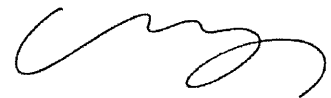


Type Approval Certificate

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	IDEC Corporation
Address	2-6-64, Nishimiyahara, Yodogawa-Ku, Osaka, 532-0004, Japan
Place of Production	IDEC CORPORATION Amagasaki Plant 5-8-10 Shioe, Amagasaki-shi, Hyogo, 661-0976, Japan
Place of Production	IDEC IZUMI TAIWAN CORPORATION No.87, Swi Kuan Road, Chu Hou Village, Jen Wu Country, Kaohsiung, Hsien, 814, Taiwan, R.O.
Place of Production	CANON ELECTRONICS INC. Akagi Plant 2167 Morishita, Showa-mura, Tone-gun, Gunma, 379-1297, Japan
Type	Control Units
Description	LCD Display with touch panel, HG-V Series Operator interface
Trade Name	HG2G-V Display: 5.7" VGA TFT Color" Interfaces: Serial x2, Ethernet, USB Host, USB Device, SD HG3G-V8 Display: 8.4" XGA TFT Color" Interfaces: Serial x2, Ethernet, USB Host, USB Device, SD, Audio Out, Video IN x2



Toshihiro Shigeno

Innovation / Type Approval Coordinator and
Senior Surveyor to Lloyd's Register Group Ltd
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, UK

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Type Approval Certificate

HG3G-VA

Display: 10.4" XGA TFT Color

Interfaces: Serial x2, Ethernet, USB Host, USB Device, SD, Audio Out, Video IN x2

HG4G-V

Display: 12.1" XGA TFT Color"

Interfaces: Serial x2, Ethernet, USB Host, USB Device, SD, Audio Out, Video IN x2

HG5G-V

Display: 15.0" XGA TFT Color"

Interfaces: Serial x2, Ethernet, USB Host, USB Device, SD, Audio Out, Video IN x2

Application

Marine and offshore applications for use in environmental categories ENV1, ENV2 and ENV3 in the "General Power Distribution Zones" as defined in LR Type Approval System Test Specification No. 1-2019 where the Test Specification is satisfactory for the intended operation.

Ratings

HG2G-V: 24VDC/18W

HG3G-V8: 24VDC/22W

HG3G-VA: 24VDC/25W

HG4G-V: 24VDC/25W

HG5G-V: 24VDC/27W



Additional Tests

IACS Unified Requirement E10 (Rev.7)

Other Conditions

- The certificate attests to the hardware's suitability for the environmental categories stated.
- Suitability of the software and system configuration is subject to a separate plan appraisal according to the Lloyd's Register Rules and Regulations when placed on Lloyd's Register classed vessels.

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 Group Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. LR2002260TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

71 Fenchurch Street, London, EC3M 4BS, UK

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2019

Issue by: Yokohama Technical Support Office

Issued to: IDEC CORPORATION

For: LCD Display with touch panel, HG-V Series Operator interface

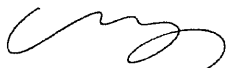
The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System 2019 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

<u>Title</u>	<u>Document Ref.</u>	<u>Date</u>
Request for Marine Services – Type Approval	2502TA	11-Sep-2019
Application Checklist – Appendix to Form 2502TA/2502TA MR	-	11-Sep-2019
Operator Interface, HG Series	EP1708-3	August 2019
Test Specifications	19-R&D-0919 Rev.2	November. 20. 2019

TEST REPORTS

<u>Title</u>	<u>Document Ref.</u>	<u>Date</u>
TEST REPORT for Lloyd's Register	19-306-073	January 22,2020
Test report	RR304-E19063	'19/12/18
TEST REPORT	KL80190466	December 24, 2019
TEST REPORT	KL80190517	December 24, 2019



T. Shigeno
 Innovation/Type Approval Coordinator and
 Senior Surveyor to Lloyd's Register Group Ltd
 Supplementary Type Approval Terms and Conditions



Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.