# JS-100-A
## Junction Box Stand

## Installation Instructions

### Description
The JS-100-A is a Single Entry Power Connection Transition kit. It is designed for use with Raychem® BTV-CR, BTV-CT, QTVR-CT, XTV-CT, KTV-CT, and VPL-CT industrial parallel heating cables. The kit is NEMA 4X rated only when used with an appropriate junction box.

This kit 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 Tyco Thermal Controls at (800) 545-6258.

### Tools Required
- Utility knife
- Two pair channel lock pliers
- Large slotted screwdriver
- Needle nose pliers
- Wire cutters
- Wire stripper (for VPL)

### Additional Materials Required
- Pipe strap
- GT-66 or GS-54 glass cloth tape
- NEMA 4X rated junction box with 1" NPS threaded entry or through hole

### Optional Materials
- Recommended conduit drain: JB-DRRAIN-PLUG-3/4IN P/N 278821-000
- Small pipe adapter for 1" (25 mm) and smaller pipes: Catalog number JBS-SPA P/N E90515-000

### Kit Contents

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<td>Stand assembly</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>Cable lubricant</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>1&quot; locknut</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>Terminal block</td>
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<tr>
<td>E</td>
<td>1</td>
<td>Cable tie</td>
</tr>
<tr>
<td>F</td>
<td>1</td>
<td>Green/yellow tube</td>
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<td>G</td>
<td>1</td>
<td>CS-100 cold applied core sealer</td>
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<td>H</td>
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<td>JS-100 transition</td>
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### Approvals

#### Hazardous Locations
- Class I, Div. 2, Groups A, B, C, D
- Class II, Div. 2, Groups F, G
- Class III

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 Tyco Thermal Controls, agency certifications, and national electrical codes, 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 Tyco Thermal Controls-specified parts only. Do not use substitute parts or vinyl electrical tape.

### 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 RAY5510 for further information.

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

Non-emergency health and safety information:
(800) 545-9258.
1. Allow approximately 24" (60 cm) of heating cable for installation. For VPL, cut cable 12" (30 cm) from bus indentation.
2. Cut off heating cable end at about 45° for easier insertion.
3. Apply cable lubricant to end of the heating cable for easier insertion into stand.
4. Optional: If stand is to be installed on bottom side of pipe, knock out drain hole prior to inserting cable.
5. Push 18" (45 cm) of heating cable through stand.
6. Square off cable end with 90° cut.
7. Indentation (bus wire connection on VPL heating cables only).
8. Do not attach stand to pipe until step 12.
• Push braid back to create a pucker.
• At pucker use a screwdriver to open braid.

• Bend heating cable and work it through opening in braid.

• Lightly score inner jacket around and down as shown.

• Peel off inner 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.
• Pull braid tight to make pigtai.
5c

• Push braid back and bunch as tight as possible.

• Lightly score inner jacket around and down as shown.

• Peel off inner 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.

• Push braid forward. Use a screwdriver to open braid as shown.

• Bend heating cable and work it through opening in braid.

• Remove insulation from ends of bus wires.
• Pull braid tight to make pigtail.

Go to Step 6
6. Mark the jacket as shown.

7. **CAUTION: Health Hazard.**
   Wash hands after contact with sealant. Consult material safety data sheet RAY5510.
   - If needed, re-twist and straighten bus wires, then insert into the guide tubes as shown.
   - Make sure all strands go into the tubes.

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.
   - Make sure the bus wires do not kink, bunch, or crossover.

9. Remove the guide tubes and dispose of them in a plastic bag.
   - Slip the green/yellow tube onto the braid. Heat-shrinking is not required.

10. Trim bus wires and braid to 3/8" (9 mm).

11. Determine type of junction box to be used, through-hole, threaded, or threaded with a hub.
   - Pull heating cable back into stand as shown.
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• Fasten stand to pipe. Do not pinch heating cable.
• Loop and tape extra heating cable to pipe. Minimum bend radius 3/4" (20 mm).

Note: For 1" (25 mm) and smaller pipes use adapter (purchased separately) and install between stand and pipe.

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• Screw transition onto stand until it stops. Tighten until slots on transition and stand align. Do not damage threads on transition.

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• Insert cable tie through slots on stand and transition and tighten firmly to prevent transition rotation.

15 Install box on transition:

For through-hole box
• Make sure o-ring is seated in groove on transition.
• Place box onto transition and install locknut.
• Tighten locknut.

For threaded box
• Screw box onto transition.
• Tighten junction box.
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- Install conduit and fittings as shown. To minimize loosening due to vibration, use flexible conduit.
- Pull in power and ground wires, strip off 3/8” (9 mm) of insulation.
- Use terminal block to connect bus wires and braid to power wiring. This connection must be protected by a ground-fault equipment protection device.

Make sure conductors are not exposed.

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

• Stow wires in box.

Tyco Thermal Controls recommends the use of a conduit drain to prevent water condensation build-up.
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