



Lloyd's  
Register

## Type Approval Certificate

*This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.*

This certificate supersedes certificate number 14-20029(E1) issued on 09.12.2014 which is hereby cancelled.

This certificate is issued to:

<b>PRODUCER</b>	Maridis Maritime Diagnostic & Service GmbH Friedrich-Barnewitz-Strasse 4c 18119 Rostock Germany
<b>DESCRIPTION</b>	Condition Monitoring System  Portable hand-held unit for analysing and monitoring of: - Engine load equalisation - Optimization of fuel consumption - Determination of cylinder heat condition - Injection-, Valve timing and Valve leakage (MarPrime Ultra)
<b>TYPE</b>	MarPrime (cylinder pressure measurement) MarPrime Ultra (cylinder pressure and ultrasonic sound measurement) Software Version: V1.0xx  PC based "Condition Monitoring Software" Version: V3.2.x
<b>APPLICATION</b>	Marine and offshore applications for use in environmental categories ENV1, ENV2 and ENV4 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2002, as a portable device without being installed on a fixed position.
<b>Certificate No.</b>	14/20029 (E2)
<b>Issue Date</b>	24 June 2019
<b>Expiry Date</b>	27 May 2024
<b>Sheet</b>	1 of 2



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**STANDARD**

Manufacturers Specification.

**RATINGS**

- Power Supply via Battery 7,5V/2200mAh (Li-Ion Pack)
- LAN Interface (10Mbit) for connection to PC
- Integrated 2 channel ADC (12bit)
- Measurement at RPM (2-stroke: 20-150rpm) or (4-stroke: 250-2000rpm)
- max. Cylinder: 20

Cylinder Pressure Sensor "HTT04":

- Measurement range: 0...300bar
- Sensor output signal: 4...20mA
- Temperature range: 50...300°C

Ultrasonic Sensor "VS 150-L":

- Measurement range: 100...450kHz
- Temperature range: -50...100°C

**OTHER CONDITIONS**

Type Approval of products according to Test Specification No.1 is essentially a Type Approval of hardware.

The use of the MarPrime and the MarPrime Ultra as a condition monitoring tool under the Lloyd's Register survey regime is subject to special consideration and approval.

Final arrangements of the system have to be in compliance with Lloyd's Register Rules and Regulations.

*The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.*

*The Design Appraisal Document No. HTS/ETS 30774-14 issue 1 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

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