Electrical freeze protection for long pipelines in both nonhazardous and hazardous locations.

The LBTV self-regulating heating cables provide freeze protection and low-temperature maintenance for longline applications. The LBTV heating cables maintain process temperatures up to 150°F (65°C) and can withstand intermittent exposure to temperatures up to 185°F (85°C).

The cables are configured for use in nonhazardous and hazardous locations, including areas where corrosives may be present.

The LBTV heating cables provide long circuit length capability. They can be used for continuous circuit lengths up to 1125 feet (342 m) powered from a single source. LBTV cables are especially well suited for tracing long pipelines containing temperature-sensitive fluids or where high reliability is required.

Raychem LBTV cables meet the requirements of the U.S. National Electrical Code and the Canadian Electrical Code. For additional information, contact your Tyco Thermal Controls representative or call Tyco Thermal Controls at (800) 545-6258.

### Heating cable construction

- **Fluoropolymer outer jacket (-CT)**
- **Tinned-copper braid**
- **Modified polyolefin inner jacket**
- **Self-regulating conductive core**
- **Nickel-plated copper bus wire (10 AWG)**

### Application

<table>
<thead>
<tr>
<th>Area classification</th>
<th>Nonhazardous and hazardous locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traced surface type</td>
<td>Metal and plastics</td>
</tr>
<tr>
<td>Chemical resistance</td>
<td>Organic and aqueous inorganic chemicals and corrosives</td>
</tr>
</tbody>
</table>

### Supply Voltage

- **200–277 Vac**

### Temperature Rating

- **Maximum maintain or continuous exposure temperature (power on)**: 150°F (65°C)
- **Maximum intermittent exposure temperature, 1000 hours (power on or off)**: 185°F (85°C)
- **Minimum installation temperature**: −40°F (−40°C)

### Temperature ID Number (T-Rating)

- **T6, 185°F (85°C)**

Temperature ID numbers are consistent with North America national electrical codes.

### Approvals

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

- **Zone Approvals**
  - CLI, ZN1, AEx e II T6
  - Ex e II T6

### Design and Installation

For proper design and installation, use TraceCalc Pro design software or the Design section of the *Industrial Product Selection and Design Guide* (H56550). Literature is available via the Tyco Thermal Controls Web site, www.tycothermal.com.
### Nominal Power Output Rating on Metal Pipes

<table>
<thead>
<tr>
<th>Adjustment factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power output</strong></td>
</tr>
<tr>
<td>208 V</td>
</tr>
<tr>
<td>277 V</td>
</tr>
</tbody>
</table>

**Note:** To choose the correct heating cable for your application, use the Design section of the Industrial Product Selection and Design Guide (H56550). For more detailed information, use TraceCalc Pro design software.

### Maximum Circuit Lengths Based on Circuit Breaker Sizes

<table>
<thead>
<tr>
<th>Ambient temperature at start-up</th>
<th>Maximum circuit length (in feet) per circuit breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>240 V</td>
</tr>
<tr>
<td>LBTV2-CT</td>
<td>40°F (4°C)</td>
</tr>
<tr>
<td></td>
<td>20°F (–7°C)</td>
</tr>
<tr>
<td></td>
<td>0°F (–18°C)</td>
</tr>
<tr>
<td></td>
<td>–20°F (–29°C)</td>
</tr>
<tr>
<td></td>
<td>–40°F (–40°C)</td>
</tr>
</tbody>
</table>

### Ground-Fault Protection

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 on each heating cable branch circuit. Arcing may not be stopped by conventional circuit protection. Many DigiTrace control and monitoring systems meet the ground-fault protection requirement.

### Product Characteristics LBTV2-CT

- Minimum bend radius: @68°F (20°C): 0.5 in (12.7 mm)
- Weight (lb per 10 ft, nominal): 1.7
- Bus wire size: 10 AWG
- Outer jacket color: Black
- Heating cable dimensions: 0.71 in x 0.33 in (18 mm x 8.4 mm)

### Connection Kits

These connection kits must be used to ensure proper functioning of the product and compliance with warranty, code, and approvals requirements.

- **JBM-100-LBTV2**: Power connection/splice
- **E-100-LBTV2**: End seal
Important: All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. Tyco Thermal Controls makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. Tyco Thermal Controls' only obligations are those in the Tyco Thermal Controls Standard Terms and Conditions of Sale for this product, and in no case will Tyco Thermal Controls or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, Tyco Thermal Controls reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.