

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007CE

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Fixed oxygen analysis and gas detection equipment: category 3: (explosive gas atmospheres)

with type designation(s)
PolyXeta2 (PX2-1 series)

Issued to

MSR-Electronic GmbH
Pocking, Bayern, Germany

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

Regulation (EU) 2021/1158,

item No. MED/3.54b. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15, IMO MSC.1/Circ.1370

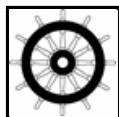
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-12-12**.

Issued at **Hamburg** on **2021-12-13**

DNV local station:
Augsburg

Approval Engineer:
Didier Girardin



Notified Body
No.: **0098**

for **DNV SE**

.....
Christine Mydlak-Roeder
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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") 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.



Product description

“PX2-1-.....” Gas Detector with sensor head types SX1-1 or SSAX1-1 for combustible gases, oxygen and toxic gases as CO, NH3, NO2, HCN, HCL, H2S.

Important note: Toxic gases not covered by present certificate.

Microprocessor based gas detector with 4–20 mA / RS485 Modbus output signal, alarm and fault relays (all SIL2 certified) for monitoring the ambient air to detect combustible gases and vapours by means of a catalytic sensor element (Pellistor) or oxygen and toxic gases and vapours by means of an electrochemical sensor element (el.ch.). Optionally, the PolyXeta®2 gas detector is also available with LC display.

Nomenclature:

Product details see ANNEX

Application/Limitation

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.

Information on Ex-Certification received from manufacturer – Not verified by DNV

Equipment	Certified	Certificate No.
PX2-1-, -.... -, & SX1-1	Ex II 2G Ex db IIC T4 Gb Ex db IIC T4 Gb -40 °C < Ta < +60 °C	BVS 15 ATEX E 129 X supp 2 BVS 15 ATEX E 129 X supp 3 IECEx BVS 16.0038X PFG 19 G 003 X
SSAX1-1-.... -....-..	Ex II 2G Ex db IIC T4 Gb Ex db IIC T4 Gb -40 °C < Ta < +60 °C	BVS 19 ATEX E 065X supp 1 IECEx BVS 19.0052X Issue 1

Limitation according Ex certificates to be observed

Type Examination documentation

Hidden

Tests carried out

The relevant tests have been carried out according to the following standards:

- Applicable test standards:
- IEC 60092-504:2016
 - IEC 60533:2015
 - EN 60079-0:2018 incl. AC:2020
 - EN 60079-29-1:2016
- EN 50104 (2019)
- IMO MSC.1/Circ.1370

Marking of product

- Manufacturer name
- Type designation with device type
- Serial Number
- Mark of Conformity (see footer on page 1)

End of Certificate

ANNEX

PX2-1 Gas Detector with Sensor head SX1 ^{1) 2) 3)}

Order No.	Gas type	Measuring Range
PX2-1-X- P3400-A	CH ₄	0-100 % LEL
PX2-1-X- P3435-A	C ₆ H ₁₄	0-100 % LEL
PX2-1-X- P3440-A	H ₂	0-100 % LEL
PX2-1-X- P3480-A	C ₃ H ₈	0-100 % LEL
PX2-1-X- P3482-A	C ₃ H ₈ O	0-100 % LEL
PX2-1-X- E1110-C	CO	0-150 ppm
PX2-1-X- E1110-E	CO	0-250 ppm
PX2-1-X- E1110-F	CO	0-300 ppm
PX2-1-X- E1110-H	CO	0-500 ppm
PX2-1-X- E1125-A	NH ₃	0-100 ppm
PX2-1-X- E1125-B	NH ₃	0-300 ppm
PX2-1-X- E1125-C	NH ₃	0-500 ppm
PX2-1-X- E1125-D	NH ₃	0-1000 ppm
PX2-1-X- E1125-E	NH ₃	0-5000 ppm
PX2-1-X- E1130-E	NO ₂	0-100 ppm
PX2-1-X- E1183-B	HCN	0-50 ppm
PX2-1-X- E1183-C	HCN	0-100 ppm
PX2-1-X- E1186-D	HCL	0-20 ppm
PX2-1-X- E1197-A	H ₂ S	0-50 ppm
PX2-1-X- E1197-B	H ₂ S	0-100 ppm
PX2-1-X- E1197-C	H ₂ S	0-200 ppm
PX2-1-X- E1197-D	H ₂ S	0-500 ppm
PX2-1-X- E1197-E	H ₂ S	0-1500 ppm
PX2-1-X- E1195-A2	O ₂	0-25 % vol

PX2-1 Gas Detector with Remote sensor head SSAX1 ^{4) 5)}

Order No.	Gas type	Measuring Range
SSAX1-1- P3400-A-10-K5	CH ₄	0-100 % LEL
SSAX1-1- P3435-A-10-K5	C ₆ H ₁₄	0-100 % LEL
SSAX1-1- P3440-A-10-K5	H ₂	0-100 % LEL
SSAX1-1- P3480-A-10-K5	C ₃ H ₈	0-100 % LEL
SSAX1-1- P3482-A-10-K5	C ₃ H ₈ O	0-100 % LEL
SSAX1-1- E1110-C-10-K5	CO	0-150 ppm
SSAX1-1- E1110-E-10-K5	CO	0-250 ppm
SSAX1-1- E1110-F-10-K5	CO	0-300 ppm
SSAX1-1- E1110-H-10-K5	CO	0-500 ppm
SSAX1-1- E1125-A-10-K5	NH ₃	0-100 ppm
SSAX1-1- E1125-B-10-K5	NH ₃	0-300 ppm
SSAX1-1- E1125-C-10-K5	NH ₃	0-500 ppm
SSAX1-1- E1125-D-10-K5	NH ₃	0-1000 ppm
SSAX1-1- E1125-E-10-K5	NH ₃	0-5000 ppm
SSAX1-1- E1130-E-10-K5	NO ₂	0-100 ppm
SSAX1-1- E1183-B-10-K5	HCN	0-50 ppm
SSAX1-1- E1183-C-10-K5	HCN	0-100 ppm
SSAX1-1- E1186-D-10-K5	HCL	0-20 ppm
SSAX1-1- E1197-A-10-K5	H ₂ S	0-50 ppm
SSAX1-1- E1197-B-10-K5	H ₂ S	0-100 ppm
SSAX1-1- E1197-C-10-K5	H ₂ S	0-200 ppm
SSAX1-1- E1197-D-10-K5	H ₂ S	0-500 ppm
SSAX1-1- E1197-E-10-K5	H ₂ S	0-1500 ppm
SSAX1-1- E1195-A2-10-K5	O ₂	0-25 % vol

Notes:

with sensor head SX1

- 1) Combustible gases certified according to EN 60079-29-1 (see BVS 15 ATEX E 129 X Supp 3)
- 2) The PX2-1 Type for O₂ is certified according to EN 60079-29-1 and EN 50104 (see BVS 15 ATEX E 129 X Supp 3 and PFG 19 003)
- 3) PX2-1-X-.....
X = 0 = Without options
X = 1 = Metrological Approval without LC Display
X = 2 = LC Display
X = 3 = Metrological Approval and LC Display

With sensor head SSAX1

- 4) To each Remote sensor head SSAX1 must be ordered an additional PX2-1-X- SSAX1-X-M1(Control Unit)
- 5) PX2-1-X-SSAX1-X-M1.....
X = 0 = Without options
X = 2 = LC Display