



Type Approval Certificate

[Gas Detector]

Initial Approval 16 October 2023
Manufacturer GasDNA Co., Ltd.
 101, Bukhang-ro 193beon-gil, Seo-gu, Incheon, Korea
Product Description Model : DA-600

“ See Appendix 1 ”

Approval Condition “ See Appendix 1 ”

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships and EN 60079-29-1

This Certificate is valid until 15 October 2028

Issued at Busan, Korea on 16 October 2023



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME23045901409) and certificate No.(INC24252-AE003).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 16 October 2023

A. Product Description

1. Product Specification

- 1) Power supply : DC 24V
- 2) Detection principle : Catalytic
- 3) Gas sampling : Diffusion
- 4) Measurement range : 0 ~ 100% LEL
- 5) Target gas : Combustible
- 6) Output signal : 4 ~ 20mA
- 7) Sensor model : KGS 701
- 8) Installation : Wall or Pipe Mounting
- 9) Casing material : Cast Aluminum Alloy
- 10) Ex-proof type : Ex db IIC T6 Gb / Ex tb IIIC T85° C Db (Tamb : -40 °C ~ +50 °C)
- 11) Ingress protection : IP66
- 12) Display : OLED 64x128 pixels
- 13) Alarm Output : 2 step-relay contact (ALARM-1/ALARM-2)
- 14) Measuring gas : Flammable Gas

2. Approved Drawings and Documents

- 1) Approved Documents
 - Mechanical drawing no. 001 ~ 016 Rev.0, dated 2021.09.06
 - Circuit diagram no. DNACR-DA-600 Rev.2, dated 2023.05.24

3. Test Reports, etc.

- 1) Environmental Test Report
 - Report No. F690501-RF-EMC001503 by SGS KOREA, dated 2023.07.18
 - Report No. SGS-R23-1555-EN00 issued by SGS KOREA, dated 2023.07.18
 - Report No. SGS-R23-1556-EN01 issued by SGS KOREA, dated 2023.07.19
- 2) Performance Test Report
 - Report No. QC-23-01 witnessed by this Society's surveyor (Test gas : Methane)

B. Approval Condition

1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) Degree of protection is to be complied with Rule Pt.6 Ch.1 Sec.2 201.2. (5).
- 3) The manufacturer is to inform this Society of all kinds of revisions of the equipment including software. If the changes are recognized to affect the functionality of the approved equipment, a type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
- 4) The product is approved only for flammable gas detection.
- 5) Explosion-proof certification by a notified/recognized Certification Body is not covered by this certificate. Ratings and Special Conditions for Safe Use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.
- 6) When this system is to be installed in the vicinity of a standard or a steering magnetic compass, it should have a minimum safe distance of 5 m or more at which it may be mounted from such compasses.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual product certification is not required.

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3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

4. Others

- 1) Test condition (IACS UR E10 Rev. 8 basis)

Test	Condition	Remark
EMC	All locations including the bridge and deck zone	-
Temperature	-25 ~ +70°C	-
Vibration	Acceleration $\pm 0.7g$	-
Salt mist	Applied	-
Ingress protection	IP66	-

< End of Certificate >

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