

# InsuLogix® H HYDROGEN MONITOR

## PROVIDING ACTIONABLE INFORMATION FOR YOUR FLUID FILLED ELECTRICAL EQUIPMENT

WEIDMANN is proud to announce our new InsuLogix® H Hydrogen Monitor. A simple, but high-tech, online H<sub>2</sub> monitor, it will provide a low cost solution to catch faults in your transformer, giving you the opportunity to stop major problems before they cause significant damage or costly repairs. Optional moisture-in-oil sensor is available.

### WHY HYDROGEN?

Hydrocarbon oils are used as insulating fluids in electrical equipment because of their high dielectric strength and chemical stability. Under normal operating conditions they are very stable. However, when a fault occurs, the oil insulation will undergo chemical degradation. The fault-induced breakdown products are low molecular weight gaseous compounds that are soluble in the oil.

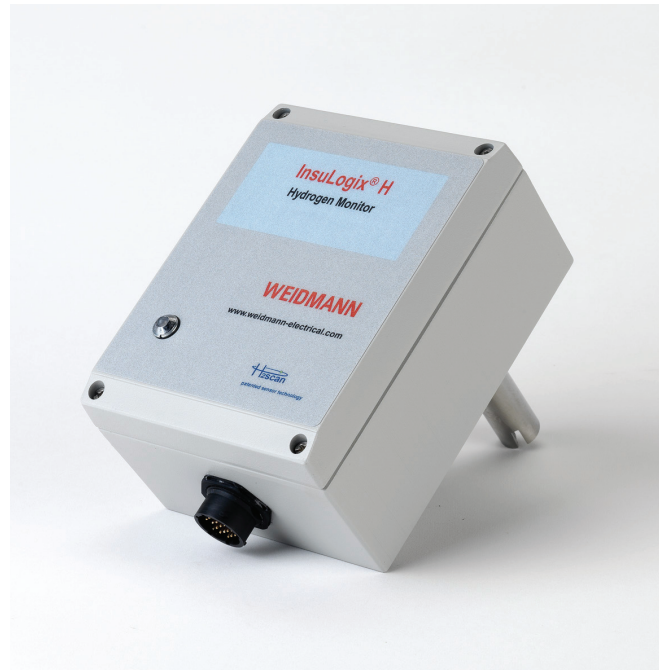
Quantitative analysis of the gases present in the oil allows identification of fault processes such as Partial Discharge, Overheating, and Arcing. Hydrogen is the key element for warning signs because hydrogen is produced in all fault conditions. The InsuLogix®H can protect your transformer by quickly and accurately warning you of these faults.

### SIMPLE AND ECONOMICAL

The InsuLogix®H can be easily integrated with your transformer's Management System, with standard installation performed in less than one hour. The InsuLogix®H comes with an optional customizable installation kit. The optional moisture-in-oil sensor can be installed at the same time with the Hydrogen sensor, or later on - if monitoring the moisture in oil becomes a necessity.

### WHY SHOULD YOU BE INTERESTED IN AN ONLINE HYDROGEN MONITOR?

Frequent analytical oil testing is a valuable asset. Especially as equipment ages, improved reliability for all your electrical equipment depends on condition-based decision-making. The InsuLogix®H is a key component of a condition-based maintenance program.



InsuLogix® H Hydrogen Monitor

### PROVEN AND ACCURATE TECHNOLOGY

The InsuLogix®H Hydrogen Monitor incorporates patented micro-chip and coating technologies onto the palladium-nickel sensor, allowing it to directly contact the oil without membranes, filters, or other gas extraction means. It measures Hydrogen in oil or gas phases.

#### PYROLYSIS (overheating)

Low temperature **Hydrogen**, Methane, Ethane

High temperature **Hydrogen**, Ethylene, Methane, Ethane

#### PARTIAL DISCHARGE

**Hydrogen**

#### ARCING

**Hydrogen**, Acetylene, Methane, Ethane, Ethylene

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## InsuLogix® H Specifications

Measurement Range (H <sub>2</sub> )	25 – 5,000 ppm
Accuracy (H <sub>2</sub> )	20% of reading or 25 ppm, whichever is greater
Repeatability (H <sub>2</sub> )	10% of reading or 15 ppm, whichever is greater
Operating Temperature (Ambient)	-40° C + 55° C
Storage Temperature	-40° C + 85° C
Oil Temperature Range	-40° C + 105° C
Data Storage (Flash Memory)	1 year at one hour testing intervals
Cross-sensitivity to Other Gases (CO <sub>2</sub> , C <sub>2</sub> H <sub>2</sub> , C <sub>2</sub> H <sub>4</sub> , CO, etc.)	< 2 %
Relays	Three relays in Hydrogen monitoring configuration: two user configurable, one is for self test. The relays are 0.3 A, 125 V contacts; individual NO & NC with one common. Five relays in Hydrogen & Moisture-in-oil monitoring optional configuration, four relays are user configurable, one is for self test. In Hydrogen & Moisture-in-oil monitoring optional configuration the relays are rated 1A/240 V; individual NO & NC and common.
Analog Output	1 x 4-20 mA (H <sub>2</sub> ); 1x4-20 mA (optional moisture-in-oil)
Serial Output and Protocol	RS232, RS485, MODBUS, DNP3
Visual alarm indicator/LCD	Color changing LED in Hydrogen monitoring configuration; 6 digit LCD and three separate LEDs on front panel, in Hydrogen and moisture-in-oil monitoring optional configuration.
Expected life	> 10 years
Installation	The Hydrogen monitor comes with 3/4" MNPT fitting. The optional moisture sensor comes with 1/2" MNPT fitting.
Weight, Dimensions	1.3 kg (2.8 lbs), l 15.88 cm x w 11.75 cm x h 7.94 cm (l 6.25" x w 4.625" x h 3.125")
Power	Hydrogen monitor configuration: 24 V DC nominal (15 to 28 V DC) – 30 W Max or VAC PSU (110 VAC-240 VAC). Hydrogen & Moisture-in-oil monitoring optional configuration: 110 VAC-240 VAC, 50 Hz-60 Hz.
Warranty	Two years
Standards	EMI/EMC: IEEE STD C37.90.1, EN 55022/FCC PART 15 & EN 55024/EN 610004; IEC 60068-2-6; IP67* (IEC 60529), NEMA 6; CE Mark (IEC 61000)

## Moisture-in-oil sensor Specifications (Optional)

Accuracy	±2% RH
Range	0-100% RH
Weight, Dimensions	Moisture sensor: 0.2 kg (0.44 lbs), l 12.7 cm x Ø3.3 cm (l 5" x Ø1.299"). Junction box: 15 kg (33 lbs), l 18.5 cm x w 29.5 cm x h 48 cm (l 7.2" x w 11.61" x h 18.89")

\* IP67 in Hydrogen and moisture-in-oil monitoring configuration.

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## BENEFITS

- Quickly detects and alerts rising hydrogen levels
- Responds to utilities' demand for an economically priced H<sub>2</sub> monitor
- The optional moisture-in-oil sensor can be added when monitoring the moisture becomes necessary.
- Easy field installation, low maintenance, and durability mean the lowest total ownership cost for fault gas monitoring
- Simple set-up and operation
- Low total cost of ownership allows for mass deployment

## FEATURES

- Micro-chip technology using palladium-nickel alloy
- Advanced proprietary coating
- Robust and tested technology platform
- Maintenance-free, no consumables, no moving parts
- No membranes or filters
- 4-20 mA output, three alarm relays, serial communication, MODBUS, data recording, DNP3



Optional moisture-in-oil sensor package

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