

# Non Dispersive Infra Red Carbon Monoxide Analyzer

AIR QUALITY MONITORING SYSTEMS



## SPECIFIC FEATURES:

- Excellent metrological performances for CO measurements with selectable display in ppm or mg/m<sup>3</sup>
- Breakthrough mechanical design for weight & power saving as well as thermal insulation & reliability
- Innovative conception of the optical module for excellent sensitivity & signal stability
- Automatic or programmable response time adjustment, ensuring efficient monitoring of low concentration levels
- Acquisition synchronized to the correlation wheel rotation for great accuracy and repeatability
- Real-time calibration graph, animated synoptic, auto-diagnostic, control and maintenance data screens can be displayed while the instrument is operating
- Service assistance inside: detects early signs of trouble, allows predictive maintenance, identifies the needed service and guides service operations step by step: increased productivity on site, reduced downtime, more efficiency, less training...
- Local and remote control through digital port (configuration, calibration, test and diagnosis parameters for maintenance support)
- Ultra low power consumption: environmentally-friendly & cost-saving analyzer
- Includes embedded Communication Protocol for XR® Software with automatic recognition and configuration
- Automatic recognition of plugged electronic boards or optional devices: plug & play principle
- Optional: 24V power supply and enhanced temperature range for mobile AQMS laboratories or solar powered air quality monitoring stations



Adopt the no-screen version and avoid the pollution related to the screen manufacturing and recycling cycle. The analyzer is connected with your device (computer, tablet or smart-phone). Simultaneous multi-screen remote access via Wifi or Lan using the dedicated application ENVEA Connect™ for control, diagnostics, software update...

## MAIN APPLICATIONS:

- > Continuous indoor and outdoor air quality monitoring
- > Stationary and mobile AQMS laboratories
- > Quality control in food and beverage industry
- > Medical gases: fail-safes and quality control
- > Continuous emissions monitoring (CEM) by dilution
- > Background, rural, urban or sub-urban, industrial, traffic, roadside and canyon street studies

## COMPLIANCE WITH:

EN 14626 (2012), EN 15267, 2008/50/EC, ISO 4224  
40 CFR PART 53 SUB B & SUB C



# Non Dispersive Infra Red CO analyzer **CO12e**

## PRINCIPLE OF OPERATION:

The **CO12e** is a criteria pollution monitor for the continuous monitoring of carbon monoxide, with a detection limit of 0.05 ppm. Its measurement principle is based on carbon monoxide detection by absorption of infrared light.

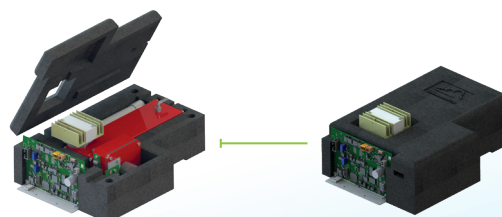
The CO sample concentration is determined by measuring the quantity of infrared light the sample gas absorbs as it flows through a multi-reflection chamber. As the absorption spectrum is not continuous, a gas filter, named correlation wheel, is used in conjunction with the optical filter for highly selective 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<sub>2</sub>). As the wheel turns round, the light beam passes alternatively through the CO cell and the N<sub>2</sub> 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.

## TECHNICAL SPECIFICATIONS

Measurement Range	0-50 ppm (or 0-300 ppm on custom basis request)
Detection limit (2σ)	<20 ppb
Noise	<10 ppb
Zero drift	<0.2 ppm / 7 days
Span drift:	<0.5% / 7 days
Response time	20 - 90 sec (programmable)
Linearity	1% (of F.S.)
Sample flow-rate	1 l/min
Data storage	1 year
Output connectivity	Ethernet (RJ45 socket, UDP protocol, Modbus TCP), USB port External zero/span SV control Optional: no-screen version
Dimensions L x W x H (mm)	483 x 545 x 133
Chassis	19" rack, 3U
Weight	8 kg (15.6 lbs)
Standard operating temperature	+5°C to +40°C
Power supply	115 V, 60 Hz - 230 V, 50 Hz
Power consumption 220 V	50 W/h (22 W/h with optional 24 V PS)
Pressure influence	<0.1 ppm / kPa
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	

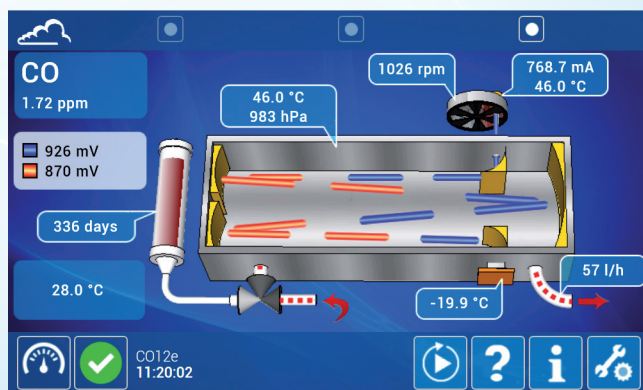
## MAIN OPTIONS:

- Wireless module (in standard with the no-screen version)
- Built-in module for CO<sub>2</sub> monitoring (range: 0-2000 ppm by NDIR)
- RS232 or RS485 Serial interface (via USB port)
- External opto-isolated I/O interface with:
  - 4 independent analog inputs
  - 4 independent analog outputs
  - 4 remote control inputs
  - 6 dry contacts outputs
- 24V power supply & enhanced T° range up to +50°C for use without air conditioner



CO12e measuring module

## CO12e Operating Principle



## E-SERIES ADVANTAGES:

- > Environmental friendly:
  - Low carbon footprint
  - Over 95% of the analyzer can be recycled
  - Ultra low power consumption
- > Economic, Easy and reduced maintenance
- > Service Assistant inside
- > 7" TFT colour touch screen
- > Interactivity: connected instruments
- > SmartStatusLight™ power button for status of operation (ON/OFF, Alarm, Maintenance required...)
- > Common electronic boards: optimized spare parts stock

The e-Series of analyzers has been fully eco-designed, with a special consideration to the environmental impacts of the product during its whole life-cycle. The exclusive «inside the box» foam modular concept makes the product more robust, power saving, simpler to service and eco-friendly.

Detailed information on the e-Series brochure

