

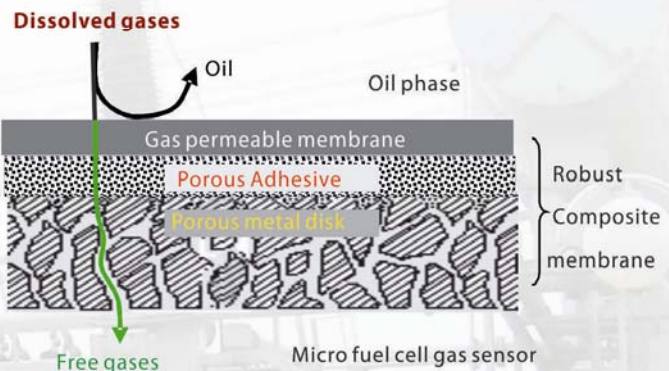


Detect & Monitor
Key Fault Gases
dissolved in dielectric liquid

Dissolved Gases Are Indicative Of Developing Faults In Electric Apparatus Dissolved Gas Monitoring Is An Essential Element of Preventive Programs

Electric utilities are constantly seeking a reliable, maintenance free and cost-effective on-line fault gas monitor to protect most valuable equipments. The fuel cell based on-line dissolved gas monitor has proven itself very effective in incipient fault detection and it has been very successful in the industry worldwide. Nevertheless, users are still calling for a more robust and selective gas sensor that can withstand negative pressure /vacuum. Negative pressure /vacuum is often encountered at the sensor by unforeseen events such as a maladroitt installation, large temperature change and degassing of oil.

TransPRO® KG1100 on-line gas monitor is the first of its kind in the world to employ a dissolved gas sensor capable of withstanding absolute vacuum, as well as being selective to H₂ gas (KG1100B), thanks to its innovative and selective membrane and fuel cell electrode.



TransPRO® KG1100 is designed for continuous, long-term and on-line monitoring of fault gases dissolved in oil. It is particularly suitable for OEM purpose, or for the user seeking cost-effective early warning device for oil-filled electrical equipment such as transformer or shunt reactor.



Technology

Fuel cell dissolved gas sensor which integrates with our **vacuum-resistant composite oil/gas separation membrane**, efficient **fuel cell gas diffusive electrode**, and **sensor self-test and diagnosis**. Multiple patents apply.

The user has the choice from two sensor models for standard configuration: KG1100A and KG1100B (see back page).

TransPRO® KG1100A/B Transformer On-Line Dissolved Gas Monitor

General

Description of Instrument	Continuous, on-line intelligent dissolved gas monitor
Instrument Components	KG1100 gas sensor, KG1100 intelligent transmitter in an aluminum alloy enclosure and a Windows based Host software
Applications	Detection of failure conditions in oil-filled HV electric equipment through the monitoring of fault-related key gases in insulating oil.

Sensor Analytical Specifications

Sensor model	KG1100A	KG1100B
Reading	Composite reading of H ₂ , CO, C ₂ H ₂ and C ₂ H ₄	Selective reading of H ₂ only
Relative sensitivity to H₂ to CO to C₂H₂ to C₂H₄	100% 10-20% 10-20% 2-8% (see sensor calibration sheet supplied with the instrument)	100% } <1%
Range (µL/L)	0 ~ 2000	
Limit of detection (µL/L)	H ₂ : 10 (99% confidence)	
Accuracy	H ₂ ± 10% reading or ± 20µL/L	
Response time in oil to 80% of step change to 100% of step change	≤10 min ≤60 min	
Oil pressure at the sensor	0.7 MPa positive to absolute vacuum allowed	
Sensor installation	1½" BSPT male port threaded to a valve coupler fitted to transformer valve, certain condition must be satisfied in order to get quick response and accurate reading of the dissolved gases.	
Purge port	Allows removal of air, as well as sampling of oil by glass syringe fitted with Luer stopcock for laboratory DGA analysis	

Intelligent Transmitter

Hardware and firmware	Microprocessor, watchdog and real-time clock with embedded menu-driven firmware
Comm./Network	Standard RS-485 port allows for daisy-chaining of multiple transmitters RS485/232 or RS485/TCP-IP selectable
Data retrieving interval	15~3600s adjustable through Host
Alarm indicator	Normal, Gas Hi, and Gas Hi-Hi.
Power supply	220VAC/50Hz±15%, 500 VA Max. 120VAC/60Hz also available
Dim.& Weight	Oval-shape, aluminum alloy enclosure, W203mm×177mm×184mm, ≤10kgs
Host PC software	Support networking, Windows 2003/2008/XP/Win 7

Environmental Test (Equivalent)

Outdoor protection	IEC60529, IP55
Vibration	IEC68-2-6
High & Low temp	IEC68-2-1/IEC68-2-2, 60°C & -40°C
EMC	IEC61000-4-2 / 4 / 5 / 8, Grade 4
Other	CE Mark, RoHS



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