

Raychem JBS-100-A

Raychem JBS-100-A Haz-Loc Heating Cable Power Connection Kit Junction Box User Manual

INTRODUCTION

The Raychem JBS-100-A is a power connection kit and junction box designed for use with Raychem heating cables in hazardous locations. This manual provides essential information for the safe and correct installation, operation, and maintenance of the JBS-100-A. Adherence to these instructions is crucial for ensuring product performance and safety.

SAFETY INFORMATION

WARNING: SHOCK HAZARD. Do not open while energized. Always de-energize the circuit before performing any installation, inspection, or maintenance procedures.

WARNING: EXPLOSION HAZARD. This product is certified for hazardous locations. Substitution of components may impair intrinsic safety. Do not open when an explosive atmosphere is present. All installation and maintenance must be performed by qualified personnel in accordance with local and national electrical codes, including the National Electrical Code (NEC) and Canadian Electrical Code (CEC), as applicable.

Ensure that the product's hazardous location ratings (e.g., Class I, Zone 1, AEx e II T(2), Ex e II T(2)) are suitable for the specific application environment.

COMPONENTS

The Raychem JBS-100-A kit typically includes the following components:

- Junction Box Enclosure
- Terminal Block Assembly
- Heating Cable Entry Gland/Fitting
- Mounting Hardware
- Heating Cable Connection Boot (for specific heating cable types)



Figure 1: Raychem JBS-100-A Junction Box and associated cable entry component.

SETUP AND INSTALLATION

Installation must be performed by qualified personnel and comply with all applicable electrical codes and standards for hazardous locations.

1. **Mounting:** Securely mount the junction box to a suitable surface using the provided mounting hardware. Ensure the mounting location is accessible for future inspection and maintenance, and that it is within the specified temperature and environmental limits.
2. **Cable Entry:** Prepare the heating cable according to the specific Raychem heating cable installation instructions. Insert the heating cable through the designated entry gland on the junction box. Ensure a proper seal is achieved to maintain the enclosure's integrity and hazardous location rating.
3. **Wiring Connections:** Connect the heating cable conductors and the power supply conductors to the terminal block inside the junction box. Follow the wiring diagram provided with the heating cable system. Ensure all connections are tight and secure.



Figure 2: Internal view of the JBS-100-A showing the terminal block for wiring connections.

4. **Sealing:** After all connections are made, ensure all cable entries and the enclosure lid are properly sealed to maintain the IP (Ingress Protection) rating and hazardous location certification.
5. **Verification:** Before energizing, verify all connections are correct, secure, and that the enclosure is properly sealed. Perform continuity and insulation resistance tests as required by local codes.

OPERATING

Once properly installed, sealed, and energized, the Raychem JBS-100-A functions as a sealed power connection and junction point for the heating cable system. It provides a safe and reliable enclosure for electrical connections in hazardous environments. No user interaction is required during normal operation.

MAINTENANCE

Regular inspection and maintenance are essential to ensure the continued safe and reliable operation of the JBS-100-A, especially in hazardous locations.

- **Periodic Visual Inspection:** Periodically inspect the junction box for any signs of physical damage, corrosion, or degradation of seals. Ensure all mounting screws are tight.

- **De-energize Before Access:** Always de-energize the circuit before opening the junction box for inspection or maintenance.
- **Seal Integrity:** Verify that all cable glands and the enclosure lid gasket are intact and providing a proper seal. Replace any damaged components immediately.
- **Connection Check:** If opening the box, visually inspect terminal connections for tightness and signs of overheating or corrosion.

TROUBLESHOOTING

For any issues, always ensure the power supply is disconnected before inspecting the unit.

- **No Power to Heating Cable:** Check the main power supply to the junction box. Verify circuit breakers are not tripped. Inspect internal wiring connections for looseness or damage (after de-energizing).
- **Visible Damage to Enclosure:** If the enclosure shows cracks, severe corrosion, or other damage that compromises its integrity, the unit must be replaced immediately. Do not attempt to repair damaged hazardous location equipment.
- **Water or Moisture Inside Box:** This indicates a compromised seal. De-energize immediately, identify the source of the leak, and replace or repair the seal/gland. If components are damaged by moisture, replace the unit.

For complex issues or if you are unsure about any troubleshooting steps, consult a qualified electrician or contact Raychem technical support.

SPECIFICATIONS

- **Model:** JBS-100-A
- **Brand:** Raychem
- **Material:** Plastic
- **Color:** Black
- **Installation Type:** Screw-In
- **Item Weight:** 2.1 Pounds
- **Hazardous Location Ratings:** CLI, ZN1, AEx e II T(2), Ex e II T(2) (as per product labeling)
- **Ingress Protection (IP) Rating:** IP66 (as per product labeling)



Figure 3: Close-up of the internal label detailing hazardous location certifications and IP rating.

WARRANTY AND SUPPORT

For detailed warranty information, technical support, or to inquire about replacement parts, please contact Raychem customer service directly or visit their official website. Ensure you have your product model number (JBS-100-A) available when seeking support.