

PAS DGA

Photoacoustic Spectroscopy Dissolved Gas Analysis

DGA-700

On-line Transformer DGA Monitor · H₂ + CO + Moisture (C₂H₂ optional)

Compact multi-gas dissolved gas-in-oil analyzer | Model: DGA-700

1 Product Overview

The DGA-700 is a compact on-line Dissolved Gas Analysis (DGA) monitor that continuously measures hydrogen (H₂), carbon monoxide (CO) and moisture-in-oil, with acetylene (C₂H₂) available as an option. Built on Photoacoustic Spectroscopy (PAS) technology, the DGA-700 delivers fast, stable and maintenance-friendly gas-in-oil measurement in a lightweight 10 kg package that mounts directly at the transformer oil valve.

Designed for power utilities, industrial plants and renewable substations, the DGA-700 is suited to both new installations and retrofits. Its 10-minute minimum measurement cycle provides timely early-warning data for incipient transformer faults, while its wide operating temperature range and IP55 enclosure make it reliable in outdoor substation environments. Multiple communication interfaces (RS-485, RJ45, fibre) and protocols (IEC 61850, Modbus, TCP/IP) allow direct integration into existing SCADA / monitoring platforms.

Key Features

- **Multi-gas measurement** — H₂, CO and moisture-in-oil as standard; C₂H₂ optional.
- **Compact and light** — 260 × 260 × 300 mm, <10 kg, valve-mount / bracket install.
- **Fast cycle** — measurement cycle from 10 minutes (auto / menu / manual control).
- **Substation-rated** — -40 °C to +55 °C, IP55, ≤5000 m altitude, overvoltage category IV.
- **Open integration** — RS-485 / RJ45 / fibre; IEC 61850, Modbus and TCP/IP.
- **Low power & low maintenance** — <200 W, no consumable gas supplies required.

2 Measurement Specifications

Detection Parameter	Detection Range (μL/L)	Measurement Error Limit
Hydrogen H ₂	0 – 2000	±3 μL/L or ±30%
Acetylene C ₂ H ₂ (optional)	0 – 2000	±1 μL/L or ±30%
Carbon monoxide CO	0 – 3000	±30 μL/L or ±30%
Moisture in oil H ₂ O	0 – 100	±3 μL/L or ±10%

Notes: 1) Gas concentrations in oil (μL/L). 2) Error expressed as a percentage or absolute value (μL/L), whichever is greater. C₂H₂ measurement is optional and configured at order.

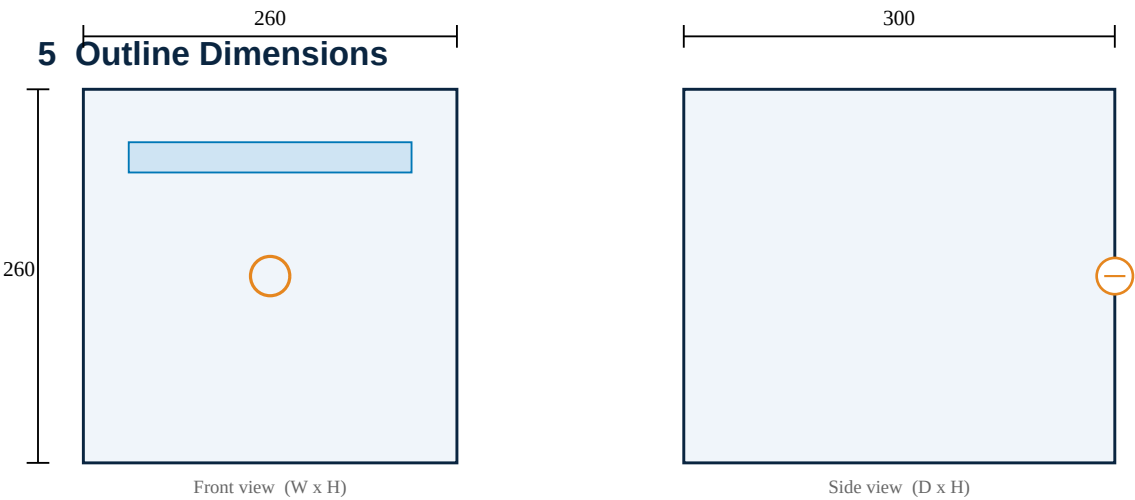
3 Operating Specifications

Item	Specification	Item	Specification
Power supply	220 V AC ±10%, 50 Hz	Power consumption	<200 W
Weight	<10 kg	Dimensions (H×W×D)	260 × 260 × 300 mm
Ambient temperature	-40 °C ~ +55 °C	Ambient humidity	10 ~ 95%
Measurement cycle	Min 10 min, max 24 h	Control mode	Auto / menu / manual
Communication	RJ45, fibre optic, RS-485	Protocols	IEC 61850, TCP/IP, Modbus
Altitude	≤5000 m	Overvoltage category	IV

Item	Specification	Item	Specification
IP rating	IP55	Insulation of external circuits	≥100 MΩ

4 Configuration & Ordering Information

Order Code	Configuration
DGA-700-S	Standard system — H ₂ + CO + moisture; fully assembled, tested and calibrated.
DGA-700-C	With acetylene — H ₂ + C ₂ H ₂ + CO + moisture (C ₂ H ₂ enabled).
DGA-700-OEM	OEM/ODM module — sensing core for system integrators, private-label ready.



Overall dimensions 260 (H) × 260 (W) × 300 (D) mm. Mounting by valve-mount adapter or wall bracket; oil sample via the transformer sampling valve. Detailed installation drawings are supplied with the product manual.