

# HORIBA

Explore the future

## In-situ NO<sub>x</sub>/O<sub>2</sub> Monitor

# INM-700

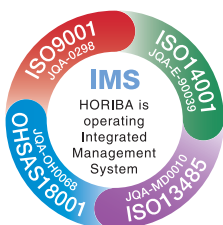


*For improved process monitoring, rapid control capability, and lower life cycle costs, you need an analyzer that delivers:*

Feature ① **High spatial resolution**

Feature ② **Fast response time**

Feature ③ **Easy installation and operation**



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**HORIBA**

# The INM-700's combination of unique, proven technology and easy operation delivers improved

## Versatile, compact in-situ design is the best option for process monitoring and control

The HORIBA In-situ NOx/O<sub>2</sub> analyzer's rugged, compact design allows placement indoors or outdoors. The probe may be mounted directly in the stack or close to combustion sources through a single port. The INM-700 offers easy installation and operation for accurate measurement of NOx/O<sub>2</sub> for real time monitoring and control. Using a unique Zirconium Oxide sensor and a non-extractive probe, the INM-700 offers fast response times of less than 10 seconds for on-demand gas flow control and process optimization. An air-cooled probe provides continuous and stable measurements in harsh high temperature environments.



### Applications include

- Monitoring for Selective Catalytic Reduction (SCR) ammonia control process
- Boiler tuning, supervision and control of low NOx and standard burners
- Over-fire air injection systems
- Cogeneration SCR monitoring and control

### Feature 2 Fast response time

Fast response times within 10 seconds enable realtime process control operations such as combustion emissions measurement for improved efficiency, productivity, and cost savings.

- Controls ammonia injection on SCR systems
- Improves monitoring of combustion efficiency
- Provides real time data for process control applications

### Probe unit

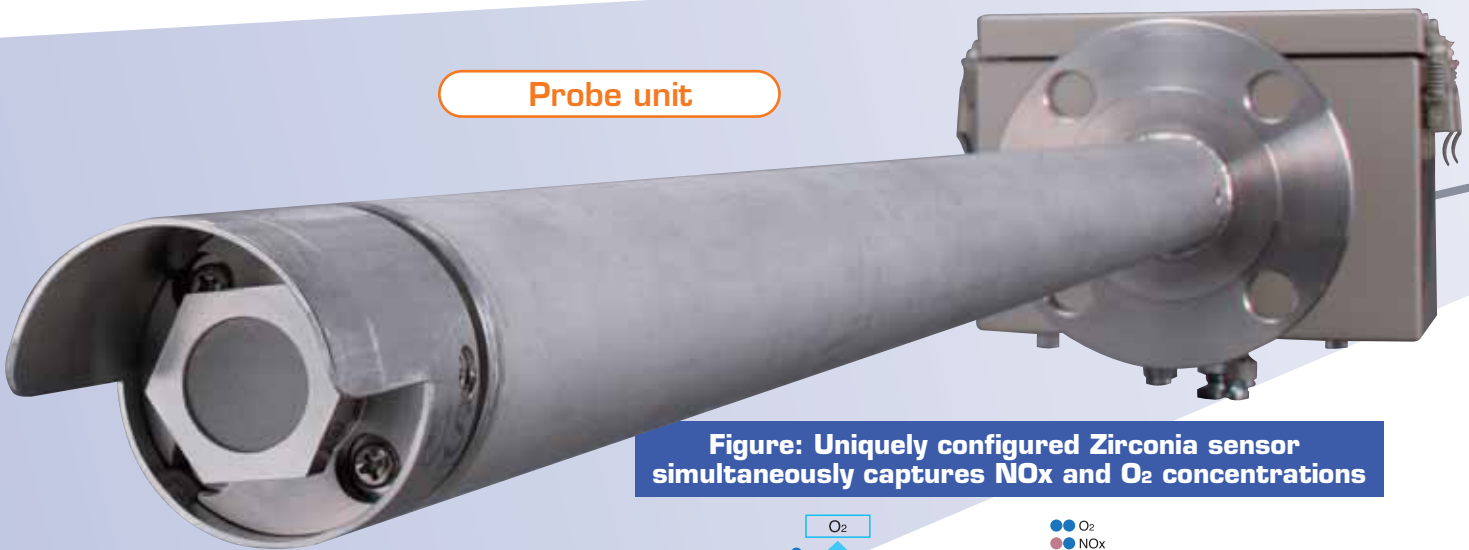
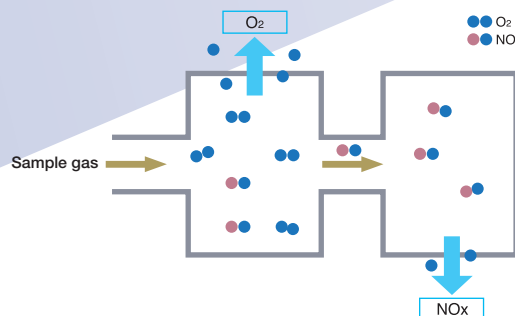


Figure: Uniquely configured Zirconia sensor simultaneously captures NOx and O<sub>2</sub> concentrations



INM-700 is the optimum NOx/O<sub>2</sub> monitor for control and efficiency in SCR NOx removal systems. Unlike conventional extractive gas monitors, the INM-700 In-situ NOx/O<sub>2</sub> monitor needs no sample handling unit.

## monitoring and process control.

### Feature 1 High spatial resolution

Compact and efficient by design the analyzer consists of a controller and a probe. The probe facilitates precise placement at critical flow areas to provide high spatial resolution, rapid response times, and measurement integrity.

- No requirements for installation of sampling hardware
- Small profile for tight applications
- Readily retrofitted onto existing facilities

### Controller unit

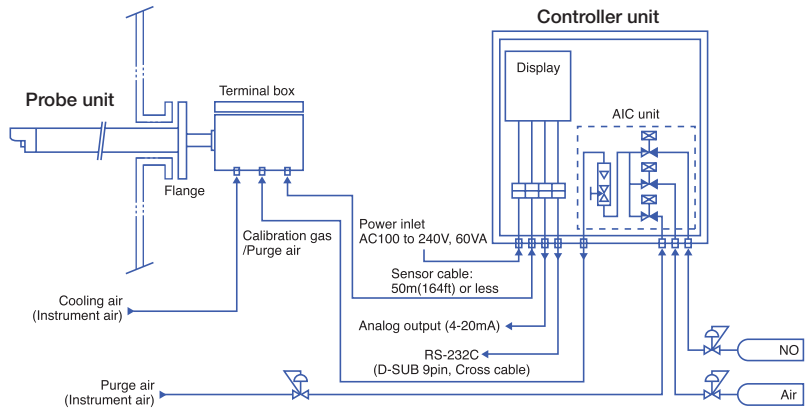


### Easy to use control unit

- Easy to read high, brightness display with intuitive menu commands
- RS-232C for PC connection
- Industry standard CSV file format



### Simple system configuration



※ INM-700 includes Controller unit and Probe unit only.

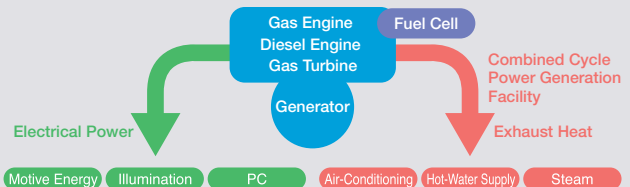
### Feature 3 Easy installation and operation

Versatile control unit may be located almost anywhere. Probe is easy to set up and maintain.

- Mounted to a single ANSI standard flange
- Probe located up to 50 meters from controller (standard)
- Equipped with auto calibration function
- No optical alignment
- Low maintenance with long-life sensor
- Unique sensor refresh mode

### The right choice for a broad spectrum of applications spanning cogeneration facilities, industrial processing, and large, centralized utilities

The INM-700's small profile and high performance fills the monitoring and process control needs for cogeneration systems at airports, hospitals, universities, municipalities, and industries. The high temperature tolerance of the INM-700 allows In-situ probe placement close to combustion processes for rapid and highly accurate measurement with precise spatial resolution. The result is more efficient and economical operation and higher productivity for combustion intensive industries including petroleum refining, forest products, steel, chemicals, glass, and metal casting. The INM-700 has proven to be an extremely reliable and cost effective tool for emissions control strategies at large power plants.



## Specifications

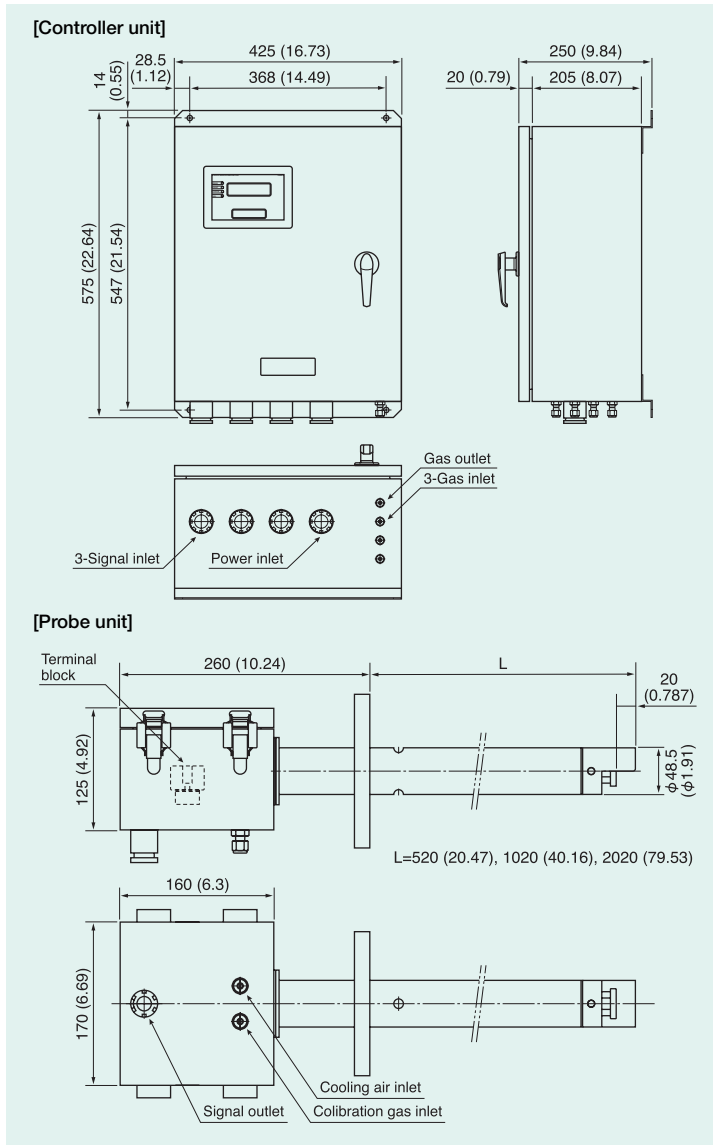
<b>Model</b>	INM-700
<b>Principle</b>	Zirconia Type
<b>Measurement range</b>	NOx: 0 to 100 ppm (minimum), 0 to 1000 ppm (maximum) O <sub>2</sub> : 0 to 25%
<b>Repeatability</b>	NOx: ± 1.0% of full scale O <sub>2</sub> : ± 1.0% of full scale
<b>Drift</b>	± 2.0% of full scale/week
<b>Response time T90</b>	10 sec. or less
<b>Display</b>	LED digital display (effective 4 digits) for measuring value LCD display for parameter setting
<b>Output signal</b>	NOx: DC 4 to 20 mA (maximum load 600 Ω) O <sub>2</sub> : DC 4 to 20 mA (maximum load 600 Ω) Corrected NOx: DC 4 to 20 mA (allowable load resistance: 600 Ω)
<b>Calibration</b>	Probe Calibration (Automatic or manual)
<b>Warm up time</b>	Approx. 5 min.
<b>Sensor cable</b>	Max. 50 m [164 ft.] <sup>※1</sup>
<b>Location</b>	Indoor or outdoor
<b>Operational temperature</b>	-10 to 50 °C [23 to 122 °F]
<b>Humidity</b>	90% RH (no moisture condensation)
<b>Power</b>	AC100 V to 240 V (50/60 Hz)
<b>Power consumption</b>	Approx. 60 VA
<b>Mass</b>	Probe unit: Approx. 10 kg [Approx. 22lbs] Controller unit: Approx. 20 kg [Approx. 44lbs]
<b>Cooling air consumption: Stack gas application (Instrument air)</b>	400 °C [752 °F]: Approx. 70 L/min. [2.47 cfm] 350 °C [662 °F]: Approx. 50 L/min. [1.77 cfm] 300 °C [572 °F]: Approx. 40 L/min. [1.41 cfm] 200 °C [392 °F]: Approx. 40 L/min. [1.41 cfm]
<b>Purge air (Instrument air)</b>	Pressure air: about 300kPa Consumption air: 3 L/min.

※1 Maximum length between Probe unit and Controller unit.

**HORIBA continues contributing to the preservation of the global environment through analysis and measuring technology.**



## Dimensional Outline Unit: mm (in)



**Please read the operation manual before using this product to assure safe and proper handling of the product.**

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<http://www.horiba.com> e-mail: [info@horiba.co.jp](mailto:info@horiba.co.jp)

### ● HORIBA, Ltd.

**Head Office**  
Miyano Higashi, Kisshoin  
Minami-ku, Kyoto, Japan  
Phone: 81 (75) 313-8123  
Fax: 81 (75) 321-5725

### ● HORIBA KOREA Ltd.

112-6 Sogong-Dong  
Choong-ku, Seoul, Korea  
Phone: 82 (2) 753-7911  
Fax: 82 (2) 756-4972

### ● HORIBA INSTRUMENTS

**Pte. LTD.**  
10 Ubi Crescent  
#05-11/12, Ubi Techpark  
Singapore 408564  
Phone: 65 6745-8300  
Fax: 65 6745-8155

### ● HORIBA INSTRUMENTS

**INCORPORATED**  
**Irvine Facility**  
17671 Armstrong Avenue  
Irvine, CA 92614, U.S.A.  
Phone: 1 (949) 250-4811  
Fax: 1 (949) 250-0924

### ● HORIBA EUROPE GmbH

**Head Office**  
Hans-Mess-Str. 6  
D-61440 Oberursel/Ts.  
Germany  
Phone: 49 (6172) 1396-0  
Fax: 49 (6172) 137385

**Leichlingen Facility**  
Julius-kronenberg Strasse  
D-42799 Leichlingen  
Germany  
Phone: 49 (2175) 8978-0  
Fax: 49 (2175) 8978-50

### ● HORIBA FRANCE

12, Avenue des Tropiques  
91955 LES ULIS  
France  
Phone: 33 (1) 69-29-96-23  
Fax: 33 (1) 69-29-95-77

### ● HORIBA INSTRUMENTS

**LIMITED**  
Kyoto Close  
Summerhouse Road  
Moulton Park, Northampton  
NN3 6FL, U.K.  
Phone: 44 (1604) 542500  
Fax: 44 (1604) 542699

### ● HORIBA GmbH

Kaplanstrasse 5  
A-3430 Tulln,  
Austria  
Phone: 43 (2272) 65225  
Fax: 43 (2272) 65230

**HORIBA CZECHIA**  
Organizaci slozka Praha  
Petrohradská 13  
CZ-101 00 Praha 10,  
Czech Republic  
Phone: 420 (2) 717-464-80  
Fax: 420 (2) 717-470-64

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