (see the "Technical data" chapter).

Possible hazards ("residual risks") can be categorized according to the following causes:

Mechanical damage

The device may be damaged during transport, mounting or commissioning. This kind of damage may, for example, render the device's explosion protection partially or completely ineffective. This may result in explosions causing serious or even fatal injury.

- ▸ Transport the device only in its original packaging or in equivalent packaging.
- ▸ Do not damage the device or cables when mounting them (e.g. when using a knife to unpack them).
- ▸ Check the packaging and the device for damage. Report any damage to R. STAHL immediately. Do not commission a damaged device.
- ▸ Transport and store the device in its original packaging in a dry place (with no condensation), and make sure that it is stable and protected against the effects of vibrations and knocks.

Excessive heating or electrostatic charge

Operation outside of approved conditions or improper cleaning can cause the device to heat up severely or to become electrostatically charged, causing it to produce sparks. This may result in explosions causing serious or even fatal injury.

- ▸ Operate the device within the prescribed operating conditions only (see the label on the device and the "Technical data" chapter).
- ▸ Install the device in such a way that it is always operated within the permissible temperature range.
- ▸ Do not use the device in environments with kerosene, ammonia or phosphorus vapours.
- ▸ Do not use the device in strong charge-generating environments.
- ▸ Avoid friction and flow of particle streams.
- ▸ Clean the device with a damp cloth only.

EN

Improper mounting, installation, commissioning, maintenance operation or cleaning

Basic work such as installation, commissioning, maintenance or cleaning of the device must be performed only in accordance with the applicable national regulations of the country of use and only by qualified persons. Otherwise, the explosion protection may be rendered ineffective. This may result in explosions causing serious or even fatal injury.

- Only have mounting, installation, commissioning and maintenance work performed by qualified and authorised persons (see chapter 3.2).
- Prior to commissioning, check the device is correctly mounted (see chapter 5).
- Only fit the device in the permitted assembly position (see chapter 5.1).
- Install the device on a level surface only.
- Do not damage the enclosure, cables, cable entry or cover cap with anti-fall mechanism during mounting.
- Do not remove or modify the cable entry.
- Only install the connection line if it is undamaged, and ensure it is mounted securely.
- Do not change or modify the device.
- Repair work on the device must be performed only by R. STAHL.
- Gently clean the device with a damp cloth only. Do not use scratching, abrasive or aggressive cleaning agents or solutions.

3.3.2 Risk of injury

Falling devices or components

The heavy device or components can fall during transport and mounting, causing severe injury to persons in the form of bruises and contusions.

- Adhere to the operator's safety regulations, e.g. regarding the use of personal protective equipment (safety shoes).
- Use transporting and lifting equipment suitable for the size and weight of the device when transporting and mounting it.
- Observe the weight and the maximum load-bearing capacity of the device; (see specifications on the shipping label or on the packaging).
- Use suitable mounting materials for mounting (see accessories) and optionally the anti-fall mechanism for the light fitting.

Insufficient personal protective equipment when in direct contact with the device

Anyone not using personal protective equipment when near the device may be injured due to optical radiation.

- Use personal protective equipment (safety goggles) during mounting, dismounting, installation, commissioning, maintenance and repair.
- Never look directly into the light fitting during commissioning.
- Switch off the device before maintenance or cleaning.

Electric shock

During operation and maintenance, the device has high voltage applied to it at times. Because of this, the device must be de-energised during mounting, installation, maintenance, cleaning and dismounting.

Persons coming into contact with cables carrying excessive voltage can suffer severe electric shocks and, consequently, injuries.

- Always disconnect the device from the power supply before mounting it.

3.3.3 Device damage

The device or individual components can be damaged so significantly as a result of unsuitable operating conditions or careless contact that it will not operate correctly or will fail completely.

- Ensure that the maximum ambient temperature is never exceeded.
- In an environment with a very high level of humidity, e.g. sewage treatment plants and rainwater retention basins, switch on the device for at least two hours every day.

This will avoid moisture inside the device and prevent premature failure of the electronic elements.

4 Transport and storage

- Transport and store the device carefully and in accordance with the safety notes (see the "Safety" chapter).

Devices which have been installed and commissioned but are not operated during a period exceeding the maximum storage period (see table below) must be continuously operated form minimum 6 hours every month.

Average storage temperature	Average air humidity	Maximum storage period
≤ 25 °C	≤ 65 % r.h.	9 months
≤ 25 °C	> 65 % r.h.	6 months *
> 25 °C	> 65 % r.h.	4 months *
> 25 °C	≤ 65 % r.h.	6 months

* Storage at air humidity > 90 & r.h. is not permitted

5 Mounting and installation

DANGER! Explosion hazard due to incorrect installation of the device!

Non-compliance results in severe or fatal injuries.

- Carry out installation strictly according to the instructions and national safety and accident prevention regulations to maintain the explosion protection.
- Select and install the electrical device so that the explosion protection is not affected due to external influences (see IEC 60079-14).
- Ensure, that the device is only be installed by trained qualified personnel who are familiar with the relevant standards.

DANGER! Optical radiation hazard!

Non-compliance results in temporary or permanent blinding of the operator.

- Do not install the luminaire in the operator's movement area.
- Avoid direct eye exposure.

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5.1 Removing protective foil

As standard, the luminaire is generally delivered with protective foil on the translucent cover. However, in some cases, it can be delivered without protective foil.

DANGER! Explosion hazard due to electrostatic discharge!
Non-compliance results in severe or fatal injuries.
- ▸ Only remove protective foil in safe areas.

If protective foil is present:
- ▸ Remove the protective foil before commissioning.

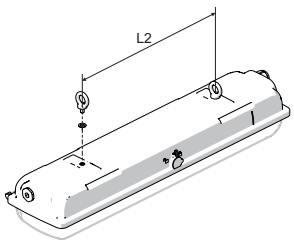
5.2 Mounting/dismounting, operating position

DANGER! Explosion hazard due to electrostatic discharge!
Non-compliance results in severe or fatal injuries.
- ▸ Do not use the device in strong charge-generating environments.
- ▸ Avoid the following processes/activities:
- • Accidental friction
- • Particle flows

DANGER! Explosion hazard due to impermissible heating!
Non-compliance results in severe or fatal injuries.
- ▸ Avoid external heat sources.
- ▸ Comply with the ambient temperature range (risk of change of temperature class or change of maximum permissible surface temperature).
- ▸ Do not exceed the maximum ambient temperature due to external heat sources (premature failure of equipment).

The luminaire is suitable for wall and ceiling mounting.
In event of wall mounting in outdoor areas, avoid installation with central lock at top.
The mounting position with light emission upwards is prohibited in outdoor areas.

Suspension at fixed mounting points



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Size	L2 mm [inch]
2	400 [15.75]
4	800 [31.50]

max. screw-in depth 10 mm [0.39]

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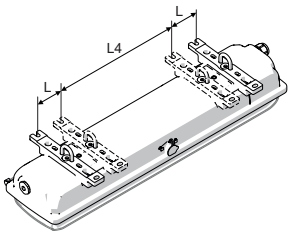
Suspension on movable assembly parts



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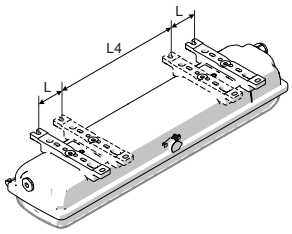

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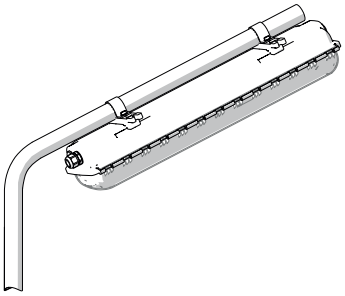
Mounting bracket Top rail

Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

Lateral mounting pockets for variable points of suspension.

- When mounting the luminaire using top rails, ensure that the mounting surface is flat. Otherwise, the enclosure might be mounted in a warped/twisted way. The result is leakage of the luminaire and difficulties in replacing the translucent cover.

Pole suspension
Pole mounting using pipe clamps



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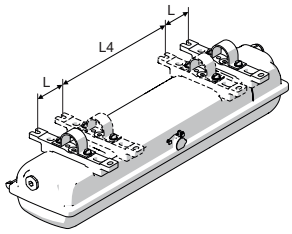

15443E00

Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

- For pipe clamp mounting, use the solution from R. STAHL Schaltgeräte GmbH with integrated mounting rail providing reliable and stable four-point fixing. In case of point suspension using pipe clamps, R. STAHL Schaltgeräte GmbH does not guarantee the strength and tightness of the luminaire.

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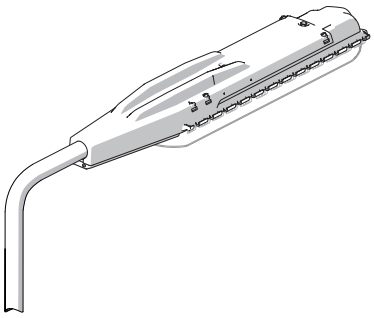
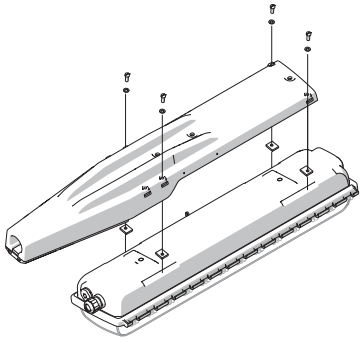
Pole mounting using pole mounting sleeve





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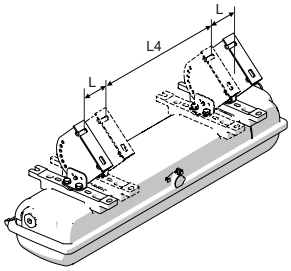
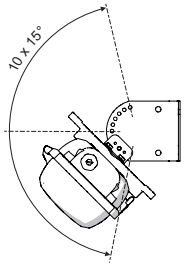
Wall bracket mounting





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Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

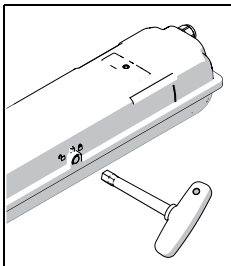
5.3 Installation

5.3.1 Opening and closing the enclosure

DANGER! Risk of electric shock due to improper opening!
Non-compliance results in severe or fatal injuries.
- Open luminaires without switches only in de-energised state (see information plate on the lock).

NOTICE! Danger due to electrostatic discharge.
Electronic components can be destroyed if touched.
- Do not touch the LED PCBs.

Recommendation
- Open and close the luminaire using the box spanner from R. STAHL Schaltgeräte GmbH.



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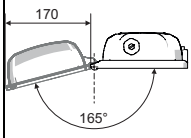

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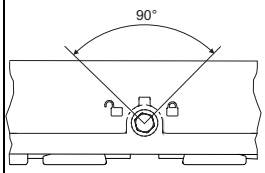

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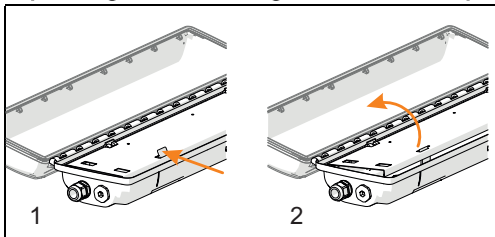
- Remove the closing cap of the central lock.
- Turn the central lock using a box spanner M8, spanner size 13, by 90° to the left as far as it will go.
- Swivel down the translucent cover.
- Proceed in reverse order to close.
- Ensure, that the seal of the translucent cover lies correctly on the sealing edge.
- Push the closing cap onto the central lock opening (protection against dirt).

- Observe the following during mounting and dismounting:
- Version without switch: Disconnect the luminaire from the power supply and secure it against being switched on again.
- Do not use force when opening or closing the enclosure!

Central lock

- Version with switches: The luminaire is positively disconnected from the power supply by actuating the central lock.
- In the open end position and with the translucent cover swivelled down, the anti-pumping device prevents the central lock from being actuated.

Opening and closing the reflector plate



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Opening:

- Open the reflector plate by pressing down on the safety latch (1).
- Swivel down the reflector plate (2).

Closing:

- Flip up the reflector plate and snap it into place.

5.3.2 Electrical connections

Mains connection

Observe the maximum clamping possibility of the connection terminals (see chapter "Technical data").

- Observe the following when connecting to the mains connection:
- Clamping must be carried out precisely.
- Do not clamp any part of the conductor insulation.
- Do not mix up the conductors.
- Observe the technical regulations when connecting the conductor.
- Clamp the conductor firmly.

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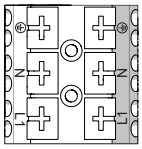
Connection terminals

Clamping range:
1 x 1.5 to 4 mm^2 (finely stranded)
1 x 1.5 to 6 mm^2 (solid and finely stranded with core end sleeve)
(2 free clamping units per pole available)

Stripping length:
10 to 12 mm

Standard



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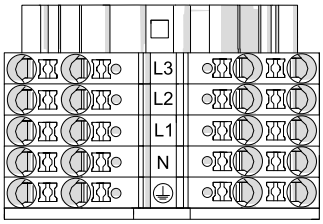
L1 = phase
N = neutral conductor
⏚ = protective conductor

Optional



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L1, L2, L3 = phase
N = neutral conductor
⏚ = protective conductor

Through wiring of the mains supply connection

Through wiring with 2.5 mm^2 cross-section for max. 10 A.

5.3.3 Cable entries, stopping plugs and breathers

The standard luminaire is delivered with 3 entries, 2 cable entries and 2 stopping plugs.

Tightening torques for components from R. STAHL Schaltgeräte GmbH

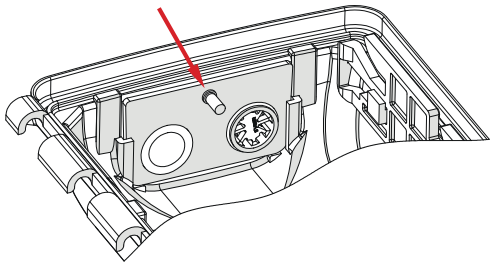
Luminaires with installed cable entries and stopping plugs from R. STAHL Schaltgeräte GmbH must be tightened using the following values:

		Tightening torque	
		Connection thread	Pressure screw
Cable entry 8161	M20 x 1.5	2.3 Nm	1.5 Nm
	M25 x 1.5	3.0 Nm	2.0 Nm
Stopping plug 8290	M20 x 1.5	1.0 Nm	–
	M25 x 1.51.5	1.5 Nm	–
Breather 8162/1	M25	3.0 Nm	–

Cable entry or breather made of metal

DANGER! Explosion hazard due to unearthed external metal parts!
Non-compliance results in severe or fatal injuries.

- Contact threaded pins for a combination of a metal insertion plate with metal cable entries or breather (see figure).



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Luminaires with cable entries and stopping plugs which are not supplied by R. STAHL Schaltgeräte GmbH

DANGER! Explosion hazard due to impermissible cable entries and stopping plugs!
Non-compliance results in severe or fatal injuries.

- Use cable entries and stopping plugs which have been separately tested according to IECEx (CoC), which comply with the standard version stated in the certificate of the luminaire and which have been certified.

- Observe the following:
- Required dust resistance
- Required type of protection
- Required temperature resistance
- IP degree of protection according to the label on the device
- Operating instructions of the cable entries and stopping plugs
- Required tightening torques
- Area for the permissible conductor diameter
- Insert the metal cable entries and/or stopping plugs into the PE.

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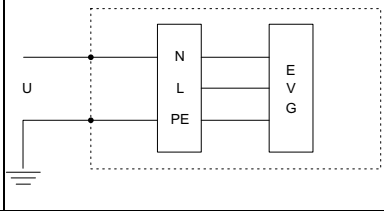
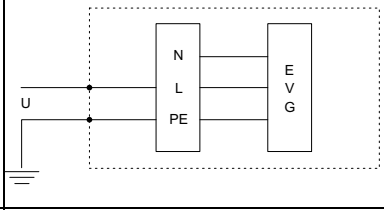
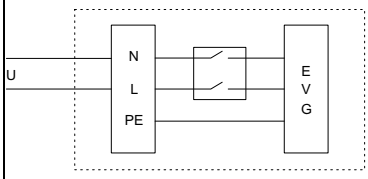
5.3.4 Lighting system insulation test

A DC voltage insulation test in electrical circuits is permissible up to 500 V DC under the following conditions:

Test location/condition	Circuit diagram
1. Between neutral conductor and protective conductor	
2. Between phase and protective conductor	
3. Between phase and neutral conductor For a measurement between phase and the neutral conductor, the control gear must be disconnected from the mains power! **NOTICE! Destruction of the device and/or electrical components if the disconnector is missing.** Non-compliance may lead to material damage. ▸ Only disconnect the device from the mains power using an internal switch before the insulation test.	

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6 Commissioning

DANGER! Explosion hazard due to incorrect installation!
Non-compliance results in severe or fatal injuries.
- ▸ Check the device for proper installation before commissioning.
- ▸ Comply with national regulations.

NOTICE! Malfunction or device damage caused by condensation.
Non-compliance may lead to material damage!
- ▸ Operate the luminaire continuously or periodically over extended periods of time.
- ▸ Avoid thermal bridges, use suitable installation accessories.

▸ Before commissioning, ensure the following:
- Mounting and installation.
- Device for damage.
- Remove any foreign objects.
- If necessary, clean the connection chamber.
- Electrical lines have been inserted correctly.
- All screws and nuts have been tightened securely.
- All drilled holes are closed.
- All cable entries and stopping plugs have been tightened securely.
- All conductors have been clamped firmly.
- Line voltage and the rated operational voltage are consistent.
- Permissible conductor diameters for the corresponding cable entries have been used.
- Device is closed according to regulations.
- If necessary, remove transport protection (foam cushion).
- LED assembly and the diffuser are clean.
- There is no protective foil on the translucent cover.

7 Operation

The functionality and safety of the device must be ensured at all times during operation.

DANGER! Explosion hazard due to short circuit caused by moisture ingress!
Non-compliance results in severe or fatal injuries.
- ▸ Ensure that cable entries are only located on the side or underside of the device (not on the top).

8 Maintenance, overhaul, repair

CAUTION! Risk of electric shock or malfunction of the device due to unauthorised work!
Non-compliance can result in minor injuries.
- ▸ Switch off the voltage supply before working on the device.
- ▸ Work performed on the device must only be carried out by authorised and appropriately trained qualified electricians.

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8.1 Maintenance and overhaul

- Consult the relevant national regulations to determine the type and extent of inspections.
- Tailor inspection intervals to the operating conditions.
- Perform maintenance and repair work in accordance with IEC 60079-17 and IEC 60079-19.

- Observe the relevant national regulations in the country of use.

- During maintenance/overhaul of the device, check the following points:

- Clamping screws holding the electrical lines fit securely
- Device has no cracks or other visible signs of damage
- Seal shows no signs of ageing or damage (completely replace enclosure components with damaged foamed seal)
- Device is clean inside and out
- Permissible temperatures are complied with (according to IEC 60079)
- Cable entry is intact and securely tightened
- Cables and electrical lines show no signs of ageing and damage
- Device is used as intended and functions properly
- Resin parts, optics and rivets show no signs of damage

8.1.1 Restricted breathing test for model 6602/12

The luminaire is equipped with a test device for restricted breathing. Restricted breathing must be checked after installation and during regular maintenance acc. to IEC 60079-15.

Recommendation

- Check the luminaire by using the handheld testing instrument for restricted breathing from R. STAHL website (see data sheet).

The test should only be carried out at constant temperature conditions.

DANGER! Explosion hazard due to improper repair!

Non-compliance results in severe or fatal injuries.

- Only perform repairs on the device using original spare parts from R. STAHL Schaltgeräte GmbH, taking the associated installation instructions into account.

DANGER! Explosion hazard due to a missing routine test of restricted-breathing enclosures

Non-compliance results in severe or fatal injuries.

- Carry out the routine test of restricted-breathing enclosures in accordance with IEC 60079-15, clause 12.2 after any activity that requires the luminaire to be opened, such as installation, maintenance and repair.

Preparing the luminaire for testing

- Remove the red stopping plug.

Test procedure

- Insert the hose of the test device into the cable entry for testing restricted breathing.
- Hand-tighten the cable entry.
- Use the hand pump to create a vacuum of 0.3 kPa (3 mbar).The test has been passed if after 180 seconds a vacuum of at least 0.15 kPa (1.5 mbar) is still present in the luminaire.

After the test

- Remove the hose of the test device for testing restricted breathing from the cable entry.
- Close the luminaire using the red stopping plug.

Alternative pressure and time specifications

	Alternative 1	Alternative 2
Vacuum at start of test	3.0 kPa (30 mbar)	0.3 kPa (3 mbar)
Test duration	27 seconds	27 seconds
Vacuum after testing	2.7 kPa (27 mbar)	0.27 kPa (2.7 mbar)

8.2 Repair

DANGER! Explosion hazard due to improper repair!
Non-compliance results in severe or fatal injuries.

- Only perform repairs on the device using original spare parts from R. STAHL Schaltgeräte GmbH, taking the associated installation instructions into account.

Repairs carried out on the mounting plate are not permitted.

- Replace the mounting plate completely in case of error.

9 Returning the device

- Only return or package the devices after consulting R. STAHL. Contact the responsible representative from R. STAHL.

R. STAHL's customer service is available to handle returns if repair or service is required.

- Contact customer service personally.

or

- Go to the r-stahl.com website.
- Under "Support" > "RMA" > select "RMA-REQUEST".
- Fill out the form and send it.
  You will automatically receive an RMA form via email. Please print this file off.
- Send the device along with the RMA form in the packaging to R. STAHL Schaltgeräte GmbH (refer to chapter 1.1 for the address).

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10 Cleaning

- Check the device for damage before and after cleaning.
- Immediately take damaged devices out of service.
- Devices located in hazardous areas may only be cleaned with a damp cloth to avoid electrostatic charge.
- When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- Do not use abrasive cleaning agents or solvents.
- Never clean the device with a strong water jet, e.g. a pressure washer.

11 Disposal

- Observe national, local and statutory regulations regarding disposal.
- Separate materials for recycling.
- Ensure environmentally friendly disposal of all components according to statutory regulations.
- Do not dispose of in household waste.
- Return to public collection points or to the supplier.

Removal of components at the end of their service life:

- Remove and open luminaires according to the operating instructions.
- Disconnect cables from the LED PCB and control gear.

Control gear:

- Loosen the mounting screws and remove the device.

LED PCB:

- Remove the PCB from the mounting plate and dispose it.

12 Accessories and spare parts

NOTICE! Malfunction or damage to the device due to the use of non-original components!
Non-compliance may lead to material damage.

- Use only original accessories and spare parts from R. STAHL Schaltgeräte GmbH (see datasheet).

- For accessories and spare parts, see the data sheet on our homepage r-stahl.com.

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13 Annex A

13.1 Technical data

Explosion protection	
Gas and dust	IECEx IBE 24.0030X
"ec" versions	Ex ec mb IIC T4 Gc, or Ex db ec mb IIC T4 Gc (Luminaire with disconnection switch) Ex tb IIIC T85 °C Db
"nR" versions	Ex nR IIC T6 Gc, or Ex db nR IIC T6 Gc (Luminaire with disconnection switch) Ex tb IIIC T85 °C Db
Certification	IECEx

Electrical data

	6602/11 Size 2	6602/11 Size 4	6602/12..-01 Size 2	6602/12..-01 Size 4
Rated operating voltage AC	100 to 277 V AC	100 to 277 V AC	220 to 240 V AC	220 to 240 V AC
Rated operating voltage DC	110 to 277 V DC	110 to 277 V DC	220 to 240 V DC	220 to 240 V DC
Rated current	≤ 0.23 A	≤ 0.450 A	≤ 0.130 A	≤ 0.180 A

Startup current @ 100 V and 230 V

	6602/11 Size 2	6602/11 Size 4	6602/12..-01 Size 2	6602/12..-01 Size 4
Power	22 W	44 W	22 W	44 W
Startup current	Ipeak ≤ 60 A Δ t = 210 µs	Ipeak ≤ 60 A Δ t = 210 µs	Ipeak ≤ 51 A Δ t = 127 µs	Ipeak ≤ 51 A Δ t = 127 µs

Maximum number of luminaires per miniature circuit breaker at 100 V

	Variant	Type	10 A	16 A	20 A	25 A
@ 100 to 277 V AC	6602/11 Size 2	B	07	12	15	18
		C	12	20	25	31
@ 100 to 277 V AC	6602/11 Size 4	B	07	12	15	18
		C	12	20	25	31
@ 220 to 230 V AC	6602/12..-01 Size 2	B	12	19	24	31
		C	20	33	41	51
@ 220 to 230 V AC	6602/12..-01 Size 4	B	12	19	24	31
		C	20	33	41	51

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	6602/11 Size 2	6602/11 Size 4	6602/12..-01 Size 2	6602/12..-01 Size 4
Power factor cos Φ ≥ 0.9	< 10%	< 10%	< 15%	< 15%

	6602/11 Size 2	6602/11 Size 4	6602/12..-01 Size 2	6602/12..-01 Size 4
THD	@ 100-240 V AC < 10% @277 V AC < 15%	@ 100-277 V AC < 10%	@220-240 V AC < 15%	@220-240 V AC < 15%

Surge protection: Internal surge protection

	6602/11 Size 2	6602/11 Size 4	6602/12..-01 Size 2	6602/12..-01 Size 4
L-N	6 kV	6 kV	1 kV	1 kV
L-PE	6 kV	6 kV	2 kV	2 kV
N-PE	6 kV	6 kV	2 kV	2 kV

Luminous characteristics

Colour rendering: $R_a \geq 80$

Variant [1]	Cover	Diffuser	Luminous flux (lm)	Power consumption (W)	Luminaire efficacy (lm/W)
6602/11 Size 2[2]	transparent (clear)	with	2837	23	125
6602/12 Size 2		without	3160	23	137
6602/11 Size 4[2]	transparent (clear)	with	5594	44	127
6602/12 Size 4		without	6232	44	141

[1] Values apply to colour temperature 5700 K @ T_a = 25 °C
[2] Only 50% lumens at DC operating voltage

Ambient conditions

Functional ambient temperature range	6602/11.-...-.	-40 °C ≤ T_a ≤ +55 °C
	6602/12.-...-.[1]	-30 °C ≤ T_a ≤ +55 °C
Storage temperature	6602/11.-...-.	-40 °C ≤ T_a ≤ +60 °C
	6602/12.-...-.	-30 °C ≤ T_a ≤ +60 °C

[1] Possible to operate the luminaire below -25 °C, provided the luminaire is switched on at -25 °C.

Service life

LED

$L_{70}B_{50}$ @ $T_{a\,max}$: 60,000 h

L_xB_y
At the end of the service life:
- Luminous flux declines to "x" percent
- up to "y" percent of all luminaires do not reach "x"

Control gear

C10 @ $T_{a\,max}$: 50,000h
C10 = failure rate 10%

Mechanical data		
Degree of protection	IP66/67 (according to IEC 60598)	
Impact strength (IK Code)	IK10 (according to IEC 62262)	
Material		
Enclosure and cover	Polyester resin, glass fibre reinforced	
Enclosure colour	Grey colour, similar to RAL 7035	
Seal	Silicone	
Luminaire lock	Central lock	

Mounting/installation		
Cable entries		
Openings	Standard	Connection side: 2 drilled holes for M25 (for loop in/loop out wiring) Output side: 1 drilled hole for M25 (for through wiring of the connection line)
	Optional	max. 4 drilled holes for M20, M25, NPSM 1/2" or max. 2 drilled holes for NPT 3/4"
Threaded plate	Standard	2 x plastic M25 x 1.5
	Optional	2 x metal M25 x 1.5 or M20 x 1.5 connected by means of PE for metal cable entries Attention: cable entries must be ordered separately
Accessories	Standard	Plastic, 2 x M25 x 1.5 cable entries 8161 and 2 x M25 x 1.5 stopping plugs 8290 (included)
	Optional	Metal cable glands: M20 x 1.5, M25 x 1.5; earthing of metal cable entries via metal plates (further cable entries possible on request)
Through wiring	Standard	with Luminaires are equipped with internal through wiring. Connection of ingoing and outgoing leads on opposite sides is possible. Terminals: See technical data Wiring cross section of the supply line connection: 2.5 mm^2 for max. 10 A (Observe operating temperature)
	Optional	without On the connection side, there are 2 M25 x 1.5 bores for cable entries for loop in/loop out wiring of the connection line (ingoing and outgoing lead on one side).
Mounting	Standard	2 x M8 insert nuts in the enclosure
	Optional	Mounting grooves in the enclosure for use of mounting and top rails for variable luminaire mounting (variable mounting distances for luminaires Size 2: 320 to 480 mm; Size 4, size 6: 670 to 930 mm)

For further technical data, see r-stahl.com.

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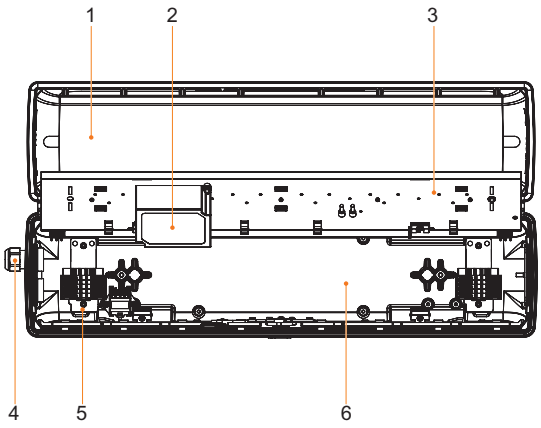
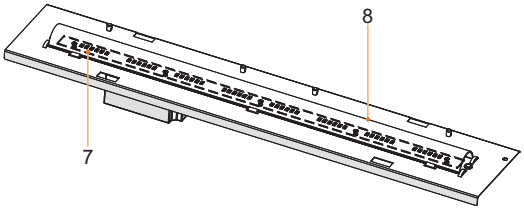
14 Annex B

14.1 Device design



90000E00

1	Translucent cover	4	Cable entry
2	Control gear	5	Connection terminal
3	Mounting plate	6	Luminaire enclosure



90001E00

7	LED module	8	Diffuser

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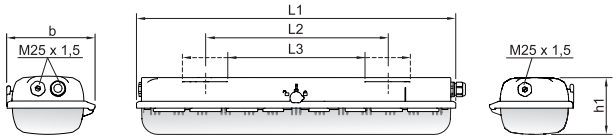
14.2 Dimensions / fastening dimensions

Dimensional drawings (all dimensions in mm [inch]) – Subject to change

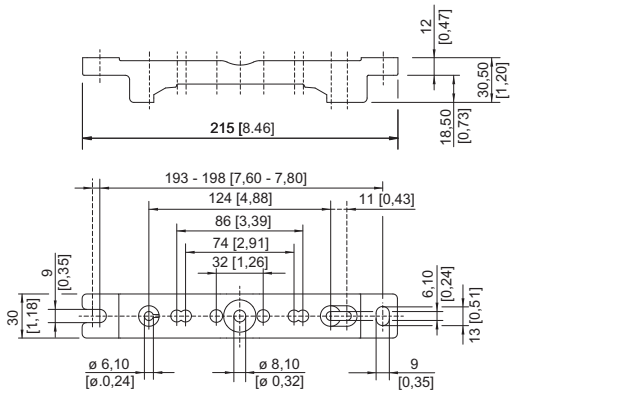


15440E00

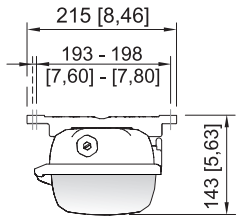
Dimensions	Luminaire	
	Size 2	Size 4
L1	700 [27.56]	1310 [51.57]
L2 [1)]	400 [15.75]	800 [31.50]
L3 [2)]	320 to 480 [12.60 to 18.90]	670 to 930 [26.38 to 36.61]
b	184 [7.24]	184 [7.24]
h1	125 [4.92]	125 [4.92]

[1)] fixed mounting distance
[2)] variable mounting distance

Dimensional drawings for assembly parts and accessories
(all dimensions in mm [inch]) – Subject to change



15778E00



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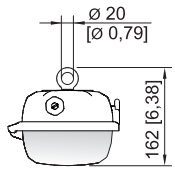
Mounting rail



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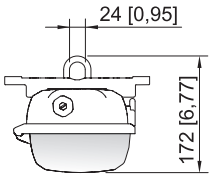

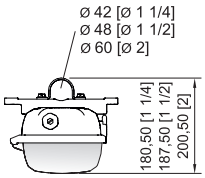

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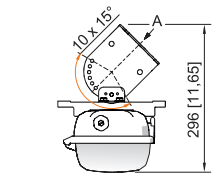

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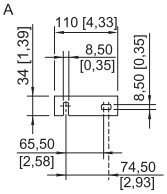

15780E00

Ring bolt installed in insert nut of the luminaire

Mounting bracket fitted in mounting rail

Pipe clamp installed in mounting rail

Wall mounting bracket installed in mounting rail

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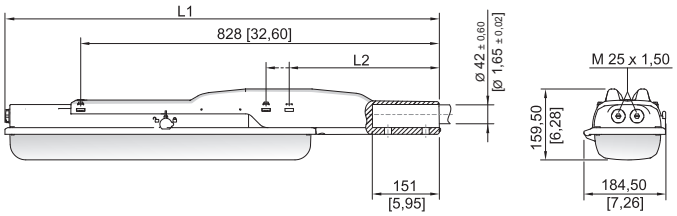
Dimensional drawings for assembly parts and accessories

(all dimensions in mm [inch]) – Subject to change



17755E00

Dimensions	Luminaire	
	Size 2	Size 4
L1	978 [38.50]	1587 [62.48]
L2	390 [15.35]	338 [13.31]

Torque value of M8 mounting insert to be considered as +12 Nm