CO12e

NON DISPERSIVE INFRA RED
CARBON MONOXIDE ANALYZER

envea
Elevating standards. For life.

Superior metrological performances with this CO analyzer that has been fully eco-designed, to consider the environmental impact throughout its life-cycle

FEATURES AND BENEFITS

- Excellent metrological performances for CO measurements
- Innovative conception of the photomultiplier module for excellent sensitivity and signal stability
- Real-time calibration graph, animated synoptic, auto-diagnostic, control and maintenance data screen displayed while instrument is operating
- Service assistance inside: detects early warning signs, allows predictive maintenance, identifies the needed service and step by step guides for service operations
- Automatic recognition of plugged electronic boards or optional devices: plug & play principle
- Includes embedded communication protocol for all DAS with automatic recognition & configuration
- Local and remote control through digital port (configuration, calibration, test and diagnosis parameters for maintenance support)

e-Series analyzers are fully eco-designed, with consideration to minimise carbon footprint through the whole lifecycle:

- Ultra low power consumption: an environmentally-friendly and cost-saving analyzer
- Breakthrough mechanical design for weight and power saving as well as thermal insulation & reliability
- Modular concept makes the product more robust, and simpler to service



CSA MC250451/00 | TÜV Rheinland N°0000050626 | RFCA-0915-228

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TECHNICAL **SPECIFICATIONS**

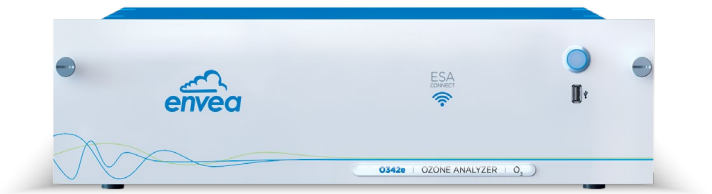
Measurement range	0-50 ppm (or 0-300 ppm user defined)
Measurement units	ppm, mg/m^3,, ppb, µg/m^3, ppt (user selectable)
Detection limit (2σ)	0.04 ppm
Zero noise **Span noise**	0.1 ppm / 24h. 0.1 ppm / 7 days 0.5% of reading (0.02 ppm minimum)
Zero drift	0.1 ppm / 24h
Span drift	<0.5% of FS / 24h <0.5% of FS / 7 days
Response time	20-90 sec (user selectable)
Linearity	1% of F.S
Repeatability	0.5% of reading (0.02 ppm minimum)
Power supply	230 VAC / 50 Hz (115 V / 60 Hz) 24 VDC optional
Power consumption	230VAC power supply: 80W at start-up, 25W nominal 24 VDC power supply: 80W at start-up, 25W nominal
Connectivity	Ethernet (RJ45 socket) USB Port, serial RS232/ RS485 (optional)
Optional analog output	External opto-isolated I/O interface with: • 4 independent analog inputs • 4 independent analog outputs • 4 remote control inputs • 6 dry contacts outputs
Communication Protocols	Modbus (TCP-IP, RTU/Jbus), Mod4, UDP, Baeyrn. Gas Inlet/Outlet: External Zero, Span, SV control
Data storage	1 year (15 minutes average) Measured channels (with the selected period), status codes (data, voltage, Analog output, Operating Temperature, etc.)
Sample flow-rate	1 l/min
Dimensions	483 x 545 x 133 L x D x H (mm)
Chassis	19" rack, 3U
Weight	8 kg (15.6 lbs)
Standard operating temperature	5°C to +40°C
Pressure influence	<0.1 ppm / kPa

PRINCIPLE OF **OPERATION**

The CO sample concentration is determined by measuring the quantity of infrared light the sample gas absorbs as it flows through a multi-reflection chamber. As the absorption spectrum is not continuous, a gas filter, named correlation wheel, is used in conjunction with the optical filter for highly selective sample gas measurement. The correlation wheel consists of

two-sealed and equal volume compartments, one being filled with carbon monoxide (CO), the other with nitrogen (N_2).

As the wheel turns round, the light beam passes alternatively through the CO cell and the N_2 cell and then through interference optical filters before reaching the detector. If the sample contains CO, the reference beam will not be attenuated because it was already attenuated by the CO of the reference cell.



MAIN **OPTIONS**

- No screen analyser
- Built-in module for CO_2 monitoring (range: 0-2000 ppm by NDIR)
- RS232 or RS485 Serial interface (via USB port)
- 24 VDC power supply & enhanced T° range up to +50°C for use without air conditioner

INCLUDED

- Internal sampling pump
- Filter valve block for calibration control (zero & span)
- Built-in web-server with full remote emulation of the analyzer
- Pressure and temperature compensation

ENVEA
111 Bd Robespierre,
78304 Poissy, France
+33(0)1 39 22 38 00

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C012e Datasheet
C012e Non dispersive infrared carbon monoxide analyzer
Specifications subject to change without notice.

ISO 45001:2018
ISO 14001:2015
ISO 9001:2015
CERTIFICATION