

# Exhaust gas analyzer

## TXM350 MARITIME – for emission measurement on marine diesel engines

With DNV GL and NK certificate according to MARPOL Annexe VI and NOx Technical Code 2008

Unrestricted availability thanks to pre-calibrated gas sensors which are exchangeable on site

Ready to measure in less than 2 minutes

Tested gas sensors – as good as reference measurement technology

Robust protective case with trolley function allows transport by plane



NV-GL

0098/2018

TAA00001K0 14DD001B



The certified 350 MARITIME is the world's first portable exhaust gas analysis system for the measurement of exhaust gas emissions according to MARPOL Annexe VI and NOx Technical Code 2008.

The 350 MARITIME has the following certificates: Germanischer Lloyd (DNV GL) certificate no. TAA00001K0, according to MARPOL Annexe VI and NOx Technical Code 2008 and Nippon Kaiji Kyokai (Class NK) certificate no. 14DD001B. In addition, the exhaust gas analyzer fulfils the directive on marine equipment and has the MED mark of conformity 0098/2018. Gas sampling takes place with a special, easy-to-install sampling probe. The certified and durable electrochemical gas sensors record the concentrations of the exhaust gas components NOx (NO + NO<sub>2</sub> separately), CO, CO<sub>2</sub>, O<sub>2</sub> and SO<sub>2</sub> highly accurately and with long-term stability. CO<sub>2</sub> is recorded using the certified IR measurement principle. In order to withstand the tough conditions at sea, the complete exhaust gas analyzer incl. accessories is stored in a robust protective case.



## Overview of the advantages of the 350 MARITME.

# On-board verification examination according to NOx Technical Code 2008.

The 350 MARITIME is the ideal tool for the professional exhaust gas analysis of NO,  $NO_2$ ,  $SO_2$ , CO,  $CO_2$ ,  $O_2$  and supports you in these jobs:

- In direct measurement and monitoring on board (e.g. periodical examinations and intermediate examinations).
- In simplified test and measurement procedures, e.g when modifications such as re-adjustment of the engines have been carried out.

In addition to this, you can use it for

official NOx-monitoring measurements to check the NOx limit values prescribed in MARPOL Annexe VI on board.

In addition to this, NOx measurement in special regional zones is also possible with the 350 MARITIME, for example for reducing the NOx tax in Norway.





## Ordering data / Technical data

### **350 MARITIME**

- Analyzer box 350 MARITIME V2 equipped with O<sub>2</sub>, CO, CO<sub>2</sub>-(IR), NO, NO<sub>2</sub>, SO<sub>2</sub>, incl. gas preparation, measuring range extension for individual slot (for SO<sub>2</sub> only), fresh air valve for continuous measurement, differential pressure sensor, temperature probe input Type K NiCr-Ni and Type S Pt10Rh-Pt, databus connection, rech. battery, integrated combustion air probe (NTC), trigger input, measurement data store, USB interface
- Control unit 350 MARITIME V2
- Robust protective case with trolley function
- Gas sampling probe with pre-filter for industrial probes, probe shaft length 335 mm, incl. probe stop, heat protection shield, special hose for NO<sub>2</sub>-/SO<sub>2</sub>-measurement, Tmax probe shaft 1000 °C, hose length 4 m incl. thermocouple for exhaust gas temperature measurement, NiCr-Ni, length 400 mm, Tmax. +1000 °C with 4 m connection line and additional temperature protection
- Connection line between exhaust gas analyzer and control unit, length 5 m
- fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries for measurement value printout on site
- Humidity/temperature measuring instrument 610 -Germanischer Lloyd certificate no. TAA00001K0
- Nippon Kaijik Kyokai (Class NK) certificate no. 14DD001B

#### General technical data

Operating temperature	+5 to +45 °C
Storage temperature	-20 to +50 °C
Voltage supply	Li ion rechargeable battery AC mains unit 100 V to 240 V (50 to 60 Hz)
Electrical power consumption	max. 40 W
Max. positive pressure at gas input	50 hPa
Max. negative pressure at gas input	-300 hPa
Weight	Approx. 17 kg
Dimensions (case)	56.5 x 45.5 x 26.5 cm
Guarantee	
Measuring instrument	2 years
Gas sensors	$CO, NO, NO_2, SO_2$ : 1 year
	$O_2$ sensor: 1.5 years
Pumps	0.5 years
Solenoid valves	0.5 years
Thermocouples	1 year
Rechargeable batteries	1 year
Probes	2 years

#### **Technical data 350 MARITIME**

	Measuring range	Tolerance
°C, exhaust gas	-40 to +1000 °C	max. ±5 K
0,2	0 to 25 Vol. %	
CO	0 to 3000 ppm	According to to MARPOL Annex VI and NO <sub>x</sub> Technical Code
NO	0 to 3000 ppm	
NO <sub>2</sub>	0 to 500 ppm	
SO <sub>2</sub>	0 to 3000 ppm	
CO <sub>2</sub> (IR)	0 to 40 Vol. %	
P <sub>abs</sub>	600 to 1150 hPa	±5 hPa at +22 °C ±10 hPa at -5 to +45 °C