

Branch Circuit Monitor

for Internet Data Centers

CIRCUIT 245 A 26 A
HIGH CURRENT ALARM



The **New Branch Circuit Monitoring** system monitors current on individual panel board branch circuits alerting users before the circuit current approaches the breakers trip point. Current alarm thresholds are field programmable to match individual branch circuit breaker ratings. By receiving early notification of high current conditions, users can perform the required preventative maintenance to avoid unnecessary load drops making the **Branch Circuit Monitor a giant step forward in enhancing system reliability.**

The system seamlessly integrates next to the raceway of MGE Power Management Module panel boards keeping installation of branch circuits easy. Centralized monitoring of large facilities is simple with up to 63 panel boards (2,646 circuits) monitored over one two wire RS-485 ModBus network. A local display indicates currents of all circuits as well as identifies circuits that exceed their user defined current limits.

Existing panel boards can use a retrofit system with split core CT's allowing installation without having to remove any branch circuit wiring. Other options include monitoring the current of panel board main breakers. This is particularly useful in data centers where load densities of branch circuits can easily exceed the current rating of the main breaker. Together, these systems improve critical power system reliability and save thousands of hours of time associated with manual current measurements.

The most significant advancement in power system reliability since the UPS

Advanced Features:

Features

- ▶ Monitors current of all branch circuits
- ▶ Alarms before breakers are at risk of tripping
- ▶ Integrated with the MGE Power Management Module
- ▶ Easy to use/ no extra wiring required
- ▶ Network up to 2,642 circuits on one RS-485 serial cable
- ▶ Integrates with most building management systems

Options

- ▶ Optional Power Logic[®] monitoring software
- ▶ Split core CTs for retrofits
- ▶ DIN Rail mounted version
- ▶ Monitoring of panel board feeder breaker(s)
- ▶ IR data acquisition using Palm OS[®]

Applications

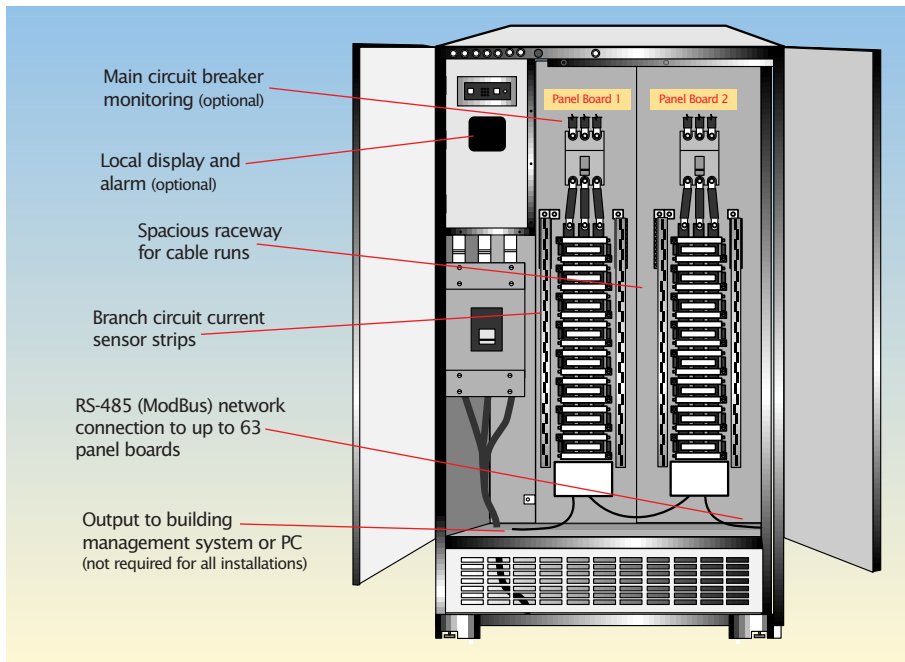
- ▶ Overload protection
- ▶ Load based cost allocation
- ▶ Centralized load monitoring
- ▶ Load management
- ▶ Load balancing

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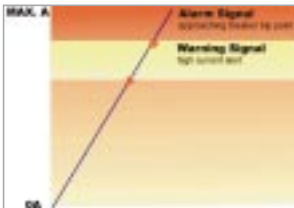
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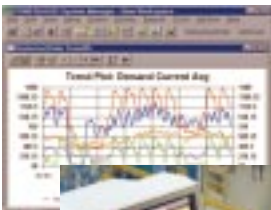
The integrated circuit monitoring solution



Monitors all circuits and sub main breakers. The Branch Circuit Monitor system is seamlessly integrated into MGE's Power Management Module. Branch circuit wires are threaded through the current transducers running along the breaker connection path. A spacious raceway on both sides of the sensor strips makes installation and wiring changes easy. MGE also offers power grade (cumulative KWh and A) monitoring of panel board sub main breakers, also with a serial network output and current based alarms.



Early Notification Alarms: When a branch circuit reaches a specific (user defined) current the monitoring system will generate a warning alarm on both the local display and communications output. A second alarm is activated at a higher current level to indicate that the breaker is approaching its tripping capacity. All alarms identify the specific circuit with the alarm condition.



Centralized Monitoring: All branch circuit current information is available on a ModBus serial network for easy integration with just about any building management system. Up to 63 panel boards can share one serial network. Power Logic software (optional) facilitates easy centralized monitoring and features a user-friendly graphical interface with Internet access.



Specifications

General

- ▶ Number of Circuits: 42 (per system)
- ▶ Frequency: 50/60 Hz
- ▶ Sample Frequency: 1280 Hz
- ▶ Update Rate : 600 msec
- ▶ Accuracy: $\pm 5\%$ of reading from 10A to 50A
- ▶ Operating Temp. Range: 0 to 60°C
- ▶ Storage Temp. Range: -40°C to 70°C
- ▶ Power Source : 120 VAC (+10/-25%), 50/60 Hz
- ▶ Connection to Conductor: Solid-core current transducer
- ▶ Current capacity: 10-50 A
- ▶ Max. wire gauge: # 6 THHN

Alarms

- ▶ Warning alarm register: preset 70% of current sensor max. (user definable)
- ▶ Alarm Register: preset 80% of current sensor max. (user definable)

Network Communications

- ▶ Protocol: ModBus RTU RS-485
- ▶ Connection : 1 to 247 (selectable)
- ▶ Baud Rate: up to 19,200 (selectable)
- ▶ Parity: NONE, ODD, EVEN
- ▶ Communication Format: 8-data-bits, 1-start-bit, 1-stop-bit
- ▶ Termination: 5-position connector
- ▶ Max. circuits per network: 63 (2,646 circuits each)

Options

- ▶ Power Logic Internet enabled monitoring software
- ▶ LCD local display w/ alarm
- ▶ Sub main breaker w/ energy grade monitoring
- ▶ DIN rail mounted sensor strip
- ▶ Split core CT sensor strip for retrofit applications

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