



Treotech®



GMP

GAS AND MOISTURE MONITOR

PRODUCT CATALOG

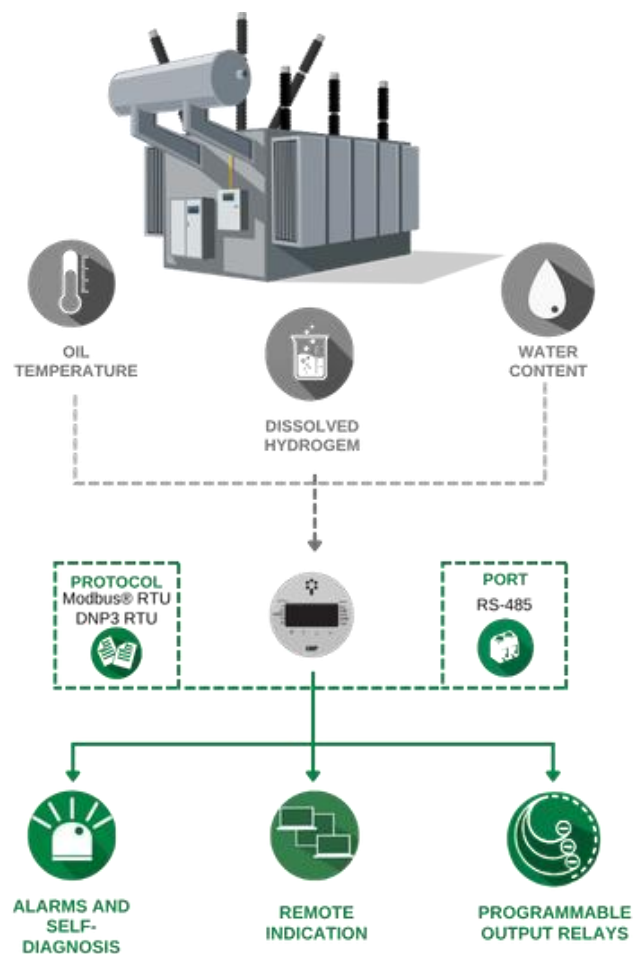
treotech.com.br

GMP: Absolute Precision in Hydrogen and Moisture Monitoring



Developed to ensure maximum accuracy in the assessment of transformer internal conditions, the system continuously monitors dissolved hydrogen and moisture in the insulating oil. Featuring measurement technology free from cross-interference by gases such as carbon monoxide, it provides high sensitivity in the detection of incipient faults, even in environments with high CO concentrations. The result is a reliable diagnosis that enhances operational safety and contributes to extending the service life of substation assets.

SYSTEM TOPOLOGY



FEATURES AND FUNCTIONS



ALARMS AND SELF-DIAGNOSIS

- ✓ Alarm emission in case of abnormality;
- ✓ Alarm for the trend of evolution of the concentrations of H_2 and H_2O ;
- ✓ Self-diagnosis for detecting internal failures and lack of power.



REMOTE INDICATION

- ✓ Remote indication of alarms;
- ✓ Real-time monitoring of relative saturation (%) and H_2O content (ppm) and H_2 content in oil;
- ✓ Real-time monitoring of oil temperature;
- ✓ Evolution trend indication and forecast of the remaining time for alarms;
- ✓ Two programmable outputs of current loops (mA).



PROGRAMMABLE OUTPUTS RELAYS

- ✓ Programmable output relays for indicating alarms and self-diagnostic.



BENEFITS

- ✓ Monitors any sort of oil, mineral or vegetable;
- ✓ Exceeds ECM (Electromagnetic Compatibility) standards for supportability;
- ✓ Reduced size;
- ✓ High brightness display, readable in any lighting and temperature conditions;
- ✓ Versatile feeding range;
- ✓ Degree of protection IP66 withstanding adverse installation conditions exposed to the weather.

TECHNICAL DATA

HARDWARE	RANGE/DESCRIPTION
Supply voltage	38...265 Vcc or 85...265 Vca, 50/60 Hz
Maximum consumption	≤ 8 W
Operating temperature - ambient	-40...+85 °C
Operating temperature - insulating oil	-20...+85 °C
Degree of protection	IP66, NEMA 4
Electrical connections ¹	1,0...1,5 mm ² , 17...16 AWG
Withstand oil pressure	0,1 Mpa, full vacuum
OUTPUTS	
Output relays	3 NO + 1 NC
Maximum switching power	70 W(cc)/250 VA(ca)
Maximum switching voltage	250 Vca/Vcc
Maximum switching current	1 A, as long as the sum of the currents of the four relays does not exceed 2 A at the common point (terminal 5)
ANALOG OUTPUTS	
Current loop analog outputs	2 outputs
Maximum error of analog outputs	0,5 % of full scale
Selectable options and maximum load	0...1 mA, 10 kΩ; 0...5 mA, 2 kΩ; 0...10 mA, 1 kΩ; 0...20 mA, 500 Ω; 4...20 mA, 500 Ω.

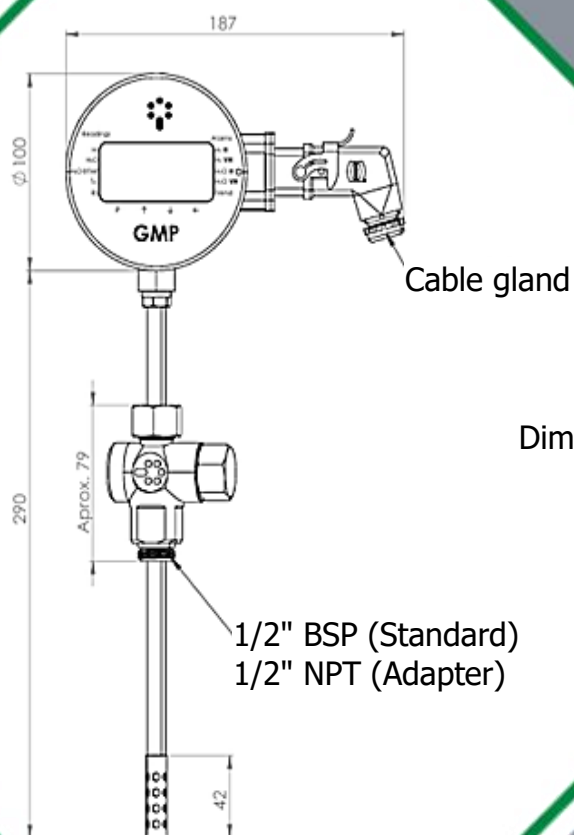
¹ Supplied adapters for the sealtube.

HYDROGENS MEASUREMENT		INTERVALO/DESCRIÇÃO
Measuring range		30...5000 ppm
Maximum error		±20 % of measurement or ±25 ppm, whichever is greater
PERCENTAGE MEASUREMENT OF WATER SATURATION		
Measuring range		0...100 % water saturation
Maximum error		±2 % water saturation
TEMPERATURE MEASUREMENT		
Measuring range		-55...+200 °C
Maximum error at 20 °C		0,5 % of full scale
MEMORY INFORMATION		
Mass memory		Non-volatile type FIFO (First In First Out)
Recording interval		1...1.440 minutes
Capacity		55.000 Records - 6,2 years with an interval of 60 minutes; 55.000 Records - 37,6 years with a 6-hour interval; 55.000 Records - 50,2 years with a 8-hour interval;
COMMUNICATION INTERFACE		
Serial communication port		1x TIA-485-A (RS-485)
Communication protocols		Modbus® RTU, DNP3 RTU

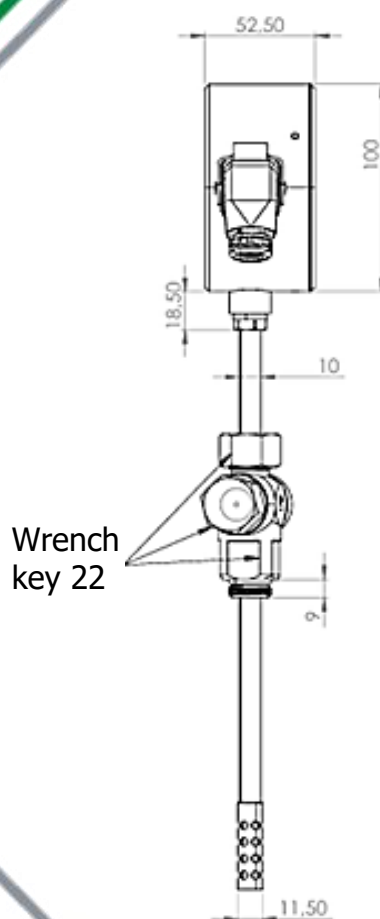
TYPE TESTS

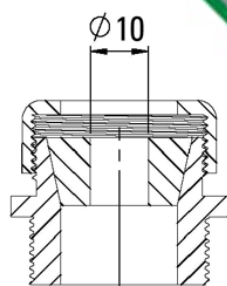
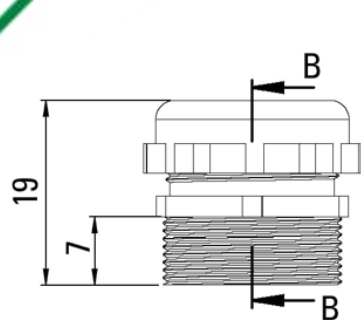
TYPE TESTS (GAS MONITOR PLATFORM)

Outbreak immunity (IEC 60255-22-5)
Immunity to RF-induced disturbances (IEC 60255-22-6/IEC 61000-4-6)
Immunity to electrical transients (IEC 60255-22-4/IEC 61000-4-4)
Surge voltage (IEC 60255-5)
Immunity to irradiated electromagnetic fields (IEC 60255-22-3/IEC 61000-4-3)
Electrostatic discharge (IEC 60255-22-2/IEC 61000-4-2)
Immunity to fast electrical transients (IEC 60255-22-4/IEC 1000-4-4)
Withstand cold (IEC 60068-2-1)
Withstand dry heat (IEC 60068-2-2)
Withstand wet heat (IEC 60068-2-78)
Climatic test of thermal cycle (IEC 60068-2-14)
Vibration response (IEC 60255-21-1)
Vibration durability (IEC 60255-21-1)

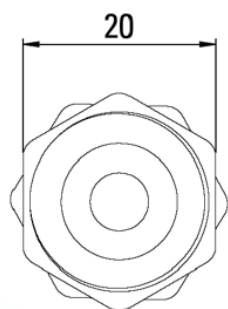
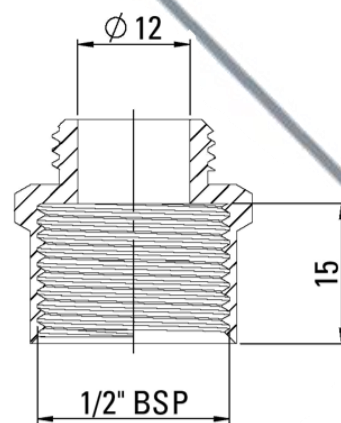
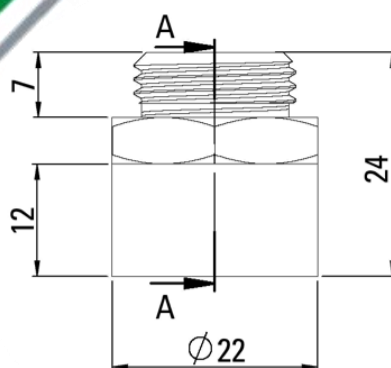


SIDE
VIEW

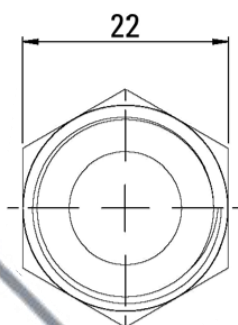


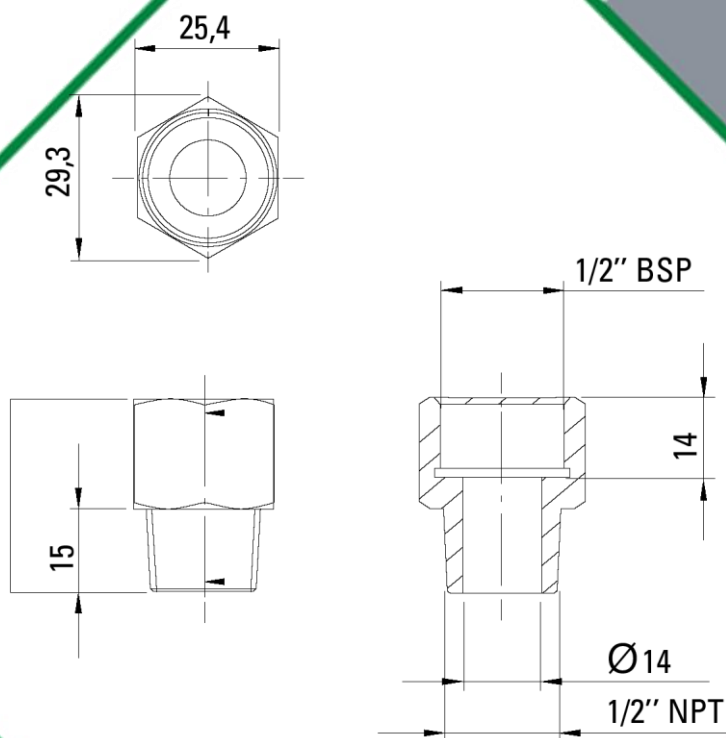


Dimensions in mm

**CABLE
GLAND****SEALTUBE
ADAPTER**

Dimensions in mm

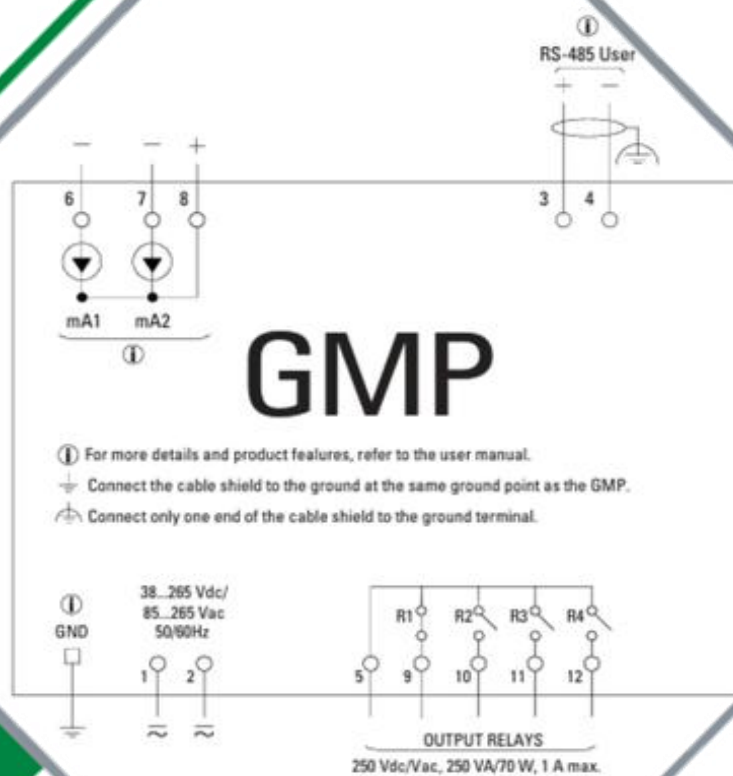




Dimensions in mm

**BSP/NPT
ADAPTER**

CONNECTION DIAGRAM



ORDER SPECIFICATION

In the purchase order of the products it is necessary to specify:

- ✓ Product's name;
- ✓ Quantity;



Rua José Alvim, 112 Centro – CEP 12940-750 – Atibaia/SP

Contact: +55 11 24101190

See the list of our distributors at:

www.treotech.com.br/contato/representantes/