Installation Tips

- Do not twist buss wires together at end of circuit
- Install all conductor parts
- Use sufficient cable to trace additional heat sinks
- Use SRL Cable or Cables with Optional Fluoropolymer Jacket

Important Safeguards

Mechanical Inspection
- Inspect all insulation and metal sheathing
- Inspect all insulation connections, drive, and sensor connections
- Verify all circuit lengths and wires are within manufacturer's specifications
- Verify all proper safety warnings are in place
- Verify all proper safety warnings are in place

Electrical Tools
- Isolation Resistance (Mohrs): Before testing phases
- After installing connections
- After installing pipe
- Before energizing system
- Circuit Voltage
- Voltmeter
- Megger
- Utility Knife
- Wire Cutters/Strippers
- Standard Screwdriver
- Hammer
- Others

Specification Tables

Table 1
<table>
<thead>
<tr>
<th>Temperature Difference Between Pipe and Ambient</th>
<th>21/2&quot;</th>
<th>2&quot;</th>
<th>1 1/2&quot;</th>
<th>1&quot;</th>
<th>3/4&quot;</th>
<th>2/4&quot;</th>
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</thead>
<tbody>
<tr>
<td>0°F</td>
<td>0.3</td>
<td>0.6</td>
<td>0.9</td>
<td>1.3</td>
<td>2.0</td>
<td>3.2</td>
</tr>
<tr>
<td>10°F</td>
<td>0.5</td>
<td>0.9</td>
<td>1.3</td>
<td>1.9</td>
<td>2.6</td>
<td>3.9</td>
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<td>1.6</td>
<td>2.2</td>
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<tr>
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Table 2
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<th>1 1/2&quot;</th>
<th>1&quot;</th>
<th>3/4&quot;</th>
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<td>1.3</td>
<td>1.8</td>
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<tr>
<td>10°F</td>
<td>0.9</td>
<td>1.4</td>
<td>1.9</td>
<td>2.4</td>
</tr>
<tr>
<td>20°F</td>
<td>1.2</td>
<td>1.8</td>
<td>2.4</td>
<td>3.0</td>
</tr>
<tr>
<td>30°F</td>
<td>1.5</td>
<td>2.2</td>
<td>2.9</td>
<td>3.6</td>
</tr>
<tr>
<td>40°F</td>
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<td>3.9</td>
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Table 3
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<th>Nominal Pipe Diameter</th>
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<th>1&quot;</th>
<th>3/4&quot;</th>
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<td>1.6</td>
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<tr>
<td>24&quot;</td>
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<td>1.5</td>
<td>2.0</td>
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</table>

Table 4
<table>
<thead>
<tr>
<th>Nominal Pipe Diameter</th>
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<th>1 1/2&quot;</th>
<th>1&quot;</th>
<th>3/4&quot;</th>
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</thead>
<tbody>
<tr>
<td>30&quot;</td>
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<td>1.2</td>
<td>1.8</td>
<td>2.4</td>
</tr>
<tr>
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<td>0.9</td>
<td>1.8</td>
<td>2.6</td>
<td>3.3</td>
</tr>
</tbody>
</table>

HEAT TRACE DESIGN GUIDE
**Installation Tips**
- Do not melt thermowires with an open circuit.
- Use all wire terminations.
- End all electrical connections against vandalism.
- Control of exposed cable during installation.
- Do not apply excessive tension to the cable or use excessive bending radius.
- Locate all terminations as far as possible from the source of energy.
- Use soft enameled cable to be an additional heat sink.
- Use soft enameled cable to the farthest point of the desired location.

**Important Safeguards**

**Mechanical Installation**
- Ensure all installation and testing are performed.
- Verify all connections are properly grounded.
- Verify all circuits are connected in the proper sequence.
- Verify all cables are properly installed in proper locations.
- Verify all cables are properly insulated.

**SRL Cable**
- 3/8” / 0.37” / 12.6 mm (40 W/ft)
- 1/2” / 0.50” / 12.6 mm (80 W/ft)
- 1” / 0.60” / 12.6 mm (120 W/ft)
- 1 1/2” / 0.75” / 12.6 mm (160 W/ft)

**SRP Cable**
- 3/8” / 0.37” / 12.6 mm (40 W/ft)
- 1/2” / 0.50” / 12.6 mm (80 W/ft)
- 1” / 0.60” / 12.6 mm (120 W/ft)
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**SRM Cable**
- 3/8” / 0.37” / 12.6 mm (40 W/ft)
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- 1” / 0.60” / 12.6 mm (120 W/ft)
- 1 1/2” / 0.75” / 12.6 mm (160 W/ft)

**Electrical Tests**
- Installation in accordance with local codes.
- Voltmeter to verify proper voltage.

**Heat Trace Design Guide**

**Heat Trace Design Calculations**

**Table 1**
- Heat Trace Design Calculations
- Table 2
- Table 3
- Table 4

**Pipe Heat Loss Calculations**

**Chromalox Cable Selection**

**Pipe Heat Loss Calculations**
- Table 1
- Table 2
- Table 3
- Table 4

**Mechanical Installation**
- Ensure all wiring is properly grounded.
- Verify all connections are properly grounded.
- Verify all circuits are connected in the proper sequence.
- Verify all cables are properly installed in proper locations.
- Verify all cables are properly insulated.

**SRL Cable**
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Quick Install Guide is a specification tool only. Always refer to proper installation instructions when installing heat trace cable.

**Power Connection Box (PCB)**

- Connect the power connection box to the power source.
- Use Fiberglass tape for proper connection and insulation.
- Ensure all connections are secure and tight.

**Heating Cable/Sensor Location**

- Ensure the heating cable is properly located at the desired temperature.
- Use Fiberglass tape to secure the cable to the pipe at 18 in./455 mm intervals.
- Ensure the cable is not over-heated or under-heated.

**Installation Tips**

- Temporarily position the cable on the pipe and equipment to ensure proper distribution.
- Leave a loop of cable at heat sinks such as valves, pipe supports, and flange sets. Use FT-3 fiberglass tape to secure the cable to pipe at 18 in./455 mm intervals using recommended method.
- Always observe minimum bend radii.
**Installation Tips**

- Do not twist bus wires together at end of circuit
- Handle wire conductor ports
- Heat all interconnection points against moisture
- Heat ends of exposed cables during installation
- Do not expose cables to temperatures above their minimum ratings
- Install cable with appropriate temperature rating on piping system
- Locate pipe temperature sensors at lowest expected pipe temperature
- Use sufficient cable to trace additional heat along
- Install cable so that heat can be removed without removing cable

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**Important Safeguards**

**Mechanical Impedance**

- Impact all insulations and windings to prevent
- Impact all junction box, connection box, and sensor connections
- Verify all circuits have been properly grounded
- Verify all circuits are connected to proper parallel locations
- Verify proper circuit breakers are in place (always use 30 mA trip GFI breakers)
- Verify all circuit lengths are within manufacturer’s specified limits
- Verify all proper wiring connections are in place
- Verify all electrical plugs are in place
- Verify all electrical plugs and wires are seated securely

**Electrical Tools**

- Insulation Resistance (Megger)
  - Before tracing pipes
- After installing connections
  - After installing piping
  - Before energizing systems
- Circuit Voltage
  - Visual Inspection
  - Rake sensor taps and pipe temp
  - Conduct test (15amps at specified temp)
  - Rake sensor taps and pipe temp
- Always use ground fault circuit breakers (30 mA trip level)

**Tools Required**

- Wire Cutters/Strippers
- Megger
- Plastic heat shrinker
- Standard screwdriver
- Voltmeter
- Utility knives
- Insulator

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**Heat Trace Design Guide**

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**Table 1**

<table>
<thead>
<tr>
<th>Pipe Size, in. (ID)</th>
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<td>53.8</td>
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<tr>
<td>24&quot; (W/ft)</td>
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**Table 2**

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<th>120</th>
<th>140</th>
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<th>180</th>
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<td>1.8</td>
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**Table 3**

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**Table 4**

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