

EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA0000003
Revision No:
2

This Certificate is issued to

Hatteland Display AS
NEDRE VATS, Norway

for

Monitors, Terminals

with type designation(s)

TFT Displays

**JH 15T15/15T17/19T12/19T14/20T17/22T11/23T12/23T14/26T11/27T11 MMD,
JH 19T14 STD and HM 20T07 MIL**

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. Applicable tests for protected equipment according to IEC 60945 (Fourth
edition - 2002) including Corrigendum 1 have additionally been verified.**

This Certificate is valid until **2020-08-31**.

Issued at **Høvik** on **2017-05-19**

DNV GL local station: **Haugesund**

Approval Engineer: **Nils Jarem**

for **DNV GL**

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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.

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Product description

Series 1 TFT Display monitors from Hatteland Display AS, as listed below:

Display Type No.	Description	Power supply options ¹⁾	Standard compass safe distance	Steering compass safe distance
JH 15T15 MMD	Maritime Multi Display	A, D	125 cm – 130 cm	85 cm – 100 cm
JH 15T17 MMD	Maritime Multi Display	A, D	130 cm	100 cm
JH 19T12 MMD	Maritime Multi Display	A, D, M	105 cm – 160 cm	75 cm – 105 cm
JH 19T14 MMD	Maritime Multi Display	A, D, M	65 cm – 160 cm	35 cm – 105 cm
JH 20T17 MMD	Maritime Multi Display	A, D	80 cm	40 cm
JH 22T11 MMD	Maritime Multi Display	A, D, M	160 cm	90 cm
JH 23T12 MMD	Maritime Multi Display	A	160 cm	105 cm
JH 23T14 MMD	Maritime Multi Display	A, M	60 cm	25 cm
JH 26T11 MMD	Maritime Multi Display	A, M	125 cm	80 cm
JH 27T11 MMD	Maritime Multi Display	A	50 cm	30 cm
JH 19T14 STD	Industrial Display	A, M	85 cm	45 cm
HM 20T07 MIL	Military Display	A, D	115 cm	70 cm

1) A = 115/230VAC – 50/60Hz
D = 24VDC
M = 115/230VAC – 50/60Hz + 24VDC

Compass safe distance differs for the different configurations of displays of type JH 15T15, JH 19T12, and JH 19T14.

The type approved configurations are described by the respective data sheets listed under Type Approval documentation.

Overview of tested firmware versions and revision history up to date of issue of this certificate are listed in Hatteland Display's Firmware statement No. DOC101670-1 rev.1 listed under Type Approval documentation.

Series 1 Brackets (optional accessories):

Bracket Type No.	Displays of Equivalent Size
JH 19BRD STD-A1	JH 19T02 MMD, JH 19T12 MMD, JH 19T14 MMD
JH 22BRD STD-A1	JH 22T11 MMD
JH 23BRD STD-A1	JH 23T02 MMD, JH 23T12 MMD, JH 23T14 MMD
JH 26BRD STD-A1	JH 26T11 MMD
JH 27BRD STD-A1	JH 27T11 MMD

Manufactured by

Hatteland Display
5578 Nedre Vats, Norway

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.

All monitors are available with touch screen functionality, which is beyond the scope of this approval. The touch screen hardware has been verified according to the DNV TA program for EU-RO-MR for monitors and terminals, but any use of touch functionality in classed applications needs to be verified through functional testing.

The dimming function is programmable and needs to be verified through functional testing when used in a system subject to classification.

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Type Approval documentation

Displays

Type number Overview: IND100780-1 rev.11, 2011-09-29 – (Series 1 Displays),
LET_DNV20170301AK rev 1, (Type approval request).

User Manuals: INB100036-1 rev.22, dated 2012-11-12 – (MMD Series 1),
INB100036-2 rev.7, dated 2012-05-04 – (STD Series 1),
INB100005-3 rev.19, dated 2011-03-08 – (MIL Series),
INB100005-8 rev.5, dated 2010-04-15 – (HM20T07 MIL Series).

Data Sheets: DS JH 15T15 MMD-xxx-Axxx rev.18, dated 2009-06-25,
DS JH 15T17 MMD-xxx-Axxx HW00 rev.23, dated 2013-02-12,
DS JH 15T17 MMD-xxx-Axxx rev.07, dated 2016-09-23,
DS JH 19T12 MMD-xxx-Axxx rev.17, dated 2009-06-25,
DS JH 19T14 MMD-xxx-Axxx HW00 rev.25, dated 2013-02-12,
DS JH 19T14 MMD-xxx-Axxx rev.09, dated 2016-09-23,
DS JH 19T14 MMD-xxx-Sxxx HW00 rev.13, dated 2013-02-12,
DS JH 19T14 MMD-xxx-Sxxx rev.11, dated 2016-09-23,
DS JH 20T17 MMD-xxx-Axxx rev.25, dated 2015-02-27,
DS JH 22T11 MMD-xxx-Axxx rev.25, dated 2013-05-06,
DS JH 23T12 MMD-xxx-Axxx rev.20, dated 2009-07-16,
DS JH 23T14 MMD-xxx-Axxx rev.22, dated 2013-02-12,
DS JH 27T11 MMD-xxx-Axxx rev.06, dated 2008-10-16,
DS JH 19T14 STD-AA1-AAAA rev.02, dated 2008-09-10,
DS HM 20T07 MIL rev.20, dated 2011-05-27,
DS JH 22T11 MMD-xxx-Axxx rev.21, dated 2012-06-05,
DS JH 23T14 MMD-xxx-Axxx rev.21, dated 2012-06-05,
DS JH 26T11 MMD-xxx-Axxx rev.24 dated 2013-02-27.

Sales Drawing: A001100-1, dated 2007-07-09 – (HM 20T07 MIL),
A001240-1, dated 2008-01-04 – (JH 19T12 MMD),
A001242-1 rev.1, dated 2008-01-08 – (JH 15T15 MMD),
A001467-1 rev.1, dated 2008-08-29 – (JH 19T14 MMD),
A001492-1 rev.1, dated 2008-09-24 – (JH 15T17 MMD),
A001506-1 rev.1, dated 2008-09-11 – (JH 20T17 MMD),
A001524-1 rev.1, dated 2008-11-12 – (JH 23T12 MMD, JH 23T14 MMD),
A001782-1 rev.1, dated 2009-03-03 – (JH 22T11 MMD),
A002219-1 rev.1, dated 2010-06-28 – (JH 19T14 MMD Slim Frame),
A002278-1 rev.2, dated 2011-05-25 – (JH 26T11 MMD).

Test reports: Technical report E501841-4A, dated 2005-01-17 – (JH 19T01/20T04/23T02 MIL-E1/E2),
Technical report 2005 3127 rev.03, dated 2005-08-29 – (JH 15T05 MMD-A1/A2),
Technical report 2006-3533 rev.01, dated 2007-03-28 – (HM 20T07 MIL-E1),
Technical report 2007-3008 rev.01, dated 2007-03-13 – (HM20T07 MIL-E1),
Technical report 2008 3076 rev.01, dated 2008-02-07 – (JH 15T15 MMD-AA1-AAAA),
Technical report 2008 3142 rev.01, dated 2008-03-11 – (JH 23T12 MMD-AA1-AAAA),
Technical report 2008-3143 rev.01, dated 2008-03-11 – (JH 19T12 MMD-AA1-AAAC),
Technical report 2008-3146 rev.01, dated 2008-03-11 – (JH 19T12 MMD-DA1-AAAA),
Technical report 2008-3190 rev.02, dated 2008-04-16 – (JH 19T12 MMD-AA1-AAAA),
Technical report 2008 3207 rev.01, dated 2008-04-16 – (JH 23T12 MMD-AA1-AOAC),
Technical report 2008-3324 rev.02, dated 2009-02-04 – (JH 15T17 MMD-DA1-AOAA),
Technical report 2008-3464 rev.02, dated 2008-09-26 – (JH 27T11 MMD-AA1-AABA),
Technical report 2008-3511 rev.02, dated 2008-10-16 – (JH 20T17 MMD-AA1-AABA),
Technical report 2015-20567 rev.0, dated 2015-05-11 – (JH 20T17 MMD-AA1-AABA),
Technical report 2008-3528 rev.02, dated 2009-04-14 – (JH 19T14 MMD-AA1-AOAA),
Technical report 2009-3097 rev.02, dated 2009-06-26 – (JH 19T14 MMD-AA1-AABR),
Technical report 2009-3442 rev.01, dated 2009-08-11 – (JH 19T14 MMC-AA1-AABR),
Technical report 2010-1681 rev.01, dated 2010-11-16 – (JH 19T14 MMD-MA1-SABA),
Technical report 2010-3124 rev.03, dated 2011-02-22 – (JH 23T14 MMD-MA1-Axxx),
Technical report 2010-3134 rev.01, dated 2010-04-08 – (JH 19T14 MMD-MA1-AAAA),

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Technical report 2010-3247 rev.02, dated 2010-05-10 – (JH 15T17 MMC-MA1-SORA),
Technical report 2010-3421 rev.01, dated 2010-10-05 – (JH 20T17 MMD-DA1-AAAR),
Technical report E09749.02 rev.02, dated 2010-08-17 – (JH 22T11 MMD-AA1-AOBA),
Technical report E10092.01 rev.01, dated 2010-04-20 – (JH 23T14 MMD-MA1-AABA),
Technical report E12045.00 rev.00, dated 2012-02-05 – (JH 15T17 MMD-DA1-AABA),
Technical report 2011-3396 rev.02, dated 2012-07-11 – (JH 26T11 MMD-MA1-AOBC),
Technical report 2011-3494 rev.01, dated 2011-11-24 – (JH 15T17 MMD-AA1-AABA),
Technical report 2012-3107 rev.01, dated 2012-03-05 – (JH 15T17 MMD-AA1-AABA),
Technical report 2013-3038 rev.0, dated 2013-04-03 – (JH 19T14 MMD-MA1-AAAA),
Technical report 2009-3196 rev.01, dated 2009-04-21 – (HM 20T07 NMD-CF8),
Technical report 2009-3214 rev.03, dated 2009-04-30 – (HM 20T07 NMD-CF8),
Technical report 2015-20588 rev.0, dated 2015-08-24 – (HD 19T21 MMC-M2D-MBAA),
Technical report 2015-20589 rev.0, dated 2015-06-15 – (HD 15T21 MMC-M2N-PCAA),
Technical report 2011-3273 rev.01, dated 2011-10-04 – (JH 22T11 MMD-AA1-AOBC),
Technical report 2012-3081 rev.01, dated 2012-02-29 – (HD 15T21 STD-MA1-FAGA),
Technical report 2010-3253 rev.01, dated 2010-05-05 – (JH 20T17 MMD-DA1-AAAA).

Statements: IEC 60945 & IACS E10 Statement DOC101328-1 rev. 06 dated 2017-02-21,
Firmware statement DOC101670-1 rev.1, dated 2013-10-02 – (Series 1 redesign),
Corrosion statement DOC100732-9 rev.9, dated 2013-10-02 – (Series 1 including brackets ++).

Brackets

Sales Drawing: A001915-1 rev.01, dated 2009-06-02 – (JH 19BRD STD-A1),
A001891-1 rev.01 dated 2009-05-28 – (JH 22BRD STD-A1),
A001916-1 rev.01 dated 2009-06-02 – (JH 23BRD STD-A1),
A002408-1 rev. - dated 2013-07-01 – (JH 26BRD STD-A1),
A001411-1 rev.01 dated 2008-06-03 – (JH 27BRD STD-A1).

Test Reports: Technical Report 2008-3326 rev.01, dated 2008-06-25 – (JH 19BRD STD-A1),
Technical Report 2008-3327 rev.01, dated 2008-06-19 – (JH 27BRD STD-A1),
Technical Report 2013-3114 rev.01, dated 2013-03-21 – (HD TMB SX1-C1).

Assessment report: EU RO MR type approval PQA scheme periodical assessment checklist,
DNV GL Haugesund 2015-09-07.

Marking of product

Manufacturer's name: Hatteland Display

Type No.: Main type as listed under product description + 7 characters to describe the options

Unique serial No.

Date of manufacture: YYYYMMDD

Power supply ratings: Input voltage as listed under product description + power rating (W)

Other Conditions

The monitors have been verified for compliance with EU Mutual Recognition Technical Requirements version 0.3, dated 2016-04-01. Applicable tests for protected equipment according to IEC 60945 (Fourth edition - 2002) including Corrigendum 1 have additionally been verified.

Environmental test parameters

Temperature: -15°C and 55°C

Vibration: ±1mm / 0.7g

EMC: All locations including bridge and open deck

Enclosure: IP22 standalone, IP66 when sealed to console (IP ratings according to IEC 60529)

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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