TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
HG-V Series Operator Interface

Issued to
IDEC Corporation
Osaka City, Osaka Pref., Japan

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

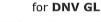|	
Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**IP66F, IP67F**

Issued at **Busan** on **2020-03-05**

This Certificate is valid until **2025-03-04**.
DNV GL local station: **Kobe**

Approval Engineer: **Baeg Soon Choi**

for **DNV GL**

Digitally Signed By: Andreas Kristoffersen
Location: DNV GL Busan, Korea

Andreas Kristoffersen
Head of Section

Product description

HG-V Series Operator Interface

Main units
1. HG2G-V5FT22**-*-****** :5.7" VGA TFT Color LCD
2. HG3G-V8XT22**-*-****** :8.4" XGA TFT Color LCD
3. HG3G-VAXT22**-*-****** :10.4" XGA TFT Color LCD
4. HG4G-VCXT22**-*-****** :12.1" XGA TFT Color LCD
5. HG5G-VFXT22**-*-****** :15.0" XGA TFT Color LCD

Design Specification
1. Rated Voltage: 24V DC
2. Power Consumption: 18-27W Max.(based on screen size)
3. Inrush Current: 30A Max.
4. Operating Temperature: -20 to +60°C
5. TFT Color LCD Display and Touch Panel
6. Communication Interface:
    - HG2G-V: Serial X2, Ethernet, USB Host, USB Device,SD
    - HG3/4/5G-V: Serial X2, Ethernet, USB Host, USB Device,SD, Audio Out,Video IN x2

Place of Manufacturer:
1. CANON ELECTRONICS INC, AKAGI FACTORY
    2167 Morishita, Showa-mura, Tone-gun, Gunna-ken 379-1204 JAPAN
2. IDEC IZUMI TAIWAN CORP
    87 Swi kuan Road, Chu Hou Village, Jen Wu, Kaohsiung, 814 TAIWAN

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Type Approval documentation

Block diagram for HG2/3/4/5G-V: 19-R&D-0910 Rev.0 dated 2019-09-02
Configuration of Test for HG2/3G-VA: 19-R&D-0925/0927 Rev.0 dated 2019-09-02
List of Drawings and Documents: 19-R&D-0934 Rev.0 dated 2019-09-02
Application Type No. List: 19-R&D-0904 Rev.0 dated 2019-09-02
External Configurations: 19-R&D-0907/0908/0909/ Rev.0 dated 2019-09-02
HG2G-V Parts List: 19-R&D-0914 Rev.0 dated 2019-09-02
HG3G-VA Parts List: 19-R&D-0916 Rev.0 dated 2019-09-02
HG4G-V Parts List: 19-R&D-0917 Rev.0 dated 2019-09-02
HG5G-V Parts List: 19-R&D-0918 Rev.0 dated 2019-09-02
Design Specifications(HG2G-V): Y1551-0L01D
Design Specifications(HG3G-V): Y1546-0L01D
Design Specifications(HG4G-V): Y1547-0L01D
Design Specifications(HG5G): Y1548-0L01D
Test Report for DNVGL: 19-306-072 dated 2020-01-22
VLAC Test Report: KL80190466 dated 2019-12-24
VLAC Test Report: KL80190517 dated 2019-12-24

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016 and
IACS UR E10 Rev.7 Oct 2018

Marking of product

Manufacturer name -Model name – Serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.
The main elements of the assessment are:
• Ensure that type approved documentation is available
• Inspection of factory samples, selected at random from the production line (where practicable)
• Review of production and inspection routines, including test records from product sample tests and control routines
• Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
• Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
• Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE