



3-Phase Trip Coil Monitor (TCM) Provides Continuous Monitoring of Each Phase of the Breaker Trip Coil

The TCM is a convenient panel-mounted relay that provides continuous monitoring of trip coils and 52B auxiliary contacts utilizing 3 bi-color LEDs for visual indication of trip coil and breaker position status for each phase. Green indicates the breaker is open; red indicates it is closed.

If any LED is off, it indicates a failed trip coil phase or loss of power to that trip coil. If all LEDs are off, it most likely indicates a loss of power.

An integrated alarm time delay circuit eliminates nuisance alarms when a trip coil opens, loses power, or while the breaker is completing its trip operation.

The TCM monitors the individual phases from each trip coil power supply, thereby meeting the Northeast Power Coordinating Council's requirements for the monitoring of single-pole tripping to ensure proper breaker operation should there be a single trip coil failure.



3-Phase TCM Nameplate with Individual Trip Coil LEDs

Features

- Local LED indication of breaker position and trip coil continuity
- SCADA indication of open trip coil or loss of voltage
- Standard alarm time delay
- Field-replaceable industry-standard LEDs
- Convenient, easy-to-wire design
- 48 VDC and 125 VDC applications
- SCADA Aux Output

Benefits

- Continuous local and remote monitoring of trip coil continuity
- Built-in delay feature eliminates nuisance alarm
- Solid-state design prevents false alarms due to magnetic interference
- Minimal behind panel space required
- Local and remote loss of voltage alarm

LED/SCADA Indications

Normal Closed Breaker

TCM LEDs: → SCADA Alarm Output

→ SCADA Aux Output

- All phases of breaker closed
- All trip coils intact
- No alarm

Closed Breaker with Failed Trip Coil

TCM LEDs: → SCADA Alarm Output

→ SCADA Aux Output

- All phases of breaker closed
- Breaker with failed phase C trip coil
- Alarm output closed

Normal Open Breaker

TCM LEDs: → SCADA Alarm Output

→ SCADA Aux Output

- All phases of breaker open
- No alarm

Closed Breaker with Loss of Voltage

TCM LEDs: → SCADA Alarm Output

→ SCADA Aux Output

- SCADA alarm closed
- Loss of voltage alarm

Single-Pole Trip

TCM LEDs: → SCADA Alarm Output

→ SCADA Aux Output

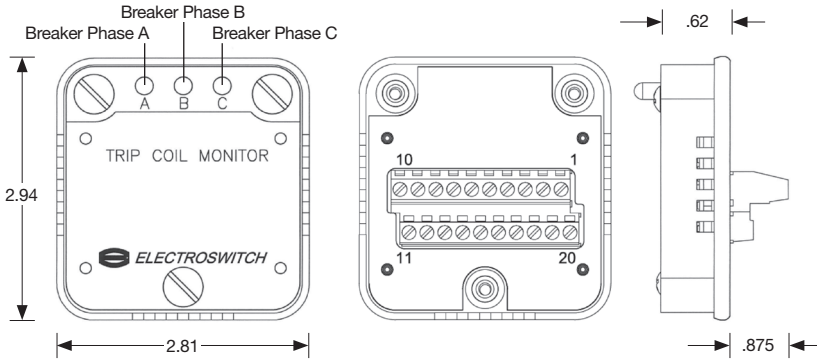
- Breaker phases A and C closed
- Breaker phase B open
- All trip coils intact
- No alarm



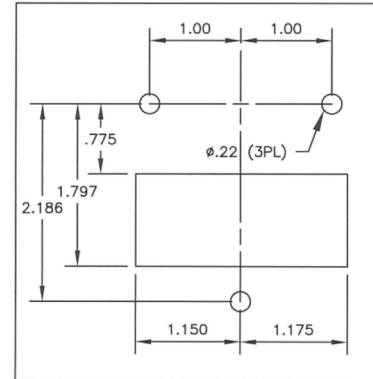
ELECTROSWITCH

NEW!

3-Phase TCM
Trip Coil Monitor



Panel Drilling (not to scale)



Outputs

| Position | Function | Position | Function |
|----------|---------------------|----------|---------------|
| 1 | PHASE B 52 b+ | 20 | PHASE A 52 b- |
| 2 | PHASE B 52 b- | 19 | PHASE A 52 b+ |
| 3 | PHASE C 52 b+ | 18 | PHASE A TC- |
| 4 | PHASE C 52 b- | 17 | PHASE A TC+ |
| 5 | NC | 16 | PHASE B TC- |
| 6 | NC | 15 | PHASE B TC+ |
| 7 | SCADA AUX OUTPUT+ | 14 | BATTERY- |
| 8 | SCADA AUX OUTPUT- | 13 | BATTERY+ |
| 9 | SCADA ALARM OUTPUT+ | 12 | PHASE C TC- |
| 10 | SCADA ALARM OUTPUT- | 11 | PHASE C TC+ |

Specifications



Electrical

Operation Voltage: 100 – 140 VDC
SCADA Contact Output Rating: 100 mA MAX

Mechanical

Operating Temperature Range: -4°F (-20°C) to 131°F (55°C)
Standard Alarm Time Delay: 250 ms

Electronic

Transient Protection: Meets ANSI/IEEE C37.90.1
UL 1054, File No. E18174

Ordering Information

| Part Name | Electroswitch Part Number | Operating Range |
|---------------------|---------------------------|-----------------|
| 48 VDC 3 PHASE TCM | # 836TCM3P-48 | 37 - 56 VDC |
| 125 VDC 3 PHASE TCM | # 836TCM3P-125 | 100-140 VDC |

Consult factory for additional information.

Other Products Available Through Electroswitch



Single-Phase Trip Coil Monitor



Substation Battery Monitor



LOR with Lighted Nameplate

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