

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Peripheral Equipment**

with type designation(s)

HP EliteDisplay E190i 18.9-inch 5:4 LED Backlit IPS Monitor

Issued to

**Mariner Systems (UK) Ltd.
Wokingham, Berkshire, United Kingdom**

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.****Approved only with Mariner Kits shown on page 2.****Location classes:**

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to relevant rules shall be provided upon installation on board

Issued at **Høvik** on **2020-04-17**for **DNV GL**This Certificate is valid until **2023-12-31**.DNV GL local station: **Newcastle-upon-Tyne**Approval Engineer: **Ståle Sneen****Marta Alonso Pontes
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: **262.1-017617-2**
Certificate No: **TAA00002NN**

Product description

HP EliteDisplay E190i 18.9-inch 5:4 LED Backlit IPS Monitor
Verified for nominal voltage: 100 – 240 Vac

Approval conditions

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.

Application/Limitation

Approval **ONLY** applies when used in conjunction with Mariner Systems (UK) Ltd:

Monitor Mariner kit:

MS1170 HP EliteDisplay E190i 18.9-inch IPS Kit (Desk Mount)
MS1175 HP EliteDisplay E190i 18.9-inch IPS Kit (Wall Mount)
MS1180 HP EliteDisplay E190i 18.9-inch IPS Kit (Console Mount)

Steering, Standby and Emergency Compass Safe Distance 1.0 Degree deflection: 600 mm
Standard Compass Safe Distance 0.3 Degree deflection: 700 mm

Type Approval documentation

Report TL14017 Issue 4, HP EliteDisplay E190i 18.9-inch IPS Display, dated 2019-10-16
QuickSpecs HP EliteDisplay E190i 18.9-inch 5:4 LED Backlit IPS Monitor, DA – 14806 Worldwide - dated Version 6, dated 2014-03-27
MS Testing, Marine Type Approval Test Requirements – Issue 14, October 2019
MS1170 Assembly, dwg.no. MS1170_A, dated 2014-03-21
MS1175 Assembly, dwg.no. MS1175_A, dated 2014-03-21
MS1180 Assembly, dwg.no. MS1180_A, dated 2014-01-31
Type approval renewal assessment report for A-13989, DNV GL Manchester 2020-04-06

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.
For the bridge mounted components the 'Acoustic noise and signals' and the 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC 60945, 4th edition (2002).

Marking of product

Mariner Kit Number + HP product label, as listed under Application/Limitation

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