

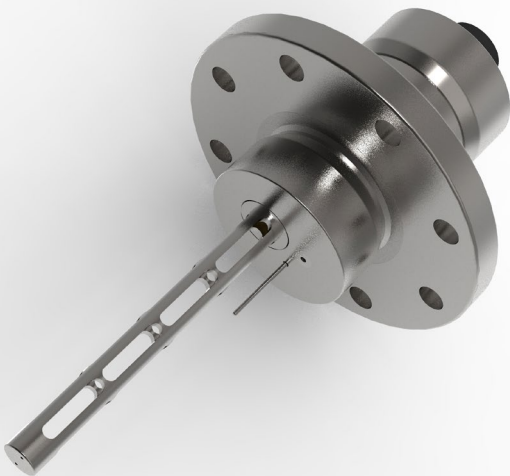
REAL-TIME MEASUREMENT OF GAS QUALITY



NATURAL GAS & HYDROGEN

KEY BENEFITS

1. Real time gas quality measurement for improved control of gas combustion machines
2. Low-cost gas analysis for large scale monitoring of gas grids



FEATURES

- NIRIS embeds a patented near-infrared spectroscopy technology to quantify **gas concentrations**
- NIRIS computes **gas quality parameters** including methane number, Wobbe index and heating value
- NIRIS is ready for **hydrogen blending** in natural gas
- NIRIS cutting edge opto-electronic design delivers a **fast response time**
- NIRIS is **ready to use** without calibration from the customer
- NIRIS communicates over industrial digital protocol
- NIRIS is easy to install with a direct mounting on the gas pipe: **plug and measure**
- NIRIS is ATEX and IECEx compliant

CMR GROUP

CMR Group develops Instrumentation, Control and Automation technologies that enables Power, Oil & Gas, Marine and Industry transformation with more controllable, digital, and sustainable solutions.

CMR Group is the global and long-time partner to high power engine manufacturers and nuclear powerplant operators. With more than 60 years of experience in the development of sensors and harnesses for harsh environment, CMR Group keeps pushing the innovation to offer high level solutions designed for performance, reliability, and cost-effectiveness.

TECHNICAL SPECIFICATIONS

MEASURING RANGE

- Natural gas :
 - Methane 70-100% mole
 - Ethane 10% mole
 - Propane 0-5% mole
 - Butane 0-2,5% mole
- Hydrogen blended in natural gas up to 30%
- Gas temperature 0-50°C
- Gas pressure 0,8-10,0 bars absolute

Specific calibration on demand

OUTPUT PARAMETERS

- Gas Concentrations Methane, Ethane, Propane, Butane, Hydrogen
- Methane number ISO-TR 22302-2014
- Wobbe index ISO 6976
- Density ISO 6976
- Heating value ISO 6976

PERFS

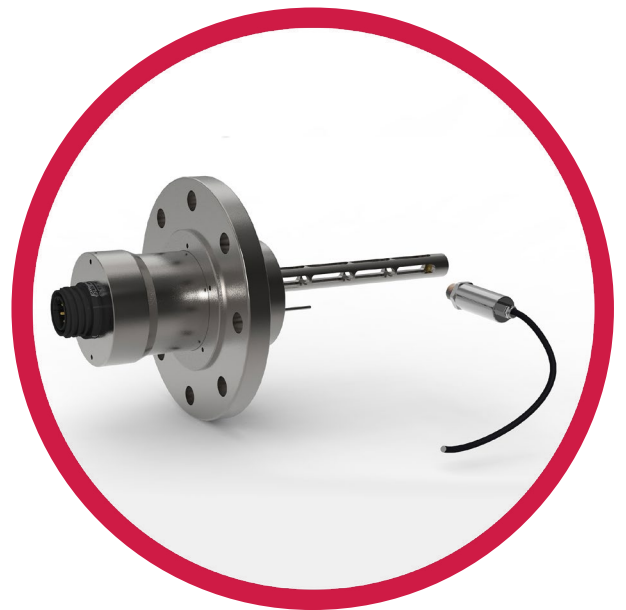
- Gas Concentrations ± 1 % mole-pts
- Methane number ± 2 pts
- Measurement cycle time 500 ms

INSTALLATION

- Mass 2,5 kg
- Power supply 24 VDC (18 V to 36 V DC)
- Power consumption (peak) 15 W
- Communication protocol CAN J1939
- Baud rate 500 kbs

OPERATING CONDITIONS

- Ambient temperature 0-80°C
- Vibrations 2Hz to 25Hz - amplitude ±1.6mm
25Hz to 100Hz - acceleration ±4g
- Protection class IP66



MAIN FUNCTIONALITIES AT A GLANCE

1 Measures gas composition

2 Computes gas quality parameters

3 Fast response time

4 Plug and measure