

**NINGBO LIGONG ONLINE MONITORING TECHNOLOGY CO., LTD. (LGOM)** specializes in innovative solutions for Condition Maintenance and Diagnosis (CMD) of electric power industry.

Committed to provide Safe, Efficient, & Cost-Effective online monitoring products and services to our clients, facilitating the realization of CMD of critical substation equipment.

## MGA2000-6 TRANSFORMER ONLINE MULTI-GAS ANALYZER

The "MGA2000-6 Transformer Online Multi-gas Analyzer" is a high reliable, online monitoring instrument and system. It can analyze the concentrations and accumulation rates of dissolved gases inside transformer oil continuously, real-time based and online achieved. Automatic diagnosis of transformer faults can be performed by the faults diagnosis expert system. Such the application is significant for avoiding accidents. The technology and its application provide technical assurance for the transition from the traditional planned maintenance to more advanced concept of Condition Based Maintenance.



## MGA2000 TECHNICAL SPECIFICATION

- ✓ **Analysis Cycle** : Less than 1 hour, user specified
- ✓ **Temperature Control Precision** :  $\pm 0.1^{\circ}\text{C}$
- ✓ **Temperature Range** :  $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- ✓ **Type of Cooling** : Fan
- ✓ **Humidity Range** : 0~95%, No Condensation
- ✓ **Power Supply** : 100~230 VAC
- ✓ **Balance Time** : 10 Minutes
- ✓ **Carrier Gas** : High purity compress air, Pressure 0.3 MPa
- ✓ **EMC Performance** : IEC61000 and GB/T17626
- ✓ **Communication** : RS485.MOVBUS/IEC61580

# ANALYZER



## KEY MGA2000 FEATURES

- ✓ **Detection Principle** : Using Hotline nanocrystalline semiconductor detector to measure hydrogen (H<sub>2</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), ethylene (C<sub>2</sub>H<sub>4</sub>), acetylene (C<sub>2</sub>H<sub>2</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), oxygen (O<sub>2</sub>), total combustible gases (TCG); Using independent moisture detection unit to detect water content in oil.
- ✓ **Gases separation Method** : Combined Chromatographic column.
- ✓ **Quantitative Mode** : Quantitativeness by peak height
- ✓ **Sampling** : Automatic sampling by multi-way valve
- ✓ **Auto calibration technique** : Periodic Self-Calibration Automatically facility
- ✓ **Carrier Gas** : Configured with Carrier Gas Generator And need less extra cylinder.
- ✓ **Temperature Control** : Dual-loops , multiple modes constant temperature control for the separator, oil pipe, valve, detector, column
- ✓ **Data-Acquirement** :  $\Delta$ - $\Sigma$  A/D Converter using over sampling technology, 24b resolution, automatic calibration of measurement range and zero point after gain change
- ✓ **Communications Mode** : Field Data acquisition system communicating with data processing server via VAN2.0/RS485/IEC61850.
- ✓ **Network Protocol** : System supports TCP / IP network protocols, remote monitoring and remote maintenance
- ✓ **Alarm Mode** : Two levels alarm, sonic/signal light alarm signals can be transmitted for remote monitoring. (Equipment has facility to give SMS alert to more than three users whenever any fault gas violates the predefined limit.)
- ✓ **Analysis Cycle** : Less than 1 hour, user specified
- ✓ Device can be installed rigidly on the foundation. IP Protection- IP 55, Panel body- SS

## OTHER FEATURES

- ✓ Shielding EMI with Isolated power
- ✓ Filter to block the Lightning Surge
- ✓ Optical Coupler for the I/O terminals
- ✓ Current Surge Protection
- ✓ Data repeater
- ✓ Uses the proprietary Base line Self tracking
- ✓ Has a Remote self check & maintenance program
- ✓ Gas Extraction Technique: Both Fibers diffusion and dynamic negative pressure method.

—FOR ENQUIRES —

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