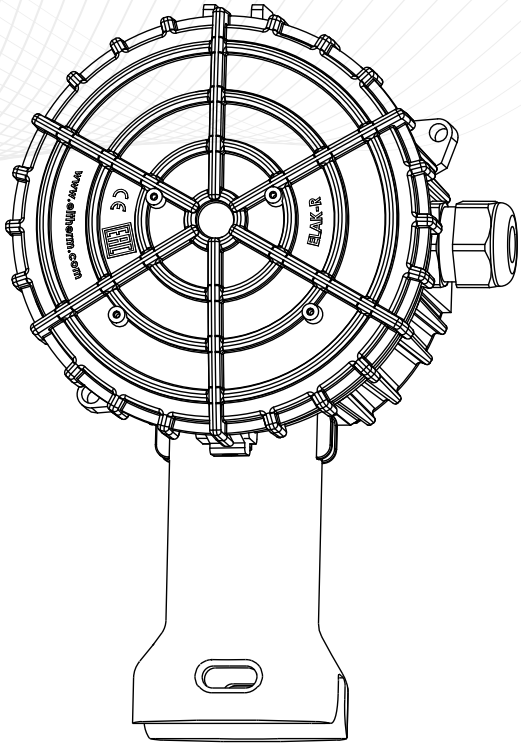
eltherm®

OPERATION MANUAL



ELAK-RS

Installation and Operation

eltherm GmbH
Ernst-Heinkel-Strasse 6-10
57299 Burbach, Germany
P.: +49 2736 4413-0
F.: +49 2736 4413-50
info@eltherm.com

QAA-113
Rev.02
0080075

CONTENT

RECEIPT OF GOODS	3
STORAGE	3
DISPOSAL	3
TECHNICAL DATA	4
TECHNICAL DATA	4
Dimensions	4
SCOPE OF DELIVERY & CONNECTION PLAN	5
ELAK-RS (0920050)	5
ELAK-RS-T (0920059)	5
INSTALLATION	6
SAFETY INSTRUCTIONS	6
ASSEMBLY INSTRUCTIONS	6
RECOMMENDED TOOLS	6
PLACEMENT OF ELAK-RS	6
OPEN THE JUNCTION BOX	7
FASTEN THE JUNCTION BOX	7
CONNECT HEATING CABLE & PT100	8
STRAIN RELIEF SENSOR CABLE	9
CLOSE THE JUNCTION BOX	10
CHECK AFTER INSTALLATION	10
OPERATION & MAINTENANCE	10
MARKING	11
NOTES	11
DOWNLOADS	11

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.

eltherm GmbH
Ernst-Heinkel-Str. 6-10
57299 Burbach
T.: +49 2736 4413-0
F.: +49 2736 4413-50
info@eltherm.com

Document: 86430509300XX		Operation Manual ELAK-RS & ELAK-RS-T	
Author:	Peter Schmidt	Date:	12.12.2015
Revision: **1**	Julian Engel	Date:	28.08.2023

For proper and safe use of the ELAK-RS junction boxes, please follow these instructions.
Please keep these instructions for future reference (e.g. in the system documentation).

Display conventions

Particularly important points in these instructions are indicated by the following symbols:

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.

ATTENTION

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

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.

NOTE

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

RECEIPT OF THE GOODS

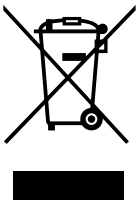
On receipt of the goods, check the junction boxes and the accessories and compare the type information with the information on the delivery note to ensure that the correct material has been delivered.

STORAGE

NOTE

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

DISPOSAL



NOTE

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.

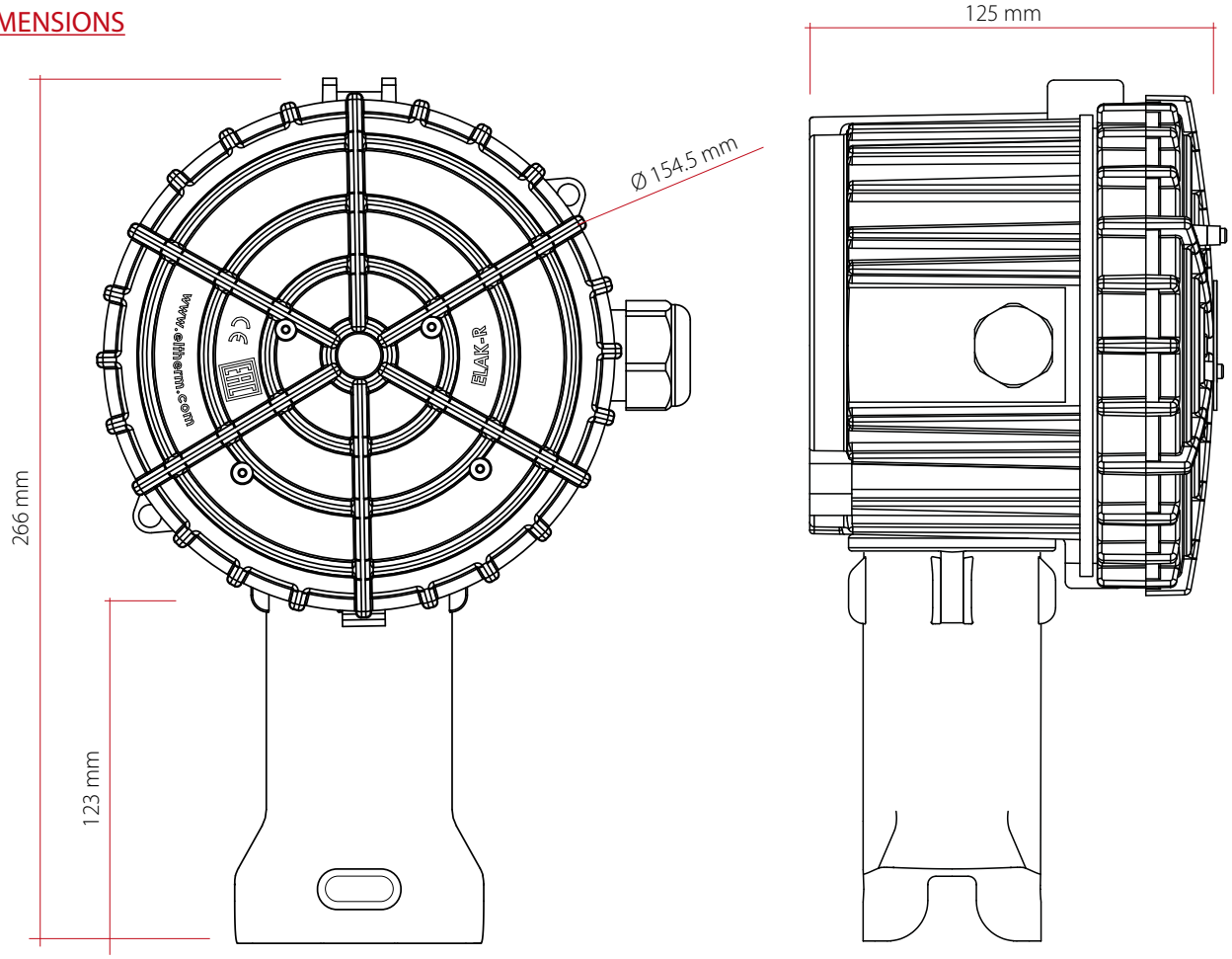
› Contact us: +49 2736 4413-0 • info@eltherm.com

TECHNICAL DATA

Junction box	ELAK-RS (0920050)	ELAK-RS-T (0920059)
Nominal voltage (max.)	800 V AC	800 V AC
Nominal current	max 32 A per terminal 6 mm²	max 32 A per terminal 6 mm²
Ambient temperature	- 45 °C to +50 °C	- 45 °C to +50 °C
Nominal cross-section*	Supply line max. 6 mm², 9 - 17 mm diameter	Supply line max. 6 mm², 9 - 17 mm diameter
Material enclosure	Polyamide, RAL 7043 traffic grey	Polyamide, RAL 7043 traffic grey
Dimensions	(approx.) Ø 154.5 mm, height 125 mm	(approx.) Ø 154.5 mm, height 125 mm
Protection level	IP 65	IP 65
Operation temperature mounting post	max. +200 °C	max. +200 °C
Material mounting post	PPS	PPS
max. insulation thickness	100 mm	100 mm
min. pipe diameter	≥ NW3/4" / AD 20 mm	≥ NW3/4" / AD 20 mm
Weight	approx. 0.7 kg	approx. 0.7 kg

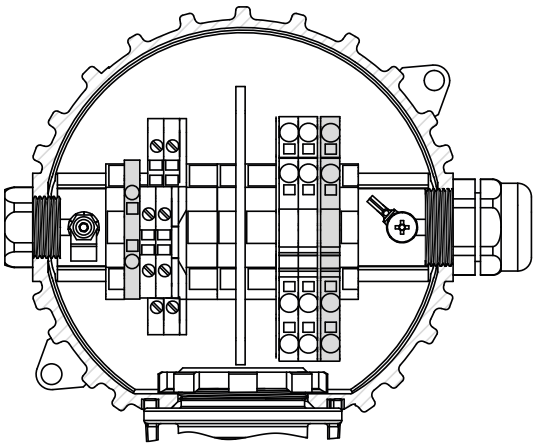
* Connection cross-section (solid or with fine wires without wire end ferrule); terminal heating cable max. 6 mm² (AWG10);
Terminal temperature sensor max. 2.5 mm² (AWG 13)

DIMENSIONS



SCOPE OF DELIVERY & CONNECTION PLAN

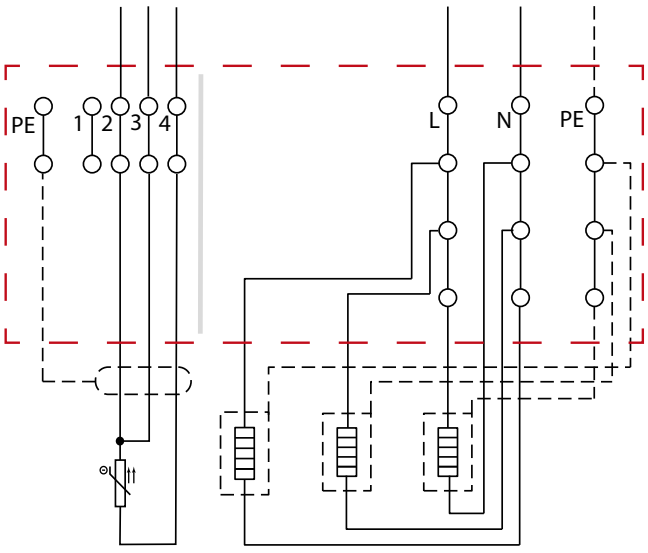
ELAK-RS



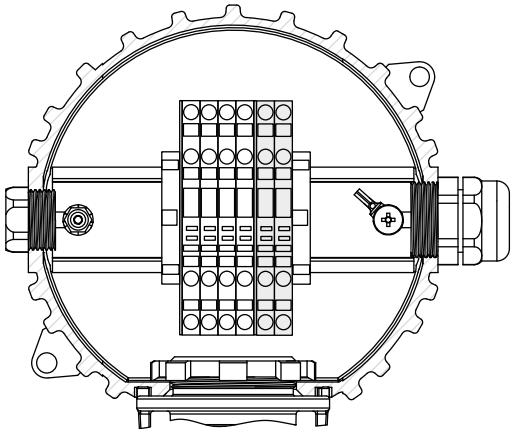
Terminal for earthing or electrical protection

Type	Qty.	Clamp range
Blind plug M20x1,5	1	-
Cable gland M20x1,5 *	1	9 - 12 mm
Blind plug M25x1,5 *	1	-
Cable gland M25x1,5	1	9-13/12-17 mm
Protective earth terminal	1	2.5 mm²
Double-deck terminal	2	2.5 mm²
4-wire Protective earth terminal	1	4 mm²
4-wire Feed-through terminal	2	4 mm²

* loosely enclosed



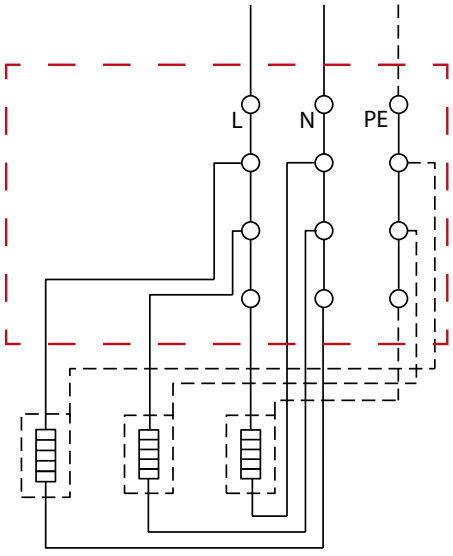
ELAK-RS-T



Terminal for earthing or electrical protection

Type	Qty.	Clamp range
Blind plug M20x1,5	1	-
Cable gland M25x1,5	1	9-13/12-17 mm
Blind plug M25x1,5 *	1	-
4-wire Protective earth terminal	2	4 mm²
4-wire Feed-through terminal	4	4 mm²

* loosely enclosed



INSTALLATION

SAFETY INSTRUCTIONS

ATTENTION

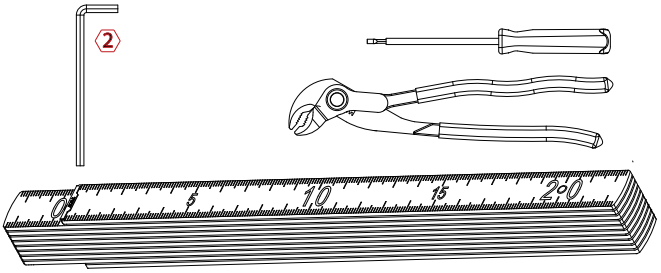
- The following steps should only be carried out by persons trained in handling electrical equipment.
- Strict compliance with the relevant standards and safety regulations is a requirement for the safety of persons, plants and equipment.
- The persons entrusted with the planning, installation and maintenance 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 (Maintenance & Inspection).

ASSEMBLY INSTRUCTIONS

ATTENTION

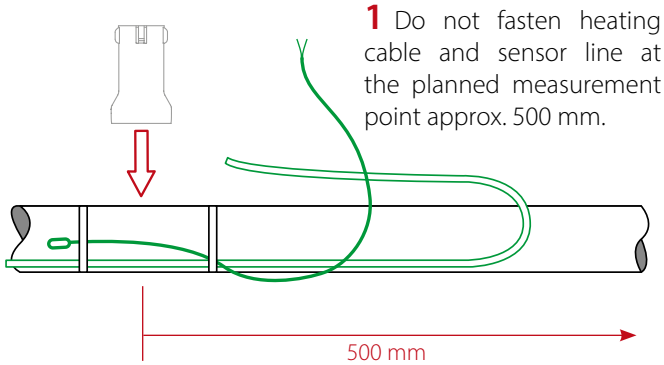
- When selecting the mounting location, take into account the degree of mechanical danger to the junction box and the cable entries as well as the permissible ambient temperature.
- Ensure that the surface on which the junction box is mounted is capable of bearing loads.
- Cables inserted into the junction 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.
- 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 lid of the junction box is designed to mount a identification plate provided by the customer. Use screws Ø 2.2 x 6 mm for fastening.

RECOMMENDED TOOLS

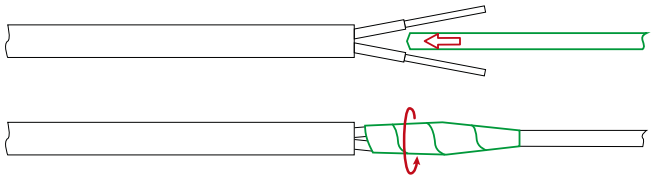


PLACEMENT OF ELAK-RS

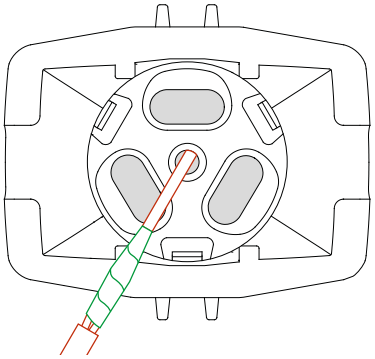
1 Do not fasten heating cable and sensor line at the planned measurement point approx. 500 mm.



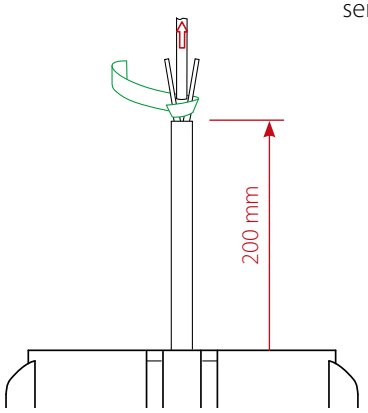
2 Prepare the end of the sensor line with a strong wire and by using adhesive tape to lead a sensor line into the mounting base.

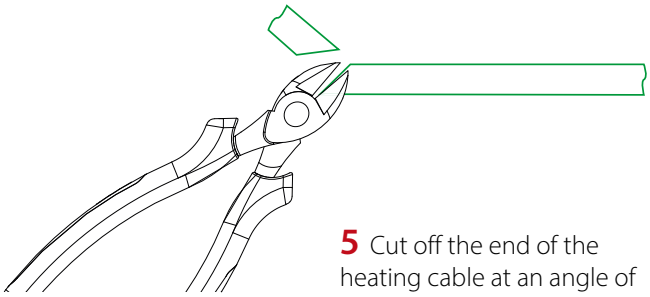


3 Lead a sensor line into the opening provided and pull it about 200 mm into the mounting base.



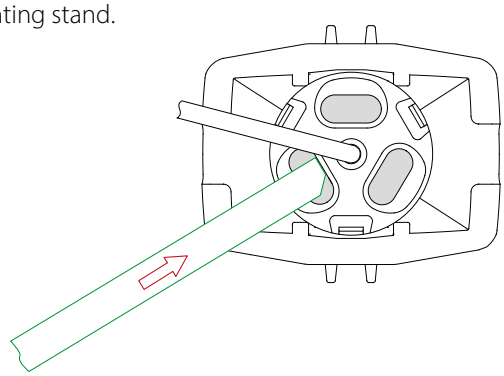
4 Remove the adhesive tape and strong wire from the sensor line.

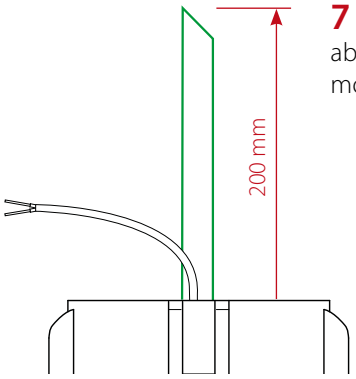




5 Cut off the end of the heating cable at an angle of about 45°.

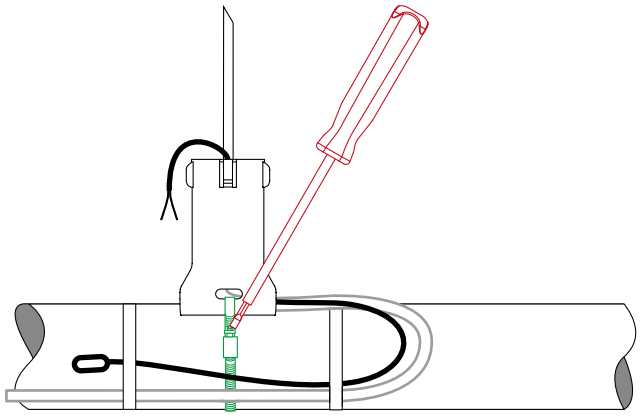
6 Guide the heating cable into the mounting stand.

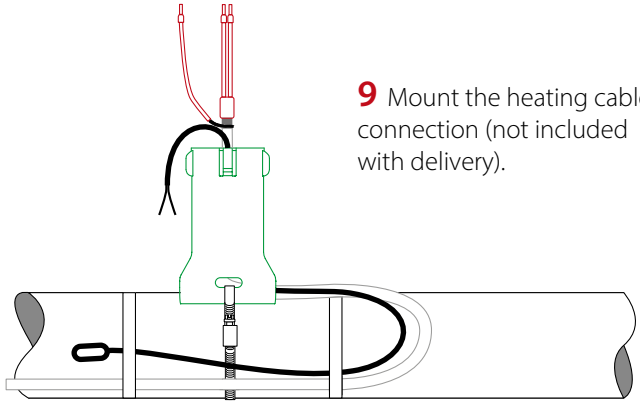




7 Guide the heating cable about 200 mm through the mounting stand.

8 Fasten the mounting stand onto the pipe with a strap. Do not feed tightening strap above heating cable or sensor cable!

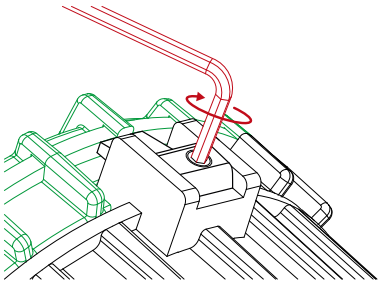


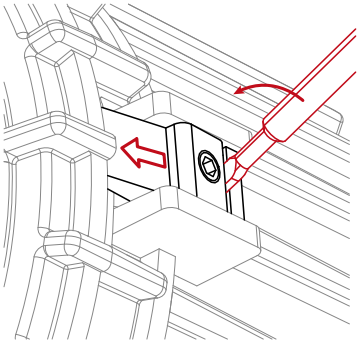


9 Mount the heating cable connection (not included with delivery).

OPEN THE JUNCTION BOX

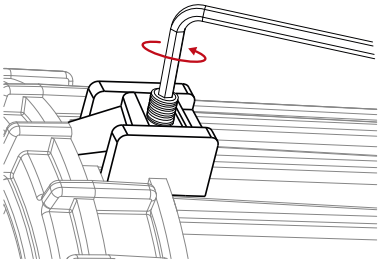
10 Tighten the headless screw with an Allen wrench (size 2) until the locking arm is flush with the side bars

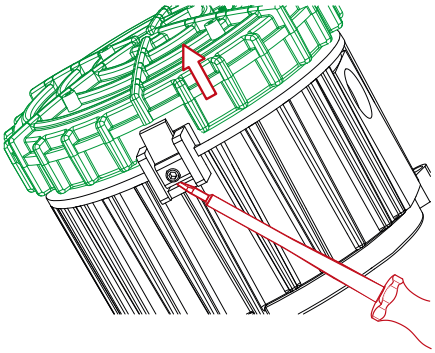




11 Insert a flat-tip screwdriver between the locking arm and the rear bar and push the locking arm forward a few millimetres by turning the screwdriver

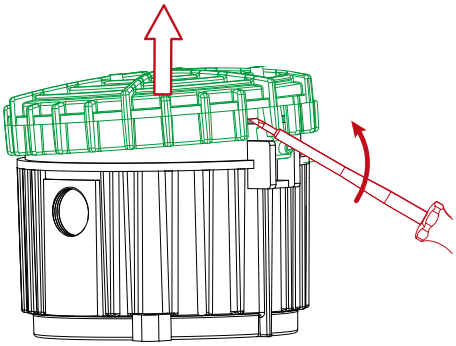
12 Turn the headless screw back with the Allen wrench (size 2) until it is protruding slightly out of the locking arm





13 Lift the lid (using the screwdriver)

14 Open the lid (using the screwdriver)



FASTEN THE JUNCTION BOX

Fasten the mounting post [ELAK-RS] to the pipe with a tension strap / turnbuckle.

Assembly accessories for pipe mounting Mat. 1.4301

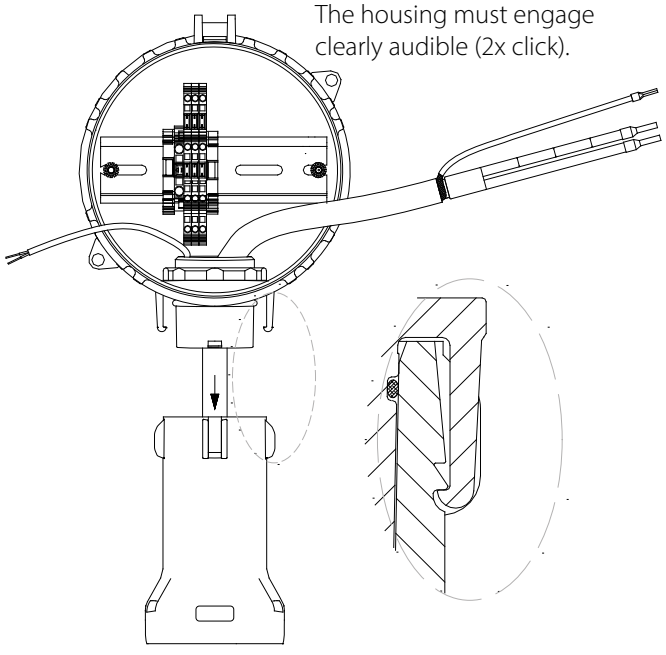
ELB-15.02	Hose clamp 16-25 mm	2723001016
ELB-15.04	Hose clamp 25-40 mm	2723001025
ELB-15.06	Hose clamp 40-60 mm	2723001040
ELB-15.09	Hose clamp 70-90 mm	2723001070
ELB-15.11	Hose clamp 90-110mm	2723001090
ELB-13V1	Strapping tape, 11 mm, 30 m	2723001010
ELB-13V2	Turnbuckle (VE = 10 Stk)	0930042

CONNECT HEATING CABLE & PT 100

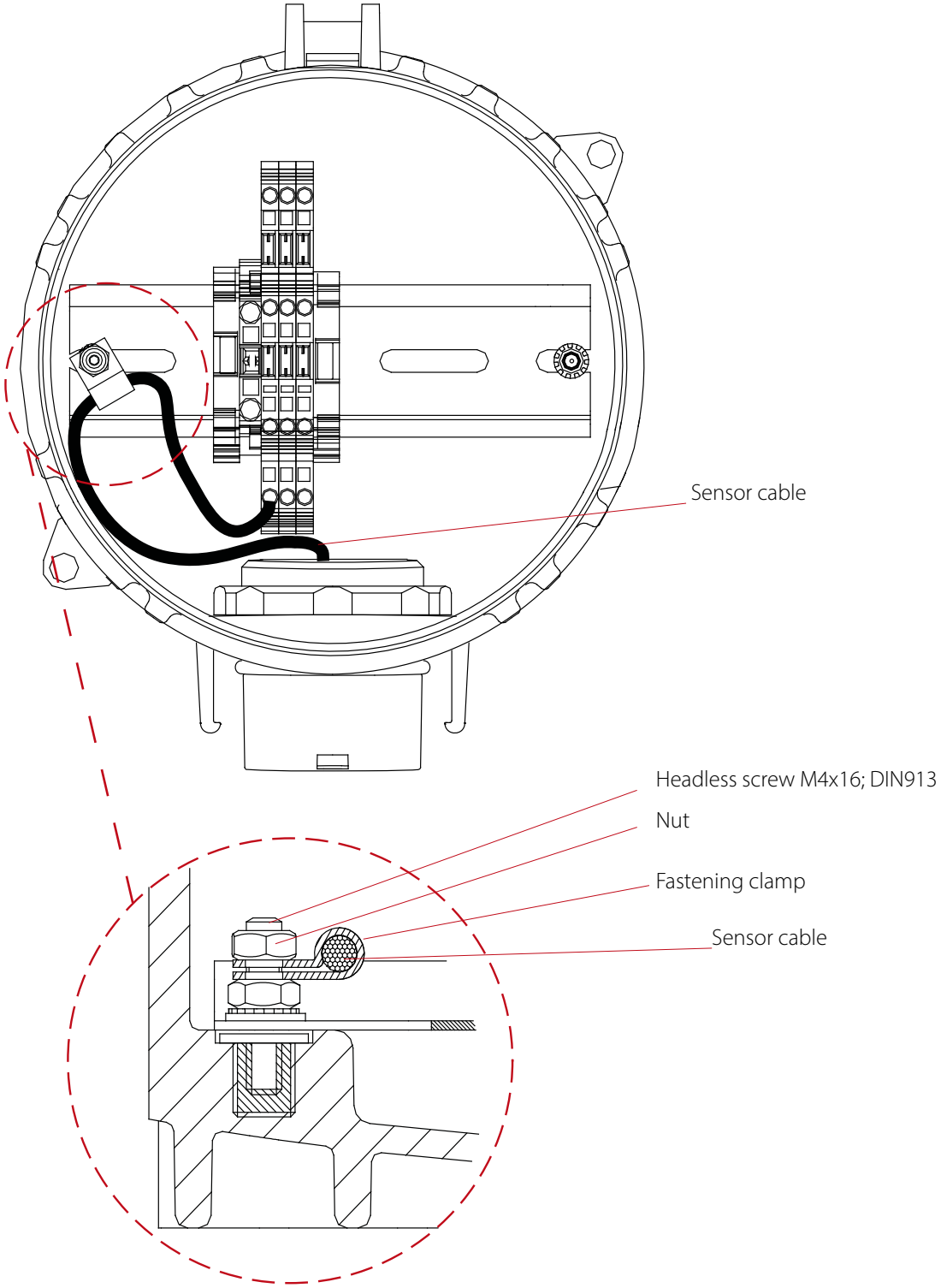
ATTENTION

- Please observe the respective installation instructions for the sensors or the heating cables to be connected.
- Make sure that all terminals and cable glands are tightened according to the instructions.

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

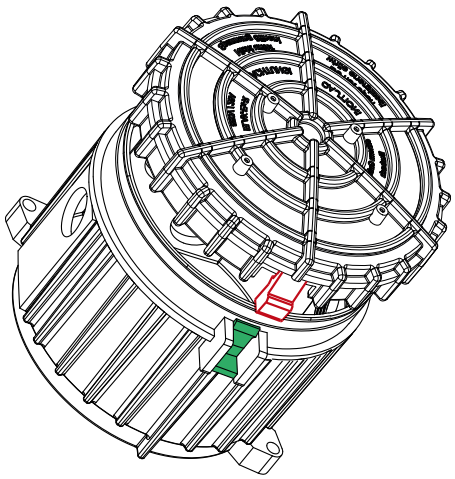


STRAIN RELIEF FOR SENSOR CABLE

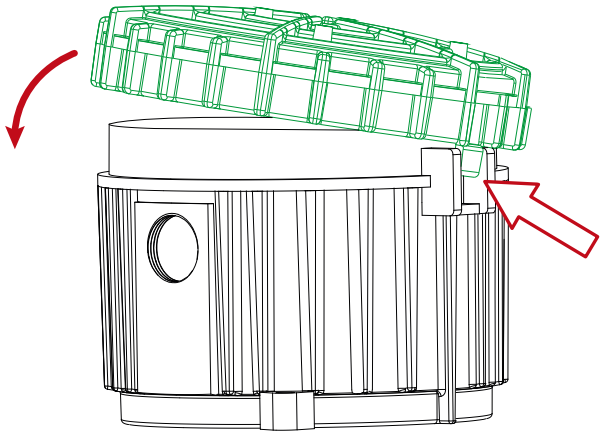


CLOSE THE JUNCTION BOX

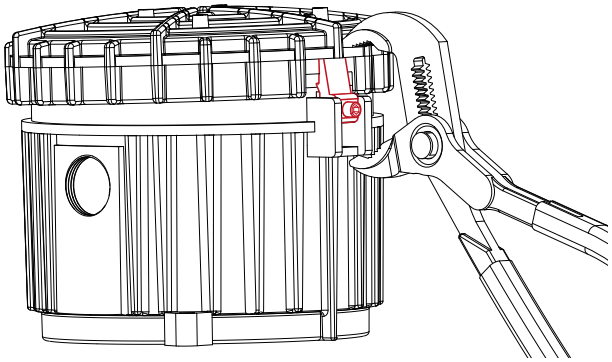
1 Visual inspection of housing and cover to ensure they are not damaged. Cover can only be inserted in one position (lokking arms / twist protection recesses have different width). Move the cover to the appropriate position.



2 Fasten the cover with the narrower locking arm (without a headless screw), close the cover and…



3 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 plenum 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

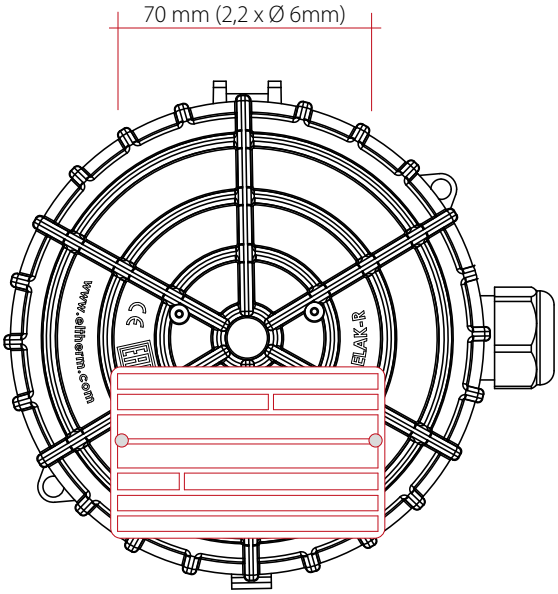
When operating the junction boxes, the permissible ambient temperature must be observed.

- 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.
- 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 plenum box must be checked again.

MARKING (made by customer)

NOTE

Customer-side labeling with an identification plate is possible.



NOTES

LETÖLTÉSEK

You can also find this document on the eltherm website.
Please visit our download area.

eltherm®

eltherm GmbH
Headquarters
Ernst-Heinkel-Straße 6-10
57299 Burbach. Germany

T.: +49 2736 4413-0
F.: +49 2736 4413-50
info@eltherm.com

8643050930OXX Operation Manual ELAK-RS & ELAK-RS-T QAA-113 EN - subject to technical changes without notice.