**Low Limit Freeze Protection Switch**

### Applications
- HVAC equipment
- Heat exchangers and cooling coils

### Benefits/Features
- 5 or 10 foot cable lengths
- PTC or NTC temperature curves
- Vapor-filled copper capillary sensing element
- Wood or pellet boilers
- Brewing systems

### Specifications
- Sensing element: Vapor-filled capillary.
- Operating Temperature: 14°F to 54°F (-10°C to 12°C).
- Storage Temperature: 14°F to 158°F (-10°C to 70°C).
- Capillary overload temperature: 392°F (200°C), maximum 80 minutes.
- Humidity Limit: 0 to 95% RH, non-condensing.
- Enclosure: Galvanized steel base, ABS cover.
- Enclosure Rating: NEMA 1 (IP40).
- Capillary Material: Copper.
- Cable Entry: (1) M20 compression fitting.

### Model Chart - Sensors

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor</th>
<th>Cap Material</th>
<th>Length ft (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS-1</td>
<td>PTC</td>
<td>Brass</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-11</td>
<td>PTC</td>
<td>Brass</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-2</td>
<td>PTC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-21</td>
<td>PTC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-5</td>
<td>PVC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-51</td>
<td>PVC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-6</td>
<td>PTC</td>
<td>Polymide resin coated brass</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-61</td>
<td>PTC</td>
<td>Polymide resin coated brass</td>
<td>10 (3)</td>
</tr>
</tbody>
</table>

### Accessories
- A-TS-AP: 1/4 DIN adaptor plate
- TS-W: Brass thermowell (for use with TS-1, TS-11, TS-2, TS-21)
- TS2-K: Configuration key

### General
- The Series DFS2 Low Limit Freeze Protection Switch protects cooling coils in air handler systems by preventing frost build-up. The thermostat and its capillary sensing element provide an antifreeze function by sensing the lowest temperature along any one foot section of capillary. The DPDT manual or automatic reset relays signal the building management system as well as cut-off the fan. The Series DFS2 will detect temperature drops below the fixed safety value (set point) which can be set as low as 34°F (1°C) utilizing the visual set point indicator and set point screw.

### Benefits/Features
- Vapor-filled copper capillary sensing element
- Joint spring protector at capillary-bellow connection
- Set point safety-lock protection and simple adjustment
- Easy installation and wiring
- Automatic and manual reset

### Applications
- Automatic and manual reset
- Easy installation and wiring
- Joint spring protector at capillary-bellow connection
- Set point safety-lock protection and simple adjustment
- Vapor-filled copper capillary sensing element

### Model Chart - Controllers

<table>
<thead>
<tr>
<th>Model</th>
<th>Reset Action</th>
<th>Capillary Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFS2-DA10</td>
<td>Automatic</td>
<td>10 (302 cm)</td>
</tr>
<tr>
<td>DFS2-DA20</td>
<td>Automatic</td>
<td>20 (609 cm)</td>
</tr>
<tr>
<td>DFS2-DM10</td>
<td>Manual</td>
<td>10 (302 cm)</td>
</tr>
<tr>
<td>DFS2-DM20</td>
<td>Manual</td>
<td>20 (609 cm)</td>
</tr>
</tbody>
</table>

### Accessories
- A-DFS2-C: Capillary mounting clips (6 pieces)

---

**Digital Temperature Switch Probes and Accessories**

Probes to be used with TS, TS2, TSS2, TSWB, TSW, TS3, TSX3, and 40M

- Applications
  - Automatic and manual reset
  - Easy installation and wiring
  - Joint spring protector at capillary-bellow connection
  - Vapor-filled copper capillary sensing element

- Benefits/Features
  - 5 or 10 foot cable lengths
  - PTC or NTC temperature curves
  - Refrigerated cabinets
  - Walk in coolers
  - Food service equipment
  - Medical sterilizers or equipment
  - Wood or pellet boilers
  - Brewing systems

### Model Chart - Sensors

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor</th>
<th>Cap Material</th>
<th>Length ft (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS-1</td>
<td>PTC</td>
<td>Brass</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-11</td>
<td>PTC</td>
<td>Brass</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-2</td>
<td>PTC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-21</td>
<td>PTC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-5</td>
<td>PVC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-51</td>
<td>PVC</td>
<td>Stainless steel</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-6</td>
<td>PTC</td>
<td>Polymide resin coated brass</td>
<td>10 (3)</td>
</tr>
<tr>
<td>TS-61</td>
<td>PTC</td>
<td>Polymide resin coated brass</td>
<td>10 (3)</td>
</tr>
</tbody>
</table>

### Accessories
- A-TS-AP: 1/4 DIN adaptor plate
- TS-W: Brass thermowell (for use with TS-1, TS-11, TS-2, TS-21)
- TS2-K: Configuration key

---

**Series DFS2**

**Low Limit Freeze Protection Switch**

Manual and Automatic Reset