

BORE RAT

Remote Borehole Gas Monitor



 **gastech**®

gas detection | designed for support | gastech.com



Remote Borehole Gas Monitor

Gastech's leading-edge solution to provide remote gas and depth monitoring of bore holes.

WHAT IS BORERAT ?

BoreRat is a unique product solution developed by Gastech. It provides remote bore hole monitoring of gases and depth levels, crucial to environmental and public safety as well as detecting potential hazards before they become a problem.

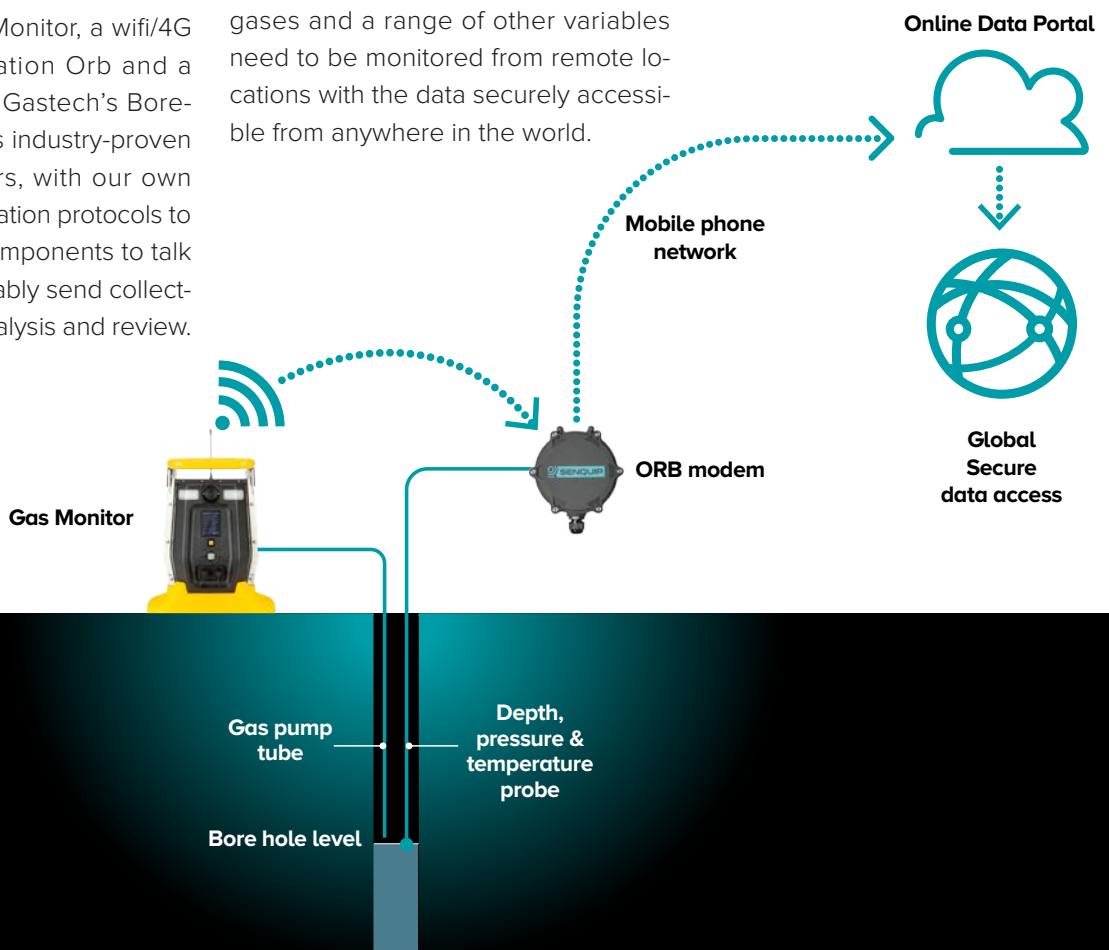
HOW DOES IT WORK?

Consisting of a Gas Monitor, a wifi/4G enabled Communication Orb and a Smart Probe Sensor. Gastech's BoreRat solution combines industry-proven products and sensors, with our own proprietary communication protocols to enable the various components to talk to each other and reliably send collected data for remote analysis and review.

Data from the system's sensors is transmitted to a cloud-based portal, or your own server, via Cat 1 GSM. This enables remote access to all data collected, in real-time, from anywhere in the world.

WHO IS BORERAT FOR?

BoreRat is primarily aimed at the oil and gas industry but any could be used in application anywhere up to 6 different gases and a range of other variables need to be monitored from remote locations with the data securely accessible from anywhere in the world.



KEY FEATURES

- The Gas Monitor utilizes a in-built sample draw pump to draw a continuous sample from the 316 stainless steel Smart Probe
- Itemised Real time Gas, Pressure and Temperature readings. Battery levels, sample pump flow, GPS location and maintenance records are also available
- GPS Location data linked to Google Maps
- 2 Year access to the Online Data Portal with included storage is provided as standard.
- Time Date stamped data is recorded to the Online Portal for up to 2 Years
- Portal Data Pages can be customized to clients' specific requirements
- Sensors used have an expected service life of 5 to 10 years.
- Supports Bluetooth (IOS, Android), Apps and all processes can be simply viewed and activated on the Cell Phone or Tablet
- Installation at site is quick and simple. All equipment quickly self-configures and connects via the ORB GSM and will be visible on the Data Portal.

CONNECTIVITY

The Gas Monitor transmits all data via Wifi (2.4GHz), using secure proprietary protocols to the Communication Orb GSM modem. All data including; continuous date/ time stamped gas readings, battery levels, sample pump flow, GPS location and maintenance records are uploaded to the secure Online Data Portal. All uploaded data can be securely accessed anywhere in the world..

2 Year access to the Online Data Portal with included data & record storage is provided as standard.

LONG LIFE BATTERIES

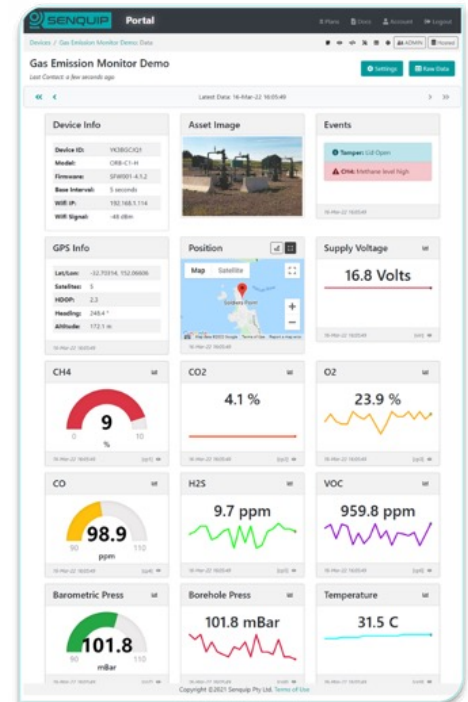
The Gas Monitor includes a lithium-ion rechargeable battery power supply. Run time for the Gas Monitor on a single charge is 10 days. By use of our available solar panel the run time then becomes continuous. The solar panel is ATEX certified and connection is by a provided MIL cable.

DURABLE AND RELIABLE

As the gas monitor is entirely on the surface it is not subject to immersion in ground water OR ground water acidic corrosion which can cause the rapid failure of sub-surface type gas monitors.

The system provides a long term reliable solution. Sensors used have an expected service life of 5 to 10 years.

The system offers ease of maintenance. If sensor replacements are required, this can be done by removing and replacing the sensor cartridge in approx. 2 minutes. Calibration checks can be done in-situ by simple application of field calibration gas cylinders.



BUILT TOUGH AND EASY TO USE

All components are designed for use in harsh industrial environments.

All equipment and systems are supplied pre-configured for ease of installation.

Most start up and communications functions are automatically completed at start-up. Simply turn on the components and in minutes its ready to go.

DESIGNED FOR SUPPORT

Like every product that goes out our door, Gastech is here to stand behind it and make sure it always performs. Our extensive team of highly trained technicians not only ensure it performs before its delivered, they will help keep it that way for the long haul.

Gastech's management systems are certified to ISO 9001 so you can have confidence in our systems.

BORE RAT

SPECIFICATIONS

Specifications subject to change without notice

Size	40.0 x 29.0 x 47.0 cm / 15.8 x 11.4 x 18.5 in.
Weight	17.6 lb / 8 kg
Gas Sensor Slots	Up to 6
Gas Sampling Method	Pumped
Battery	Rechargeable Li-ion battery (3.7V / 26.4 Ah)
Charging Time	Less than 18 hours when instrument is powered off
Running Time	10 days on single charge
Keypads	One-button operation and programing
Display	3.5" 240 x 320 TFT color LCD with white LED backlight
Alarm	Red/yellow/green LED alarm; buzzer alarm 108 dBA @ 1 m; on-screen indication of alarm conditions
Datalogging	Complete gas sensors and instrument information for at least 4 months at one minute intervals
Wireless	ISM license free band: • Bluetooth Low Energy Module (BT 4.2 / 5.0), 2.4 GHz, in default; • Mesh Module: IEEE 802.15.4 868 MHz / 915MHz / 2.4 GHz (optional); OR • Wi-Fi Module: 802.11 b/g/n 2.4 GHz (optional)
Mobile Communication	4G/5G LTE CAT M1 or 2G/3G/4G LTE CAT 1, SIM card holder for user provided SIM, Wi Fi - 802.11 b/g/n, 2.4GHz, supports WPA, WPA2, WPA3 authentication modes
Outdoor Location	GPS receiver module: GPS L1 frequency (1575.42 MHz) (optional)
IP Rating	IP65 for Gas Monitor IP67 for Communication Orb
Temperature	-4 to +140° F / -20 to +60° C
Humidity	5 - 95% RH (non-condensing)

Safety Certifications

- cCSAus Class I Division 1; Group A, B, C, D; T4;
- IEC EX/ATEX
- I M1 Ex ia I Ma
- II 1G Ex ia da IIC T4 Ga
- For LELIR/CO2 sensor installed:
- I M1 Ex ia I Ma
- II 2G Ex ia da db IIC T4 Gb
- 1G Ex ia da IIC T4 Ga

Wireless Approvals

FCC Part 15, IC, RE-D

RoHS (Pending)

RoHS Complaint, Directive (EU) 2015/863

EXTERNAL PORTS

Safe Area Charge Port (AC Chg Safe Area)

Battery charger input 6 VDC 3 A typical; connect to AC/DC adaptor

Field Charge (Is Chg Hazardous)

Intrinsically safe line power supply input to extend instrument runtime (low-power model only)

RAEMET Port (Serial)

Port to RAEMet wind sensor (optional)

Analog/Switch Input Port

(4-20 MA IN) 4-20 mA signal input, X1 channel/switch on/off signal input, X1 channel (optional)

On/Off Switch Output (Switch)

Max 20 V / 120 mA, SPDT Normal Open, X3 channels for external ports (optional). Refer to User Guide for complete details.



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