



Marine & Offshore

Certificate number: 06854/H0 BV

File number: AP 1643

Product code: 2668H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Kongsberg Maritime AS**  
Ranheim - NORWAY

*for the type of product*

**TRANSMITTER BARRIERS**  
Type : DZ-110, DZ-110/U, DZ-120

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 31

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 03 Apr 2025**

**For Bureau Veritas Marine & Offshore,**

At BV OSLO, on 03 Apr 2020,

Rune MARSTEIN

*Rune Marstein*



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

Product model or type description:

- **DZ-110, DZ-110/U, DZ-120**

Product description:

- Single channel shunt diode safety barrier.

#### **1.1 - Technical specifications:**

Power supply (DZ-110) : 24 VDC (18 to 35 V)

Power supply (DZ-120) : 24 VDC ( $\pm$  0.5V)

Input and output current range : 0 to 22 mA

#### **1.2 - Marking:**

<b>Model</b>	<b>Marking</b>
DZ-110	: [Ex ia Ga] IIC -20°C≤Ta≤+55°C
DZ-110/U	: [Ex ia Ga] IIC -20°C≤Ta≤+70°C
DZ-120	: [Ex ia Ga] IIC -20°C≤Ta≤+70°C

### 2. DOCUMENTS AND DRAWINGS :

- Data sheet No. P-DZ110/CE rev D, dated 2015-03-19.
- Data sheet No. P-DZ110U/CE rev B, dated 2017-08-21
- Data sheet No. P-DZ120/CE rev B, dated 2017-08-21

### 3. TEST REPORTS :

- 3.1 - DNV Environmental test report No. 97-1367 Rev.01, dated Jun 23, 1998
- 3.2 - NEMKO Certificate Ex 98D216 for DZ-110.
- 3.3 - Nemko Test report No. 124367/3, dated Mar 19, 2009

#### **Presafe:**

- Ex Certificate DZ-110/U No. Presafe 14 ATEX 4368 Issue 3, dated 2017-08-28
- Ex Certificate DZ-120 No. Presafe 16 ATEX 7965 Issue 1, dated 2017-08-31

#### **IECEX:**

- Ex Certificate DZ-110/U No. IECEX PRE 14.0005 Issue 2, dated 2017-08-28
- Ex Certificate DZ-120 No. IECEX PRE 16.0020 Issue 1, dated 2017-08-31

#### **Nemko:**

- Performance Test Report DZ-110/U & DZ-120 No. E15308.02, dated 2016-07-25
- Performance Test Report DZ-120 No. E16236.00, dated 2016-11-14

### 4. APPLICATION / LIMITATION :

- 4.1 - BV Rules for the Classification of Steel Ships.
- 4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31**
- 4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.
- 4.5 - In accordance with Manufacturer's instructions.
- 4.6 - Transmitter barriers are to be installed in non-hazardous areas.
- 4.7 - The fitting aboard to be the same as used for the test.
- 4.8 - Ex-certification is not covered by this certificate, Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

**5. PRODUCTION SURVEY REQUIREMENTS :**

5.1 - The above products are to be supplied by **Kongsberg Maritime AS** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Kongsberg Maritime AS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

**Kongsberg Maritime AS**  
Skonnertvegen 1  
N-7053 Ranheim  
NORWAY

**Kongsberg Maritime China Jiangsu Ltd.**  
No. 711 Changjiang Road  
Zhenjiang, Jiangsu Province  
212002 Zhenjiang  
CHINA

**6. MARKING OF PRODUCT :**

- Maker's name or trade mark,
- Serial number of the units,
- Equipment type number or model identification under which it was type-tested,
- Type of protection.

**7. OTHERS:**

7.1 - It is **Kongsberg Maritime AS - Norway's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No. 06854/G1 BV issued on 13th June 2016 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*