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Note:

The current operating instructions, the EC Declaration of Conformity and the ex-certificate can be downloaded from the relevant product page at www.ecom-ex.com, or alternatively they can be requested directly from the manufacturer.







1. General instructions

Specifications for the operating instructions

ID No.:

ISL 200-Ex / ISL 400-Ex

Subject to technical changes.

	Operational instruction: Describes tasks to be performed by the user.
	Response designation: Describes results and/or responses to tasks.
	Itemisation indication
	Information symbol: Describes information and suggestions.
	Warning sign: Danger through live parts
	Warning sign: Danger through potentially explosive atmosphere!

2. General safety instructions

2.1 Safety information for mounting and operating personnel

The operating instructions contain fundamental safety instructions that are to be observed during operation and maintenance. Non-observance may result in a hazard for persons, equipment, and the environment.

WARNING

Danger by means of unauthorised work on the lamp!

▷ Injuries and material damage are imminent.

▶ Mounting, installation, startup, operation, and maintenance may only be conducted by authorised and appropriately trained personnel.

Prior to mounting/startup:

▶ Read the operating instructions.

▶ Sufficiently train the mounting and operating personnel.

▶ Ensure that the contents of the operating instructions are completely understood by the responsible personnel.

▶ The national mounting and installation instructions apply (e.g., EN 60079-14).

For ambiguities:

- ▶ Contact the manufacturer.

With operation of the lamps:

- ▶ Keep the operating instructions available.
- ▶ Observe safety information.
- ▶ Observe national safety and accident prevention instructions.
- ▶ Operate the lamp only according to the performance characteristics.
- ▶ Maintenance work and/or repairs that are not described in the operating instructions may not be conducted without prior consent of the manufacturer.
- ▶ Damages can reduce the explosion protection.
- ▶ Redesigns and alterations to the lamp that impair the explosion protection are not permitted.
- ▶ Only install and operate the lamp in an undamaged, dry, and clean condition.

2.2 Warning information

Warning information is classified according to the following schema in these operating instructions:

⚠ WARNING

Type and source of the danger!

- ▷ Possible consequences.
- ▶ Measures to avoid the danger.

They are always identified with the signal word “WARNING” and sometimes with a danger-specific symbol.

2.3 Standards conformity

The repair light corresponds to the following conditions and standards:

- × Code 94/9/EG
- × IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 61241-0, IEC/EN 61241-1
- × IEC/EN 60598-1, IEC/EN 60598-2-8, EN 55015, EN 61547

3. Intended area of application

The repair light ISL 200-Ex / ISL 400-Ex is deployable for mobile workplace illumination in potentially explosive areas of zones 1, 2, 21, and 22.






The repair light can also be used as a machine lamp with optional mounting clamps.

⚠ WARNING

Only use the lamp in accordance with the requirements!

- ▷ Otherwise the manufacturer liability and warranty will terminate.
- ▶ Use the lamp exclusively according to the operating conditions specified in these operating instructions.
- ▶ In potentially explosive areas, the lamp may only be operated according to these operating instructions.

4. Specifications

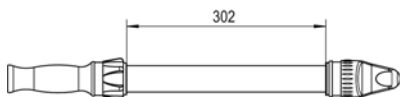
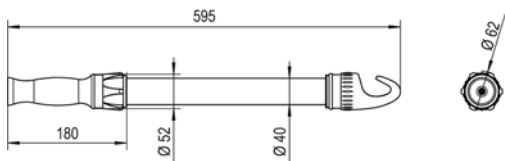
Model	ISL 200-Ex (2 lamps)	ISL 400-Ex (4 lamps)
Explosion protection		
Gas explosion protection	 II 2G Ex d IIC T4	 II 2G Ex d IIC T4
Dust explosion control	 II 2 D Ex tD A21 IP 6X T ₀ max * * Surface temperature see selection table	 II 2 D Ex tD A21 IP 6X T ₀ max * * Surface temperature see selection table
Certificates	PTB 07 ATEX 1045	PTB 07 ATEX 1045
Rated operational voltage	12 V / 24 V / AC 50Hz 110 - 230 V AC ± 10 %; 50/60 Hz 12 V / 24 V DC ± 10 %	12 V / 24 V / AC 50Hz 110 - 230 V AC ± 10 %; 50/60 Hz
Nominal operational current	12 V AC 0.6 A 24 V AC 0.3 A 12 V DC 0.7 A 24 V DC 0.35 A 110 - 230 V AC ±10% 0.07 A	12 V AC 1.2 A 24 V AC 0.6 A 110 - 230 V AC 0.14 A
Ambient temperature	- 20 °C ... + 50 °C	- 20 °C ... + 40 °C
Lamp mounting	2 x CCFL 320 mm, cold-cathode lamps	4 x CCFL 320 mm, cold-cathode lamps
Light intensity	130 Lux in 1 m displacement	205 Lux in 1 m displacement
Luminous flux	approx. 400 lm	approx. 800 lm
Degree of protection	IP 66/67	IP 66/67
Protection class	II	II

Material		
Sealing	NBR	NBR
Housing pipe	Polycarbonate	Polycarbonate
Rubber grip	NBR/PVC (EPDM)	NBR/PVC (EPDM)
Suspension hook	NBR/PVC (EPDM)	NBR/PVC (EPDM)
Connecting line	<p><u>Standard:</u> connecting line, 5 m, type H07RN-F, ϕ 7.7 ... 10 mm, 2 x 1 mm²</p> <p><u>Optional:</u> Gifas Thermoflex cable, 5 m, HXSLHXÖ-J, ϕ 7.7 ... 10 mm, 2 x 1.5 mm²</p> <p>Helukabel with protective netting type SY-JZ, 2 x 1.5 mm²</p>	<p><u>Standard:</u> connecting line, 5 m, type H07RN-F, ϕ 7.7 ... 10 mm, 2 x 1 mm²</p> <p><u>Optional:</u> Gifas Thermoflex cable, 5 m, HXSLHXÖ-J, ϕ 7.7 ... 10 mm, 2 x 1.5 mm²</p> <p>Helukabel with protective netting type SY-JZ, 2 x 1.5 mm²</p>
Cable entry points	<p><u>Standard:</u> A2F, M 20 x 1.5 ϕ 6.1 mm ... 11.7 mm</p> <p><u>Optional:</u> 8163/2-20s-E1FXZ-M20, M20 x 1.5</p>	<p><u>Standard:</u> A2F, M 20 x 1.5 ϕ 6.1 mm ... 11.7 mm</p> <p><u>Optional:</u> 8163/2-20s-E1FXZ-M20, M20 x 1.5</p>

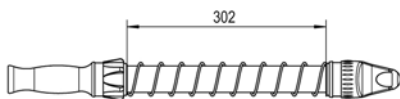
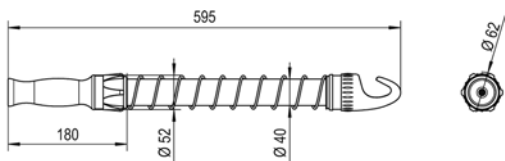
Selection table

Model	Nominal voltage	Temperature class at $T_a =$		T_o max. with $T_a = 40$ °C	Order number	Weight kg
		40°C	50°C			
Repair light ISL 200-Ex, 2 lamps	12 V AC; 50 Hz	T4	T4	105 °C	AS002098	1.120
	12 V DC	T4	T4	115 °C	AS002097	1.115
	24 V AC; 50 Hz	T4	T4	105 °C	AS002096	1.120
	24 V DC	T4	T4	115 °C	AS002095	1.115
	110-230 V AC; 50 / 60 Hz	T4	T4	110 °C	AS002094	1.155
Repair light ISL 400-Ex, 4 lamps	12 V AC; 50 Hz	T4	-	105 °C	AS002087	1.155
	24 V AC; 50 Hz	T4	-	105 °C	AS002086	1.155
	110-230 V AC; 50 / 60 Hz	T4	-	120 °C	AS002093	1.200

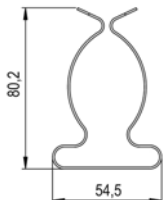
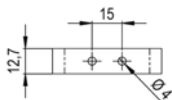
Dimensional drawings (all measures in mm) – subject to change



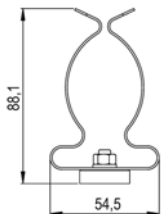
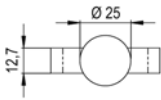
Repair light without protective cage



Repair light with protective cage



Mounting clamp



Magnetic mounting clamp

5. Transport, storage and disposal

Transport

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

Storage

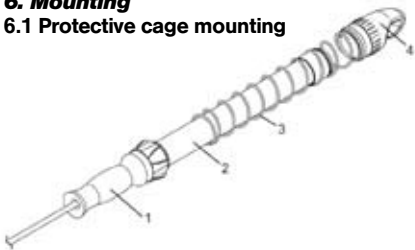
- ▶ Store dry in original packaging.

Disposal

- ▶ Ensure environmentally friendly disposal of all components according to legal regulations.

6. Mounting

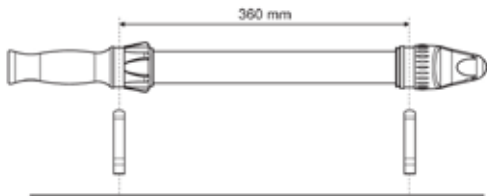
6.1 Protective cage mounting



- ▶ Pull suspension hooks (4) from housing pipe (2).
- ▶ Slide protective cage (3) over housing pipe.

- ▶ Slide the first thread of the protective cage over the lip of the handle (1).
- ▶ Slide suspension hooks onto the housing pipe thereby sliding the last thread of the protective cage over the lip of the suspension hook.
- ▷ The protective cage is mounted.

6.2 Wall mounting



- ▶ Fasten the mounting clamps to the wall with a spacing of 360 mm.
- ▶ Place repair light on the mounting clamps.
- ▷ Wall mounting is complete.

7. Installation

⚠ WARNING



Use of connectors with or without incorrect explosion protection!

- ▷ Explosion protection is not guaranteed with the use of connectors that are not suitable for the respective zone.
- ▶ Only use connectors that are approved for the respective zone.
- ▶ Install connectors according to the manufacturer's instructions.

8. Initial operation

Prior to initial operation

- ▶ Ensure that the connector is installed according to given instructions and approved for the respective zone.
- ▶ Inspect the cable for secure seating.
- ▶ Inspect the cable entry point for damage.

9. Maintenance

⚠ WARNING



Danger through live parts!

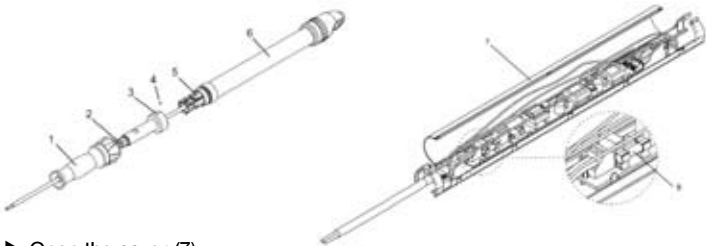
- ▷ Most serious injuries are possible.
- ▶ Separate lamp from power supply prior to maintenance.

9.1 Fuse replacement

⚠ WARNING

Risk of breakage!

- ▷ Breakage of the lamps by working on the lamp support.
- ▶ Carefully pull the lamp support out of the housing pipe.
- ▶ Carefully lay the lamp support with the lamp mounting facing down on a solid, level underlay.
- ▶ Pull the rubber grip (1) from the handle (3).
- ▶ Open the cable connection (2).
- ▶ Open the mounting screw (4) and unscrew the handle.
- ▶ Carefully pull the lamp support (5) out of the housing pipe (6) and lay it on a solid, level underlay with the lamp mounting facing down.



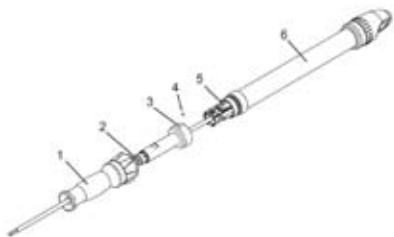
- ▶ Open the cover (7).
- ▶ Replace the fuse (8) with a fuse of equal fuse nominal size.
- ▶ Installation of the lamp support and locking of the repair light in reverse order.

9.2 Replacement of the lamp support

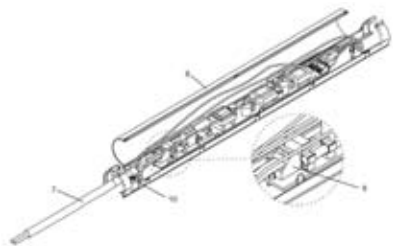
⚠ WARNING

Risk of breakage!

- ▷ Breakage of the lamps by working on the lamp support.
- ▶ Carefully pull the lamp support out of the housing pipe.
- ▶ Carefully lay the lamp support with the lamp mounting facing down on a solid, level underlay.



- ▶ Pull the rubber grip (1) from the handle (3).
- ▶ Open the cable connection (2).
- ▶ Open the mounting screw (4) and unscrew the handle.
- ▶ Carefully pull the lamp support (5) out of the housing pipe (6) and lay it on a solid, level underlay with the lamp mounting facing down.



- ▶ Open the cover (8).
- ▶ Open the screws of the cord grip (4).
- ▶ Open the clamps of the spring-type terminal (3) with a screw driver and pull off the leads.
- ▶ Connect the new connector cable to the spring-type terminal.
- ▶ Tighten the cord grip.
- ▶ Installation of the lamp support and locking of the repair light in reverse order.

9.3 Regular maintenance work

- ▶ Type and scope of the inspections have to be conducted according to the corresponding national regulations.
- ▶ Measure the periods so that arising lamp defects, which are to be anticipated, are discovered in sufficient time.

Within the context of maintenance, inspect:

- × Connection for damage.
- × Lamp for visible damage.
- × Cable entry point for tightness.
- × Compliance with the authorised temperature according to EN 60079-0.
- × Normal functioning.

9.4 Cleaning

- × Clean with a damp cloth, broom, vacuum, or the like.
- × With damp cleaning, use water or mild, non-abrasive, non-scratching detergent.
- × Never use abrasive detergent or solvent.

10. Accessories and replacement parts

Name	Description	Order number	Weight kg
Mounting clamp	Mounting clamp out of galvanised sheet steel	A0002093	0.023
Magnetic mounting clamp	Mounting clamp out of galvanised sheet steel with magnetic base	A0002094	0.050
Protective cage	Stainless steel protective cage for additional mechanical protection	A0002095	0.200
Lamp support with lamps, 2 lamps	for ISL 200-Ex (12 V AC; 50 Hz)	ET002096	0.095
	for ISL 200-Ex (12 V DC)	ET002097	0.090
	for ISL 200-Ex (24 V AC; 50 Hz)	ET002098	0.095
	for ISL 200-Ex (24 V DC)	ET002099	0.090
	for ISL 200-Ex (110-230 V AC; 50 Hz)	ET002089	0.130
Lamp support with lamps, 4 lamps	for ISL 400-Ex (12 V AC; 50 Hz)	ET002084	0.130
	for ISL 400-Ex (24 V AC; 50 Hz)	ET002086	0.130
	for ISL 400-Ex (110-230 V AC; 50 Hz)	ET002088	0.175

11. EC Declaration of Conformity

Further details regarding the declaration of conformity can be found at the following address: <http://www.ecom-ex.com> in the product download area.

12. EC-Type Examination Certificate

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB



EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

- (2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**
- (3) EC-type-examination Certificate Number:





PTB 07 ATEX 1045

- (4) Equipment: Repair light, type ISL *00-Ex
- (5) Manufacturer: ecom instruments GmbH
- (6) Address: Industriestraße 2, 97959 Assamstadt, Germany
- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 07-17245.

- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | |
|------------------------|------------------------|
| EN 60079-0:2004 | EN 60079-1:2004 |
| EN 61241-0:2006 | EN 61241-1:2004 |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

 **II 2 G Ex d IIC T4**
 **II 2 D Ex tD A21 IP6x T 105 °C to 120 °C**

Zertifizierungsstelle Explosionsschutz

Braunschweig, July 30, 2007

By order:



sheet 1/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alterations. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 1045**

(15) Description of equipment

The repair light, designed as an inspection lamp, is a mobile / portable electrical device. The translucent PC tube is delimited at one end by a cap and at the other by a handle made from aluminium. The threaded joint between PC tube and handle, and between PC tube and cap is glued to form a permanent connection. The handle consists of two parts which are screwed together with a flameproof thread. Both the end caps and the handle are protected by mounted rubber caps.

The device is designed to Flameproof Enclosure "d" type of protection for the gas area and Protection by Enclosure "ID" for the dust area.

Electric energy is fed into the unit through a separately certified cable entry.

Technical data:

Type	ISL 400-Ex (4 lamps)		
Rated voltage	12 V AC	24 V AC	110 V – 230 V AC
Temperature class	T4	T4	T4
Max. surface temperature	T 105 °C	T 105 °C	T 120 °C
Ambient temperature	-20 °C to +40 °C		

Type	ISL 200-Ex (2 lamps)				
Rated voltage	12 V DC	24 V DC	12 V AC	24 V AC	110 V – 230 V AC
Temperature class	T4		T4		T4
Max. surface temperature	T 115 °C		T 105 °C		T 110 °C
Ambient temperature	-20 °C to +50 °C				

(16) Test report PTB Ex 07-17245

(17) Special conditions for safe use

None;

Additional notes for safe operation:

A moist cloth has to be used to clean the lamp. It must carry a warning note to this effect.

sheet 2/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

(18) Essential health and safety requirements

Met by compliance with the afore-mentioned Standards.

Zertifizierungsstelle: Explosionschutz

Braunschweig, July 30, 2007

By order:

Dipl.-Phys



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PA000285 / 1.000 / 10 / 07

WEEE-Reg.-Nr. DE 934 99306

2094AL01A00 09/07 Änderungen vorbehalten! Subject to change without notice!