



Online Oil Analysis
MSENSE[®] DGA 5

Data Sheet

03/2021



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The MSENSE® DGA 5 is manufactured for
Maschinenfabrik Reinhausen GmbH by:

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MSENSE® DGA 5 Multi Gas-in-Oil Analysis System

The MSENSE® DGA 5 is a permanently installed multi gas online DGA analysis system. It enables the individual measurement of moisture in oil (H₂O) as well as the key gases dissolved in oil - **hydrogen** (H₂), **carbon monoxide** (CO), **acetylene** (C₂H₂), and **ethylene** (C₂H₄).

Product Variants

Power Supply
230 V -20% +15% AC 50/60 Hz
120 V -20% +15% AC 50/60 Hz

Valve Connection
G 1½" DIN ISO 228-1
1½" NPT ANSI B 1.20.1

Communication
RS 485 Modbus RTU, TCP (standard)
Ethernet RJ45 or fiber optical (standard, optionally)
DNP3 modem RS-485 (optionally)
IEC 61850 modem RJ45 (optionally)
IEC 61850 modem fiber (optionally)

Technical Data

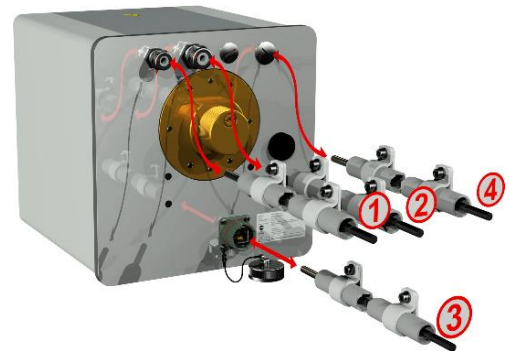
General	
Power consumption	Max. 400 VA
Housing	Aluminum
Dimensions	W 263 x H 263 x D 327.5 mm
Weight	ca. 13,5 kg
Operating temperature (ambient)	-55°C ... +55°C
Oil temperature (inside transformer)	-20°C ... +90°C
Storage temperature (ambient)	-20°C ... +65°C
Oil inlet pressure	0-8 bar (negative pressure allowed)
Safety	CE certified
Insulation protection	IEC 61010-1:2002
Protection class	IP 55

5 x analog outputs	Default (free assignment)
0/4...20 mA	Hydrogen H ₂
0/4...20 mA	Carbon monoxide CO
0/4...20 mA	Acetylene C ₂ H ₂
0/4...20 mA	Ethylene C ₂ H ₄
0/4...20 mA	Moisture in Oil - H ₂ O

5 x relay outputs	Max. switching capacity
12 VDC	220 VDC/VAC / 2 A / 60 W

Measured values	Measuring range	Accuracy ^{1) 2) 3) 4)}
Hydrogen	H ₂ 0...2 000 ppm	± 15% or ± 25ppm
Carbon monoxide	CO 0...5 000 ppm	± 20% or ± 25ppm
Acetylene	C ₂ H ₂ 0...2 000 ppm	± 20% or ± 5ppm
Ethylene	C ₂ H ₄ 0...2 000 ppm	± 20% or ± 10ppm
Moisture in mineral oil	H ₂ O 0...100%	± 3%
Moisture in mineral oil	0...100 ppm	± 3% or ± 3ppm

- 1) Combined accuracy of gas extraction and gas measurement
- 2) In relation to ambient temperature +20°C and oil temperature +55°C
- 3) Accuracy of oil moisture for mineral oil types
- 4) Depending on which is larger

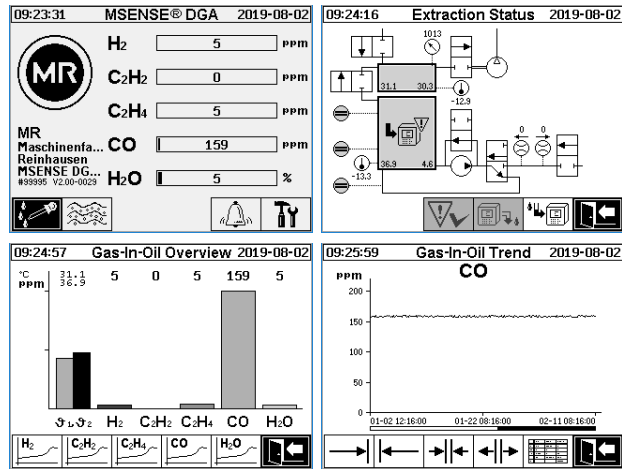


Operation

Controls at the device	
Display	Graphical LCD
Keys	17 operating keys

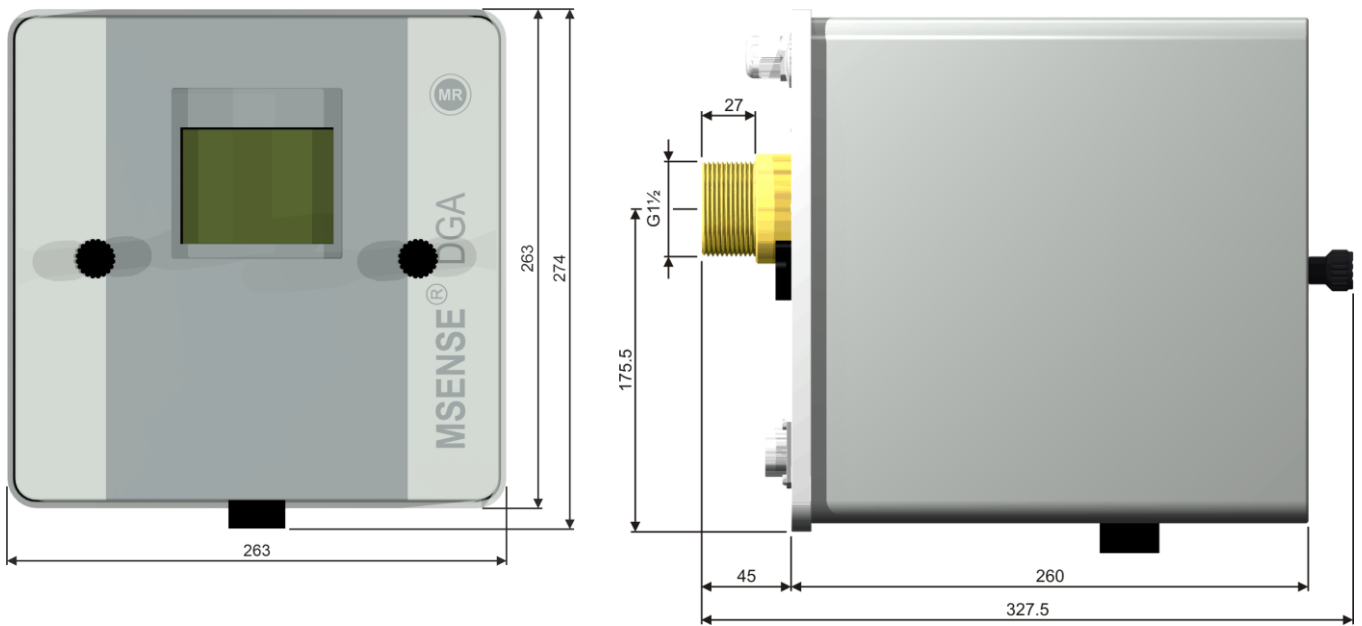


MSENSE® DGA 5 controls



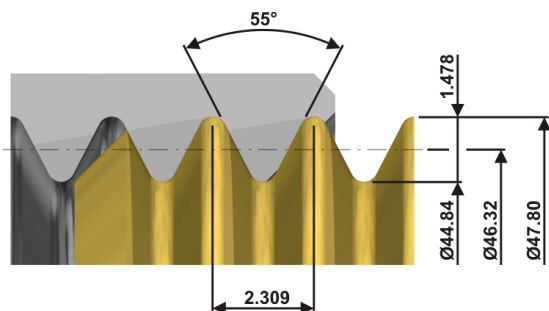
Sample screens

Dimensions



Valve connection (specify when ordering)

Pipe thread G 1 1/2" DIN ISO 228-1



Pipe thread 1 1/2" NPT ANSI B 1.20.1

