

Circuit Breaker Monitor (CBM)

Real-Time Circuit Breaker Data Acquisition & Diagnostics

On-Line Condition Monitoring

Shift toward predictive maintenance and improve asset availability by monitoring in real time mechanical, electrical, and environmental parameters of the circuit breaker. The Circuit Breaker Monitor (CBM) uses advanced algorithms, analyzing past and present data, to determine equipment health and informs of potential problems with actions to be taken.

Operational Benefits

- Reduces downtime
- Provides information to improve safety
- Prevents inadvertent failures
- Reduces unnecessary maintenance routines
- Predicts potential issues prior to a failure by: monitoring circuit breaker health and providing alerts; collecting circuit breaker operational history; and baselining and trending circuit breaker performance

What does it monitor?

Our CBM monitors a number of your components including: operating coil condition, mechanism operation, circuit breaker environmental conditions, thermal status of circuit breaker primary conductors, trip/close timing, charging motor condition, and digital operation count. The collection of monitoring data to the CBM allows for a wholistic view of a circuit breaker's operating condition for sustaining uptime and reducing total cost of ownership.

Shift to a preventative mindset

Proactively monitor and understand your circuit breaker's health

Simple green - yellow - red alert system

Reduce unexpected downtime

Main Processing Unit



Hall Effect Sensor

Also includes:



EIM - Health Indication
Local Comm (USB)

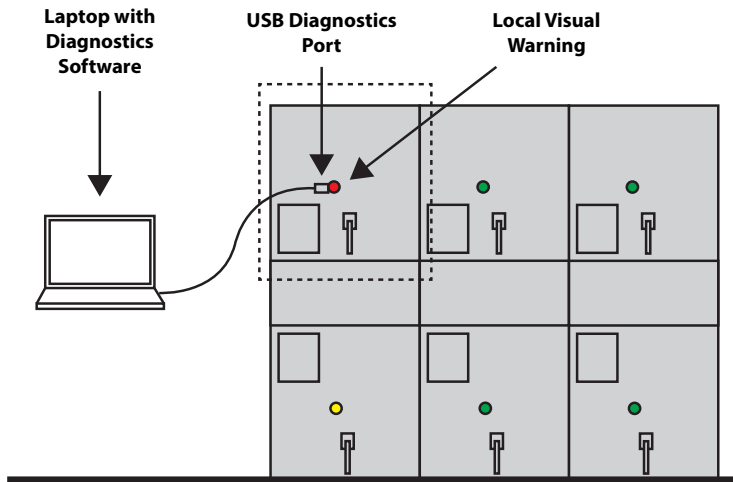


IRIM - RS485/IR Comm
Module

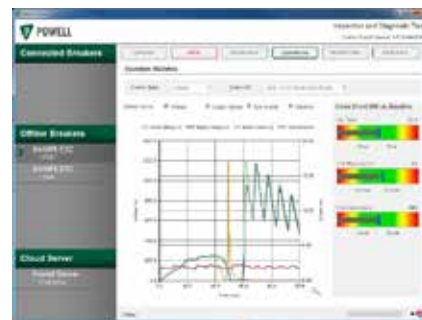
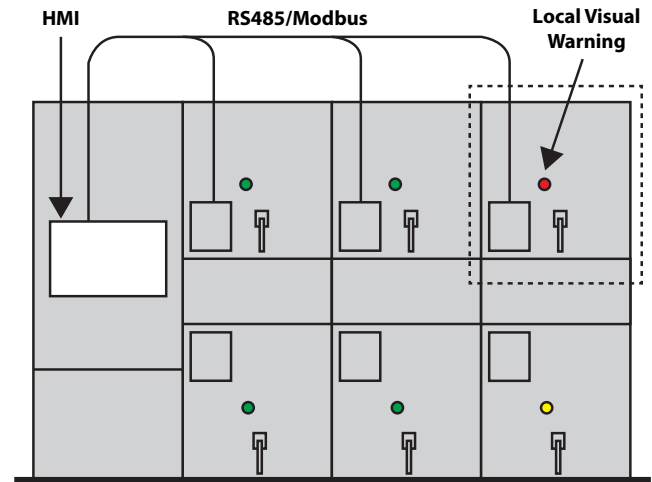


Typical Circuit Breaker Monitoring System Implementations

Standalone Installation



Installation with HMI Online Monitoring



Example of Diagnostics Software Pages
Circuit Breaker Overview - Health Indication
Graph of a raw profile - trip/close/charge
Processed data - calculated results and limits

Specifications	
Rated Voltage:	110-240VAC/DC 50/60Hz
Operating Temperature:	-40°C to 70°C
Shock & Vibration:	IEC 60068-2-6, 100K Shocks

Breaker Operation Monitoring	
Trip Event:	100-407V, 0-15A, 10kS/s, 100ms
Close Event:	100-407V, 0-15A, 10kS/s, 100ms
Charging Event:	100-407V, 0-15A, 60S/s, 15s
Breaker Conductor Temperature:	BriteSpot -40°C to 125°C

Environmental Condition Monitoring	
Temperature	-40°C to 85°C

Communication Interface	
RS485/Modbus USB:	Primary interface local diagnostics and data download - USB MiniB
Infrared:	500K between Circuit Breaker and communication module

Other Features	
Onboard Memory:	2000 operations, 1 sample per 4 hours
Enclosure Design:	Molded ABS/PC with silicone vibration dampers
Weight:	1 lb.
Dimensions:	5.5"x 4"x 1.5"