

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Portable Oxygen analysis and gas detection equipment

with type designation(s)

Triple-C Multi gas portable detector

Issued to

Martek Marine Ltd.

Rotherham, South Yorkshire, United Kingdom

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2020/1170**,

item No. MED/3.30. SOLAS 74, Regulation II-2/4, VI/3, XI-1/7, FSS Code 15 and MSC.1/Circ.1477, IMO MSC.1/Circ.1581.

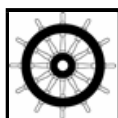
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-11-18**.

Issued at **Høvik** on **2020-11-19**

DNV GL local station:
Manchester

Approval Engineer:
Frode Nygård



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Job Id: **344.1-010242-1**
Certificate No: **MEDB00006B0**

Product description

Triple-C is an intrinsically Safe, portable multi-gas detector for monitoring up to 4 gasses simultaneously and continuously in ambient air designed to detect presence of Oxygen (O₂), Combustible gases (LEL), Hydrogen Sulfide (H₂S) and Carbon Monoxide (CO).

A non-rechargeable battery, consisting of one or two Lithium Thionyl Chloride (Li-SOCl₂) cells, powers the detector.

Triple-C	(H ₂ S)	(CO)	(Combustible)	(O ₂)
Measuring principle	Electrochemical cell	Electrochemical cell	Soldered infrared (IR)	Electrochemical cell
Measuring range	0 - 100 ppm	0 - 500 ppm	0 - 100% LEL	0 - 30% vol.
Minimum resolution	0.1 ppm increments	1ppm increments	0.1% increments	0.1% increments

Place of manufacture

Precise Connections Inc.
1114 Explorer Street
Duncanville,
TX 75137
Texas, USA

Application/Limitation

Functional testing has been verified for detection of O₂ and combustible gases. Detection of H₂S and CO is not scope of the Marine Equipment Directive and has not been verified.

Ex installations to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV GL.

Information on Ex-Certification received from manufacturer – Not verified by DNV GL			
Equipment	Type	Marking	Certificate No.
Portable Gas Detector	MGC-Simple +	II 1G Ex ia IIC T4 Ga Ta = -20°C ≤ Ta ≤ +50°C	SIRA 16ATEX2288 Issue 2

Definition of the location classes with reference to relevant standards:

Temperature

TEM-D Location (-25°C to +70°C) (ref. IEC 60092-504 (2016) Table 1 item 6-7)

Vibration

VIB-A: General applications (±1 mm/0.7 g) (ref. IEC 60092-504 (2016) table 1 item 10)

EMC

EMC-A (General power distr. zone) (ref. IEC 60092-504 (2016) table 1 item 13-20)

Enclosure

IP68 (ref. IEC 60529 Edition 2.2 - 2013).

Type Examination documentation

Tests carried out

EN 60945:2002 incl. IEC 60945 Corr. 1:2008 or
IEC 60945 (2002) incl. IEC 60945 Corr. 1 (2008)
IEC 60092-504:2016
IEC 60533:2015
EN 50104:2010
EN 60079-0:2018
EN 60079-1:2014
EN 60079-11:2012
EN 60079-29-1:2016
EN 60079-10-1:2015*
EN 60079-15:2010*
EN 60079-26:2015*
*not applicable

Marking of product

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (wheel mark), followed by
 - identification number of the NoBo involved in production control (MED D)
 - the year the mark is affixed.
 - Example: 0575/2020