

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000B3F
Revision no.:
0

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/or gas detection equipment:- category 3: (explosive gas atmospheres)**

with type designation(s)
Fixed gas detector, type MP820

issued to

mPower Electronics (Shanghai) Co., Ltd.
Shanghai, China

is found to comply with the Implementing Regulation (EU) 2024/1975 for
Item no. **MED/3.54b** (Row **4 of 4**)

according to the following requirements:

SOLAS 74 Reg. II-2/4, SOLAS 74 Reg. VI/3, IMO Res. MSC.98(73)-(FSS Code) 15 For combined O2/HC systems
additionally: IMO MSC.1/Circ.1370

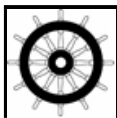
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2025-09-03**

Expiry date: **2030-09-02**

DNV local unit:
Shanghai

Approval Engineer:
Dariusz Lesniewski



Notified Body
no.: **0098**

for **DNV SE**

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Christine Mydlak-Röder
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 USD 300 000.

Product description

MP820 - fixed gas detector for detection of combustible gases (LEL/NDIR sensor): CH₄, C₃H₈, H₂, i-C₄H₈ (or others)
Power supply: 10-30 VDC
Output signal: 4-20 mA, RS-485 Modbus RTU or HART, Switching contacts (NO, NC)
Display: LCD liquid crystal, 3 LED function indicators
Indication deviation: $\pm 5\%$ of measuring range or $\pm 10\%$ of indication (whichever value is greater)
Stability deviation: $\pm 7\%$ of measuring range or $\pm 20\%$ of indication (whichever value is greater)
Response time T₉₀: ≤ 30 s
Software/Firmware version: V.1.2
Degree of protection: IP66
Ex-proof: Ex db ia IIC T6 Gb, Ex db IIC T6 Gb (Ex-proof certificate IECEx CQM 23.0029X, Issue 0 to be observed)

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Examination documentation

Tests carried out

EN 50104:2019 incl. EN 50104:2019/A1:2023*
EN IEC 60079-0:2018 incl. AC:2020
EN 60079-29-1:2016 incl. EN 60079-29-1:2016/A1:2022 and EN 60079-29-1:2016/A11:2022,
IEC 60092-504:2016
IEC 60533:2015
*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 (UK Conformity mark), followed by
- identification number of the NoBo involved in production control (MER D) / the year the mark is affixed (Example: 0098/2025)