

EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA000000S
Revision No:
1

This Certificate is issued to

ISIC A/S
BRABRAND, Denmark

for

Monitors, Terminals

with type designation(s)

Marine Monitors
05515-XXX - DuraMON15 LED,
05519-XXX - DuraMON19 LED,
05222-XXX - DuraMON22WS,
05224-XXX - DuraMON24WS,
05227-XXX - DuraMON27WS

The product is found to comply with

EU RO Mutual Recognition Technical Requirements for Display Monitors, Video Screens, Terminals

Intended service

Display for alarm and monitoring systems subject to classification.

The monitors have been verified for compliance with EU Mutual Recognition Technical Requirements for display monitors, video screens, terminals version 0.3 dated 2016-04-01. Radiated electromagnetic field immunity in the range 2 GHz to 6 GHz at 10 V/m according to IEC 61000-4-3:2006 have additionally been verified. Applicable tests for protected equipment according to IEC 60945 (Fourth edition - 2002) including Corrigendum 1 have additionally been verified, with 8.12 Corrosion test waived.

Temperature [°C]: -15°C and 55°C
Vibration: ±1mm / 0.7g
EMC: All locations including bridge and open deck
IP Code: IP2X standalone, IP65 when console mounted

This Certificate is valid until **2021-06-21**.

Issued at **Høvik** on **2017-10-31**

DNV GL local station: **Aalborg**

Approval Engineer: **Ståle Sneen**

for **DNV GL**

Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.4-000045-2**
Certificate No: **MRA000000S**
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Product description

ISIC DuraMON Marine Monitor series, comprising the following models:

Model name	Part number	Description
DuraMON15 LED TN	05515-XXX	15" Marine Monitor Build in
DuraMON15 LED WVA	05515-XXX	15" Marine Monitor Build in
DuraMON19 LED	05519-XXX	19" Marine Monitor Build in
DuraMON22WS TN	05222-XXX	22" WS (HD) Marine Monitor
DuraMON22WS	05222-XXX	22" WS (HD) Marine Monitor, Wide Angle
DuraMON24WS	05224-XXX	24" WS (HD) Marine Monitor, Wide Angle
DuraMON27WS	05227-XXX	27" WS (HD) Marine Monitor, Wide Angle

Options for all models:

- Power supply 90-264 VAC 50/60 Hz (marine approved for 115-230 VAC nominal voltage)
- Power supply 18-36 VDC (marine approved for 24VDC nominal voltage)
- Built-in buzzer

Options for DuraMON-WS series:

- DuraMON WS Bracket standard (aluminium bracket for desktop/ceiling mounting)
- DuraMON WS Bracket wallmount (aluminium bracket for wall mounting)

Options for DuraMON19 LED:

- Capacitive touch

Compass safe distance measurements:

DuraMON15 LED	- all versions and options: Standard 165 cm. Steering 115 cm.
DuraMON19 LED	- all versions and options: Standard 65 cm. Steering 35 cm.
DuraMON22WS TN	- all versions and options: Standard 175 cm. Steering 110 cm.
DuraMON22WS	- all versions and options: Standard 205 cm. Steering 135 cm.
DuraMON24WS	- all versions and options: Standard 215 cm. Steering 140 cm.
DuraMON27WS	- all versions and options: Standard 250 cm. Steering 160 cm.

Overview of tested hardware/firmware including name and versions are listed in ISIC's statement "Additional comments / document overview – adding products from TAA000000AU in MRA000000S".

Manufactured by

ISIC A/S
Edwin Rahrs Vej 54
DK-8220 Brabrand

Application/Limitation

The Type Approval covers all hardware listed under Product description. The display monitors are intended for use in alarm and monitoring systems subject to classification.

The monitor(s) are available with touch screen functionality, which is beyond the scope of this approval. The touch screen hardware has been verified according to the EU MR Technical Requirements for display monitors, video screens, terminals, but any use of touch functionality in classed applications needs to be verified through functional testing.

Type Approval documentation

- 2 page flyer – DuraMon WS 22", 24" and 27" Wide-Screen for Radar & ECDIS (2016-04-19)
- 2 page flyer – DuraMon 15" (2016-08-16)
- 2 page flyer – DuraMon 19" (2016-08-17)
- User Reference Manual – DuraMON WS 22/WS 24/WS 27 – PN: 05192-000, Rev. B (2013-05)
- User Reference Manual – DuraMON 15/19/22/24/26/27 – PN: 05192-075, Rev. B
- Drawing – DuraMON WS Bracket standard – 05292-000 Rev. B (2012-04-19)
- Drawing – DuraMON WS Bracket wallmount – 05293-000 Rev. A (2011-05-31)
- DELTA Test Report No. DANAK-1911187, Revision A (2011-02-03)
- DELTA Test Report No. DANAK-1911379, No revision (2011-04-13)

Job Id: **262.4-000045-2**
Certificate No: **MRA000000S**
Revision No: **1**

DELTA Test Report No. DANAK-1911425, No revision (2011-06-15)
SP Test Report No. 3P00307, No revision (2013-05-02)
SP Test Report No. 3P03300, No revision (2013-06-26)
SP Test Report No. 4P04155, No revision (2014-07-10)
SP Test Report No. 5P04963, No revision (2015-09-04)
SP Test Report No. 5P05962, Rev. 1 (2015-12-16)
Additional comments / document overview – adding products from TAA00000AU in MRA000000S (2017-10-19)
EU RO MR type approval PQA scheme periodical assessment checklist, DNV GL Aalborg 2016-06-17

Marking of product

Manufacturer's name: ISIC
Type No.: Model name as listed under product description
Unique serial No.
Year of manufacture: YYYY
(Additionally to the year of manufacture, year and week of production is included in the serial No.)
Power supply ratings: Mains voltage as listed under product description + Mains current

Other conditions

The monitors have been verified for compliance with EU Mutual Recognition Technical Requirements for display monitors, video screens, terminals version 0.3 dated 2016-04-01. Radiated electromagnetic field immunity in the range 2 GHz to 6 GHz at 10 V/m according to IEC 61000-4-3:2006 have additionally been verified. Applicable tests for protected equipment according to IEC 60945 (Fourth edition - 2002) including Corrigendum 1 have additionally been verified, with 8.12 Corrosion test waived.

Environmental test parameters	DNV GL location classes
Temperature: -15°C and 55°C	A
Vibration: ±1mm / 0.7g	A
EMC: All locations including bridge and open deck	B
Enclosure: IP2X standalone, IP65 when console mounted (IP ratings according to IEC 60529)	A standalone, B when console mounted

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 annually and at renewal of this certificate.

END OF CERTIFICATE