

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Kongsberg Maritime AS
Address	Skonnertvegen 1, 7053 Ranheim, Norway
Place of Production	Kongsberg Maritime AS Skonnertvegen 1, 7053 Ranheim, Norway
Type	Barrier Units
Description	Intrinsically safe Transmitter Barrier Unit / Zener Barrier Unit DZ-110 DZ-110/U DZ-120
Trade Name	DZ-110, DZ-110/U, DZ-120
Application	Marine, offshore and industrial use in environmental categories ENV1, ENV2 and ENV3 as defined in LR Test Specification No. 1: July2015 where the Test Specification is satisfactory for the intended operation.
Specified Standard	Manufacturer's standard
Ratings	[Ex ia Ga] IIC -20°C ≤ Ta ≤ +55°C for DZ-110 [Ex iaGa] IIC -20°C ≤ Ta ≤ +70°C for DZ-110/U and DZ-120



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Additional Tests	Low temperature (-25 °C / 16 h) for DZ-110 Low temperature (-20 °C / 16 h) for DZ-110/U and DZ-120 Radiated Emission (2 GHz – 6 GHz) Immunity to radiated radio frequency fields (2 GHz – 6 GHz) Ingress protection IP20
Other Conditions	Specific Conditions of Use as stated in applicable Ex-certificates and the conditions of the LR Ship Rules & Regulations of Classification of Ships Part 6, Chapter 2 shall be observed when installed in hazardous areas. The Ex-certification does not form part of this certificate.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. HTS/ETS 39787-20/MK/JB and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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