

CONG PRIMA-2M

WATER & HYDROCARBON DEW POINT TRANSDUCER

Engineered and manufactured by Vympel

Supplied and supported by Blue Dragon Technology

Automatic chilled-mirror dew point measurement for natural gas and industrial gases, with direct measurement of water dew point and hydrocarbon condensation temperature

The CONG Prima-2M is an automatic chilled-mirror hygrometer designed for accurate online dew point measurement in natural gas and other industrial gases. Using first-principle measurement with advanced laser-based interferometric analysis, it provides direct and repeatable determination of water dew point and hydrocarbon condensation temperature without measurement drift. Its compact hazardous-area design, smart mirror cleaning mode, and support for 4-20 mA or RS-485 communication make it a practical solution for continuous field installation and analyzer system integration.



Direct Chilled-Mirror Measurement

First-principle dew point measurement with no measurement drift



Dual Dew Point Capability

Measures water dew point and hydrocarbon condensation temperature



Industrial Connectivity

4-20 mA or RS-485 Modbus RTU, IP67 housing, and ATEX hazardous-area suitability

WHY CHOOSE THE CONG PRIMA-2M



First-Principle Accuracy

Chilled-mirror technology provides direct, repeatable dew point measurement



No Measurement Drift

Primary measurement method with no routine drift correction requirement



Dual Measurement

Registers both water dew point and hydrogen condensation temperature



Hydrogen Compatible

Suitable for gases containing H₂



Smart Mirror Cleaning

Automatic cleaning mode supports reliable long-term operation



Compact & Robust

Lightweight, compact analyzer for industrial online installation

INDUSTRIES & APPLICATIONS



Natural Gas Processing

- Dry gas quality monitoring
- Gas dehydration system
- Pipeline gas conditioning



Petrochemicals

- Process gas moisture control
- Condensation monitoring
- Protection of sensitive equipment



Gas Transmission

- Pipeline dew point monitoring
- Compressor station support
- Gas quality assurance



Industrial Gases

- Hydrogen-containing gases
- Inert gas monitoring
- Utility gas systems



Analyzer & Skid Systems

- Gas preparation integration
- Modular analysis systems
- Continuous process monitoring



Power & Utilities

- Instrument gas systems
- Dry gas process support
- Moisture control

HOW IT WORKS

1



Sample Gas

A representative gas sample enters the analyzer

2



Mirror Cooling

The mirror surface is temperature-controlled during the measurement cycle

3



Condensation Event

Moisture or hydrocarbon condensate forms on the mirror surface

4



Optical Detection

Laser-based interferometric analysis detects the onset of condensation

5



Dew Point Determination

The instrument calculates the corresponding dew point or condensation temperature

6



Signal Output

Results are transmitted to plant systems through 4-20 mA or RS-485 communication

TECHNICAL SPECIFICATIONS

Measurement Principle	Automatic chilled-mirror hygrometer
Measured Parameters	Water dew point; hydrocarbon condensation temp.
Water Dew Point Range	-60 to +30 °C
Hydrocarbon Condensation Range	-60 to +30 °C
Mirror Cooling Differential	≥70 °C at 10 MPa
Measurement Accuracy	±0.5 / ±1.0 °C*
Measurement Cycle	5 to 10 min
Sample Gas Flow Rate	0.2 to 2.0 NL/min
Gas Temperature	-20 to +50 °C
Maximum Operating Pressure	≤23 MPa (230 bar)
Interface	RS-485 Modbus RTU or 4-20 mA
Power Supply	20 to 27 VDC
Power Consumption	15 W max
Ingress Protection	IP67
Enclosure Protection	ATEX II 2 G Ex d IIA T5 Gb
Dimensions / Weight	207 × 112 × 235 mm / ≤6 kg

* Accuracy depends on measurement range/configuration
Supplemental cooling may be required for measurements below -30 °C.

INSTALLATION & INTEGRATION



In Situ Pipeline Installation

Can be mounted on a pipeline module for direct process installation



Gas Preparation System Option

Available with gas preparation solutions for optimized sample conditioning



Plant System Integration

Supports 20-27 VDC supply and either 4-20 mA or RS-485 Modbus RTU communication.

APPLICATION GUIDANCE



Best for online dew point monitoring

Ideal for continuous water dew point or hydrocarbon condensation monitoring in gas service



Suitable for gas streams

Use with natural gas and industrial gases, including H₂-containing gases



Select the right output

Choose either RS-485 Modbus RTU or 4-20 mA based on the control system



Cooling may be required

Supplemental cooling is needed for measurements below -30 °C



Factory-ready industrial design

Compact hazardous-area analyzer built for field deployment

