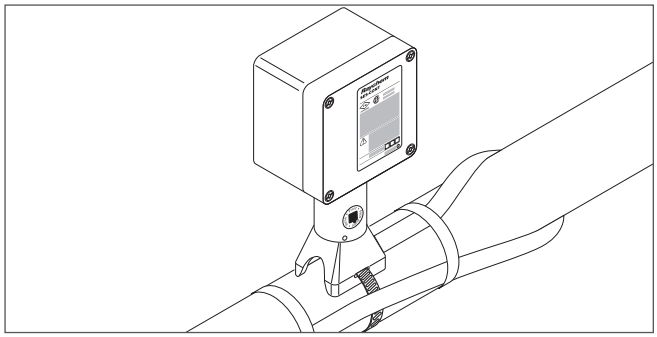
nVent

RAYCHEM

SES-CONT

Smart End Seal Continuity Monitoring Transmitter Installation Instructions



SES-CONT-1 for 120 V
SES-CONT-2 for 208-277 V

DESCRIPTION

The nVent RAYCHEM SES-CONT is a NEMA 4X rated continuity indicating end seal kit. It is designed for use with RAYCHEM BTV-CR, BTV-CT, QTVR-CT, XTV-CT, KTV-CT and VPL-CT parallel heating cables.
These kits may be installed at temperatures as low as −40°F (−40°C). For easier installation store above freezing until just before installation.
For technical support call nVent at (800) 545-6258.

TOOLS REQUIRED

- Wire cutters
- Utility knife
- Needle nose pliers
- Marker
- Pliers or adjustable wrench
- Amp 55929-1 crimp tool or equivalent
- Large slotted screwdriver
- Wire stripper (for VPL-CT)

ADDITIONAL MATERIALS REQUIRED

- Pipe strap
- GT-66 or GS-54 glass cloth tape
- Small pipe adapter for 25 mm (1 in) and smaller pipes: cat no. JBS-SPA

APPROVALS

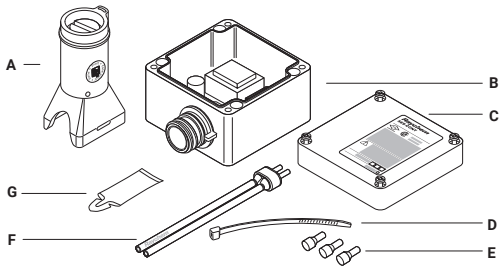
Hazardous Locations

-WS

Class I, Div. 2, Groups A, B, C, D
Class II, Div. 1 and 2, Groups E, F, G
Class III

KIT CONTENTS

Item	Qty	Description
A	1	Stand
B	1	Box with electronics
C	1	Lid
D	1	Cable tie
E	3	Crimps (one spare)
F	1	Core sealer
G	1	Cable lubricant



⚠ WARNING:

This component is an electrical device that must be installed correctly to ensure proper operation and to prevent shock or fire. Read these important warnings and carefully follow all of the installation instructions.

- To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of nVent, agency certifications, and the National Electrical Code, ground-fault equipment protection must be used. Arcing may not be stopped by conventional circuit breakers.
- Component approvals and performance are based on the use of nVent specified parts only. Do not use substitute parts or vinyl electrical tape.
- The black heating cable core and fibers are conductive and can short. They must be properly insulated and kept dry.
- Damaged bus wires can overheat or short. Do not break bus wire strands when scoring the jacket or core.
- Keep components and heating cable ends dry before and during installation.
- Use only fire resistant insulation materials, such as fiberglass wrap or flame-retardant foam.

⚠ CAUTION:

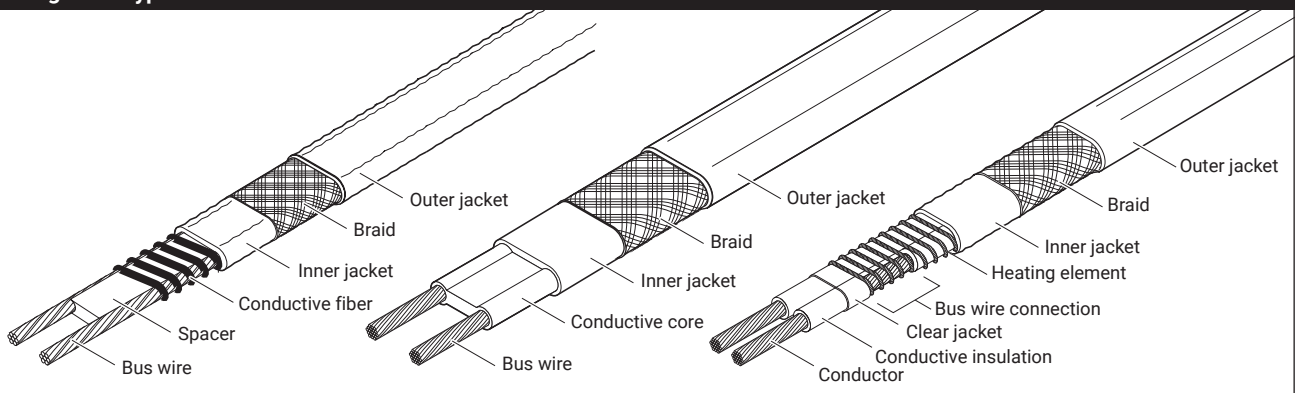
HEALTH HAZARD: Prolonged or repeated contact with the sealant in the core sealer may cause skin irritation. Wash hands thoroughly. Overheating or burning the sealant will produce fumes that may cause polymer fume fever. Avoid contamination of cigarettes or tobacco. Consult MSDS VEN 0058 for further information.

HEALTH HAZARD: Gel in the splices may cause eye and skin irritation. Wash exposed areas thoroughly with soap and water. Consult MSDS VEN 0046 for further information.

CHEMTREC 24-hour emergency telephone: (800) 424-9300

Non-emergency health and safety information: (800) 545-6258.

Heating cable types



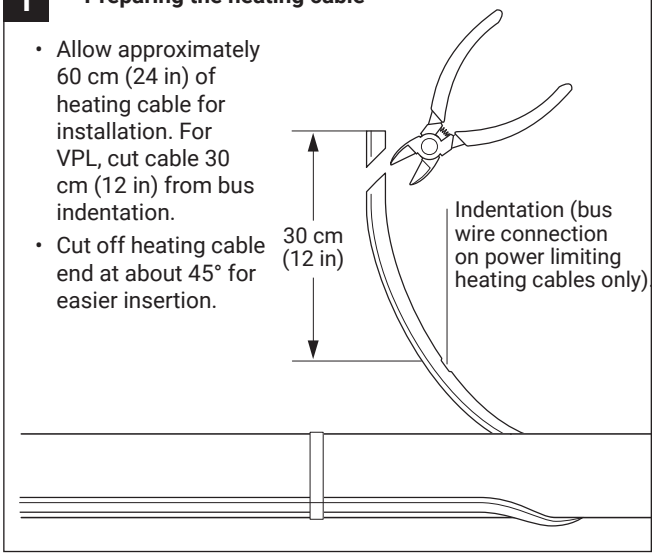
Conductive fiber self-regulating

Conductive core self-regulating

Power limiting

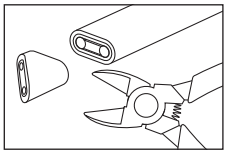
1 Preparing the heating cable

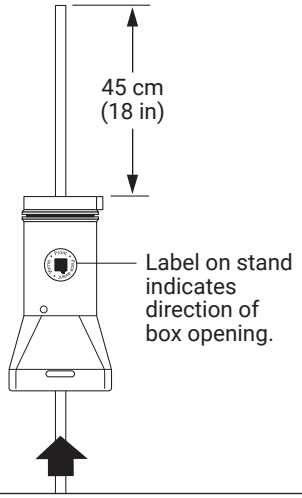
- Allow approximately 60 cm (24 in) of heating cable for installation. For VPL, cut cable 30 cm (12 in) from bus indentation.
- Cut off heating cable end at about 45° for easier insertion.



2

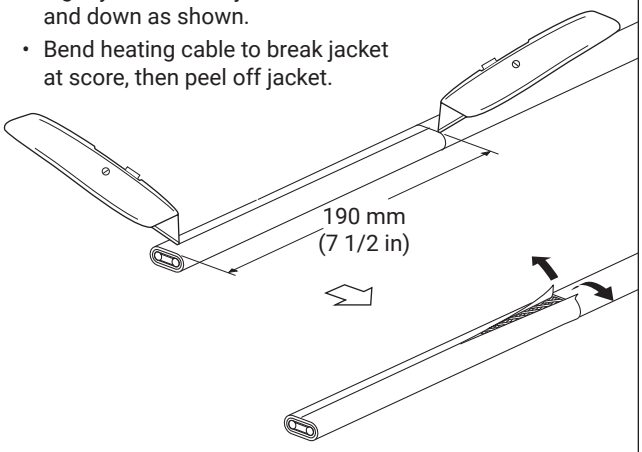
- With label on stand facing desired direction of box opening, push 45 cm (18 in) of heating cable through stand. Use cable lubricant if needed.
- Square off cable end with 90° cut.
- **Do not attach stand to pipe until step 12.**





3

- Lightly score outer jacket around and down as shown.
- Bend heating cable to break jacket at score, then peel off jacket.



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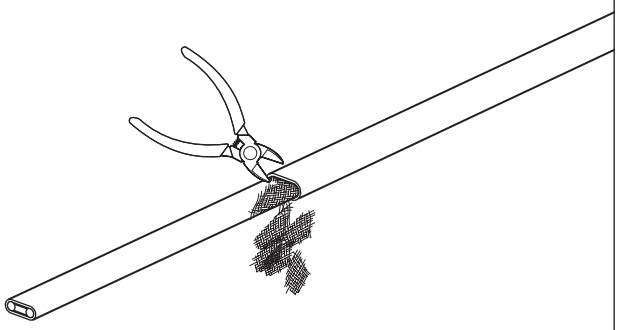
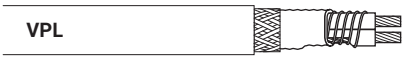
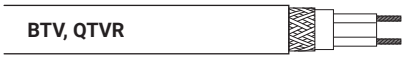
- Remove all exposed braid.

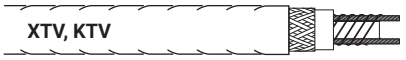




Go to Step 5A



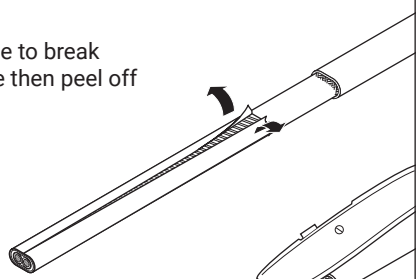
Go to Page 4 Step 5B



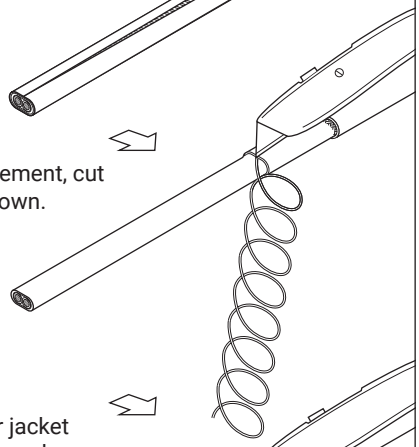
Go to Page 4 Step 5C

5A

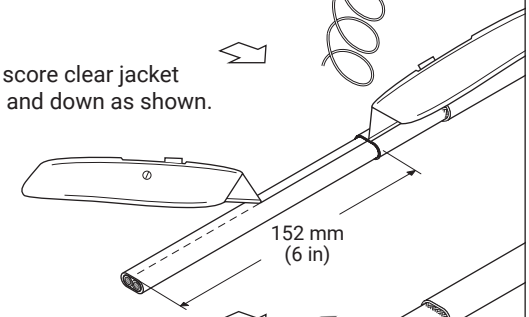
- Bend heating cable to break jacket at the score then peel off jacket.



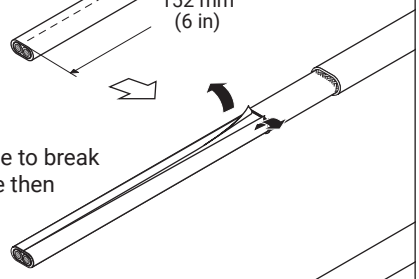
- Unwind heating element, cut and remove as shown.



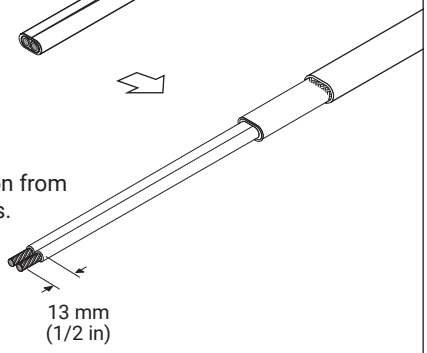
- Lightly score clear jacket around and down as shown.



- Bend heating cable to break jacket at the score then peel off jacket.



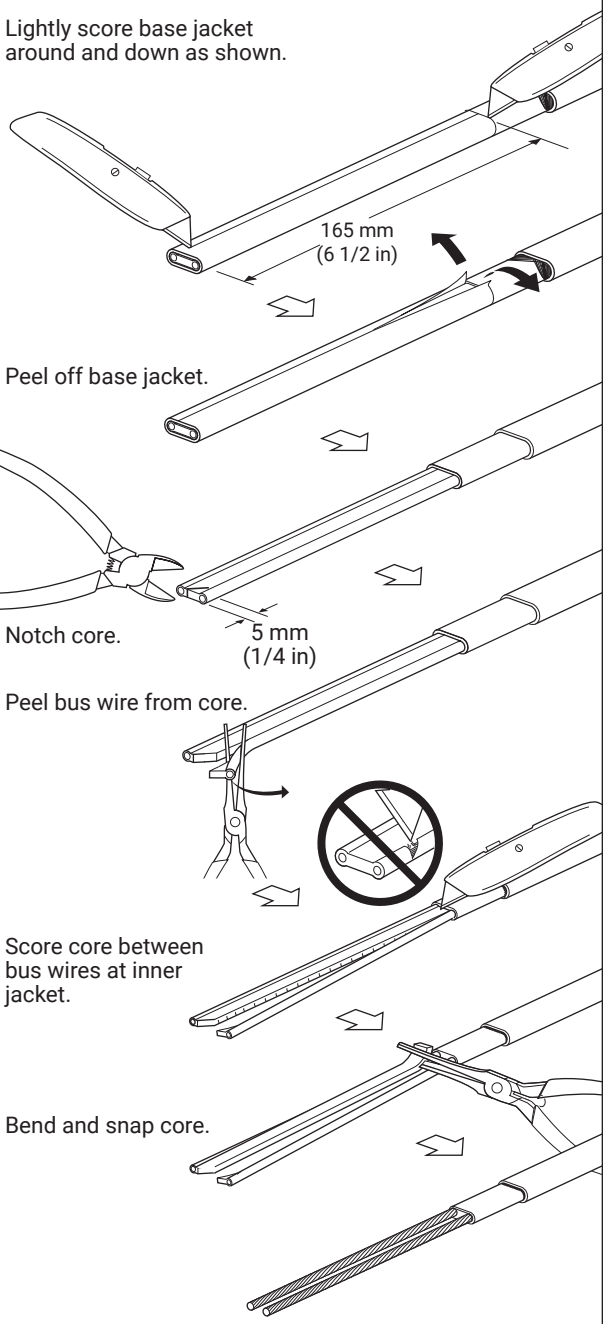
- Remove insulation from ends of bus wires.



Go to Page 5 Step 6

5B

BTV, QTVR

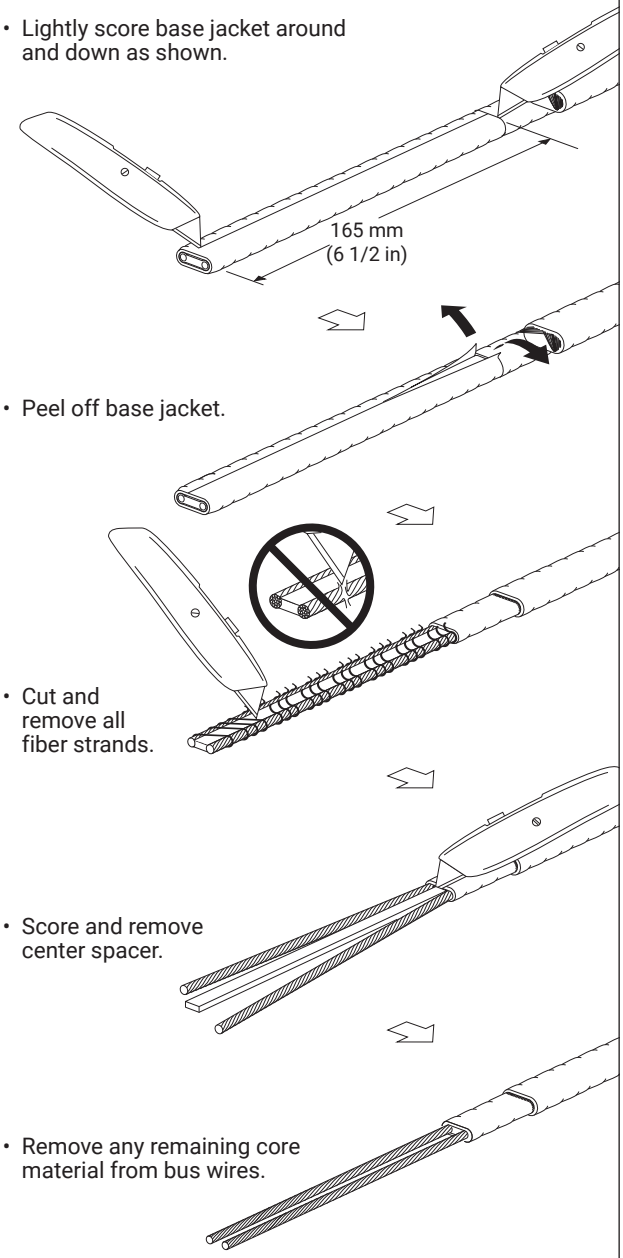


- Lightly score base jacket around and down as shown.
- Peel off base jacket.
- Notch core.
- Peel bus wire from core.
- Score core between bus wires at inner jacket.
- Bend and snap core.
- Peel core from bus wire.
- Remove any remaining core material from bus wires.

Go to Page 5 Step 6

5C

XTV, KTV

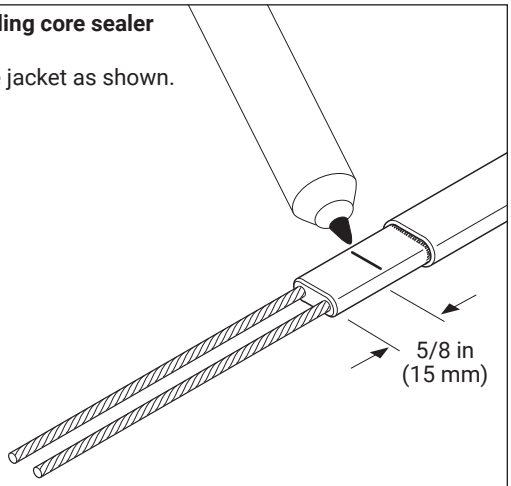


- Lightly score base jacket around and down as shown.
- Peel off base jacket.
- Cut and remove all fiber strands.
- Score and remove center spacer.
- Remove any remaining core material from bus wires.

Go to Page 5 Step 6

6 Installing core sealer

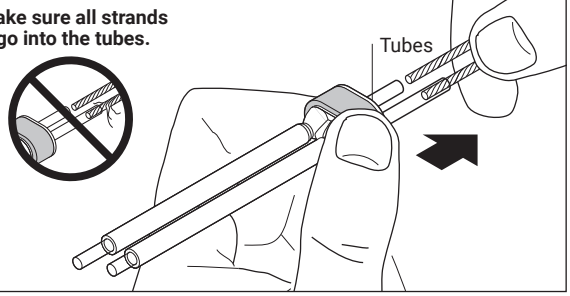
- Mark the jacket as shown.



7

⚠ **CAUTION: Health Hazard. Wash hands after contact with sealant. Consult material safety data sheet VEN 0058.**

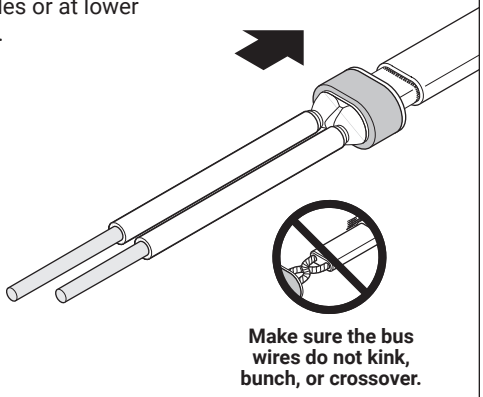
- If needed, re-twist and straighten bus wires, then insert into the guide tubes as shown.



8

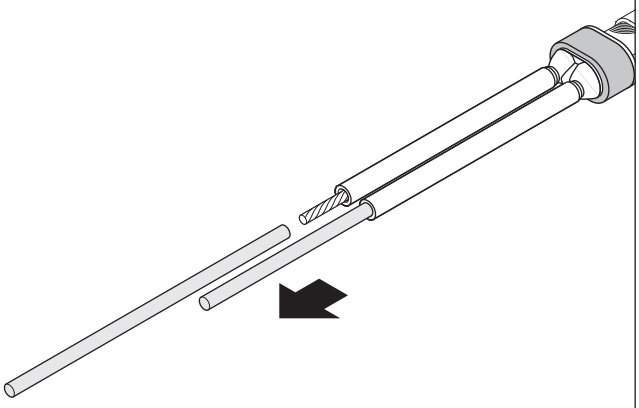
- Push core sealer onto the heating cable to the mark made in step 6.

Note: Extra force may be required for larger cables or at lower temperatures.



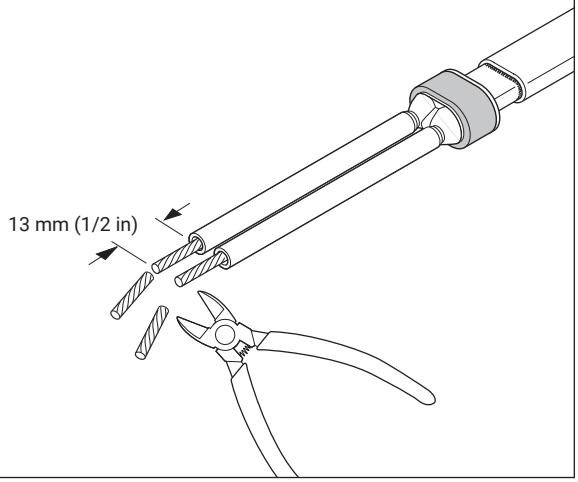
9

- Remove the guide tubes and dispose of them in a plastic bag.

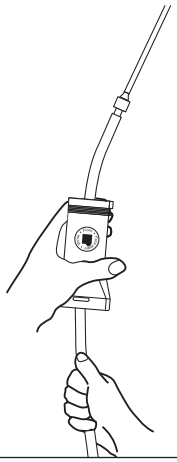


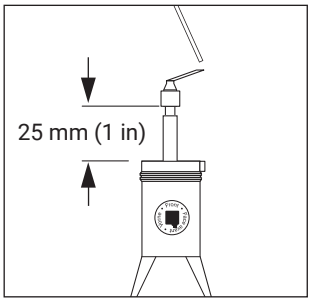
6

- Trim bus wires.



11

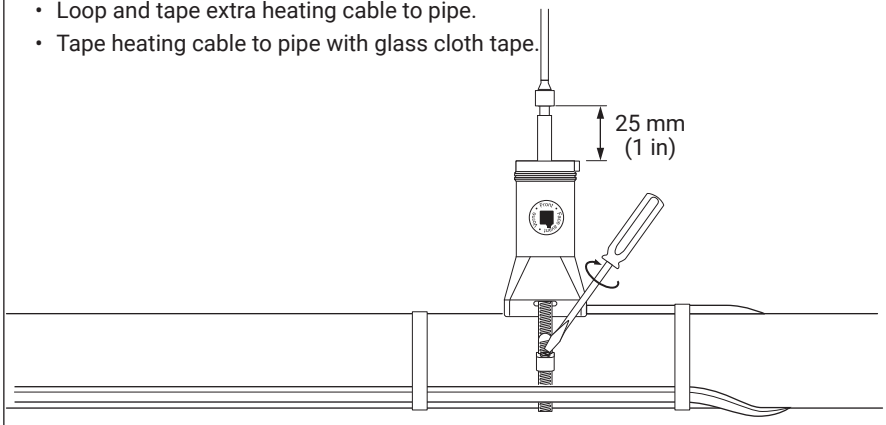


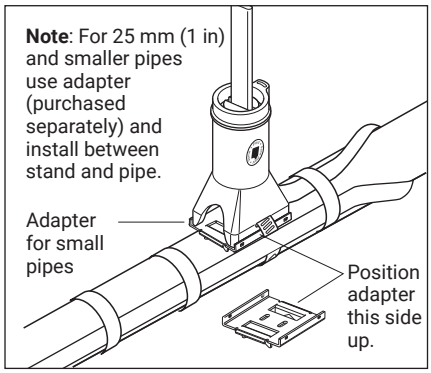


- Pull heating cable back into stand so 25 mm (1 in) is exposed as shown. Use cable lubricant if needed.

12 Fastening stand to pipe

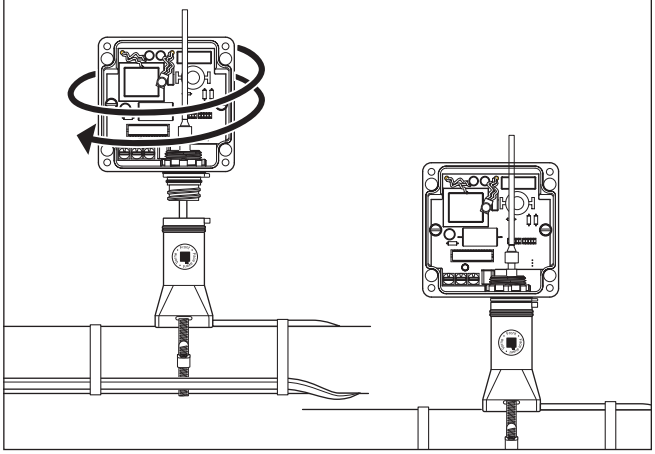
- Fasten stand to pipe with label facing desired direction of box opening. Do not pinch heating cable.
- Loop and tape extra heating cable to pipe.
- Tape heating cable to pipe with glass cloth tape.





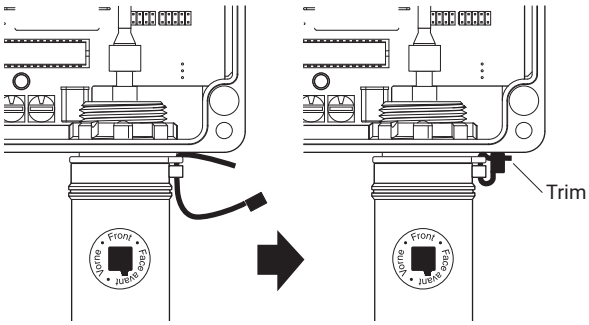
13 Installing the enclosure

- Screw box onto stand until it stops. Do not overtighten.



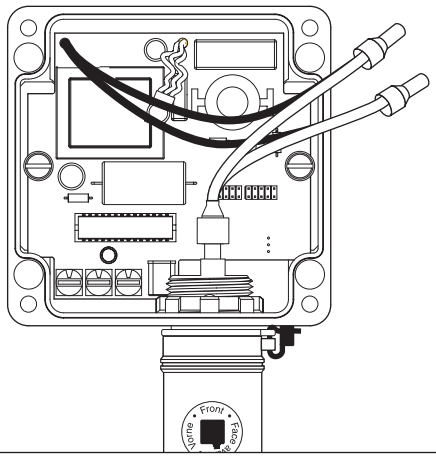
14

- Insert cable tie through slots on stand and box, and tighten firmly to prevent box rotation.



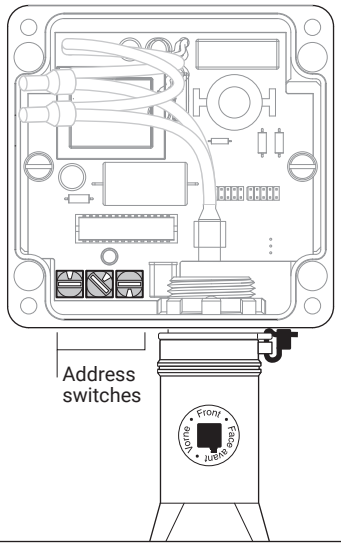
15 Connecting power leads

- Twist power leads and bus wires together before crimping. This connection must be protected by a ground-fault equipment protection device.
- Your electronics board is equipped with a red splice connector. Do not remove it.



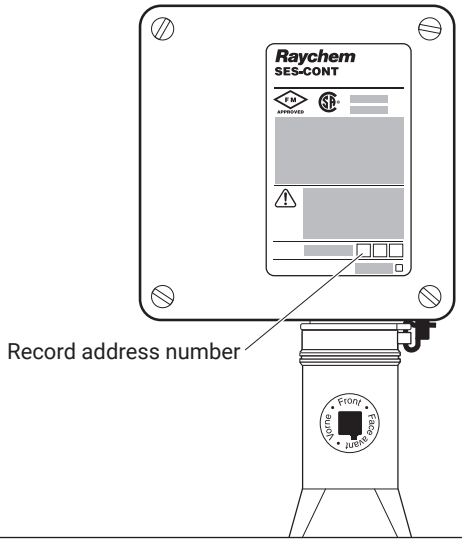
16 Setting the address

- Set address switch to a value between 001 and 127.
- Ensure that no SES units have the same address number as any other SES or SPC unit on the same PLI.
- Record address number and physical location to facilitate set-up with the controller.



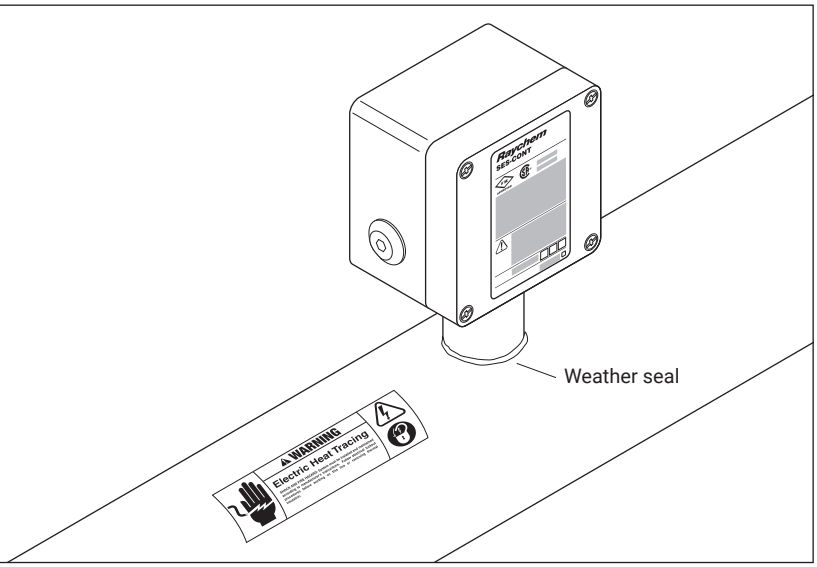
17

- Stow wires in enclosure, making sure they do not get caught between the lid and the box. Install lid and tighten screws.
- Record address number on lid in area shown.



18

- Apply insulation and cladding.
- Weather-seal the stand entry.
- Leave these instructions with the end user for future reference.



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