Description
The PTHF Series can be used for a variety of applications from chemical metering, to temperature regulating, to energy management. The infinite adjustability from 1 to 99% provides accurate percentage ON control over a wide factory fixed cycle period. When mounted on a metal surface, it can be used to drive solenoids, contactors, relays, or lamps, up to 20 Amps steady, 200 Amps inrush.

Operation
Upon application of input voltage, the output energizes and the T1 ON time begins. At the end of the ON time, the output de-energizes and the T2 OFF time begins. At the end of the OFF time, the output energizes and the cycle repeats as long as input voltage is applied. Increasing the ON time decreases the OFF time. The total cycle period is equal to the ON time plus the OFF time. The total cycle period is factory fixed. ON time range is 1 to 99 percent of cycle period.

Reset: Removing input voltage resets the output and time delays, and returns the sequence to the T1 ON time.

Function
V = Voltage    L = Load    CP = Cycle Period
R = Reset    T1 = ON Time    T2 = OFF Time

Connection
Dashed lines are internal connections.
R_1 = 100 KΩ
S1 = Optional Low Current Initiate Switch
T1 = ON Time    T2 = OFF Time

Ordering Table

<table>
<thead>
<tr>
<th>PTHF Series</th>
<th>X Input</th>
<th>X Fixed Cycle Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2</td>
<td>24 V AC</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>120 V AC</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>230 V AC</td>
</tr>
</tbody>
</table>

Specify 10 ... 1000 s as the total cycle period.

Example P/N: **PTHF210A, PTHF6120D**
# Technical Data

## Time Delay
- **Range**: Adjustable from 1 ... 99%; \( R_T = 100 \, \Omega \)
- **Cycle Period**: Fixed from 10 ... 1000 s
- **Repeat Accuracy**: +/- 0.5% or 20 ms, whichever is greater
- **Cycle Period Tolerance (Factory Calibration)**: \( \leq +/- 5\% \)
- **Reset Time**: \( \leq 150 \) ms
- **Time Delay vs. Temperature & Voltage**: \( \leq +/-10\% \)

## Input
- **Voltage**: 24, 120, or 230 V AC
- **Tolerance**: +/- 20%
- **Line Frequency**: 50 ... 60 Hz
- **Power Consumption**: \( \leq 2 \) VA

## Output
- **Type**: Solid state
- **Maximum Load Currents**
  - **Output**
    - A: 6 A
    - B: 10 A
    - C: 20 A
    - D: 1 A
  - **Steady State**
    - 60 A
    - 100 A
    - 200 A
    - 10 A
  - **Inrush**
    - 60 A

## Protection
- **Circuitry**: Encapsulated
- **Dielectric Breakdown**: \( \geq 2000 \) V RMS terminals to mounting surface
- **Insulation Resistance**: \( \geq 100 \, M\Omega \)

## Mechanical
- **Mounting**: Surface mount with one #10 (M5 x 0.8) screw
- **Package**: 2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)
- **Termination**: 0.25 in. (6.35 mm) male quick connect terminals

## Environmental
- **Operating Temperature**: -40°C ... +60°C
- **Storage Temperature**: -40°C ... +85°C
- **Humidity**: 95% relative, non-condensing
- **Weight**: \( \cong 3.9 \) oz (111 g)

### Mechanical View
```
+ 2.00 (50.8) + 1.08 (27.4) |
| 2.00 (50.8) |
| 2 |
| 7 |
| 8 |
| 4 |
| 5 |
| 12 |
| 11 |
| 3 |
| 0.25 (6.35) DIA. |
| 0.25 (6.35) |
```

Inches (Millimeters)