

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00006J4

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 Position indicating lights for life-saving appliances: (b) for lifebuoys

with type designation(s)
IKAROS ManOverBoard MKCI, Light-Smoke-Signal

Issued to
PyroPol GmbH
Hornbek, Schleswig-Holstein, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation (EU) 2020/1170,
item No. MED/1.2b. SOLAS 74 as amended, Regulation III/4, III/7, III/22, III/32, III/34 & X/3, LSA Code, 2000 HSC Code 8

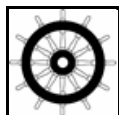
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-08-12**.

Issued at **Hamburg** on **2021-07-02**

DNV local station:
Hamburg CMC

Approval Engineer:
Didier Girardin



Notified Body
No.: **0098**

for DNV SE

Christine Mydlak-Roeder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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

The **IKAROS ManOverBoard MKCI, Light-Smoke-Signal** is a lifebuoys self-igniting light.
 The light signal is producing a light for at least 2 hours at 2 cd.
 Tested with drop height 30 m.
 Design weight: 2.750 g
 Body colour: Yellow

The complete unit, self-igniting light combined with the lifebuoys self-activating smoke signal (certificate MEDB00006J3), will then be called "IKAROS ManOverBoard MKCI, Light-Smoke-Signal".

Application/Limitation

The design assessment is based on IMO Res. MSC.48(66), as amended by IMO Res. MSC.207(81) and IMO Res. MSC.218(82).

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4.

Each lifebuoy is not to be stowed at a height above the waterline exceeding 30 m.

Expiration date not to exceed 48 months after the month of manufacture.

Type Examination documentation

Our evaluation is based on:

Drawing no.	Rev.	Title	Issuing day
		<u>Eurofins G0M-1807-7546-CE01IND-V02</u>	
		Test standard IEC 60945:2002 Vibration [8.7], Mould growth [10.4.2 MSC.81(70)], Switch arrangement [10.4.3 MSC.81(70)], Corrosion and seawater resistance [8.12], Solar radiation [8.10], oil resistance [8.11], Rain test, and water tightness [8.8] ; Fire test [10.4.8 MSC.81(70)]	06.09.2018
		<u>BSH 4542/1023231/18</u>	
		Test standard MSC81(70) [1.2.1], [1.2.2], [1.10.2.2], [1.10.4.9], [1.10.4.10]	07.09.2018
Document IMO MSC/Circ.980		MOB lights - Evaluation and test report (IMO MSC/Circ.980) for Visual Inspection [2.1.2.1], Temperature [2.1.2.2], Rain and Water tightness [2.1.2.5], Case Resistance [2.1.2.6], Dome Drop [2.1.2.7], [2.1.2.9], Floatation tests [2.1.2.8], Fitting [2.1.2.10], Release and operation [2.1.2.11]	Conducted by day 27-03-2019
		Declaration No. SO-02118 from PyroPol GmbH, Hornbek, Germany.	21.02.2020

Tests carried out

IMO Res. MSC.81(70), as amended
 IEC 60945:2002 incl. IEC 60945 Corr. 1:2008

Marking of product

The product is to be marked with name and address of manufacturer, type designation, date of manufacture, date of expiry, operational restrictions, Mark of Conformity and USCG number if applicable (see first page).

- USCG 161.110/EC0098/MEDB00006J4/ECxxxx ¹⁾

1) /ECxxxx: to be added and replaced (only if deviating from EC0098) with the notified body identification having conducted the conformity assessment and having issued the certificate of conformity module D, E or F. Manufacturer is only authorised to mark the product with the complete US Coast Guard approval number as recorded in a valid certificate of conformity module D, E or F.

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the body.

END OF CERTIFICATE