The TS Digital Temperature Switch is designed to regulate many heating and cooling applications. Easy programming via the tactile front keypad enables quick setup of the 12 parameters for simple, reliable operation. The user can define set point, heating/cooling regulation, hysteresis, cycle time, ambient probe adjustment and defrosting time. The unit features error or alarm messaging and password protection. View probe temperature on the bright red, 3-digit LED display. Select between temperature display in °F or °C, and 110 VAC, 230 VAC, or 12 VDC power supplies. The Series TS includes a thermistor with 5 ft (1.5 m) cable, fitting clips for panel mounting, gasket, rear terminal cover, and instruction manual.

### SPECIFICATIONS

- **Probe range:** -58 to 302°F (-50 to 150°C).
- **Input:** 1.5-inch (4 cm) thermistor (1000Ω @ 25°C) with 5 ft (1.5 m) cable.
- **Output:** 16A SPDT relay @ 250 VAC resistive.
- **Horsepower Rating (HP):** 1 HP for 16A.
- **Control Type:** ON/OFF.
- **Power Requirements:** 110 VAC, 230 VAC or 12 VAC/VDC (depending on model).
- **Power Consumption:** 4VA (230V), 1.5VA (24V/12V).
- **Accuracy:** ±1°C.
- **Display:** 3-digit, red 1/2˝ digits.
- **Resolution:** 1°.
- **Memory Backup:** Nonvolatile memory.
- **Temperature Limits:** Ambient: 32 to 158°F (0 to 70°C). Storage Temperature: -4 to 176°F (-20 to 80°C).
- **Weight:** 2.3 oz (65 g).
- **Front Panel Rating:** IP64.
- **Agency Approvals:** CE, ULc, UL.

### Model  Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Supply Voltage</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS-13010</td>
<td>110V, 16A</td>
<td>°F</td>
</tr>
<tr>
<td>TS-13011</td>
<td>110V, 16A</td>
<td>°C</td>
</tr>
<tr>
<td>TS-13020</td>
<td>230V, 16A</td>
<td>°F</td>
</tr>
<tr>
<td>TS-13030</td>
<td>12 VAC/VDC</td>
<td>16A, °F</td>
</tr>
</tbody>
</table>

The Series TSWB Digital Temperature Switch has a high and a low set point for controlling the water temperature. The low set point can either be manually or automatically reset. This control also has a conductivity probe input. This input supplies 12 VAC to the conductivity probe to check for low water condition. There are three relay outputs which can be assigned in the field to the high temperature set point, low temperature set point or the low water level input. The Model TSWB-P configuration key can make configuring multiple controls quick and easy.

### SPECIFICATIONS

- **Probe Range:** PTC -58 to 302°F (-50°C to 150°C); NTC -58 to 230°F (-50°C to 110°C).
- **Probe Temperature Input:** (Selectable by parameter) PTC1000 probes (25°C-1000 ohm) / NTC.
- **Probe Level Input:** Conductivity probe: Max voltage 12 VAC. Sensitivity established from factory at 100KOhm.
- **Probe Level Input:** Conductivity probe: Max voltage 12 VAC. Sensitivity established from factory at 100KOhm.
- **Output:** R1 SPST NO relay resistive load 5A @ 250 VAC; R2 SPST NC relay resistive load 5A @ 250 VAC; R3 SPDT relay resistive load 16A @ 240 VAC.
- **Horsepower Rating:** 1HP ~ 10FLA, 60LRA 250 VAC.
- **Control Type:** On/Off.
- **Power Requirement:** 115 VAC ± 10%, 230 VAC ± 10%, 24 VAC/DC ± 10%, 12 VAC/DC ± 10%.
- **Power Consumption:** 4VA (230V/115V), 1.5VA (24V/12V).
- **Accuracy:** Better than 1% of full scale.
- **Display:** 3-digit, red 1/2˝ digits.
- **Resolution:** 1°.
- **Memory Backup:** Nonvolatile memory.
- **Ambient Operating Temperature:** 32 to 158°F (-30 to 70°C).
- **Storage Temperature:** -4 to 176°F (-20 to 80°C).
- **Weight:** 3.5 oz.
- **Front Protection:** IP64.
- **Agency Approvals:** CE, UL, cUL.

### Model  Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Supply Voltage</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSWB-010</td>
<td>115 VAC</td>
<td>°F</td>
</tr>
<tr>
<td>TSWB-011</td>
<td>115 VAC</td>
<td>°C</td>
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<tr>
<td>TSWB-020</td>
<td>230 VAC</td>
<td>°F</td>
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<tr>
<td>TSWB-021</td>
<td>230 VAC</td>
<td>°C</td>
</tr>
<tr>
<td>TSWB-030</td>
<td>12 VAC/VDC</td>
<td>°F</td>
</tr>
<tr>
<td>TSWB-031</td>
<td>12 VAC/VDC</td>
<td>°C</td>
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<tr>
<td>TSWB-040</td>
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<td>°F</td>
</tr>
<tr>
<td>TSWB-041</td>
<td>24 VAC/VDC</td>
<td>°C</td>
</tr>
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</table>

### ACCESSORIES

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