

ROS_M

PORTABLE AUTOMATED ODORANT
MONITORING SYSTEM
FOR NATURAL AND PETROLEUM LIQUID GAS



Wireless Technologies USA
Witech USA Corp

ROS-M

ROS_M

ROS-M is a fully automated portable system for taking TBM / THT odorant levels or H₂S levels in natural gas and LPG lines. Its automation offers optimal protection of the electrochemical sensors against misuse that ends up deteriorating them prematurely, allowing for lower maintenance costs, as well as greater reliability in sample testing.

- Greater security in gas pipelines. Concentration monitoring enables odorization systems to be kept steady, at recommended levels set by manufacturers of odorant substances according to national and international technical standards; thus, complying with the requirements of regulatory authorities.
- High-capacity rechargeable battery provides several days of autonomy, its universal USB-C port makes it easy to recharge at the workplace or in a vehicle.
- GPS receiver to historically store the exact position of the monitored points.
- Large storage capacity for history and events; odorization samples, technical personnel information, calibrations, latitude / longitude and alarms.



- Intuitive configuration through a membrane keyboard and two high-contrast screens, or through a web page accessible wirelessly from a cell phone, tablet or computer.
- Lower maintenance costs; Extends sensor life while protecting against misuse or prolonged exposure to odorant chemicals.
- Reliability in sample values; the administrator can establish a limit of samples for each calibration to avoid deviations due to its use, forcing users to perform a new calibration to continue taking samples.

CHARACTERISTICS

ROSM

Two color OLED screens for displaying odorization trends; historical, alarms, calibration expiration and operational parameters.



SAMPLE HISTORY	
12/01/20 07:25 AM	3.7 mg/m ³
12/01/20 11:36 AM	12.7 mg/m ³
12/01/20 11:36 AM	10.7 mg/m ³

Nema 4X enclosure designed to resist heavy manipulation and the most adverse environments. Designed for classified areas Class 1 Division 2 groups C and D.

Membrane keyboard with large heavy-duty buttons.

CHARACTERISTICS

ROS_M



Reliable electrochemical concentration sensing technology for fast and accurate readings.



Alarms for over or under odorization and operating parameters. Alarms are notified in real time visually and audibly.



Integrated pressure sensor for recording the pressure index in individual lines (IPLI).



Sensor available for TBM, THT and H2S.



Integrated GPS to find the geographical location of odorization samples.



Automatic protection; this, extending over-odor sensor life.



Enclosure with a silicone sealing ring lid, ergonomic rubber handles and corrosion resistant stainless-steel components.



Historical storage of odorization level, user, number of samples, temperature, stabilization time, location and route reference.

CHARACTERISTICS

ROS_M



Automatic low voltage or inactivity protection shutdown.



Configuration and local download of history via wireless using any web browser from a cell phone, tablet or laptop with WIFI connection.



Inability to take samples when the sensor reaches the sample limit for each calibration set by the user. User must calibrate to continue sampling.



Language and name of the device configurable by the user through the website and/or OLED screens. Available in English and Spanish.



Prevents the taking of samples or calibrating while the equipment is charging.



Allows for customized (CSV) files attachment with visit routes. The user can select the search criteria to facilitate the assignment of samples in the field.

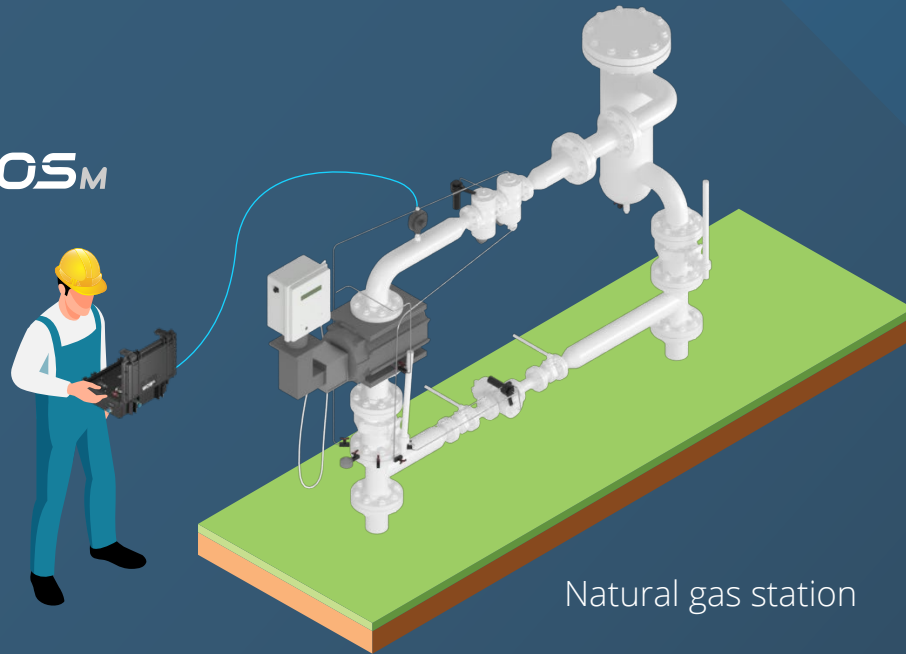


Self-diagnosis when turning on the device.

TOPOLOGY

ROS_M

ROS_M



Natural gas station

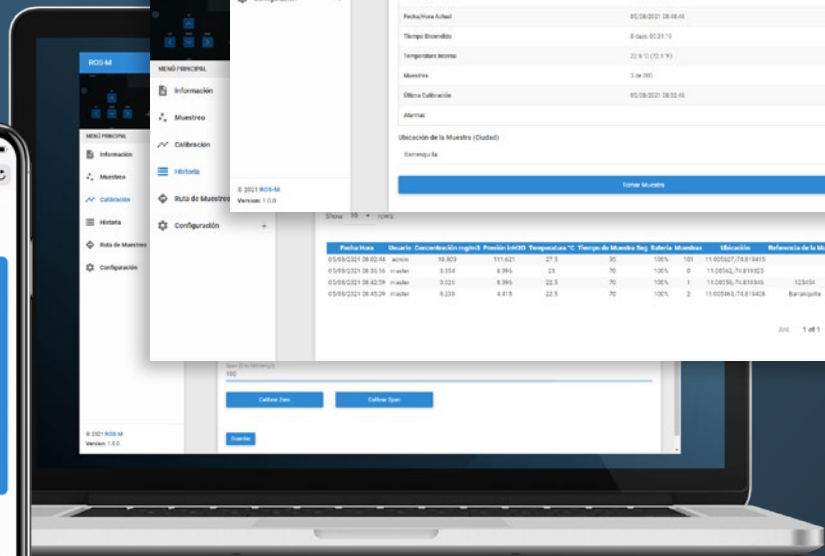
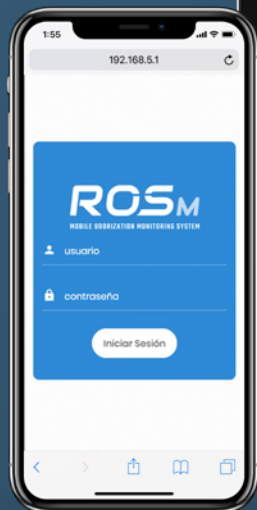


Residential Units

Mobiles
Tablets
Laptops

LOCAL WEB ACCESS

ROSM

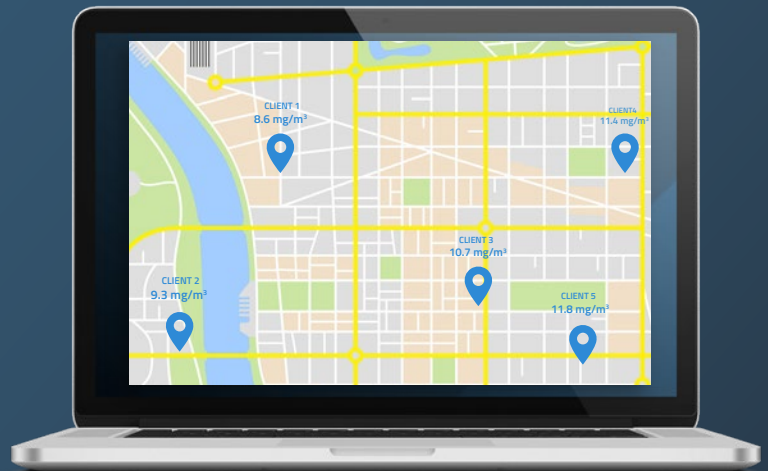


Intuitive configuration through a membrane keyboard and two high contrast screens, or through a web page accessible wirelessly from a cell phone, tablet or computer.



GPS

ROSM



Integrated GPS to geographically find the location of odorization samples.

TECHNICAL SPECIFICATIONS

ROS_M

Physical Characteristics

Dimensions:	8.4" x 6.77" x 3.86" (21.4 x 17.2 x 9.8 cm)
Enclosure Protection:	IP65, Nema 4X dust and water resistant
Enclosure Material:	Polycarbonate, ABS and stainless steel
Weight:	1 kg

Environmental Limits

Operating Temperature:	14 to 104°F (-1 to 40°C)
Humidity:	10-95% without condensation
Hazardous Areas:	Designed for use in Class 1, Div. 2, Groups C & D

Electrochemical Sensor

Type:	TBM 0-50 mg/m ³ /0-14 ppm
Resolution:	< 0.5 mg/m ³ @ 20°C
Response Time:	40 seg @ 20°C after 4 mins of exposure
Accuracy:	+/- 5% FS

Pressure Sensor

Type:	Diferential
Range:	+/-160 mbar
Accuracy:	+/-0.25% FS
Supply voltage:	3.3Vdc
Voltage output:	0.3 a 3Vdc

Internal signal monitoring

Battery percentage, temperature and sampling pressure

TECHNICAL SPECIFICATIONS

ROS_M

Sampling and Calibration

Sample Time:	2-5 minutes, maximum 10 samples per hour
Inlet pressure:	16-23 mbar (6.5-9.2inH ₂ O) (100mbar max.)
Sample Connection:	1/8" OD without line conditioner The sample must be filtered and regulated at 1 psi (max. 5 psi)
Pneumatic cleaning:	Mini air pump with brushless motor

Power Requirements

Input Voltage:	5Vdc
Charging current:	1Amp máx.
Battery:	Rechargeable lithium 3.6V 12000mA (18650x4)
Autonomy:	100 samples with a full charge
Visual indicator:	Charging y 100%

Comunication

Wi-Fi AP:	5 GHz 802.11 b/g/n
Supported output formats:	Excel, CSV, PDF

GPS

Accuracy:	1.8 meters
Search channels:	66
Tracking channels:	22
Sensitivity:	-165dBm
Update rate:	10Hz
Start:	Hot 1 second, cold 27 seconds
Antenna:	Gain 3dBi, operating frequency 1575.4-1602MHz, Impedance 50Ω

System Update

Directly at the factory or at an authorized supplier.



TECHNICAL SPECIFICATIONS

ROS_M

Electronic Controller

Processor:	High performance 64-bit Quad-core
RAM:	1GB DDR3
Storage:	10,000 history and alarm logs
OS:	WitechOS
Screen:	2 OLED screens, high contrast, color, 1.5"
Keyboard:	8-button membrane type
RTC:	+/- 1 seg/day

Accessories and Optional

Sensors:	TBM, THT y H2S
Calibration gas:	Certified 58L aluminum cylinder Filter and regulator included
Sensor:	Sampling temperature, humidity and atmospheric pressure
Power source:	Vehicle charger USB-C 1 m cable 5V 2A wall charger
Sample collection kit:	Rotameter, hoses and quick connectors

Box content

ROS-M device
5V 2A charger
USB-C 1 m cable
1/8" x 2 m plastic hose

Reliability

Automatic unlock

Integrated watchdog





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