

MCB Trip Monitoring Module (MTMM)

Overview

Whilst an IPS system provides greater continuity of the power supply by protecting against (and alarming on) the first earth fault on an individual system, many users believe an IPS would be further enhanced by alarming if an individual circuit has lost power as currently there is no warning for clinical staff that power has been lost.

To continually meet our customers needs and expectations Starkstrom has developed an additional supervisory module to monitor individual circuits, and provide an alarm, when any MCB has tripped within the IPS system. This could occur if an individual circuit is subject to a large “in-rush” or overload current, or when two separate earth faults (one on line 1, the other on line 2) are present on the system simultaneously.

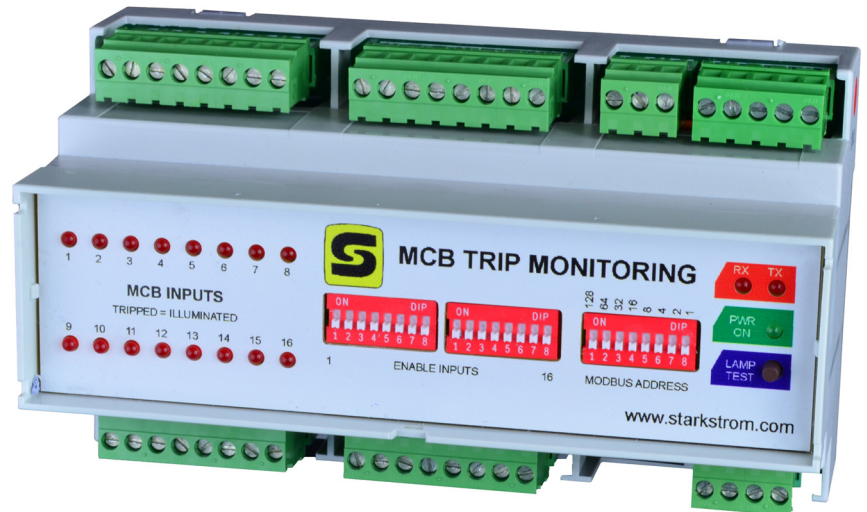
The MTMM has the following functions:

- Individual voltage monitoring between L1 and L2 for 16 circuits
- LED identification of circuits in alarm for voltage less than 100VAC
- Deactivation of any unused MCB’s in the panel
- Conflict error monitoring and alarming
- Modbus communication for remote individual circuit identification
- BMS volt free common alarm

The alarm module can communicate via Modbus with the RA003 Text alarm for individual MCB identification and with the BMS using a volt-free common alarm.

The fascia of the module has individual red LED’s showing the status of each MCB. Modbus serial communications, over RS485, is also available to provide individual circuit status to the BMS or IPS remote alarm. To observe the live status of any serial communications, there are individual LED’s for communication “transmit” and “receive”. The slave address can be easily configured using dip switches on the front of the module. A volt free contact shall be available for direct connection to the BMS or other equipment

For safety purposes, outputs on any un-used MCB’s in the IPS distribution board can be electrically isolated. To prevent this giving an unintentional trip signal to the alarm, each MCB may be deselected from monitoring, using the dip switches on the front of the module. If a deselected MCB, for whatever reason, has a measured voltage between the output poles, a conflict error (flashing LED) and alarm will be activated.



Technical Specification

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|--------------------------------|--|
| Supply | 110-230VAC 50/60Hz \pm 10% |
| Voltage inputs | Up to 16 voltage inputs to be connected. Each channel monitors the L1 and L2 lines of each MCB connected, giving 32 possible connections in total. |
| Communication | Modbus RTU (Remote Terminal Unit) compatible in operation with an Allen Bradley MicroLogix 1100 or 1200. The link will be half duplex running at 9.6k baud (up to 38.4k is available), No parity checking, 8 data bits and 1 stop bit. |
| Relay Output | A single V.F. Changeover relay contact is provided. The current rating is a minimum 5.0A AC1 |
| Status indication LED's | 16x for each voltage input (Red) 1x for AC Power (Green) 2 x Modbus Activity LED's (Tx, Rx) (Red) |



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