EMS-10 Continuous Emissions Monitoring System

The fully automated Thermo Scientific™ EMS-10™ Continuous Emissions Monitoring System (CEMS), based on Fourier-transform-infrared (FTIR) spectroscopy, offers a modular design along with flexible MAX-Acquisition Control Software. It can be customized to meet your specific applications while complying with United States Environmental Protection Agency CEMS standards. The EMS-10 System uses the Thermo Scientific™ MAX-iR™ FTIR Gas Analyzer, which is capable of accurately analyzing many gaseous compounds ranging in concentration from percent (%) to parts-per-billion (ppb) without any liquid nitrogen needed to cool the detector.

The integrated design of the EMS-10 multiplexer controls the flow and switching of all gas streams. The system can handle hot, wet, non-condensing exhaust gas samples up to 150°C, making it ideal for a wide variety of stationary-source continuous emission monitoring applications. The EMS-10 CEMS has two multiplexer options: a single-channel and a four-channel multiplexer.

The entire system is controlled by user-friendly MAX-Acquisition Software. The MAX-INT Factory Interface Module provides input and output connections from the EMS-10 CEMS to a facility's distributed control system (DCS) for remote data access, control, and reporting.

The touch screen monitor and keyboard allow you to easily view all sample data, system diagnostics, and alarms, either at the unit or via remote access. The concentration data and alarms can be exported to a DCS via Modbus TCP/IP.

Key features
Fully automated gas emission measurement system
Compliant with US EPA standards
1- or 4-channel multiplexer with 10 L/min heated sample pump and bypass pump
Indoor or outdoor enclosure
Gas dilution capabilities
Touch screen controls that work with MAX-Acquisition Software
Industrial PC runs entire system
Other automation interfaces available

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EMS-10 CEMS specifications		
Multiplexer		
Number of sample channels	1 or 4	
Sample pump flow	4–10 L/min	
Bypass pump flow	1–2 L/min on each channel (*four channel only*)	
System response time	≤15 s at 10 L/min	
Gas requirements		
Purge gas	Nitrogen, N3.0 or better, 30 psig	
Valve actuation gas	Clean dry air (CDA) or nitrogen, 80 psig	
Facilities requirements	**Indoor enclosure**	**Outdoor enclosure**
Environmental temperature range	20 to 30°C	-40 to 55°C
Environmental relative humidity (RH)	10–90% RH, non-condensing	No restriction
Power*	208–240 VAC, 60 Hz, 9.5 A max	208–240 VAC, 60 Hz, 21 A max
Dimensions (W x H x D)	651 x 915 x 1948 mm	1030 x 976 x 1912 mm
Estimated weight	230 kg	310 kg
Factory integration		
Data outputs	• Modbus TCP/IP • Relay outputs (Form C) • Analog outputs (4–20 mA) • Digital outputs (24 V sourcing)	
Data inputs	• Modbus TCP/IP remote control • Analog inputs (4–20 mA) • Digital inputs (24 V) for remote start and stop • Thermocouple inputs (Type K)	

*Does not include heated sampling trains

Learn more at **thermofisher.com/ems-10**