



Next generation high-precision enhanced online DGA

Hertzinno DGA-900 Monitor system(PAS) is an advanced online device for monitoring gases in transformer oil. Utilizing MEMS technology and exclusive patented features dual-chamber design, it has the capability to analyze 9 types of gases in a single operation.

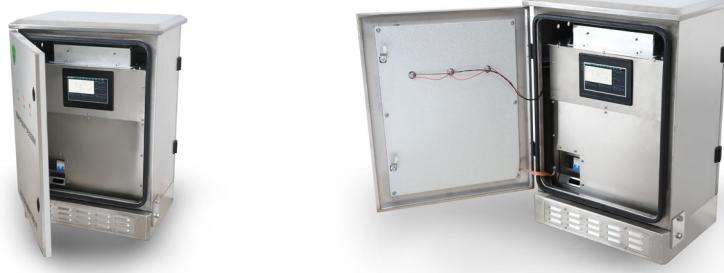
Distinguished by its high sensitivity and durability, the device can support uninterrupted continuous use for 10 years without maintenance.

It supports H₂, CO, CO₂, CH₄, C₂H₂, C₂H₄, C₂H₆, O₂, N₂, and trace moisture, relative growth rate, and absolute growth rate.

- ◆ Maintenance-free operation without consumables
- ◆ 9 types of gases and moisture measurement
- ◆ MEMS-IR and secondary chambers design for high sensitivity
- ◆ Oil sampling with vacuum gas extraction
- ◆ No carrier or calibration gas consumables
- ◆ Long-term measurement stability through MEMS IR and autocalibration
- ◆ Measurement cycle within 1 hour
- ◆ Supports Mineral oil / Synthetic ester liquid
- ◆ Operation temperature from -40°C(-40°F) ~ 70°C(158°F)
- ◆ 5-year warranty as standard
- ◆ Enhanced reliability

One machine with double-sided design

Separation of the gas measuring structure from the electronic structure, more in line with the needs of the application site.



MEMS IR light source + 2-level chambers design

Adopting the most advanced MEMS infrared light source, which can precisely modulate the frequency of the light source, avoiding the mechanical noise effect of the chopper.

Two-chamber design for trace gas detection down to 0.2ppm by means of two-stage absorption.



Technical data

Measurement specification

Parameter*	Range ¹⁾	Accuracy ²⁾³⁾
Hydrogen (H ₂)	1 ~ 5000ppm ⁴⁾	1ppm or $\pm 5\%$
Methane(CH ₄)	0.5 ~ 3000ppm	0.5ppm or $\pm 5\%$
Ethane(C ₂ H ₆)	0.5 ~ 3000ppm	0.5ppm or $\pm 5\%$
Ethylene(C ₂ H ₄)	0.5 ~ 3000ppm	0.5ppm or $\pm 5\%$
Acetylene(C ₂ H ₂)	0.5 ~ 3000ppm	0.2ppm or $\pm 5\%$
Carbon monoxide(CO)	5 ~ 5000ppm	5ppm or $\pm 5\%$
Carbon dioxide(CO ₂)	20 ~ 10000ppm	25ppm or $\pm 5\%$
Oxygen(O ₂)	100 ~ 50000ppm	100ppm or $\pm 5\%$
Moisture(H ₂ O)	0 ~ 100	0.1ppm or $\pm 5\%$
Repeatability		$\pm 3\%$

- 1) Range specified is the range of the current accuracy, the range can be customized.
- 2) Accuracy specified is the accuracy of the sensors during calibration gas measurements.
- 3) Whichever is bigger.
- 4) PPM are defined as $\mu\text{l/l}$ according to IEC60567.
- 5) Measured as relative saturation(%RS)

Calculated parameters

Total of hydrocarbons	1 ~ 8000ppm
Nitrogen(N ₂)	0 ~100%
Total Dissolved Combustible Gas (TDCG)	0.2 ~ 15%
Rate of Change	Available for single gases and TDCG for 24h, 7d and other periods

Measurement operation

Measurement cycle duration	1 hour(Optical)
Initialization time to full accuracy	2 days
Data storage	> 10 years

Power supply

Operation voltage	220V AC 50Hz (110V AC 60Hz optional)
Max. power consumption	500W

Environment

Work temperature	-40°C ~ 70°C
Humidity	0% ~ 95% RH
Atmosphere pressure	70kPa ~ 110kPa
Protection	IP55
Electrostatic discharge immunity	Level 4, $\pm 8\text{kV} \sim \pm 15\text{kV}$
Resistance to electrical fast transient pulses	Level 4, $\pm 4\text{kV}$
Surgery(Shock) immunity	Level 4, $\pm 4\text{kV}$

Outputs

Protocol	Modbus RTU
Communication	RS485 (Twisted Pair)
Relay out	NO/NC
Alarm input	Optional
Power supply output	24V DC
Maximum power	48 W

Mechanical

Oil fitting	6 mm
Max. length of oil pipe to transformer	20m
Pipe material	Stainless steel dehydrogenation
Flange	2 (customization)
Housing material	304
Oil Sampling volume	Less than 100 ml

Operating environment

Transformer liquid type	Mineral oil or ester liquids
Min. oil sample volume	Less than 100ml
Oil pressure at oil let	Max. 2 bar(continues) Burst pressure 20 bar(absolute)
Max. oil temperature	120°C

Accessories

Oil pipes	5m (10m standard)
Power cable	10m*1
Communication cable	10m
Valve	2

Mechanical & Package

Dimensions	568*391.2*785.4 mm
Weight	60 kg
Wooden box packaging	630*460*935 mm

