

Multi component analyser system maritime



Extractive hot gas measuring system for emission measurement as well as for process control of exhaust treatment systems at sea shipping

APPLICATION

The analyser system MCA 10 maritime is certified in compliance with MEPC.259(68) for continuous monitoring of SO₂ and CO₂ in flue gas. It is based on the long-time proven, suitability tested multi component analyser MCA 10 HWIR.

In addition to SO₂ and CO₂ further measuring components, e.g. NO and NO₂, can be detected.

The system MCA 10 maritime can be applied with a DNV certified probe and a heated measuring gas pipe.

YOUR BENEFITS AT A GLANCE

- compact and robust measuring system with easy operating
- gas path continuously heated, no gas cooler needed
- appropriate for measurement preliminary and subsequent to exhaust treatment systems on ships
- measurement of up to 8 infrared components and oxygen
- internal measuring point switch-over possible
- correction of cross-sensitivity and air pressure
- low-maintenance technology with high measuring accuracy
- long-term stability by automatic zero point calibration
- automatic reference point calibration by adjusting filter (optional)
- low-maintenance fan instead of air conditioner
- remote control (optional) via Ethernet or UMTS router

MEASURING RANGES

	Meas. range 1	Meas. range 2	Meas. range 3
CO:	0...60 ppm	0...240 ppm	0...4000 ppm
CO ₂ :	0...12 vol.-% ^[1]	0...25 vol.-% ^[1]	0...50 vol.-%
NO:	0...60 ppm	0...300 ppm	0...2250 ppm
NO ₂ :	0...25 ppm	0...250 ppm	-
NH ₃ :	0...15 ppm	0...70 ppm	0...660 ppm
SO ₂ :	0...30 ppm	0...100 ppm ^[1] / 0...250 ppm ^[1]	0...875 ppm
CH ₄ :	0...70 ppm	0...700 ppm	-
H ₂ O:	0...40 vol.-%	-	-
O ₂ :	0...25 vol.-%	-	-

^[1] certified in compliance with MEPC.259(68)
Other components and measuring ranges on request.

PRECONDITIONS ON SITE

- ambient conditions according to DNVGL-CG-0339
- power supply
- instrument air according to ISO 8573.1, class 2
- test gases for calibration
- appropriate gas sampling (certified sample probe, heated measuring gas pipe)

SYSTEM



TECHNICAL DATA

Analyser system:	steel sheet housing (IP54) with additional wall fixation and vibration dampers; 600 mm x 1450 mm x 500 mm (w x h x d), approx. 120 kg
Measuring methods:	<ul style="list-style-type: none"> • bi-frequency measuring method (NO₂, SO₂^[1], H₂O, CO₂^[1]) • gas filter correlation (CO, NO, NH₃, CH₄) • zirconium dioxide sensor (O₂)
Display / Operating:	15" touch panel, 1024 x 768 Pixel
Tested interfaces:	<ul style="list-style-type: none"> • inputs for analogue and digital signals • analogue outputs 4...20 mA • digital outputs (e.g. failure, maintenance, maintenance requirement, measuring range switch-over) • Modbus RTU, Modbus TCP/IP, Profibus DP, Profinet
Compressed-air connection:	pressure: 4...6 bar, consumption: ca. 1 m ³ /h
Gas conveyance:	via ejector; gas path continuously heated (standard 185 °C, higher temperatures on request)
Standardisation:	dry, wet
Sensitivity correction:	with test gas, once in 12 months (when using automatic calibration)
Calibration:	<ul style="list-style-type: none"> • zero point: automatically with instrument air; • span point: with test gas, automatically by adjusting filter (optional)
Power supply:	230 V or 400 V / 50 Hz, 4000 W (analyser cabinet, fan, probe) + 125 W/m measuring gas pipe; further options on request
Ambient conditions (acc. to DNVGL-CG-0339):	<ul style="list-style-type: none"> • ambient temperature in operation: 5...45 °C (class A) • relative humidity: max. 95% (non-condensing) (class B) • vibration: class A • electromagnetic compatibility: class A • enclosure: class B
Available system components (optional):	DNV certified probe, measuring gas pipe, switch-over between two measuring points (certified; response time for each measuring point: T ₉₀ < 140 s)

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Special models are possible on request.