

# OMA-300-InGaAs Process Analyzer

Applied Analytics Data Sheet No. DS-001N



The OMA-300-InGaAs Process Analyzer produces results in real time by measuring the light absorbance of a liquid or gas sample by utilizing the Beer-Lambert law to correlate the light data to the chemical concentration of an analyte. The OMA-300-InGaAs uses an Indium Gallium Arsenide detector and can be configured to scan across in one of three wavelength ranges – 1350-1650nm, 1550-1850nm, & 1750-2150nm.

## Features

- » Continuously measures chemical concentrations in a liquid or gas process stream
- » Totally solid-state build with no moving parts — modern design for low maintenance
- » Ultra-safe fiber optic design with dedicated sample flow cell — no sample fluid in analyzer enclosure
- » Decades of field-proven performance in the world's harshest industrial environments

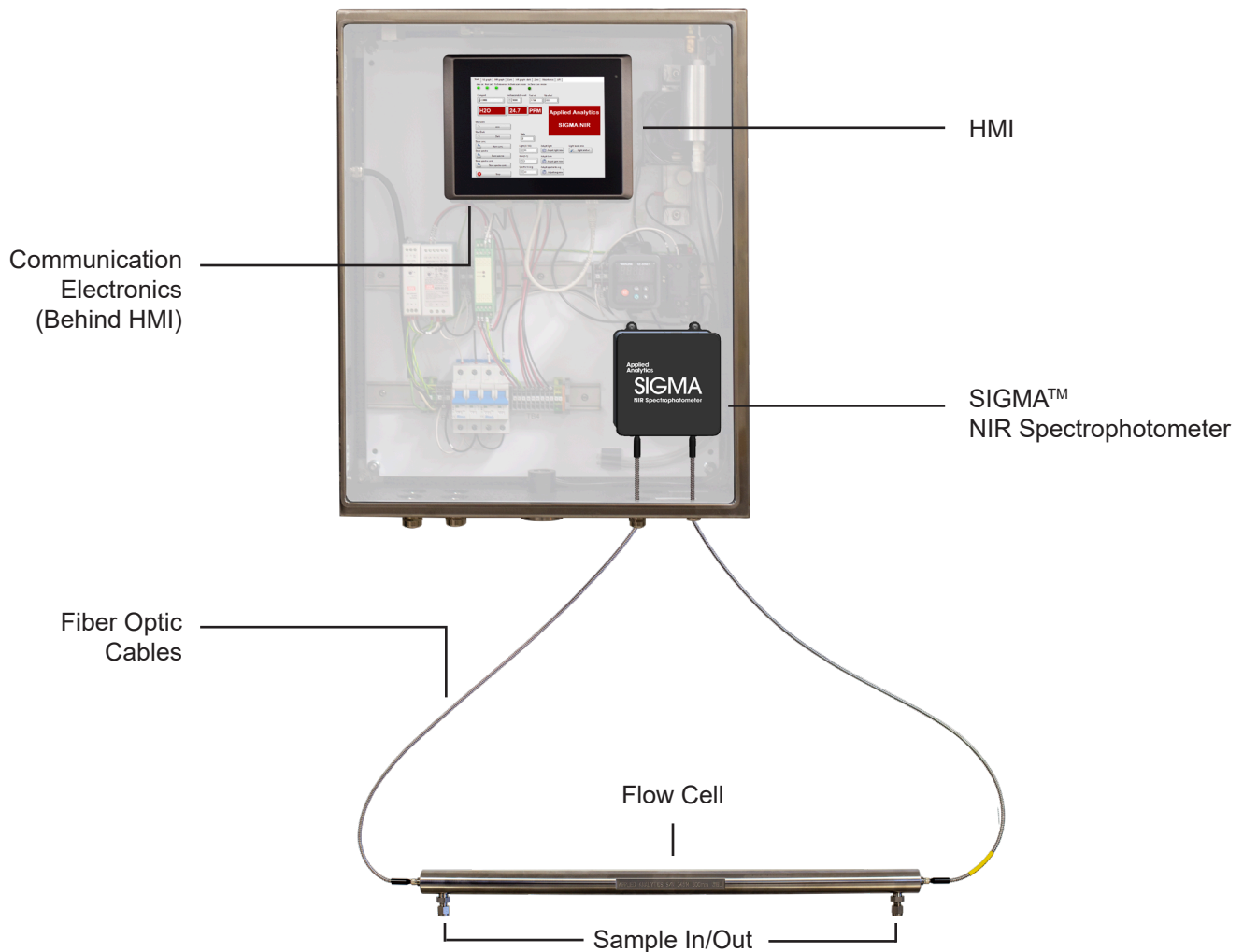
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The OMA measurement cycle is virtually instantaneous, but it can be helpful to visualize it in stages:

1. The light originates from the tungsten lamp that functions as the light source.
1. The light travels via fiber optic cable to the flow cell. A collimator narrows the light beam.
2. The light travels directly across the flow cell, interacting with the continuously drawn process sample.
3. The light exits the flow cell through a collimator, now containing the distinct absorbance imprint of the current chemical composition of the sample.
4. The light travels via fiber optic cable to the spectrophotometer.
5. An InGaAs photodiode is used to digitize the transmitted light.
6. The absorbance spectrum is generated by plotting the lost light intensity vs. the original light intensity.

## OMA Internal Components



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All performance specifications are subject to the assumption that the sample conditioning system and unit installation are approved by Applied Analytics. For any other arrangement, please inquire directly with Sales.

Subject to modifications. Specified product characteristics and technical data do not serve as guarantee declarations.

Technical Data	
<b>General</b>	
Measurement Principle	InGaAs (indium gallium arsenide) infrared spectrometer
Detector	SIGMA™ NIR Spectrometer
Spectral Range	1350-1650nm, 1550-1850nm or 1750-2150nm
Light Source	Tungsten lamp
Light Transmission	600 µm core 1.8 meter fiber optic cables Other lengths available
Path Length	Application-dependent
Sample Introduction	Sample Conditioning System Wetted materials: SS316/316L, viton, PTFE, BK7 Glass
Analyzer Calibration	Factory calibrated, if possible
Human Machine Interface	Industrial controller with touch-screen LCD display running ECLIPSE™ Software
User Interface	ECLIPSE™ Runtime Software
Data Storage	Solid State Drive
<b>Operating Conditions</b>	
Analyzer Environment	Indoor/Outdoor (no shelter required)
Ambient Temperature	Standard: 0 to 35 °C Optional: -40 to 60 °C To avoid radiational heating, use of a sunshade is recommended for systems installed in direct sunlight.
Sample Temperature Range	Standard: -20 to 70 °C (-4 to 158 °F) Optional: up to 150 °C (302 °F) with cooling extensions Contact AAI for temperatures above 150 °C (302°F)
Sample Pressure	3000 psig
<b>Utilities</b>	
Voltage	85 to 264 VAC, single phase
Power Consumption	45 watts
<b>Outputs</b>	
Standard Outputs	1x galvanically isolated 4-20mA analog output per measured analyte(up to 3; additional available by upgrade) 2x digital outputs for fault and SCS control
Optional Outputs	Modbus TCP/IP; RS-232; RS-485; Fieldbus; Profibus; HART;
<b>Physical Specifications</b>	
Select analyzer type	OMA-300 Wall-Mounted Analyzer OMA-206P Portable Analyzer OMA-406R Rackmount Analyzer

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Revised 05 January 2024

Certifications	
Standard Design	General Purpose
Available Options	ATEX, IECEx, EAC, PESO, JPN
Please inquire with your sales representative for additional certifications (CSA, FM etc.).	



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