

## 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 application needs while complying with United States Environmental Protection Agency (EPA) CEMS standards. The EMS-10 incorporates the Thermo Scientific™ MAX-iR™ FTIR Gas Analyzer, which can accurately analyze a wide range of gaseous compounds, from percent (%) to parts-per-billion (ppb) concentrations, without the need for liquid nitrogen cooling of 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 emissions samples up to 150°C, making it ideal for a wide variety of stationary-source monitoring applications. The EMS-10 CEMS has two multiplexer options: a single-channel and a four-channel multiplexer. The four-channel configuration enables the EMS-10 to monitor up to four sources, which is ideal for time-sharing CEMS or inlet/outlet monitoring for process optimization.

The entire system is controlled by the MAX-Acquisition Software. The MAX-INT Factory Interface Module provides digital and analog I/O connections from the EMS-10 to a facility's distributed control system (DCS) for remote data access, control, and reporting.

Additional sensors such as flow monitors, analog output analyzers, and facility alarms can also be integrated with the MAX-INT Factory Interface Module.

Concentration data and alarms can be exported to a DCS using Modbus TCP, ensuring seamless integration with existing systems. Overall, the Thermo Scientific EMS-10 offers a reliable and efficient solution for monitoring emissions and meeting regulatory requirements.

### 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

Standard or advanced 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 ( <i>four channel only</i> )
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	-20 to 50 °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 1948 x 915 mm	1178 x 1912 x 985 mm
Estimated weight	230 kg	320 kg

**Factory integration**

Data outputs	<ul style="list-style-type: none"> <li>• Modbus TCP</li> <li>• Relay outputs (Form C)</li> <li>• Analog outputs (4–20 mA)</li> <li>• Digital outputs (24 V sourcing)</li> </ul>
Data inputs	<ul style="list-style-type: none"> <li>• Modbus TCP/IP remote control</li> <li>• Analog inputs (4–20 mA)</li> <li>• Digital inputs (24 V) for remote start and stop</li> <li>• Thermocouple inputs (Type K)</li> </ul>

\*Does not include heated sampling trains

 Learn more at [thermofisher.com/ems-10](https://thermofisher.com/ems-10)

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