GAS

DATASHEET

Ex ia certified for use in Zone 1 explosive areas

Wide operating temperature range: from -10°C to +40°C

Works with THT and TBM

GAS: ODORANT CONCENTRATION MEASUREMENT SYSTEM

GAS is an intrinsically secure Ex 'ia' certified device that requires no external wiring because it is battery powered. It is designed to measure the concentration of odorant mixed into natural gas (CH_4) in explosive areas. The unit is typically installed on transport, distribution and stocking flow-lines in the Oil &Gas sector.

GENERAL DESCRIPTION

GAS is an intrinsically secure Ex 'ia' certified device designed to measure the concentration of odorant mixed into natural gas in explosive areas.
At the heart of the device is a 24bit microcontroller optimized for low power consumption. An electrochemical sensor measures the level of odorant. The measurement algorithm includes periodic recalibration of the sensor to obtain high precision measurements throughout the life of the sensor and over the complete range of external temperatures. The device records the measurements on internal memory and can keep up to two years of values. Every measurement record includes the following values:

- Odorant concentration in mg/m^3
- Internal temperature in °C
- Timestamps

The default sampling interval is six hours, and is configurable.
The unit includes two gas cylinders: one for Nitrogen and one for Reference Gas.
A set of GAS units installed at critical points of the network can provide a fully monitored overview of the odorizing process and odorant distribution in the piping.

APPLICATIONS AND BENEFITS

The GAS unit is typically installed on natural gas distribution networks, in gas pressure reduction stations, heating stations and terminal points of the network.

NEUTEL has researched and applied advanced strategies to prolong the life of the sensor, resulting in a patented cleaning method. The average life of the sensor is 18/24 months, before replacement. The sensor must be replaced together with the Nitrogen and Reference Gas cylinders.

Significant advantages of the GAS unit include

- Quick installation
- Auto calibration
- Replaces gas chromatography in the field

With enough statistical data available, the network operator can also fine tune the odorizing process to obtain substantial savings on the quantity of odorant dispensed into the network.

MODELS	
Device family	**Odorant**
GAS	**THT -** (for Tetrahydrothiophene)
	TBM - (for tert-Butylthiol)

THT MEASUREMENT FEATURES	
Measurement Range	0 ÷ 50 mg/m^3
Resolution at 20°C	<1,5 mg/m3 or < 3% Full Scale

TBM MEASUREMENT FEATURES	
Measurement Range	0 ÷ 50 mg/m^3
Resolution at 20°C	< 0,5 mg/m3 or < 1% Full Scale

COMMUNICATION INTERFACES	
Data link	GSM/GPRS – LoRa (optional)

SAMPLING, RECORDING AND DATA TRANSMISSION	
Sampling interval	Once every 6 hours (configurable)
Recording interval	2 years
Default data transmission interval	Daily (configurable)

BATTERY LIFE	
At 4 measurement cycles and one uplink daily	18 months

ELECTRICAL AND MECHANICAL SPECIFICATIONS	
Power Supply	Internal 3.0V lithium battery 12.4 Ah capacity
IP protection level	IP 66
Dimensions (w x h x d)	700 x 350 x 200 mm
Working temperature range	-20 °C / +40 °C
Temperature Class	T4
Shelf temperature	-20°C / +40°C
CE Type Mark	II 2G Ex ia IIB T4
Weight	20 kg
Material	Stainless steel AISI 316
Max structural pressure	300 mbar
Thread and coupling	1/8'' F GAS

NEUTEL

Neutel Srl – Corso Giacomo Brodolini 19 – 27029 Vigevano PV – ITALY

For more information, visit our website at www.neutel.com
Neutel is an ISO 9001– ISO14001 certified company