T-I Max CEM

Next-Generation CEM Analyzer

GASES & CHEMICALS | **CEMS** | ENERGY | SEMI & HB LED | ATMOSPHERIC | LAB & LIFE SCIENCE

Designed for Continuous Emissions Monitoring (CEM), the robust and compact T-I Max CEM offers:

- Accuracy traceable to the world's major national reference labs
- High specificity—no interference
- Sub-ppb detection capability
- No periodic sensor replacement/maintenance
- Unprecedented speed of response
- Wide dynamic range

Delivering your best measurements, the extremely versatile T-I Max CEM is used for monitoring gas concentrations of target compounds, both for compliance and process control. The T-I Max CEM analyzer represents the latest advancement in Continuous-Wave Cavity Ring-Down Spectroscopy designed for superior performance and unprecedented speed of response. It is an ideal, proven solution for MATS HCl compliance needs. As such, applications include continuous emissions monitoring of sources, such as cement kilns, power plants, paper mills, and refineries. Using Tiger Optics' T-I Max CEM analyzer, you can verify concentrations of target compounds with parts-per-billion accuracy, drift-free stability, and virtually immediate response.

The T-I Max CEM detects NH_3, HCl, HF, H_2S, and CH_4, among other species. You will find our analyzer is easy to install, exceptionally intuitive to use, and effortless to maintain. The modern software enables you to easily configure the analyzer via its touchscreen display and to communicate with virtually any manufacturer's DAHS. Two units fits into one 19" rack mount. The robust design—free of moving parts—results in an analyzer that has a high mean time between failures (MTBF) and a very low cost of ownership (COO).

Tiger Optics
a Process Insights Brand

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Performance	
Operating range	See table below
Detection limit (LDL, 3σ/24h)	See table below
Precision (1σ, greater of)	± 0.75% or 1/3 of LDL
Accuracy (greater of)	± 4% or LDL
Speed of response	See table below
Environmental conditions	10°C to 40°C
	30% to 80% RH (non-condensing)
Storage temperature	-10°C to 50°C

Gas Handling System and Conditions*	
Wetted materials	316L stainless steel
	10 Ra surface finish
Gas connections	1/4" male VCR inlet and outlet
	(1/4" Swagelok® adapters included)
Inlet pressure	0 – 10 psig
Outlet pressure	Vacuum (<10 Torr)
Flow rate	~2 slpm max.
Sample gases	Air, diluted stack gas
Gas temperature	Up to 60°C

Dimensions	H x W x D [in (mm)]
Standard sensor	8.73 x 8.57 x 23.6 (222 x 218 x 599)
Sensor rack	8.73 x 19.0 x 23.6 (222 x 483 x 599)
(fits up to two sensors)	
Weight	
Standard sensor	33 lbs (15 kg)

Electrical and Interfaces	
Platform	Max series analyzer
Alarm indicators	2 user programmable
	1 system fault
	Form C relays
Power requirements	90 – 240 VAC, 50/60 Hz
Power consumption	40 Watts max.
Signal output	Isolated 4–20 mA
User interfaces	5.7" LCD touchscreen
	10/100 Base-T Ethernet
	USB, RS-232, RS-485
	Modbus TCP (optional)
Data storage	Internal or external flash drive
Certification	CE Mark

Performance:	Range†	LDL (3σ)	Precision (1σ) @ zero	Speed of Response
T-I Max CEM NH_3	0 – 40 ppm	6 ppb	2 ppb	1 min to 95%
T-I Max CEM HCl	0 – 4 ppm	0.75 ppb	0.25 ppb	30 sec to 90%
T-I Max CEM HF	0 – 1 ppm	0.15 ppb	0.05 ppb	30 sec to 90%
T-I Max CEM H_2S	0 – 500 ppm	40 ppb	13 ppb	30 sec to 95%
T-I Max CEM CH_4	0 – 20 ppm	1.5 ppb	0.5 ppb	30 sec to 95%

*Vacuum source with >2 slpm @ 10 Torr required
†Higher ranges are available, please contact us.
U.S. Patent # 7,277,177

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