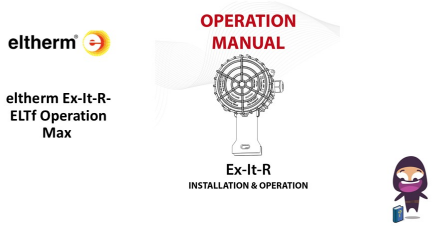


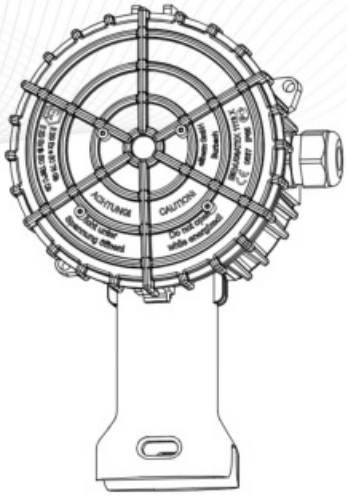
eltherm Ex-It-R-ELTf Operation Max Instruction Manual

Contents

eltherm

eltherm Ex-It-R-ELTf Operation Max

OPERATION MANUAL



Ex-It-R

INSTALLATION & OPERATION

IMPORTANT INFORMATION FOR ST ORAGE

For proper and safe use of the ELAK-Ex-R connection boxes, please follow these instructions.
Please keep these instructions for , future reference (e.g. In the system documentation).

IMPORTANT DISPOSAL INFORMATION

The WEEE logo indicates that this product should not be disposed of with other waste. For more information on the disposal and recovery of waste electrical and electronic equipment (WEEE) and collection points, please contact your local waste disposal company or the manufacturer from whom you purchased the product.

ATTENTION
Refers to a potentially dangerous situation. If it is not prevented, there is a risk of danger or malfunction.

NOTE
Important information and instructions for safe, effective and environmentally compatible usage.

DANGER
Refers to an extremely dangerous situation. If it is not prevented there is risk of death or at least a high risk of serious injuries.

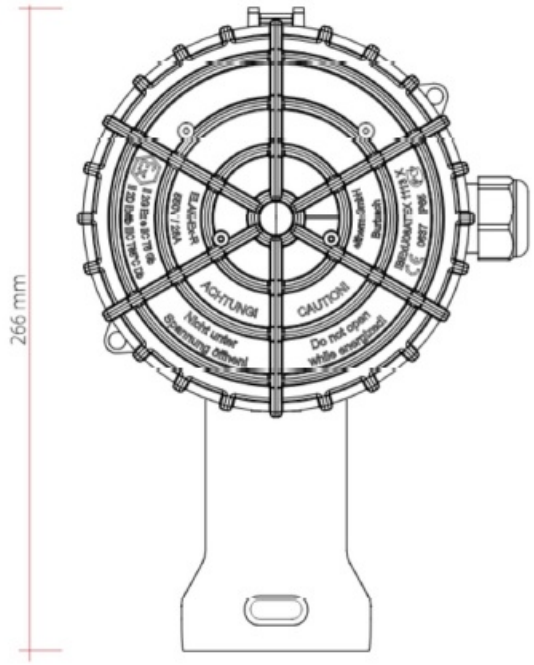
WARNING
Refers to a dangerous situation. If it is not prevented there is risk of injury or at least a high risk of material damage.

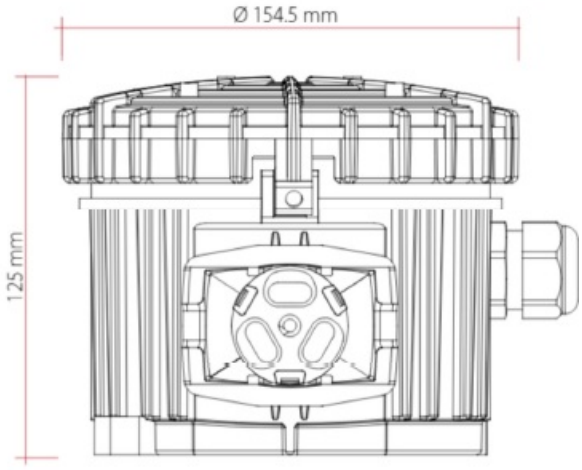
Proviso
We reserve the right to make technical changes. Changes, errors or misprints shall not form the basis for any claim to compensation for damages. Comply with the applicable and currently valid standards and regulations for safety-related components and systems.

DESCRIPTION & TECHNICAL DATA

DESCRIPTION
The innovative junction box (Ex-It-R) is suitable for use in hazardous areas and offers the user many advantages. For example, due to the shape of the box, the inserted cable only has to be bent slightly, thus protecting the cable from mechanical stress and damage.
A safety screw connection prevents unauthorized opening of the junction box or unintentional shifting of the cover (special tool included in delivery). Additional fastening options for identification labels enable reliable identification of heating circuits in complex systems and allow customer-specific markings.

MODELL VIEWS





EXPLOSION PROTECTION

ATEX	II 2G Ex eb IIC T6 Gb
	II 2D Ex tb IIIC T 85°C Db
IEC-Ex	Ex eb IIC T6 Gb
	Ex tb III C T85°C Db

MARKING

II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T85°C Db

CERTIFICATION

- IBExU 08 ATEX 1113 X
- IECEx IBE 16.0001 X
- STANDARDS
- EN 60079-0:2012 + A 11 :2013,
- IEC 60079-0 Ed. 6 EN 60079-7:2015, IEC 60079-7 Ed. 5
- EN 60079-31 :2014, IEC 60079-31 Ed. 2

TEST STANDARDS

- EN 60079-0:2012 + A 11 :2013,
- IEC 60079-0 Ed. 6,
- EN 60079-7:2015, IEC 60079-7 Ed. 5
- EN 60079-31 :2014, IEC 60079-31 Ed. 2.

ATTENTION
– 45°C to+ 50°C (T6, T85°q Terminal box.
The minimum operating temperature depends on the use of the cable glands, blanking plugs or reducers and may vary.

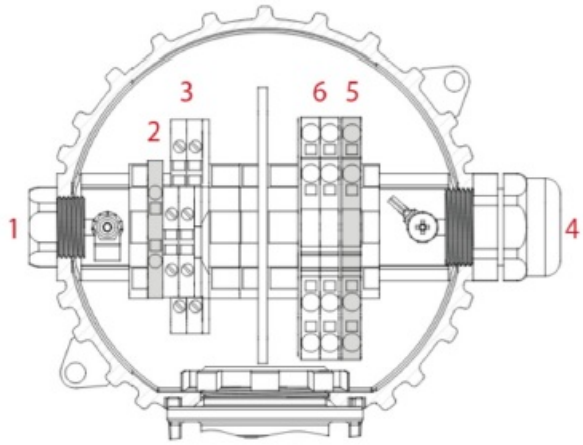
TECHNICAL DATA

Operating voltage (max.)	800 V AC
Rated current	max 32 A each terminal 6 mm^2 (Ex-It-R-ELTf max. 24 A)
Ambient temperature	- 20 °C bis +50 °C
Nominal cross-section*	Power cable max. 10 mm^2, Ø 9 - 17 mm
Junction box material	Polyamid, glass fiber reinforced, black
Dimensions	(ca.) Ø 154,5 mm, Height 266 mm, Depth125 mm
Protection class	IP 65
Operating temperature mounting stand	max. +200 °C
Material mounting stand	PPS (Cable entries: 3 x flat heater; 1 x sensor cable)
Possible cable dimensions	Ø 3 – 5 mm; 4 x 11 mm – 5,5 x 14 mm
Possible jacket materials	TPE min. 0,7 mm; Fluoropolymer min. 0,4 mm
max. insulation thickness	100 mm
min. Tube diameter	≥ NW3/4" / OD 20 mm (max. width of tightening strap: 16 mm)
Weight	approx. 1.2 kg

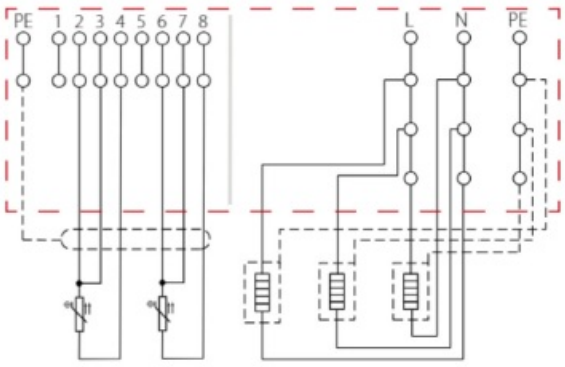
Connection cross-section (solid or fine-stranded without wire end sleeve); terminals heating cable max. 6 mm2 (AWG 10);
Terminals temperature sensor max. 2.5 mm2 (AWG 13)

DANGER
SPECIAL CONDITIONS according to Type Ex certificate
The ambient temperature range, depending on the cable glands used, is specified from – 45°C or -40°C (Type R. steel 8161 /5 & steel 8161 /6) to +50°C.

MODELLS
Ex-It-R (0X80070)
Junction box incl. mounting base, for up to 3 ELSR-N/-H, 1 connection line, 1 sensor line

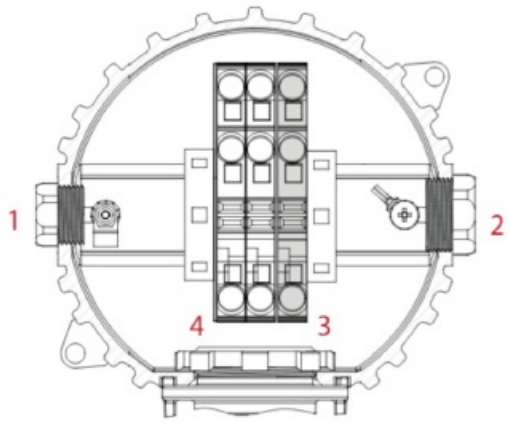


№.	Type	pcs	Clamp range
1	Blind plug M20x1,5	1	-
2	Protective conductor terminal	1	2,5 mm²
3	Double-level terminal	2	2,5 mm²
4	Cable gland M25x1,5	2	9-13/12-17 mm
5	Protective conductor terminal	2	4 mm²
6	4 conductor through terminal	2	4 mm²

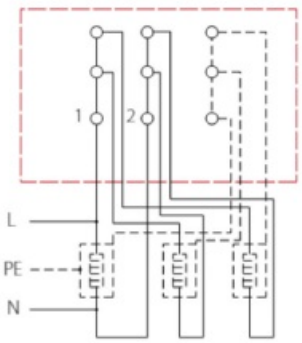


Terminal for earthing or electrical protection

Ex-It-R-T (0X80082)
Junction box incl. mounting base, for splice orT-connection, up to 3 ELSR-N/-LS/-H,/-SH/-SHH

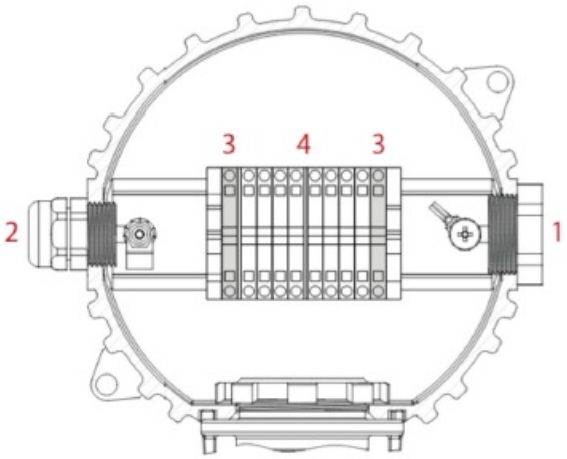


№.	Type	pcs	Clamp range
1	Blind plug M20x1,5	1	-
2	Blind plug M25x1,5	1	-
3	Protective conductor terminal	1	10 mm²
4	3 conductor through terminal	2	10 mm²



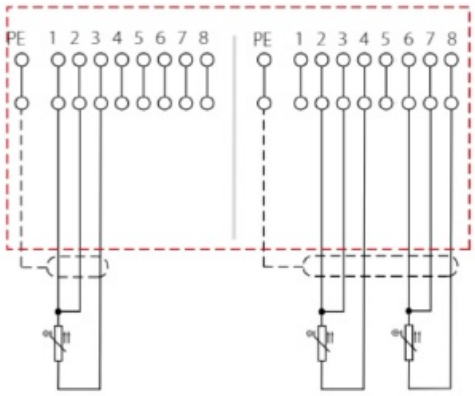
Terminal for earthing or electrical protection

Ex-It-R-EL Tf (0X80092)
Junction box incl. mounting base, 1 PTI 00 or 1 double PTI 00



Terminal for earthing or electrical protection

No.	Type	pcs	Clamp range
1	Blind plug M25x1,5	1	-
2	Cable gland M20x1,5	1	9 - 12 mm
3	Protective conductor terminal	2	2,5 mm²
4	Feed through-terminal	8	2,5 mm²



INSTALLATION

SAFETY INSTRUCTIONS

ATTENTION

- The following steps should only be carried out by persons trained in handling explosive equipment. Strict compliance with the relevant safety regulations in potentially explosive atmospheres is a requirement for the safety of persons, plants and equipment.
- The persons entrusted with the planning, installation and maintenance bear a special responsibility and must therefore be thoroughly familiar with the applicable regulations.
- These instructions are intended for this group of people and contain all the important information required for the safe handling of the ELAK-Ex-R junction boxes.
- The instructions must be kept together with the system documentation for later use and must be kept and be available during the entire service life of the product.

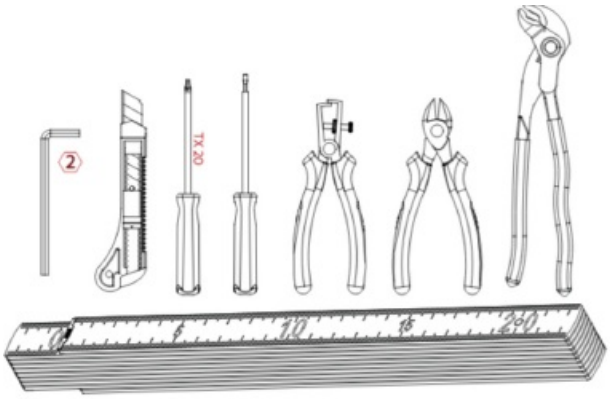
RECEIPT OF THE GOODS

On receipt of the goods, check the junction boxes and the accessories and compare the type information with the information on the delivery note to ensure that the correct material has been delivered.

STORAGE

Storage should be in a dry, clean place at an ambient temperature from 0°C to 50°C.

RECOMMENDED TOOLS



REQUIRED WRENCH SIZES

Size	Clamping range	Wrench size	Torques	
			Thread	Screw
	[mm]	[mm]	[Nm]	
M20	5,5 - 13	24	3,75	3,5 - 2,5
M25	8 - 17	29	5	5 - 3

ASSEMBLY INSTRUCTIONS

ATTENTION

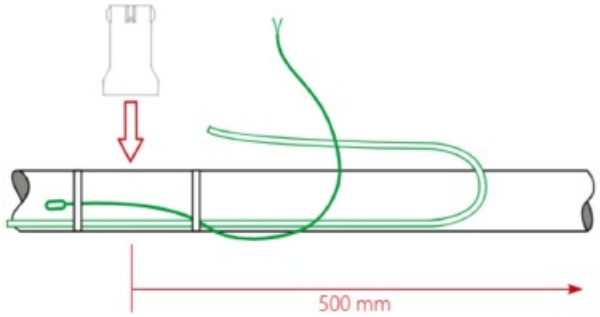
- When selecting the mounting location, take into account the degree of mechanical danger to the junction box and the cable entries as well as the permissible ambient temperature.
- Ensure that the surface on which the junction box is mounted is capable of bearing loads.
- Cables inserted into the junction box must be laid firmly and secured against being pulled out of the cable entry (e.g. by a cable clamp).
- Unused clamping points must be tightened.
- All cable entries, reducers and blind plugs may only be used in conjunction with threaded connection seals, 0-rings or moulded sealing elements and must be separately tested and approved for type of protection .e• or .t" with EPL Gb or Db.
- Seals in the cable entries must not be exchanged or nested.
- Threaded boreholes can be reduced in size. However, several reducers must not be reductions must not be nested.
- Before inserting blind plugs, reducers or conduit entries into free-threaded boreholes, make sure that the threaded borehole is clean and undamaged and that the respective threads fit together.
- After connection, all openings must be closed tightly (cover, threaded boreholes, cable entries). Use suitable open-end, ring or socket spanners to tighten the cable entries. The torques (see before) must be observed.
- ATTENTION: Excessive tightening may impair the IP protection class!
- The lid of the junction box is designed to mount an identification plate provided by the customer. Use screws 0 2.2 x 6 mm for fastening.

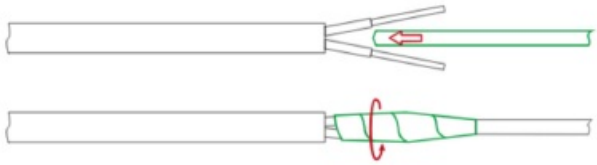
MOUNTING ON THE PIPE

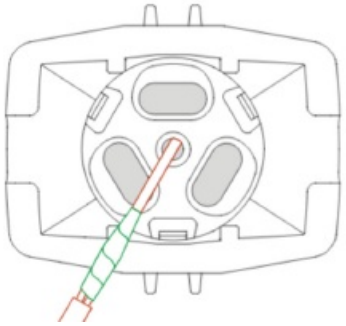
1. Do not fasten heating cable and sensor line at the planned measurement point approx. 500 mm.
2. Prepare the end of the sensor line with a strong wire and by using adhesive tape to lead a sensor line into the

mounting base.

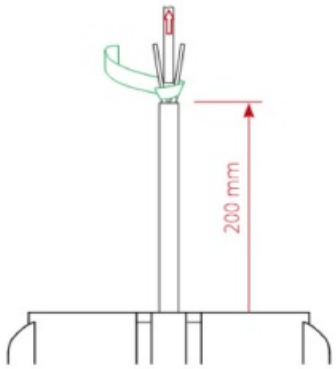
3. Lead a sensor line into the opening provided and pull it about 200 mm into the mounting base.

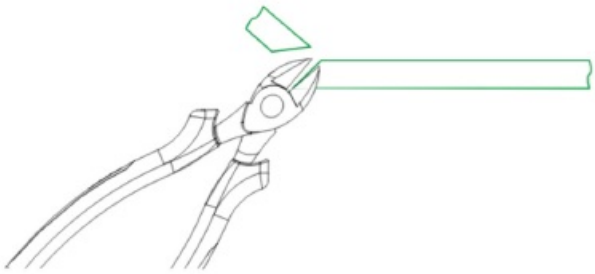




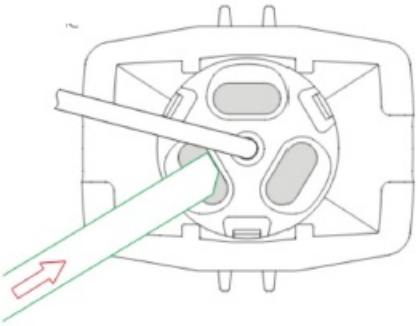


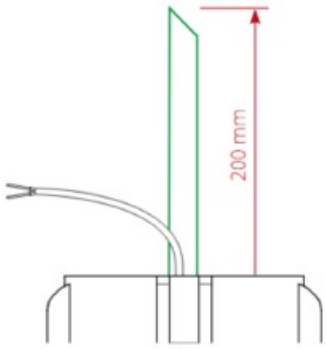
4. Remove the adhesive tape and strong wire from the sensor line.
5. Cut off the end of the heating cable at an angle of about 45°.



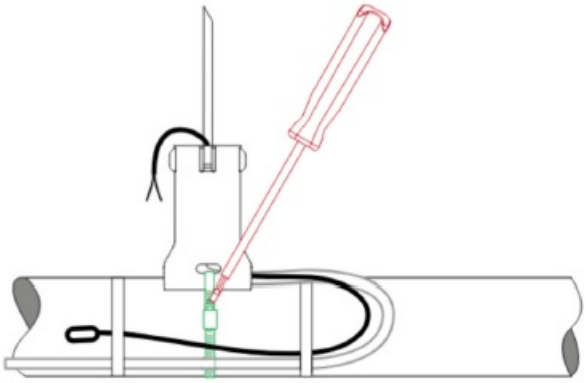


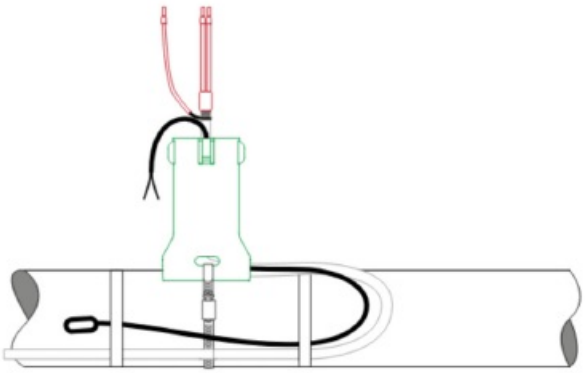
6. Guide the heating cable into the mounting stand.
7. Guide the heating cable about 200 mm through the mounting stand.



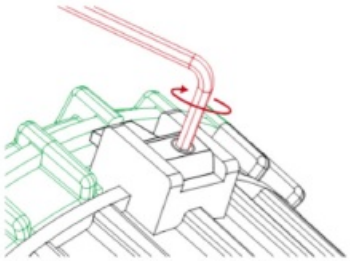


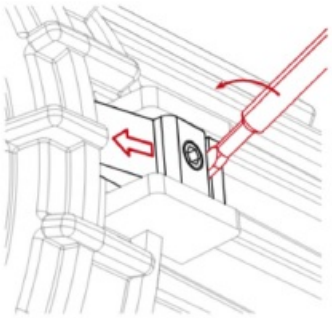
8. Fasten the mounting stand onto the pipe with a strap. Do not feed the tightening strap heating cable or sensor cable!
9. Mount the heating cable connection (not included with delivery).



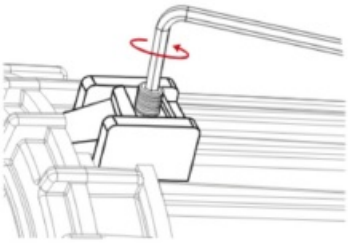


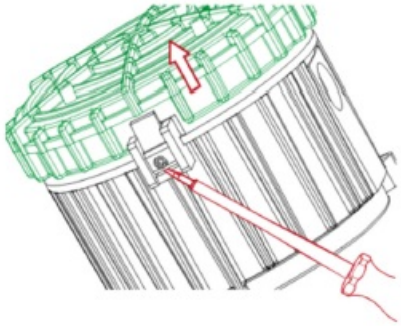
10. Tighten the headless screw with an Allen wrench (size 2) until the locking arm is flush with the side bars
11. Insert a flat-tip screwdriver between the locking arm and the rear bar and push the locking arm forward a few millimetres by turning the screwdriver.

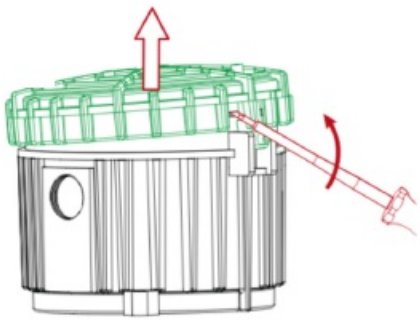




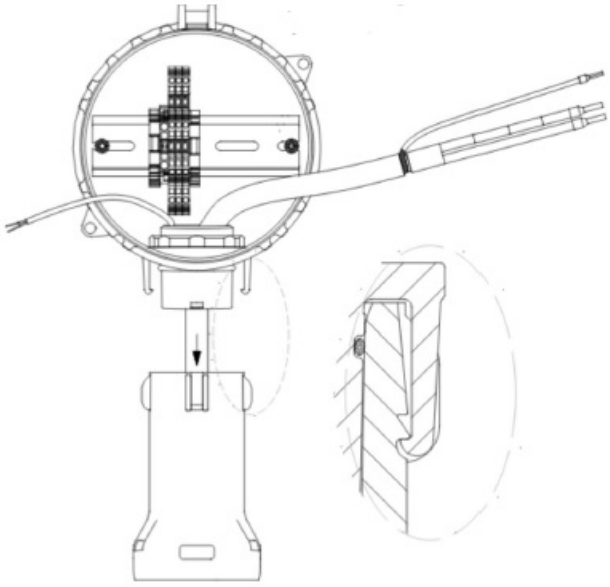
12. Turn the headless screw back with the Allen wrench (size 2) until it is _, protruding slightly out of the locking arm.
13. Lift the lid (using thescrewdriver)
14. Open the lid (using the-screwdriver)







15. Attach the housing to the Ex-it mounting stand.
    The housing must engage clearly audibly (2x click).



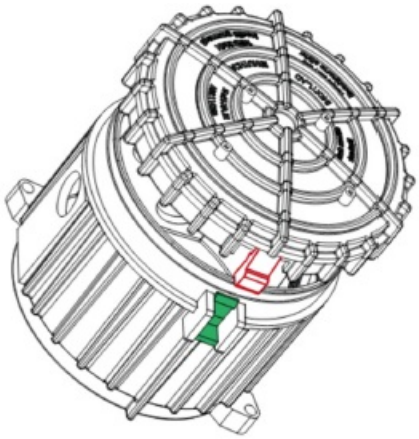
CON NEC T THE T R ACE HEATER/ PT 100

ATTENTION

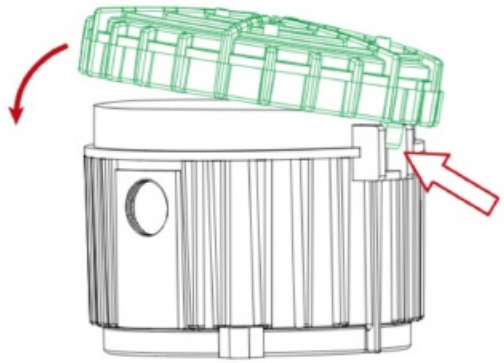
- Please observe the respective installation instructions for the heating cables/ sensors to be connected.
- Make sure that all terminals and cable glands are tightened according to the instructions.
- Before closing the terminal box, carry out the installation check of the heating cables.

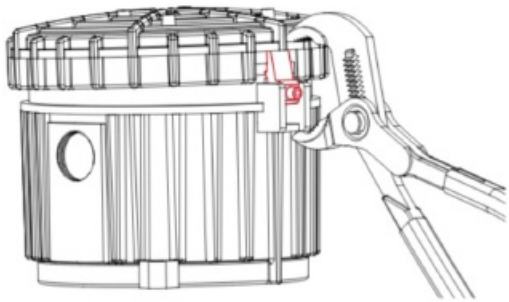
CLOSETHEENCLOSURE

16. Visual inspection of housing and cover to ensure they are not damaged. Cover can only be inserted in one position (locking arms I twist protection recesses have different width). Move the cover to the appropriate position.



17. Attach the cover with the narrower locking arm (without a headless screw), close the cover and …
18. Use the pliers to lock the cover





CHECK AFTER INSTALLATION

ATTENTION
After completing the installation, the following steps must be taken:

- Visual inspection of the junction boxes for possible mechanical damage.
- Damaged junction boxes must not be put into operation and must be replaced.
- Check the cover of the junction box and its attachments (cable entries) for tight fit.
- All threaded openings must be fitted with cable entries or blind plugs, which must be firmly tightened and tight.

OPERATION & MAINTENANCE

DANGER

- The junction boxes may only be opened (this also includes loosening cable entries!) in a de-energised state. disconnected from the power supply.
- Damaged junction boxes must not be put into operation.

ATTENTION

- When operating the junction boxes, the permissible ambient temperature must be observed.
- The locally applicable safety regulations must be observed.
- The permissible operating conditions according to .Technical data” or labelling (voltage, current, operating temperature, maximum ambient temperature, IP protection class) must be observed.
- The cable entries must not be operated in dust explosion hazardous areas with dust deposits>= 50 mm.
- It is recommended to visually check the integrity and tight fit of the cable gland and the connected cable at suitable intervals depending on the installation location and application.

- If necessary, the cable entries must be retightened, damaged junction boxes or cable entries must be replaced by qualified personnel.
- If repair work is to be carried out on heated system parts, the junction boxes must be protected against damage. After completion of the repair work, the junction box must be checked again.

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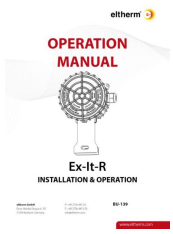
Documents / Resources

	eltherm Ex-It-R-ELTf Operation Max [pdf] Instruction Manual Ex-It-R-ELTf Operation Max, Ex-It-R-ELTf, Operation Max, Max

References

- User Manual