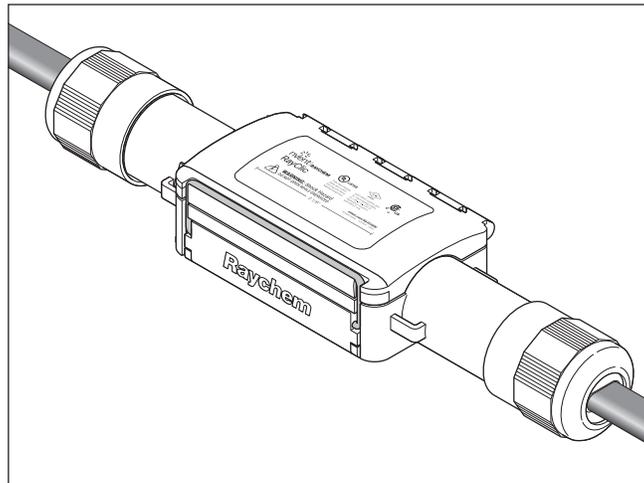
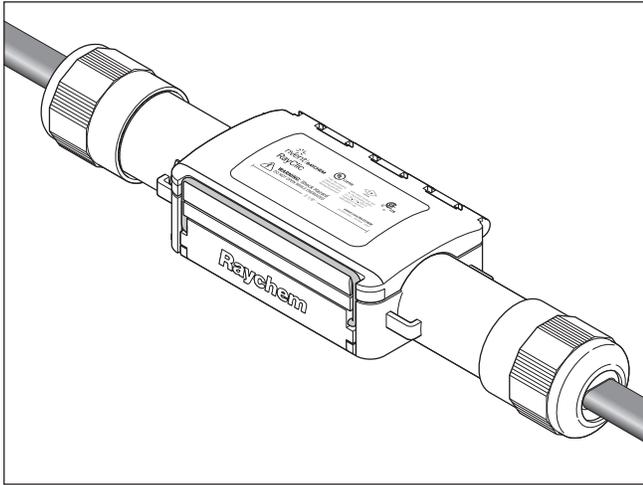


**RAYCHEM**

# RayClic Connection System

Installation Instructions





## DESCRIPTION

### nVent RAYCHEM RayClic-S Splice Kit nVent RAYCHEM RayClic-T Tee and End Seal Kit nVent RAYCHEM RayClic-X Cross and End Seal Kit

These kits are for use with nVent RAYCHEM IceStop, XL-Trace Edge and HWAT heating cables. The connection is designed to be strapped to the pipe, or wall mounted. These installation instructions should be used in conjunction with the IceStop, XL-Trace Edge, and HWAT System Installation and Operation Manuals. For technical support, contact your nVent representative or call nVent (800) 545.6258.

## TOOLS REQUIRED

- TORX T20 screw driver
- Utility knife
- Wire cutters

## OPTIONAL ACCESSORIES (NOT INCLUDED IN THIS KIT)

- nVent RAYCHEM RayClic-SB-02 Wall mounting bracket
- nVent RAYCHEM RayClic-SB-04 Pipe mounting bracket

## APPROVALS



Pipe Heating System 718K, ALSO LISTED De-icing and Snow Melting Equipment 877Z, AND De-icing and Snow Melting Equipment FOR USE IN HAZARDOUS LOCATION E538285  
Hazardous Location Class I Div. 2 Group A, B, C, D T6 when installed with GM-1XT and GM-2XT only  
-40°C ≤ Tambient ≤ +40°C

### **⚠ 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 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 national electrical codes, ground fault equipment protection must be used. Arcing may not be stopped by conventional circuit breakers.
- Bus wires will short if they contact each other. Keep bus wires separated.
- Keep components and heating cable ends dry before and during installation.
- The black heating cable core is conductive and can short. It must be properly insulated and kept dry.
- Component approvals and performance are based on the use of nVent-specified parts only. Do not use substitute parts or vinyl electrical tape.
- Leave these instructions with end user for reference and future use.

### **⚠ AVERTISSEMENT :**

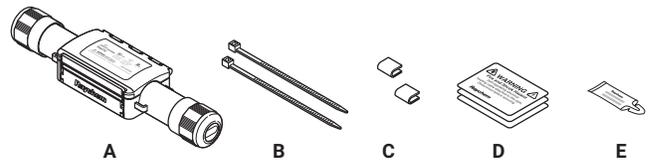
Le câble chauffant électrique doit être installé correctement pour éviter les risques d'incendie ou de décharge électrique. Lisez attentivement les mises en garde suivantes et suivez les instructions d'installation.

- Pour réduire le danger d'incendie causé par un arc électrique continu, si le câble chauffant est endommagé ou mal installé, et pour être conforme avec nVent, les organismes de certification et les codes applicables, il est impératif d'utiliser une protection par disjoncteur différentiel. Un disjoncteur ordinaire peut ne pas être assez sensible pour prévenir les arcs continus.
- Les fils omnibus peuvent être court-circuités s'ils se touchent. Tenez les fils omnibus éloignés les uns des autres
- Les composants et les terminaisons du câble chauffant doivent être tenus au sec avant et pendant l'installation.
- Le noyau du câble chauffant noir est conducteur et peut occasionner des courts-circuits. Il doit être correctement isolé et gardé à sec.
- Les homologations et les performances des composants sont basées sur l'utilisation de pièces spécifiées par nVent seulement. N'utilisez pas de pièces de rechange ou de ruban isolant en vinyle.
- Laissez ces instructions d'installation à l'utilisateur pour référence ultérieure.

## KIT CONTENTS

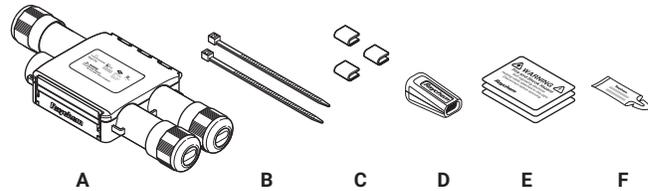
### RayClic-S Splice Kit

| Item | Qty | Description                                     |
|------|-----|---|
| A    | 1   | Splice  |
| B    | 2   | Plastic cable ties                              |
| C    | 2   | Clips   |
| D    | 3   | Labels (1 splice, 2 warning)                    |
| E    | 1   | Cable lubricant (for use with HWAT cables only) |



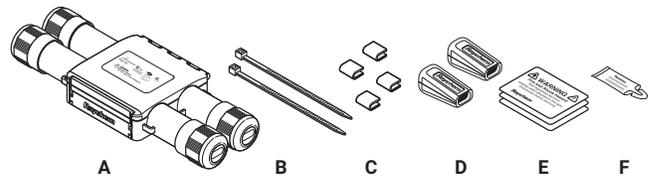
### RayClic-T Tee Kit

| Item | Qty | Description                                     |
|------|-----|---|
| A    | 1   | Tee   |
| B    | 2   | Plastic cable ties                              |
| C    | 3   | Clips   |
| D    | 1   | End seal  |
| E    | 3   | Labels (1 splice, 2 warning)                    |
| F    | 1   | Cable lubricant (for use with HWAT cables only) |

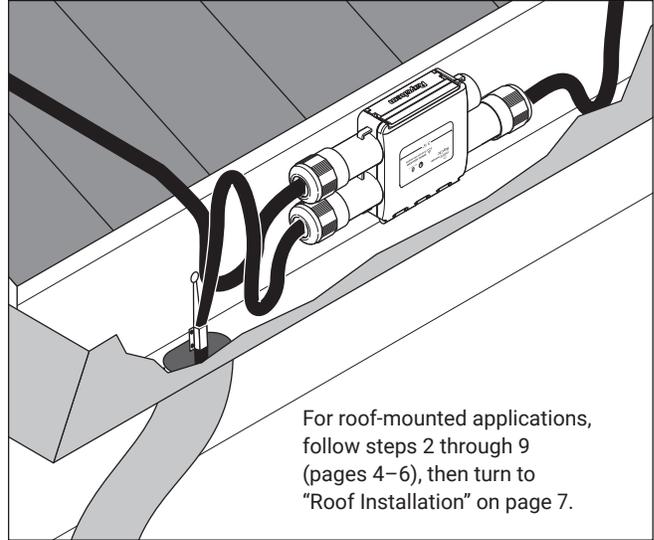
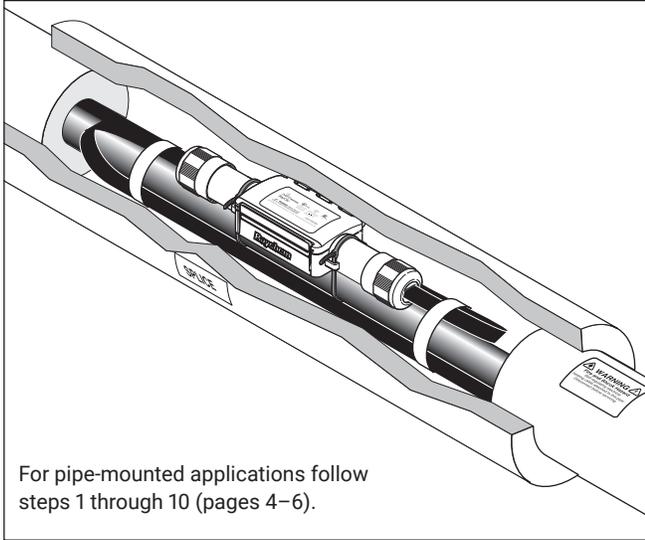


### RayClic-X Cross Kit

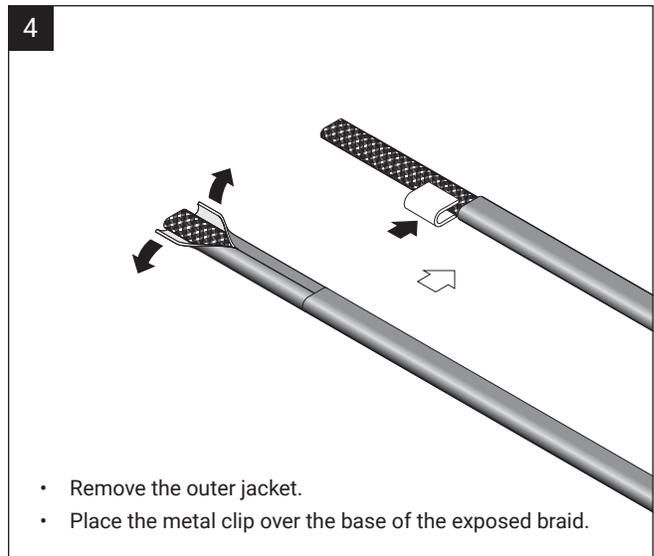
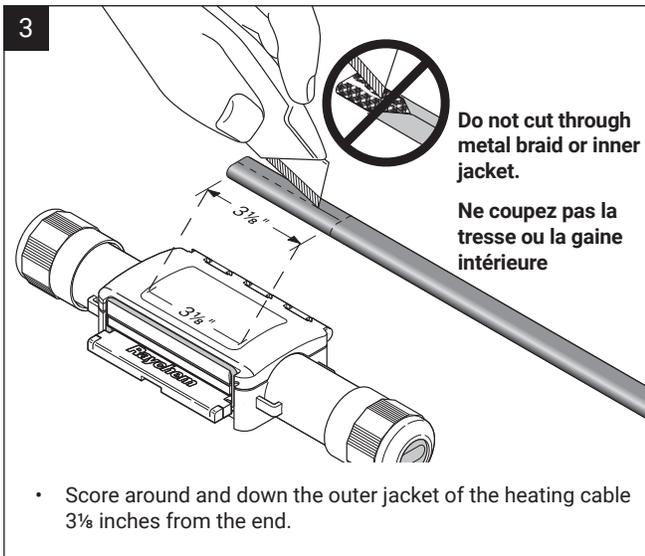
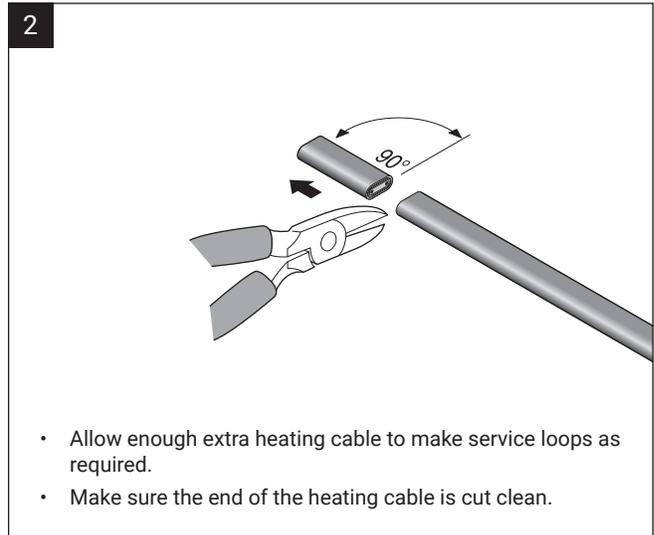
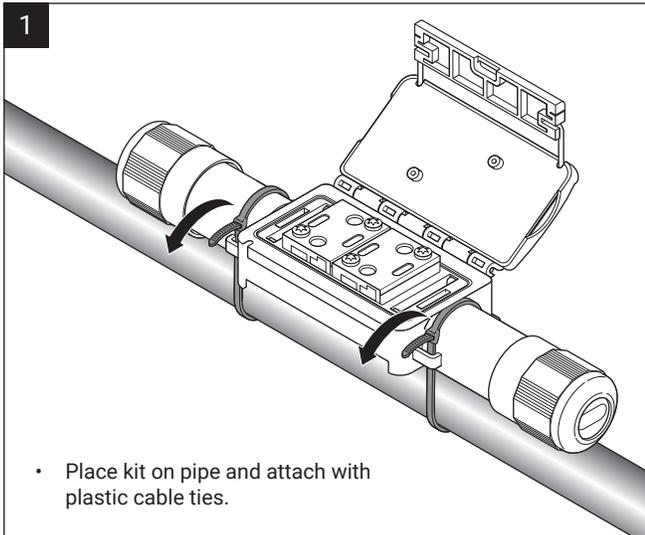
| Item | Qty | Description                                     |
|------|-----|---|
| A    | 1   | Cross   |
| B    | 2   | Plastic cable ties                              |
| C    | 4   | Clips   |
| D    | 2   | End seals                                       |
| E    | 3   | Labels (1 splice, 2 warning)                    |
| F    | 1   | Cable lubricant (for use with HWAT cables only) |



If you experience difficulty during installation, refer to the "Troubleshooting Guide" on page 9.

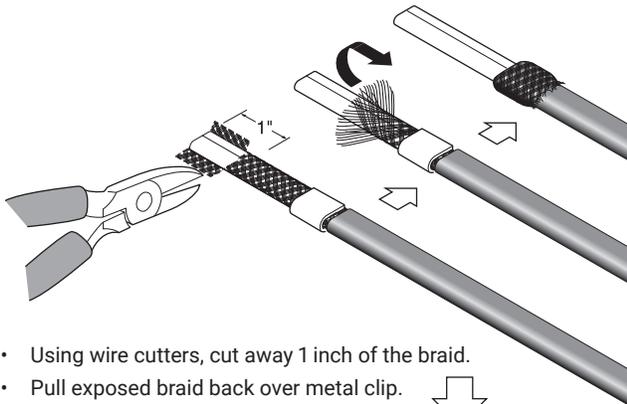


### SPLICE, TEE, AND CROSS INSTALLATION

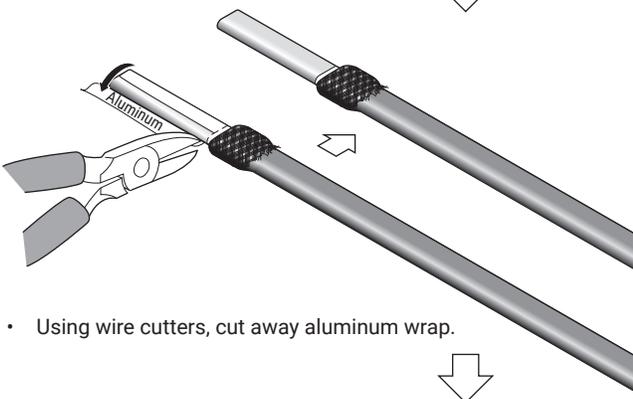


**HWAT ONLY**

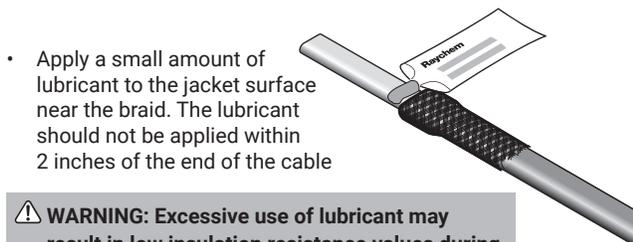
**5A**



- Using wire cutters, cut away 1 inch of the braid.
- Pull exposed braid back over metal clip.



- Using wire cutters, cut away aluminum wrap.

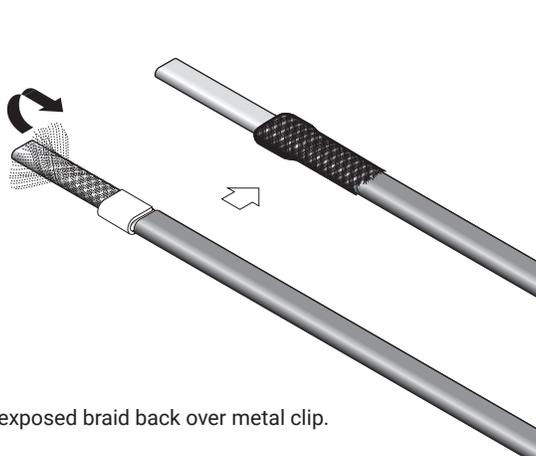


- Apply a small amount of lubricant to the jacket surface near the braid. The lubricant should not be applied within 2 inches of the end of the cable

**⚠ WARNING: Excessive use of lubricant may result in low insulation resistance values during testing or a short circuit across the bus wires.**  
**⚠ AVERTISSEMENT : L'utilisation excessive de lubrifiant peut entraîner de faibles valeurs de résistance d'isolement lors des essais ou un court-circuit entre les fils du bus.**

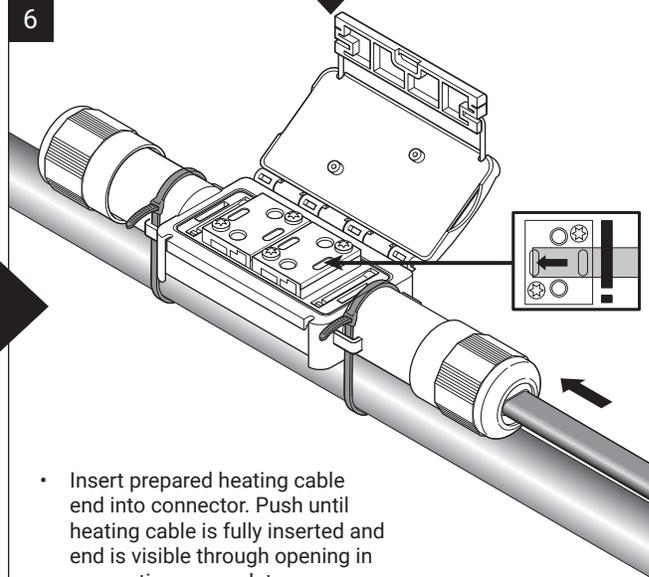
**ICESTOP AND XL-TRACE EDGE ONLY**

**5B**



- Pull exposed braid back over metal clip.

**6**



- Insert prepared heating cable end into connector. Push until heating cable is fully inserted and end is visible through opening in connection cover plate.

**Note: Heating cable cannot be removed.** The connection and end seal are designed to be installed only once; the heating cable cannot be removed once installed.

**7**

Tighten the screws until the metal top surface is at the same height as the inner clear plastic module.

- Securely tighten the two connection screws, alternating as they are being tightened.

**⚠ WARNING: Fire hazard. Loose screws can cause excessive heating. Be sure screws are fully tightened.**  
**⚠ AVERTISSEMENT : Risque d'incendie. Des vis desserrées peuvent causer une surchauffe. S'assurer que les vis sont bien serrées.**

**8**

- Repeat steps 2 through 7 for all remaining heating cable entries.

**9**

- Close the lid and snap the lever shut. Do not force lid closed. If lid does not close, check the connection to ensure all screws are fully tightened.
- Tighten the nuts on the heating cable entries until grommets are compressed.

**10A**

**SPLICE**

- Using glass cloth tape, attach heating cable to pipe.
- Apply insulation, cladding, warning labels and yellow splice identification label.

**10B**

**TEE (insulation not shown)**

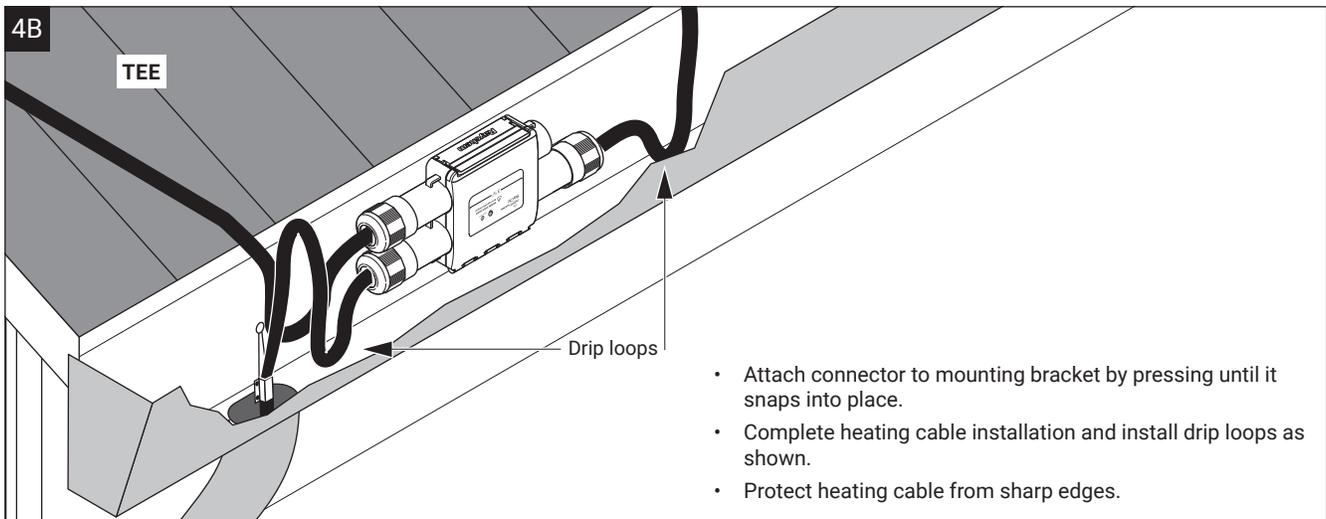
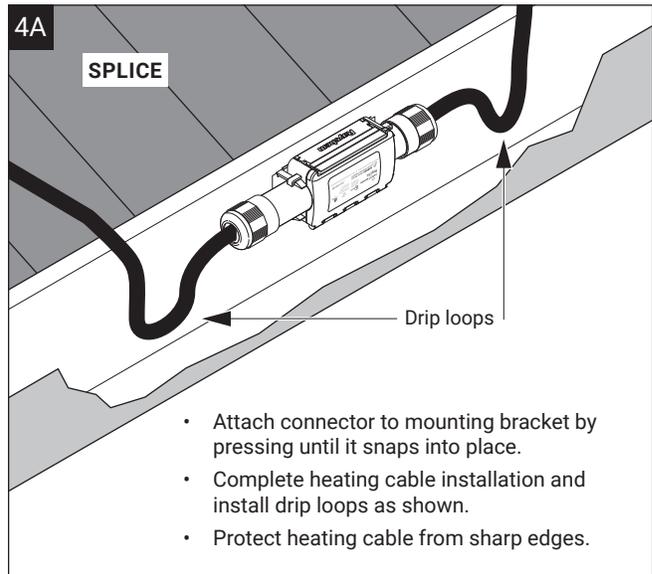
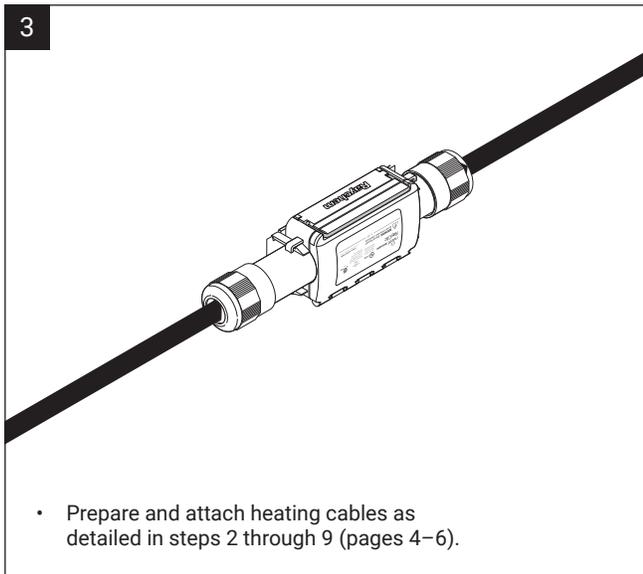
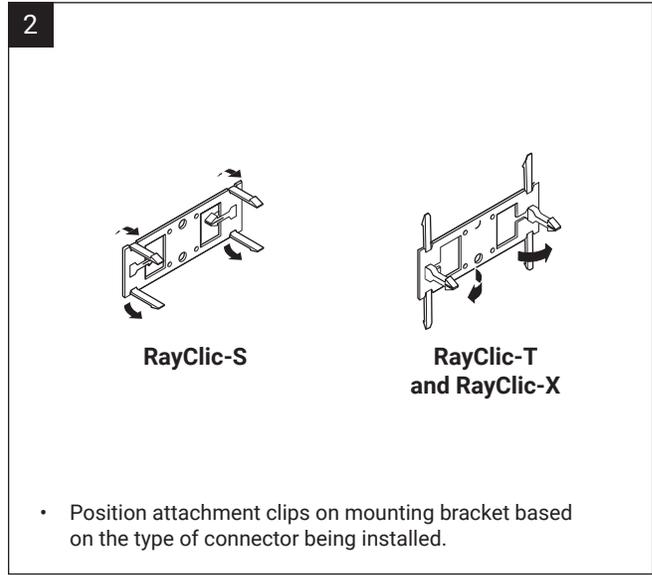
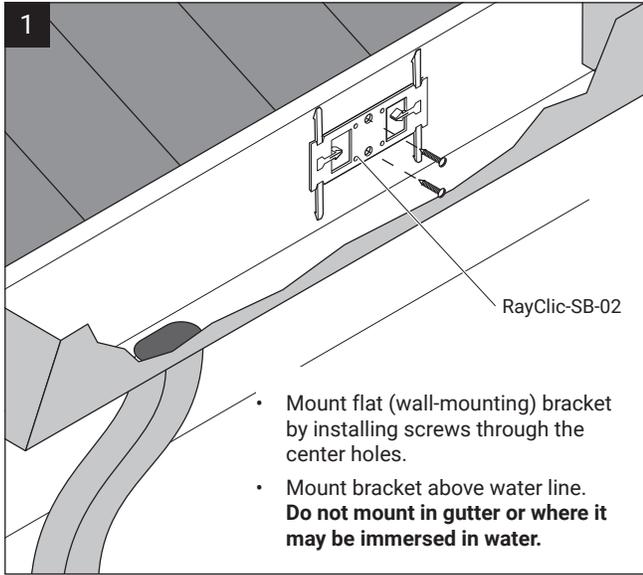
- Using glass cloth tape, attach heating cable to pipe.
- Apply insulation, cladding, warning labels and yellow splice identification label.

**10C**

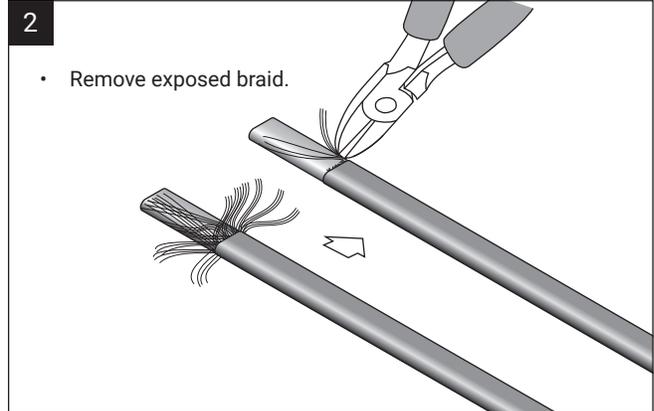
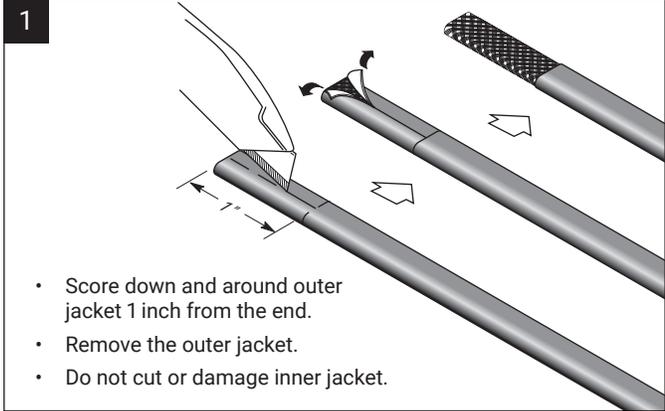
**CROSS (insulation not shown)**

- Using glass cloth tape, attach heating cable to pipe.
- Apply insulation, cladding, warning labels and yellow splice identification label.

## ROOF INSTALLATION

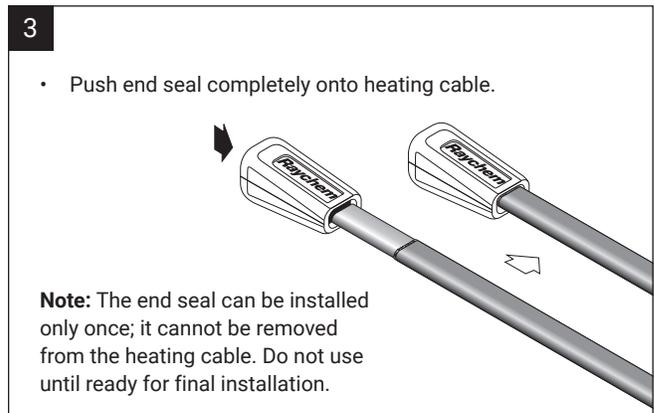
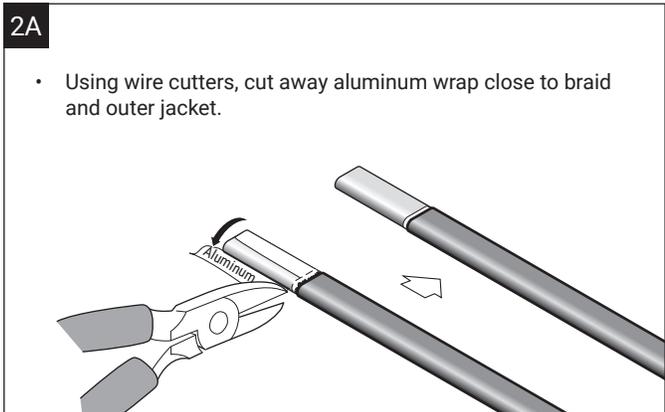


## END SEAL INSTALLATION



HWAT

IceStop, XL-Trace Edge and RaySol



## TROUBLESHOOTING GUIDE

| Problem   | Solution  |
|---|---|
| <b>Braid clips are missing.</b>                         | The braid clips are attached to the cardboard packing insert under the lid. The braid clips must be used to ensure a ground connection. If clips are missing or lost, call nVent at (800) 545-6258.   |
| <b>Mounting bracket is missing.</b>                     | A mounting bracket is not included in the splice, tee and cross kits. One can be ordered using one of the catalog numbers listed under "Optional Accessories" on the front page of these instructions when you place your order.  |
| <b>Connector does not snap onto bracket.</b>            | The bracket has two sets of attachment clips. Fold up the four outer clips for the splice kit. Fold up only the center clips for the tee and cross kits.  |
| <b>Heating cable type not mentioned.</b>                | nVent RAYCHEM RayClic connection kits are approved for use only with HWAT, XL-Trace Edge and IceStop heating cables. Do not use with other heating cables.  |
| <b>Braid clip does not fit.</b>                         | Be sure the clip is installed on the metal braid, not on the outer jacket.  |
| <b>Heating cable does not have aluminum wrap.</b>       | Only HWAT heating cables have the aluminum wrap under the braid. Skip the aluminum wrap removal step for XL-Trace Edge and IceStop heating cables.  |
| <b>Heating cable cannot be inserted into connector.</b> | Check for the following: <ul style="list-style-type: none"><li>• Apply cable lubricant to the heating cable primary (white) jacket.</li><li>• Outer jacket strip length is 3<math>\frac{3}{8}</math> inches.</li><li>• Braid clip is installed on top of the metal braid, not on the outer jacket.</li><li>• Braid is pulled back over braid clip.</li><li>• For HWAT, 1 inch of braid is removed.</li><li>• Sealing nut is loose (but not removed).</li><li>• Connection screws are loose.</li></ul> |
| <b>Lid does not close.</b>                              | Be sure all screws are fully tightened before closing the lid.  |
| <b>Heating cable cannot be inserted into end seal.</b>  | The outer jacket must be removed from the heating cable before the end seal is installed (see the "End Seal Installation" instructions on page 8). Make sure 1 inch of the outer jacket, braid, and aluminum wrap (HWAT only) are removed.  |
| <b>Heating cable cannot be removed.</b>                 | The connection and end seal are designed to be installed only once; the heating cable cannot be removed once installed. Additional nVent RAYCHEM RayClic-E end seals can be ordered from nVent.   |

## HEATING CABLE CIRCUIT TESTING

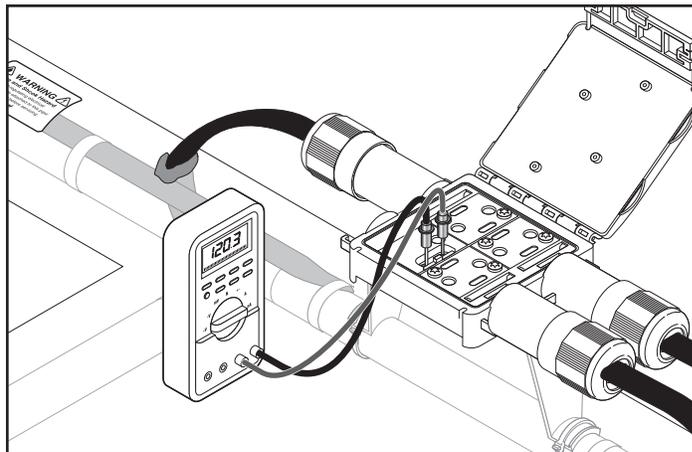
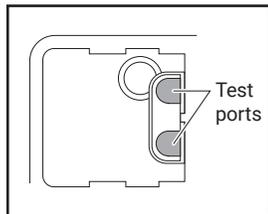
The RayClic-T now includes test ports in the blank module. Voltage can be measured at these points to confirm continuity or power to the installed heating cable circuit. For detail heating cable operation refer to the appropriate installation and operating manual.

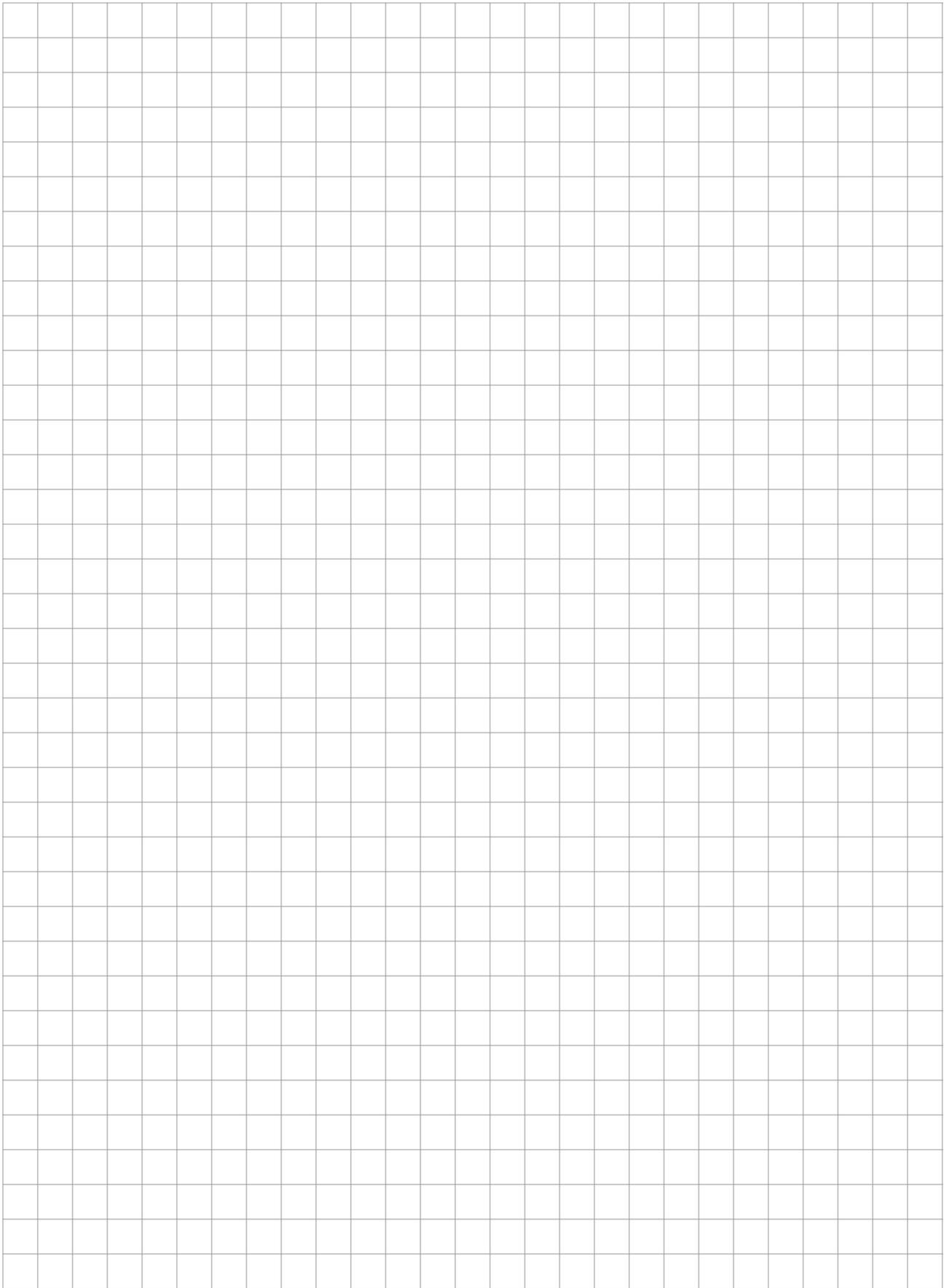
### Instructions:

1. Open the RayClic cover.
2. Set multimeter to AC voltage function.
3. Insert multimeter test probes into the two test ports.

**⚠ WARNING: To avoid shock do not cross the test probes or touch them to the metal pressure plate when measuring voltage.**

**⚠ AVERTISSEMENT : Pour éviter les chocs, ne pas chevaucher les sondes d'essai et ne pas toucher au plateau de pression métallique pour mesurer la tension.**





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