



1. EC-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. EC-Type Examination Certificate Number: **ITS10ATEX17118X**

4. Equipment or Protective System: **Marine Lantern FA250-Ex-
(922/932/942/952/962/972/982/992/322/332)**

5. Manufacturer: **Pharos Marine Ltd**

6. Address: **6 Steyning Way, Hounslow, Middlesex, TW4 6DL**

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Intertek Report 10047712 part A1 dated 02 February 2011.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN60079-0:2009 and EN60079-1:2007 except in respect of those requirements referred to at item 18 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This EC-Type examination certificate relates only to the design and construction of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

II 2 G Ex d IIB T4/5/6* T_{amb}* Gb

*Dependant on model – see schedule for details

P Moss
Certification Officer
03 February 2011

Intertek Testing & Certification Limited
Deeside Lane, Chester, CH1 6DD
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<http://www.intertek.com>
Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA

This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification Conditions for Granting Certification.



- 13. SCHEDULE
- 14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS10ATEX17118X
- 15. Description of Equipment or Protective System

The FA250-Ex is a range of marine lanterns. All variants are housed in the same flameproof enclosure which consists of a glass dome cemented into a metallic ring which is secured into a metallic base. The flameproof enclosure has a spigot flamepath, a flange flamepath and up to four threaded flamepaths to allow for cable entry via a suitably certified cable gland. Both internal and external earthing points are provided. The lanterns can be additionally fitted with an acrylic screen and bird spike which does not affect the flameproof properties of the equipment. Dimensions: Overall Height = 500mm (with Acrylic Screen)/675mm (with Acrylic Screen and Bird Spike), Maximum Diameter = 365mm.

The range consists of the following variants:

- 922 – Bi-Filament 100W.
- 932 – 6 Place Lampchanger 150W.
- 942 – Bi-Filament 60W.
- 952 – 6 Place Lampchanger 60W.
- 962 – LED Array up to 250W.
- 972 – GPS Antenna 3.6W.
- 982 – Fog Signal Control 30W.
- 992 – Atonis (AIS) Unit <30W.
- 322 – Strobe 110W.
- 332 – Phalcon Unit <30W.

T-class/Ambient range is dependant on model and is defined as follows:

Model Number	Ambient Range			
	-20°C to +40°C	-40°C to +40°C	-20°C to +55°C	-40°C to +55°C
922	T5	T5	T4	T4
932	T5	T5	T4	T4
942	T5	T5	T4	T4
952	T5	T5	T4	T4
962	T6	T6	T6	T6
972	T5	T5	T4	T4
982	T5	T5	T4	T4
992	T5	T5	T4	T4
322	T5	T5	T4	T4
332	T5	T5	T4	T4

- 16. Report Number:
Intertek Report 10047712 part A1 dated 02 February 2011.

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- 13. SCHEDULE
- 14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS10ATEX17118X

17. CONDITIONS OF CERTIFICATION:

- (a). Special Conditions for safe use

No modifications must be made to the flamepaths of the unit without consultation of the drawings listed in 19.

For securing Base to Dome Assembly use only M8 x 40 socket head fasteners with yield stress $\geq 450\text{N/mm}^2$.

Potential electrostatic charging hazard – clean only with a damp cloth.

- (b). Conditions For Use

The equipment shall be subjected to a routine overpressure test in accordance with EN60079-1:2007 Clause 16.1 (and shall be recorded) at the following pressure. There shall be no leakage through the cemented joint and following the test the enclosure should have suffered no damage or deformation affecting the type of protection:

For lower ambient of -20°C – 11.12bar.

For lower ambient of -40°C – 18.0bar.

18. Essential Health and Safety Requirements (EHSR's)

The relevant EHSR's have been identified and assessed in Intertek Report 10047712, part B1, dated 02 February 2011.

19. Drawings and Documents

Number	Title	Issue	Date
Yc73090	FA-250Ex Outline of Variants	5	17/4/08
Yc74760	General Arrangement FA-250Ex	3	15/6/09
Yc73091	FA-250Ex Base Casting	2	14/1/11
Yc40548	FA-250 Ex Spigot Ring Machined	3	8/4/10
Yc40545	Well Glass Ring Machined	3	8/4/10
Yc75597	FA-250Ex Clear Glass Dome	1	22/12/10
Wc50143	FA-250 Ex Nameplate	2	15/6/09

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

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IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx ITS 10.0040X issue No.: 0 Certificate history:

Status: **Current**

Date of Issue: 2011-02-03 Page 1 of 4

Applicant: **Pharos Marine Ltd**
Steyning Way
Hounslow
Middlesex
TW4 6DL
United Kingdom

Electrical Apparatus: **Marine Lantern FA250-Ex**
Optional accessory:

Type of Protection: **Flameproof**

Marking: **Ex d IIB T4/5/6* Tamb -20°C/-40°C to +40°C/+55°C* Gb**
*Dependant on model

Approved for issue on behalf of the IECEx Certification Body: P Moss

Position: Certification officer

Signature:
(for printed version)

Date: 3rd FEB 2011

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road,
Leatherhead,
Surrey, KT22 7SB
United Kingdom





IECEX Certificate of Conformity

Certificate No.: IECEx ITS 10.0040X

Date of Issue: 2011-02-03

Issue No.: 0

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Manufacturer: **Pharos Marine Ltd**
Steyning Way
Hounslow
Middlesex
TW4 6DL
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2007-10 Explosive atmospheres - Part 0: Equipment - General requirements
Edition: 5

IEC 60079-1 : 2007-04 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition: 6

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/ITS/ExTR10.0046/00](#)

Quality Assessment Report:

[GB/ITS/QAR10.0017/00](#)



IECEx Certificate of Conformity

Certificate No.: IECEx ITS 10.0040X

Date of Issue: 2011-02-03

Issue No.: 0

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The FA250-Ex is a range of marine lanterns. All variants are housed in the same flameproof enclosure which consists of a glass dome cemented into a metallic ring which is secured into a metallic base. The flameproof enclosure has a spigot flamepath, a flange flamepath and up to four threaded flamepaths to allow for cable entry via a suitably certified cable gland. Both internal and external earthing points are provided. The lanterns can be additionally fitted with an acrylic screen and bird spike which does not affect the flameproof properties of the equipment. Dimensions: Overall Height = 500mm (with Acrylic Screen)/675mm (with Acrylic Screen and Bird Spike), Maximum Diameter = 365mm.

The equipment shall be subjected to a routine overpressure test in accordance with IEC 60079-1 2007 Clause 16.1 (and shall be recorded) at the following pressure. There shall be no leakage through the cemented joint and following the test the enclosure should have suffered no damage or deformation affecting the type of protection:

For lower ambient of -20°C – 11.12bar.

For lower ambient of -40°C – 18.0bar

CONDITIONS OF CERTIFICATION: YES as shown below:

1. No modifications must be made to the flamepaths of the unit without consultation of the drawings listed on Test Report Cover GB/ITS/ExTR10.0046/00.
2. For securing Base to Dome Assembly use only M8 x 40 socket head fasteners with yield stress $\geq 450\text{N/mm}^2$.
3. Potential electrostatic charging hazard – clean only with a damp cloth.



IECEx Certificate of Conformity

Certificate No.: IECEx ITS 10.0040X

Date of Issue: 2011-02-03

Issue No.: 0

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EQUIPMENT(continued):

The range consists of the following variants:

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972	T5	T5	T4	T4
982	T5	T5	T4	T4
992	T5	T5	T4	T4
322	T5	T5	T4	T4
332	T5	T5	T4	T4



INGRESS PROTECTION TEST CERTIFICATE

Epsilon Certificate Number:

04TEST1386

This certificate is issued for the following equipment:

FA250EX Marine Lantern

Manufactured and submitted by:

AB Pharos Marine Limited
Steining Way
Hounslow
Middlesex
TW4 6DL

This Certificate is issued subject to the conditions of Epsilon Compliance and any additional conditions as may be prescribed.

European Standard

EN60529: 1991 Incorporating Amendments Nos.1 and 2

International Standard

IEC529: 1989

Ingress Protection Rating: IP67

This is to certify that the above apparatus has been tested in accordance with the requirements of EN60529: 1991 Incorporating Amendments Nos.1 and 2 and IEC529: 1989 and offers a degree of protection IP67.

Project Number: ETS1272

Issue Date: 17th December 2004

On Behalf of Epsilon Compliance

A handwritten signature in black ink, appearing to read "S L D'Herin".

S L D'Herin
Certification Manager



This certificate may only be used in its entirety and without change