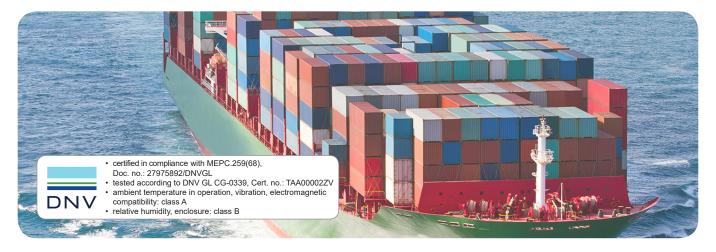
# Multi component analyser system maritime





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  $SO_2$  and  $CO_2$  in flue gas. It is based on the long-time proven, suitability tested multi component analyser MCA 10 HWIR.

In addition to SO<sub>2</sub> and CO<sub>2</sub> further measuring components, e.g. NO and NO<sub>2</sub>, can be detected.

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

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	Meas. range 1	Meas. range 2	Meas. range 3			
CO:	060 ppm	0240 ppm	04000 ppm			
CO <sub>2</sub> :	012 vol% [1]	025 vol% [1]	050 vol%			
NO:	060 ppm	0300 ppm	02250 ppm			
NO <sub>2</sub> :	025 ppm	0250 ppm	-			
NH <sub>3</sub> :	015 ppm	070 ppm	0660 ppm			
SO <sub>2</sub> :	030 ppm	0100 ppm <sup>[1]</sup> / 0250 ppm <sup>[1]</sup>	0875 ppm			
CH₄:	070 ppm	0700 ppm	-			
H <sub>2</sub> O:	040 vol%	-	-			
O <sub>2</sub> :	025 vol%	-	-			
11 certified in compliance with MEPC.259(68) Other components and measuring ranges on request.						

#### 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

## 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> <li>bi-frequency measuring method (NO<sub>2</sub>, SO<sub>2</sub><sup>[1]</sup>, H<sub>2</sub>O, CO<sub>2</sub><sup>[1]</sup>)</li> <li>gas filter correlation (CO, NO, NH<sub>3</sub>, CH<sub>4</sub>)</li> <li>zirconium dioxide sensor (O<sub>2</sub>)</li> </ul>						
Display / Operating:	15" touch panel, 1024 x 768 Pixel						
Tested interfaces:	<ul> <li>inputs for analogue and digital signals</li> <li>analogue outputs 420 mA</li> <li>digital ouputs (e.g. failure, maintenance, maintenance requirement, measuring range switch-over)</li> <li>Modbus RTU, Modbus TCP/IP, Profibus DP, Profinet</li> </ul>						
Compressed-air connection:	pressure: 46 bar, consumption: ca. 1 m³/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><li>zero point: automatically with instrument air;</li><li>span point: with test gas, automatically by adjusting filter (optional)</li></ul>						
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> <li>ambient temperature in operation: 545 °C (class A)</li> <li>relative humidity: max. 95% (non-condensing) (class B)</li> <li>vibration: class A</li> <li>electromagnetic compatibility: class A</li> <li>enclosure: class B</li> </ul>						
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)						
	certified in compliance with MEPC.259(68) Special models are possible on request.						

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