

Ei700 Biogas NH₃ Analyzer

Tunable Diode Laser (TDL)



*Tabletop enclosure shown. See reverse side for additional options.

Using the proven laser absorption spectroscopy technique to detect and measure the concentration of NH₃ in gas streams, the Ei700 Biogas NH₃ Analyzer measures ammonia by emitting a specific wavelength of infrared (IR) light through a multi-pass sample cell and into a detector. Ammonia molecules present in the gas sample absorb and reduce the intensity of the laser light energy in direct proportion to their concentration. The solid-state detector measures the difference in light intensity. This signal is processed using an algorithm to calculate the ammonia concentration.

Key Features

- ▶ Tunable Diode Laser (TDL) technology is highly selective and not affected by the interference of other gases and has the advantages of rapid response speed and high sensitivity
- ▶ Multi-pass sample cell allows for low detection (0-20 ppm)
- ▶ 7" (or 10" optional) color touchscreen display
- ▶ High sensitivity
- ▶ Low number of wear items for improved reliability
- ▶ Automatic calibration
- ▶ Modbus TCP/IP communication and analog outputs
- ▶ Remote access capabilities
- ▶ Front panel USB for firmware upgrades, data download, or peripheral devices
- ▶ Innovative IntelliSense™ software platform across all Ei analyzers for consistent, simple, and user-friendly interface, operability, and data display



InteliSense™ Software

- ▶ Modern, user-friendly interface
- ▶ Simple set-up and operation
- ▶ Selectable units (ppm, mg/m³, or %)
- ▶ Customizable graphical data display
- ▶ Instrument Alarms
- ▶ Data logging
- ▶ Error logging
- ▶ Zero and span logging
- ▶ “Dark Mode” option



Applications

- ▶ Wastewater Treatment Plants
- ▶ Food Waste Digestors (co-digestion)
- ▶ Dairy Farms
- ▶ Hog and Pig Farms
- ▶ Landfills
- ▶ Others



Options

- ▶ 10” Display
- ▶ Enclosure Options:
 - ▷ 19” Rack-Mount Enclosure
 - ▷ Tabletop Enclosure
 - ▷ Wall-Mount Enclosure
 - ▷ Portable Enclosure



Technical Specifications			
Analysis Method	Tunable Diode Laser Spectrometry (TDL)		
Detector Type	Photodiode		
Measurement Range* (Other Measurements Available) <small>*At 2% of full scale accuracy Lower ranges available at accuracies above 2% of full scale</small>	Gas NH ₃ CH ₄	Minimum 0-20 ppm 0-10 %	Maximum 0-100% (with dilution) 0-100 %
Sample Cell	Stainless steel		
Response Time	90% of full scale within 30 seconds at 3 LPM flow rate (may vary depending on measurement range)		
Noise	≤ 1% of full scale range		
Resolution	≤ 0.1% of full scale		
Accuracy	≤ 2% of full scale (at measurement range specified above)		
Zero and Span Adjustment	Manual or automatic		
Sample Flow & Pressure		With Sample Pump	Without Sample Pump
	Required Sample Pressure	Atmospheric +/- 30%	18 - 22 PSI
	Sample Flow Rate	2.1 - 2.3 LPM	2.3 - 2.6 LPM
Purge Gas	None required		
Outputs Available	MODBUS via TCP/IP, 4-20 mA (0-10 V available upon request)		
Sample Temperature	Up to 60° C (non-condensing)		
Ambient Temperature	-5 to 45° C		
Ambient Humidity	Less than 90% RH (non-condensing)		
Fittings	¼” compression		
Power Requirements	100 to 240 VAC, 50/60 Hz, 500 VA		
Dimensions	7” H x 19” W x 20” D (may vary depending on configuration)		
Weight	22 lbs. (may vary depending on configuration)		

Please Note: Specifications are subject to change and may differ based on instrument settings, operating conditions, and sample matrix.