BM201

Rugged Bushing Monitoring Module for Industry Applications

Rugged Monitoring BM201 is an online bushing monitoring module designed compactly to monitor real time condition of the Bushings.

Operating under high voltage substation environments with greater reliability BM201 measures Power Factor/Tan δ and Capacitance from the bushing test tap adaptors. It will alert personnel of fault conditions at an early stage and provide vital health information on the bushings and the transformer.

Providing a comprehensive view of the transformers bushing conditions BM201 combines accuracy and easy to use software which can further be expanded to additional transformers. It is available as a standalone or comprehensive system integrated with other transformer monitoring solutions and can stably monitor maximum upto 6 bushings.

Using custom made adapters connected at the bushing tapping points, the BM201 by applying a proven balance current method (Sum of Current) measures

- The change in bushing leakage current compared with the original values correlated from the bushing name plate information.
- The timing difference between the 3 bushing current phases, which translates to phase angle differences relative to each other.

The measured and calculated values are then sent to the third-party system via Modbus (RTU) protocol using built-in serial (RS-485) port. The BM201 also captures the hourly average of the Tan δ, Capacitance and Voltage (absolute and rate of change). It has the data integration capability of multiple monitoring platforms.

We at Rugged Monitoring have extensive experience and worldwide resources available to deliver integrated monitoring solutions and assist customers with transformer challenges, including various other electrical assets.

» Benefits

- Minimize asset outages due to bushing failure
- Efficient to avoid most dangerous catastrophic failures of bushings
- Optimize bushing replacement planning: RoC of Tan δ and capacitance.
- Cost optimized solution for different types of electrical asset
- Faster integration with SCADA or Cloud

» Applications

Online monitoring of condensing/ capacitive type bushings

Online Monitoring of Transformer Bushings

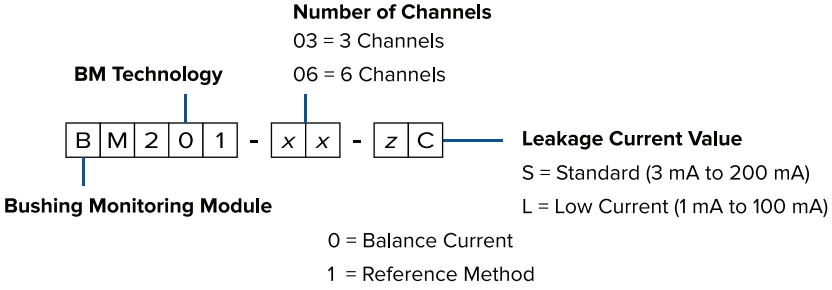
Online Monitoring of Breaker Bushings

Features

- More than 45 + customizable bushing tap adaptors
- Highly accurate measurement for Tan δ and Capacitance
- Double protection for earthing link breakage
- Easy to install and commission
- Support for multiple technologies of bushing monitoring Sum of Current Method (Balance Current Method) and Reference Method

ELECTRICAL SPECIFICATIONS	Measurement Range Leakage Current	1mA to 200mA, with minimum resolution of 0.1mA
	Sampling Rate for Leakage Current	3 KHz
	Bandwidth	2-90Hz
	ADC Resolution	16 bits
	Measurement Accuracy - Leakage Current - Tan Delta/Power Factor - Capacitance - Voltage	 ± 0.5% ±0.1% ±0.5% ± 0.5%
	Scan Rate	1 sec/channel
	Power Input	12 - 24V DC (Default)
	# of Relays Outputs	01 x Fail Safe Relay for System Failure
	Measured Parameter	Operating Voltage, Overvoltage, Leakage Current, Overcurrent
COMMUNICATION	Serial Port	RS-485 with Modbus RTU
	Configuration Port	USB (to use with Rugged Connect windows software)
ENVIRONMENTAL SPECIFICATIONS	Operating Temperature	-25 °C to 75 °C
	Storage Temperature	-40 °C to 85 °C
	Humidity	95% Non-Condensing
MECHANICAL SPECIFICATIONS	Dimensions	4.92" x 4.92" x 1.89" (125mm x 125mm x 48mm)
	Number of Channels	Upto 06 channels

Ordering Code



CERTIFICATIONS

ISO 9001 | ISO 14001 | OHSAS 18001 | Lloyd's Register | Atex Certification | NIST Certification

Canada

1415 Frank-Carrel, Sulte , 230, Quebec, QC-G1N , 4N7, CANADA

Asia Pacific | China | India | Middle East & Africa | Europe | North America | Latin America

+1-418-767-0111

info@ruggedmonitoring.com

www.ruggedmonitoring.com