GE
Digital Energy

Intellix™ GLA 100

Cost Effective Transformer Warning Solution

Product Overview

Transformers are key and expensive components of the electrical grid and knowledge of their health condition is essential to having a reliable network. When a transformer's insulation system is overstressed, gases are produced that dissolve in the oil. Dissolved Gas-in-oil Analysis (DGA) is recognized as the best indicator of developing faults.

The Intellix™ GLA 100 is a small and intuitive transformer "gas level alarm". It provides a cost-effective transformer warning solution using DGA, specifically tailored monitoring for less critical transformers that would typically be left unmonitored.

Key Benefits

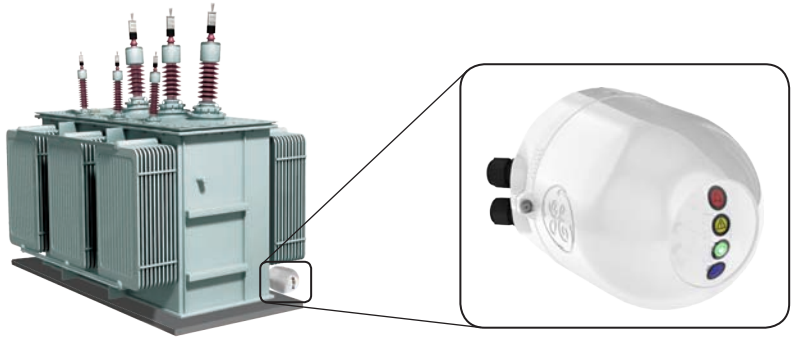
- Entry level price point
- Continually measures H_2 fault gas
- 2 gas level alarms, each configurable
- Colored light indicators and relay outputs
- Easy to install on 1 inch valve
- Manual sampling port

Applications

Critical Generation and Transmission transformers are typically equipped with fully featured multi-gas monitoring systems capable of providing real-time diagnostics. As the criticality decreases, the number of fault gases monitored also decreases, moving away from comprehensive monitoring.

The Intellix GLA 100 offers substantial, cost effective monitoring for the over 300,000* significant transformers worldwide that are currently unmonitored. It offers a monitoring solution for important, less critical, less expensive transformers, where the aim is less about protecting the asset and more about avoiding the consequences of an unplanned outage.

- Small Power Transformers
- Larger Distribution Pad-mounted Transformers
- Vacuum type oil-filled OLTCs
- Oil-filled 'pipe type' cables or cables termination
- Oil-filled instrument transformers (CTs and PTs)



imagination at work

Fault Gas Alarm

- Gas sensor responds 100% to Hydrogen (general fault gas) and sensitive to Carbon Monoxide (overheated paper)
- Small form factor easily mounted on a 1 inch valve exposed to the transformer oil. No extra piping or pump required. Weighing only 3.5 Kg

Configurable Alarms

- Alarm raised when an abnormal level of fault gas is detected enabling further investigation of the developing fault condition
- Two gas alarm levels showing increasing severity are available: one for caution and one for alarm.
- The Intellix GLA 100 comes preset with default alarm settings for simplicity but these are also user configurable using DIP switches.

Straightforward Alerts

- No need for PC or software to monitor gas values or trends
- 4 front, sunlight visible, light indicators for:
  - each alarm level
  - service alarm
  - power
- 3 dry contact relays available to communicate alerts to a control center:
  - 2 for the fault gas alarms
  - one for the service alarm

Low Maintenance

- Simple and Reliable
- No moving parts
- Vacuum-resistant
- No consumables: no carrier gases or calibration gases required
- No field calibration required
- Regular automatic self-test with service alarm

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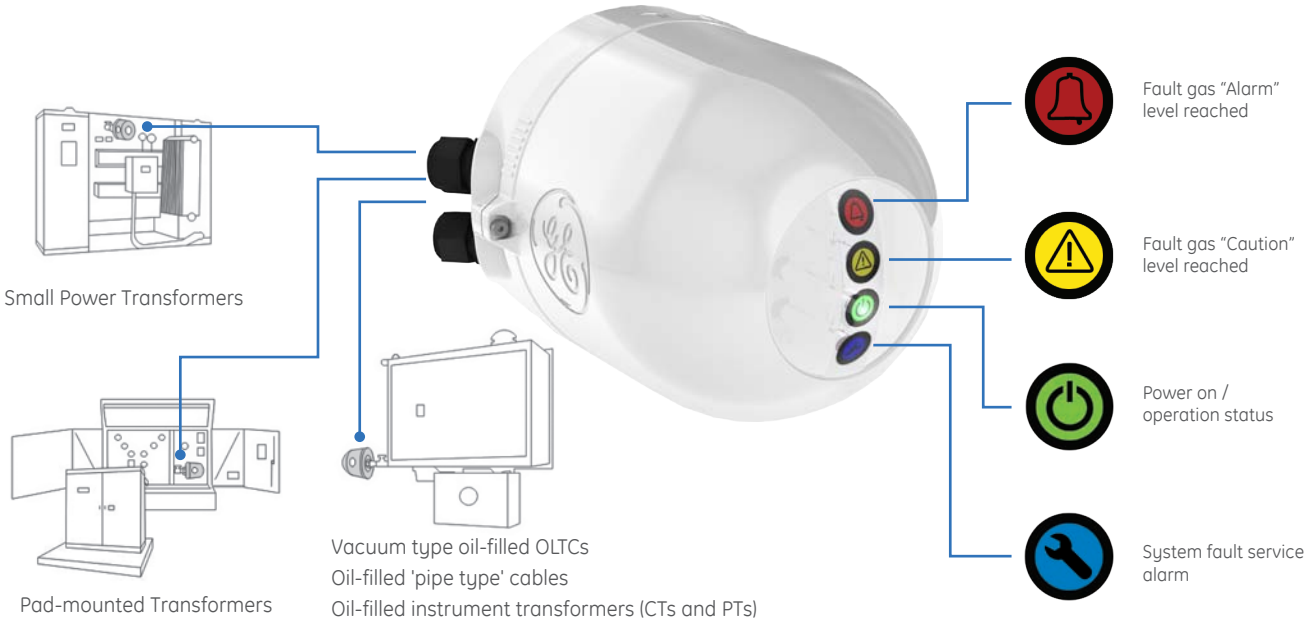

Specifications

MEASUREMENTS	
Gas in oil measurement range	40 – 5,000 ppm
Accuracy	Gas: ±20% or ±40 ppm (whichever is greater)
Relative sensitivity	H_2: 100% of H_2 concentration CO: ~15% of CO level[1]
Response time	Less than 30 minutes[2] (80% of step change)
Sampling method	Flooded port with 1 inch NPT male thread
External sampling port	For glass syringe, with Luer stop cock

MECHANICAL	
Enclosure rating	IP-55 Nema 250 (Type 4X)
Enclosure dimension	17.1 x 18.9 x 25.8 cm (6.7 x 7.4 x 10.1 in) height, width, depth
Weight	3.5 kg (7.7 lb)

OUTPUTS	
Light Indicators	4 sunlight visible indicators: Red – Alarm Amber – Caution Green – Power Blue – Service
Alarm Contact	- Two SPDT alarm relays (Type C) for gas alarms status (Caution & Alarm levels) - One SPDT alarm relay (Type C) dedicated to system faults
Relay Contact Ratings	1 A @ 250 VAC resistive load, 0.1 A @ 250 VDC resistive load or 0.5 A @ 48 VDC.

ENVIRONMENTAL	
Operating temperature	Ambient: -40°C to +55°C (-40°F to +131°F)
Operating humidity	0 - 95% RH (non-condensing)
Oil temperature at valve	-20°C to +105°C[3] (-4°F to +221°F)
Oil pressure	0-700 kPa (0-100 psia) negative pressure resistant sensor
Power supply requirements	Volts: 100-120/200-240 Vac ±10% Amps: 2.3/4.5 max Hertz: 47-63

STANDARDS	
Type Tests	Meets standards CISPR 11, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-4-12, IEC 61000-4-16, IEC 61000-3-2, IEC 61000-3-3, IEC 60255-5,
Environmental tests	Meets standards IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-30, IEC 60068-2-31, IP55, Nema 250 (type 4x)
CE Approval	Meets standards: VD: EN 61010-1 EMC:EN 61326-1
Other Requirements	cTUVus Mark, RoHS

[1] No cross reference with other gases at levels up to 5 times IEEE C57.104-2008 Condition 4

[2] In gas phase, at 35°C

[3] At ambient temperature greater than 40°C (104°F) or when oil temperature at valve is higher than 90°C (194°F), a finned high temperature valve adapter is required

Ordering

GLA100	**	-	**	-	**	Description
Valve Type	V1					Installation on Gate Valve or Ball Valve
	V2					Installation on Globe Valve
Valve Size			S1			1.0" diameter
			S2			1.5" diameter
			S3			2.0" diameter
Operating Temperature					T1	Ambient temp less than 40° C and oil temp less than 90° C
					T2	Ambient temp greater than 40°C or oil temperature great than 90° C (Finned heat adaptor required)

*source: Newton Evans Research