Current Indicators

Wire-Mounted Current Indicators

Tempco’s wire-mounted electrical current indicators provide an effective method of monitoring electrical current. The indicator is attached directly to a current-carrying wire. When the current exceeds the turn-on point, the LED will illuminate to indicate the presence of current.

**Design Features**
- Self Powered
- Easy to Install
- Supplied with Plastic Tie
- Indicates Current from 2 to 100 Amps AC (1 Wire Pass)

**Applications**
- Monitor Heater Element Status
- Observe Remote Loads

**Remote Current Indicators**

The Tempco remote current sensing transformer is installed around the current-carrying wire and is connected directly to the LED panel indicator. When the current exceeds the turn-on point of the sensing transformer, the LED illuminates to indicate the presence of current. Two sizes of remote current sensing transformers are available for use with either of two types of LED indicators listed below at right.

**Typical Applications**
- Indicate Open Heater Elements
- Observe Remote Loads
- Indicate Phase Loss
- Monitor Motor Operation

### Specifications

<table>
<thead>
<tr>
<th>Wire Passes</th>
<th>Turn-On Point (Amps AC)</th>
<th>Max. Wire Dia. (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>.29</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>.25</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>.14</td>
</tr>
<tr>
<td>N</td>
<td>2 + N</td>
<td>.13</td>
</tr>
</tbody>
</table>

- **Red LED Indicator**
  - Part Number: CTT00001
- **Green LED Indicator**
  - Part Number: CTT00002

**Panel Mounting Bracket**
- Part Number: CTT00003

**Press-In Panel LED Indicator**
- LED Type: T-1-3/4", Red Bipolar
- Mounting Hole: .250"
- Part Number: CTL00001

**Splash-Proof LED Indicator**
- Supplied with rubber sealing washer LED Type: T-1-1/4", Red Bipolar
- Mounting Hole: .312"
- Part Number: CTL00002
The TEMPCO series of **Current Sensing Relays** provides an effective and highly stable method for monitoring electrical current. The current-carrying wire is routed through the opening extending from the top of the case. When current reaches the level set by the trip point adjustment, the electromechanical relay is energized. An adjustable timer is provided to delay activation of the relay. A precision voltage reference circuit ensures a highly repeatable trip point. Design of the power-on delay circuitry allows the supply power to be repeatedly cycled on and off without affecting the stability of the current sensing operation.

**Specifications**
- **Mounting:** 2-3/16" dia. clearance holes on 1-15/16" by 2-15/16" centers
- **Environmental:**
  - Operating Temperature: -30°C to +60°C
  - Storage Temperature: -55°C to +125°C
- **Power-On Delay:** 100 ms max.
- **Hysteresis:** 5% max.
- **Input Power Supply:** 120 or 240Vac, 24 Vdc (Tolerance ±10%)
- **Input Terminals:** 2-1/4" Male Quick Connect
- **Operating Class:** 600 V
- **Sensed Current:** Max. Continuous: 200% Full Scale
- **Frequency:** 60-400 Hz
- **Output Relay:**
  - Arrangement: 1 Form C (SPDT)
  - Terminals: 3-1/4" Male Quick Connect
  - Contact Rating: NO - 120/240 Vac: 20A, NC-120/240 Vac: 10A

**Ordering Information**
Current Relays are offered with the options listed in the worksheet above. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements and a part number will be assigned, or choose a common configuration. **Standard lead time is stock to 3 weeks.**

**Design Features**
- Variable Trip Point and Time Delay
- *LED* Relay Status Indicator
- Monitors Currents from 10 mA to 100 AC Amps
- *Dead Band* Prevents Relay Chatter
- Calibrated Dial
- Electrical Isolation Between Circuits

**Typical Applications**
- Monitor Electrical Heater Elements
- Sense Motor Over/Under Loads
- Detect Lamp Burnout
- Indicate Phase Loss

**Common Configurations**
(with Calibrated Dial & Standard Relay)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Trip Status</th>
<th>Supply Voltage</th>
<th>Trip Range (Amps)</th>
<th>Delay (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTR00201</td>
<td>LC</td>
<td>120</td>
<td>1 to 10</td>
<td>2 to 25</td>
</tr>
<tr>
<td>CTR00202</td>
<td>LC-Latch</td>
<td>120</td>
<td>1 to 10</td>
<td>2 to 25</td>
</tr>
<tr>
<td>CTR00203</td>
<td>LC</td>
<td>240</td>
<td>3 to 30</td>
<td>2 to 25</td>
</tr>
<tr>
<td>CTR00204</td>
<td>LC-Latch</td>
<td>240</td>
<td>10 to 100</td>
<td>2 to 25</td>
</tr>
<tr>
<td>CTR00205</td>
<td>LC</td>
<td>240</td>
<td>10 to 100</td>
<td>2 to 25</td>
</tr>
<tr>
<td>CTR00206</td>
<td>LC-Latch</td>
<td>240</td>
<td>10 to 100</td>
<td>2 to 25</td>
</tr>
</tbody>
</table>

**Ordering Code:** CTR

**Time-On Delay**
- **A** = .5 to 6 Sec.
- **B** = 2 to 25 Sec.
- **C** = .1 to 1 Sec.
- **X** = None

**Output Options**
- **R** = Standard Relay
- **N** = Isolated NPN Transistor
- **T** = Isolated Triac

**Supply Voltage**
- **1** = 120 Vac
- **2** = 240 Vac
- **3** = 24 Vdc

**Trip Ranges**
- **3** = 1.0 to 10 AC Amps
- **4** = 3.0 to 30 AC Amps
- **5** = 6.0 to 60 AC Amps
- **6** = 10 to 100 AC Amps

**Trip Point Dial**
- **CD** = Calibrated Dial
- **FP** = Fixed Setpoint (specify required value)