Current Monitoring

Current Switch: Auto Calibration, Narrow Limit Process Control

H10F

DESCRIPTION

The Hawkeye TruStat H10F is a microprocessor based, self-learning, self-calibrating current switch. It provides calibration-free status, for both under-current and over-current conditions. At initial power-up, the H10F automatically learns the average current on the line with no action required by the installer. Once a current is learned, the switch monitors for changes in current greater than ±20% of the learned load.

APPLICATIONS

- Verifying lighting circuit and other electrical service run times
- Monitoring status of industrial process equipment
- Monitoring status of critical motors (compressor, fuel, etc.)

FEATURES

- Automatic adjustable trip point (3.5-100A)...precise control of current trip point
- 100% solid state...no moving parts to fail
- Removable mounting bracket for installation flexibility
- 5-year warranty
- Automatic calibration...reduced errors and installation costs
- Microcontroller based learning technology...automatically learns load upon initial power-up...eliminates labor associated with calibration
- Monitors current for both under- and over-load in one package
- Small size fits easily inside small starter enclosures...saves space

PRODUCT FUNCTIONS

Automatically Learns At Initial Power-Up

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Sensor Power</th>
<th>Induced from monitored conductor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation</td>
<td>600VAC RMS (UL); 300VAC RMS (CE)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-15° to 60° C (5° to 140°F)</td>
</tr>
<tr>
<td>Humidity Range</td>
<td>10-90% RH non-condensing</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Trip Point Calibration Learn Period</td>
<td>30 sec. learn period</td>
</tr>
<tr>
<td>Normal-to-Alarm Status Output Delay</td>
<td>1 second max.</td>
</tr>
<tr>
<td>Alarm-to-Normal Status Output Delay</td>
<td>30 seconds nominal*</td>
</tr>
<tr>
<td>Status Output</td>
<td>±20% of learned current to trigger alarm; ±15% of learned current to release alarm (see graph)</td>
</tr>
<tr>
<td>Terminal Block Wire Size</td>
<td>24-14 AWG (0.2 to 2.1 mm²)</td>
</tr>
<tr>
<td>Terminal Block Torque</td>
<td>3.5 to 4.4 in-lbs (0.4 to 0.5 N-m)</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>UL 508 open device listing; CE: EN61010-1, CAT III, pollution degree 2, basic insulation</td>
</tr>
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</table>

*If current switch experiences a momentary loss of power, 30 second delay may or may not apply.
Do not use the LED status indicators as evidence of applied voltage.
HOW IT WORKS
The compact split-core H10F current switch monitors a learned load current to detect power loss and electrical overload. The push-button initiated LEARN MODE allows resetting of the monitored current when the load changes due to system alterations.

LEARN MODE
- Unit automatically enters LEARN MODE upon initial power-up
- Auto-calibration is achieved by averaging the load current for 30 seconds
- During this stage, green and red LEDs alternately blink on/off
- STATUS OUTPUT contacts are closed
- LEARN MODE may be initiated manually

NORMAL MODE
- Initiated after the 30-second learning period, or immediately upon power-up if sensor has already learned a load
- The red LED is off, and the green LED is blinking
- STATUS OUTPUT contacts are closed

ALARM MODE
- The ALARM state signals low current, high current, or power loss conditions
- Initiated within 1 second when any load current excursion exceeds a nominal ±20%
- ALARM will persist until the load current returns to within a nominal ±15% of the learned current value, or when power is restored to normal
- The 5% ALARM-to-NORMAL MODE reentry margin prevents alarm signal oscillations. This feature is enhanced by a 30-second delay, to insure true nominal load current conditions when returning to NORMAL MODE from an ALARM state
- The green LED is off, and the red LED blinks
- STATUS OUTPUT contacts are open

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AMPERAGE RANGE</th>
<th>STATUS OUTPUT</th>
<th>NOMINAL TRIP POINT TARGET RANGE*</th>
<th>NOMINAL ALARM RESET RANGE*</th>
<th>HOUSING</th>
<th>STATUS LED</th>
<th>UL</th>
<th>CE</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>H10F</td>
<td>3.5 - 100A</td>
<td>N.O.1.0A/30VAC/DC</td>
<td>±20%</td>
<td>±15%</td>
<td>Split-core</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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</tbody>
</table>

*For best performance, monitor 5A or more current. At currents less than 5A, these ranges are approximate.

ACCESSORIES
- DIN Rail Clip Set (AH01)
- DIN Rail (AV01) and DIN Stop Clip (AV02)