TECHNICAL DATA SHEET

ecom-EN3-F *Engine*

MOBILE FLUE GAS ANALYSIS

Ideal for servicing CHP units, gas engines and industrial systems - fitted in a robust flight case.

Whether CHP, gas engine or emergency power generator check - the ecom-EN3-F *Engine* delivers the important measurement values: O_2, CO, NO and NO_2 - precisely, reliably and ready for use at any time. The integrated gas conditioning, automatic condensate draining and longlife sensors ensure stable results even under difficult operating conditions.

An integrated protection concept protects the CO sensor from overload and critical gas concentrations. The compact, airworthy case is ideal for users often flying to international commissioning missions - mobile, precise and ready for use at any time.

Dimensions: approx. 550 x 380 x 175 mm (W x H x D)
Weight: approx. 9 kg with sampling system

Technical data

Measured values	Range	Resolution	Accuracy *= Higher value prevails	
√ = Standard; ● = Optional EC; ● = Optional NDIR; ● = Optional Pellistor				
Maximum number of measurable gas components				6
O_2	0...21 %	0,1 vol. %	± 0,3 vol. %	√
CO (H_2-comp.)	0...2.500 ppm (10.000 ppm)	1 ppm	± 20 ppm / 5 % of measured value*	√
CO (n. H_2-comp)	0...20.000 ppm	1 ppm	± 40 ppm / 10 % of measured value*	·
CO%	0...63.000 ppm	5 ppm	± 100 ppm / 10 % of measured value*	·
CO_2	0...100 vol. %	0,01 vol. %	up to 5 % of the measuring range end value	·
NO	0...5.000 ppm	1 ppm	± 5 ppm / 5 % of measured value*	√
$NO_{ExtraLow}$	0...300 ppm	0,1 ppm	± 2 ppm / 5 % of measured value*	·
NO_2	0...1.000 ppm	1 ppm	± 5 ppm / 5 % of measured value*	√
$NO_{2\ Low}$	0...100 ppm	0,1 ppm	± 5 ppm / 5 % of measured value*	·
SO_2	0...5.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
$SO_{2\ Low\ CO}$	0...5.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
$SO_{2\ Low}$	0...100 ppm	0,1 ppm	± 5 ppm / 5 % of measured value*	·
H_2	0...2.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
H_2	0...20.000 ppm	1 ppm	± 100 ppm / 5 % of measured value*	·
H_2S	0...1.000 ppm	1 ppm	± 10 ppm / 5 % of measured value*	·
CH_4	0...5 vol. %	0,01 vol. %	± 0,2 vol. % / 5 % of measured value*	·
CH_4	0...100 vol. %	0,1 vol. %	± 5 % of the measuring range end value	·
C_xH_y	0...4 vol. %	0,01 vol. %		·
Other measured variables	**Range**	**Resolution**	**Accuracy *= Higher value prevails**	
T-Gas	0...500 °C	1 °C	± 2 °C / 1,5 % of measured value*	√
	0...1.100 °C	1 °C	± 2 °C / 1,5 % of measured value*	·
T-Air	0...99 °C	0,1 °C	± 1 °C	√
Pressure | △P	± 100 hPa	0,01 hPa	± 0,5 hPa / 1 % of measured value*	√
Calculation values			**Range**	
CO_2			0...$CO_{2\ max}$	√
Combustion efficiency (ETA)			0...120 %	√
Excess air (Lambda)			>1	√
Losses qA			0...100 %	√
$CO_{(U)}$ undiluted			x ppm	√
Dew point			x° C	√
mg/m³			x mg/m³	√
mg/kWh			x mg/kWh	√
O_2 reference			x % O_2	√

Equipment

Gas sampling	
Unheated probe 350 mm, Ø 8 mm	√
Fixing cone with mini heat protection shield	√
2-chamber NO_x tubing with PTFE inner coating 3.5 m	√
Unheated probes Ø 10 mm in alternative lengths	·
High temperature probe	·
Measurement gas preparation	
Electronic condensate monitoring	√
Automatic condensation evacuation	√
Electronic sample gas cooler	√
Combustion air temperature measurement	
T-room stick	√
Operation safety	
Pressure-equalizing gas duct plate	√
Temperature display for stream core search	√
Automatic self-test in the calibration phase	√
CO switch-off by concentration overload	√
Fresh air purge by CO exceeding	√
Fresh air purge after measuring operation	√
Flow meter for pump performance check	√
Pollutant filter for CO sensor	·
Data processing	
Integrated high-speed thermal printer	√
External memory via SD card	√
Wireless data interface (BLE) for connection with mobile devices	√
WiFi interface (instead of BLE)	·
Serial interface	√
USB interface	√
Data display / input	
TFT colour display, backlit, zoomable	√
Backlit keyboard	√
Transport	
Airworthy hard-shell transport case	√
Proof of conformity / calibration	
EN 50379-2	√
1. BImSchV	√
Certificate after climate chamber calibration	√

ecom GmbH
Am Großen Teich 2
58640 Iserlohn
info@ecom.de

ecom®
Measurement Technology