

B100 ETM with Hydrogen Monitoring



The pairing of Dynamic Ratings' B100 with a hydrogen sensor introduces the most complete, cost effective transformer monitoring solution available.

The integration of these devices allows the asset owner to have real-time access to vital transformer data, such as

- Top oil temperature
- Calculated winding hot spot
- Ambient temperature
- Insulation loss of life calculation
- Hydrogen monitoring

FEATURES

This transformer monitoring system provides temperature and DGA condition assessment at an affordable price. Implementation of the B100 Electronic Temperature Monitor (ETM) as a replacement for mechanical gauges has proven to be a cost effective and versatile means of monitoring critical temperatures related to the operation of transformers. The B100 + H₂ solution:

- Provides temperature measurements for top oil, ambient or LTC compartment, calculates winding hot spot for up to three windings, provides cooling control, and can display hydrogen levels which is a key indicator of incipient faults.
- Offers a robust system to be installed in the harshest of environments. The B100's IP66 rated enclosure and rugged design of the hydrogen sensor makes it optimal for utilization in applications where cost-effective condition monitoring was previously unattainable.
- Allows for easy entry of equipment information and alarm settings through the intuitive user interface of the B100.
- Provides secure Modbus, DNP3 or IEC 61850 communication protocols.

The integration of these IEDs offers a cost-effective solution for condition-based monitoring of even small distribution level transformers, greatly increasing the asset owner's ability to efficiently direct maintenance across their entire electrical system.

HOW TO ORDER

B100 - - -

Base Unit

Each B100 Series ETM includes the following I/O: 2 x RTD, 3 x CT, 1 x Digital Input, 6 x Digital Outputs, 2 x Analog Outputs, 1 x System Alarm

Ethernet Communications Options

- N** None
- L** 100Base-FX Fiber Ethernet with SC connectors
- S** 100Base-FX Fiber Ethernet with ST connectors
- R** 100Base-T Copper Ethernet with RJ45 connector

N
L
S
R

Serial Communications Option

- 4** RS-485 Copper Serial Port for Hydrogen Sensor

4

Mounting Options

- E** IP66 (NEMA-4 Equivalent) Enclosure
- T** IP31 (NEMA-2 Equivalent) Through Panel Mount
- P** IP31 (NEMA-2 Equivalent) Surface Panel Mount

E
T
P

Hydrogen Sensor Options

- Hydrogen Only
- Hydrogen + Moisture

GEN5
Multiple Options Available*

*Request a list of available options by contacting your regional Dynamic Ratings office. Contact information can be found below.

B100 Specifications

Power Requirements:	48 - 240 VDC or 110 - 240 VAC (50 - 60 Hz)
Temperature Range:	-40°C to 70°C (-40°F to 158°F)
Communications:	USB, Ethernet, RS485 (optional), Serial Fiber (optional), DNP, Modbus, IEC 61850

Hydrogen Sensor Specifications (Gen 5)

Measurement Range:	25-5000ppm
Accuracy:	20% of reading or 25 ppm, whichever is greater
Repeatability:	10% of reading or 15 ppm, whichever is greater
Response Time:	< 60 min (90% of step change)
Cross Sensitivity:	Less than 2% cross-sensitivity to other gases (CO, CO ₂ Hydrocarbons)
Calibration:	No periodic calibration is required
Temperature of Insulation Liquid - Operation	-40°C to 105°C



Asia/Oceania
+61 3 9574-7722
sales.asia@dynamicratings.com

Americas
+1 262 746-1230
sales.us@dynamicratings.com

Europe/Africa
+44 1617 681111
sales.eu@dynamicratings.com
www.dynamicratings.com



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