

HYDRAN® M2 FAULT GAS AND MOISTURE MONITOR

Substation Automation Solutions

FACT SHEET



Overview:

The HYDRAN® instruments are early warning devices that will alert personnel to developing fault conditions that could lead to equipment failures and unscheduled outages. They warn personnel when diagnostic or remedial actions are needed. The Hydran M2 adds the monitoring of moisture in oil to this capability. This allows the use of only one valve to obtain both measurements. The use of the optional analog inputs allows basic transformer monitoring. Additionally, the product interfaces with FARADAY® TMCS Transformer Management System and GE TMAP & LTC-MAP products. The Hydran M2 is installed with no additional oil lines and uses no pumps or other moving parts for maximum long term reliability.

Two in One

The HYDRAN M2 combines two products in one:

- The Hydran intelligent fault monitor that reads a composite value of gases, in ppm, generated by faults and provides output capability for communications.
- Moisture level sensor for the evaluation of dangerous conditions such as bubbling temperature and asset management information such as rate of aging of the insulation.

The Hydran M2 includes up to four optional 4-20mA inputs (or outputs) for possible connection to other sensors such as temperature or load current. Five dry contacts are available. The Hydran M2 will communicate with existing or new Hydran Networks and FARADAY tMEDIC Transformer Management Systems as well as GE substation automation products such as iBOX™, D20 and D25.

Key Features

- Fault gas and moisture in oil monitoring
 - Single valve installation with no additional piping required.
 - Composite reading with sensitivity to CO (in addition to H₂) can provide an indication of overheated paper.
 - Hourly and daily trend/average with alarm features
 - Moisture levels provided as RH% and ppm.
- Expanded history logging of data and events at adjustable rates
- Adjustable alarms on gas, moisture and analog inputs
 - Flexible alarm configuration for levels and trends on all inputs
- Compatible with existing Hydran communications networks
 - Supports direct communications with the FARADAY tMEDIC Transformer Management System as well as the GE Automation products such as iBOX, D25 and D20
- Sensor and system self-test and diagnostics
- Remote or local configuration and program upgrading
- Full stand-alone capabilities when host computer is not required
- Sensor measurement update times are under 10 minutes
- No additional oil lines for installation
- No pumps or moving parts are used for maximum long term reliability
- Five dry contacts are available for indication and alarm outputs



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Hydran M2 Applications

The HYDRAN M2 is easily installed on oil-filled electrical equipment for on-line continuous monitoring of the following:

- Power transformers
- Generation Step Up Transformers
- Auto transformers
- Reactors
- Bushings
- Instrument transformers
- Arc furnace transformers
- Rectifier transformers
- Distribution transformers
- Tap changers
- Oil-filled power cables

Hydran M2 Benefits

- Continuous field measurement
- Single valve required for both fault gas and moisture monitoring
- Reduced unplanned outages
- More predictable and reliable maintenance schedules
- Better control of load on gassing equipment
- Safer work environment
- Assistance in the decision-making process for keeping equipment on-line or removing from service
- On-time, proactive decision-making supported
- Reduced installation costs



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