

GAS QUALITY SENSOR SOLUTION



«REAL-TIME» MEASUREMENTS OF NATURAL GAS FUEL QUALITY FOR THE BEST PERFORMANCE OF YOUR DEVICE

KEY BENEFITS

- Better fuel consumption (i.e by allowing engine tuning closer to the knocking limit)
- Less risk of engine shut-down with relation to gas quality
- Computes gas quality parameters - including Methane Number
- No calibration required from the user
- Software is fully upgradable by CAN bus communication without dismantling the sensor
- Incorporates optical measurement for fast response times (<1 second)
- Directly connects to the pipeline - no gas sampling
- Easily plugs into the engine or into the gas train



Non-contractual picture

FEATURES

- **NIRIS NG** is a gas quality sensor installed directly on the fuel gas pipe or engine
- **NIRIS NG** measures gas composition and its variations in real time
- **NIRIS NG** computes the main gas parameters including methane number, Wobbe index, heating value (higher and lower), density and relative density
- No daily calibration is needed with **NIRIS NG**
- **NIRIS NG** is easily installed in a short amount of time
- Custom algorithms can be added or dedicated calibrations done to the **NIRIS NG** on demand (i.e.: methane number)

➤ **CMR offers :**

- Know-how based on 60+ years' experience in the development and production of measuring systems that have been tested and accepted by the biggest engine manufacturers.
- A guarantee of quality and reliability backed up by the ISO 9001 certification.
- An international team of professional engineers dedicated to the design and market of new innovations in sensor and supervisory system technology.
- A complete manufacturer package including engineering, design, hardware, installation, commissioning, trials, training, warranty, maintenance and obsolescence survey follow up.

MAIN CHARACTERISTICS

Technical specifications:

MEASURING RANGE

Methane	50-100%
Ethane	0-20%
Propane	0-10%
Butane	0-10%
Gas temperature	0-50°C
Gas pressure	0,8 – 10 bars absolute

OUTPUT PARAMETERS

Concentrations	CH ₄ , C ₂ H ₆ , C ₃ H ₈ , C ₄ H ₁₀ , «others»
Methane number	ISO-TR 22302-2014
Wobbe index	ISO 6976
Density	ISO 6976
Heating value	ISO 6976
Response time	< 1second
Accuracy	± 2 points on MN

INSTALLATION INTERFACES

Power supply	24 VDC (18 V to 36 V DC)
Peak power	15 watts
Connector	M12 - 5 pins, Binder series 763
Data output format	CAN J1939
Data repetition period	500 ms
Data transmission baud rate	500 kbs
Vibrations	2Hz to 25Hz – amplitude ±1.6mm 25Hz to 100Hz – acceleration ±4g
Ambient temperature	0 – 80°C
Protection class	IP66
Mass	2,5 kg

«others» counted as N₂ + CO₂ + C_nH_{2n+2} with n ≥ 5



MAIN FUNCTIONALITIES AT A GLANCE

1 Gas composition measurement

The infrared spectroscopy measurement allows the sensor to quantify the molar fractions of methane, ethane, propane and butane present in the natural gas.

2 Gas quality parameters

The microprocessor's embedded program computes different parameters based on industry standards.

3 Real time measurements

The sensor's high technicity of opto-electronic design and software allow for a response time of less than 1 second.

4 Plug and measure

No calibration is needed before, during or between measurements. Power up the NIRIS NG sensor with the CAN bus connection and get the data!

For more detailed information, contact us at sales@cmr-group.com