

Алматы (7273)495-231
 Ангартск (3955)60-70-56
 Архангельск (8182)63-90-72
 Астрахань (8512)99-46-04
 Барнаул (3852)73-04-60
 Белгород (4722)40-23-64
 Благовещенск (4162)22-76-07
 Брянск (4832)59-03-52
 Владивосток (423)249-28-31
 Владикавказ (8672)28-90-48
 Владимир (4922)49-43-18
 Волгоград (844)278-03-48
 Вологда (8172)26-41-59
 Воронеж (473)204-51-73
 Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
 Ижевск (3412)26-03-58
 Иркутск (395)279-98-46
 Казань (843)206-01-48
 Калининград (4012)72-03-81
 Калуга (4842)92-23-67
 Кемерово (3842)65-04-62
 Киров (8332)68-02-04
 Коломна (4966)23-41-49
 Кострома (4942)77-07-48
 Краснодар (861)203-40-90
 Красноярск (391)204-63-61
 Курск (4712)77-13-04
 Курган (3522)50-90-47
 Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
 Москва (495)268-04-70
 Мурманск (8152)59-64-93
 Набережные Челны (8552)20-53-41
 Нижний Новгород (831)429-08-12
 Новокузнецк (3843)20-46-81
 Ноябрьск (3496)41-32-12
 Новосибирск (383)227-86-73
 Омск (3812)21-46-40
 Орел (4862)44-53-42
 Оренбург (3532)37-68-04
 Пенза (8412)22-31-16
 Петрозаводск (8142)55-98-37
 Псков (8112)59-10-37
 Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
 Рязань (4912)46-61-64
 Самара (846)206-03-16
 Санкт-Петербург (812)309-46-40
 Саратов (845)249-38-78
 Севастополь (8692)22-31-93
 Саранск (8342)22-96-24
 Симферополь (3652)67-13-56
 Смоленск (4812)29-41-54
 Сочи (862)225-72-31
 Ставрополь (8652)20-65-13
 Сургут (3462)77-98-35
 Сыктывкар (8212)25-95-17
 Тамбов (4752)50-40-97
 Тверь (4822)63-31-35

Тольятти (8482)63-91-07
 Томск (3822)98-41-53
 Тула (4872)33-79-87
 Тюмень (3452)66-21-18
 Ульяновск (8422)24-23-59
 Улан-Удэ (3012)59-97-51
 Уфа (347)229-48-12
 Хабаровск (4212)92-98-04
 Чебоксары (8352)28-53-07
 Челябинск (351)202-03-61
 Череповец (8202)49-02-64
 Чита (3022)38-34-83
 Якутск (4112)23-90-97
 Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

<https://furuno.nt-rt.ru> || fon@nt-rt.ru

DATASHEET

HATTELAND®
DISPLAY
 an EMBRON Company

Manufacturer: **Hatteland Display AS**

Product: **19.0 inch Maritime Multi Display (MMD)**

Type: **HD 19T22 MMD-xxx-Fxxx**

Last Revised: **15 Oct 2018**
 Revision#: **12**

19.0 inch Maritime Multi Display - Series X G2

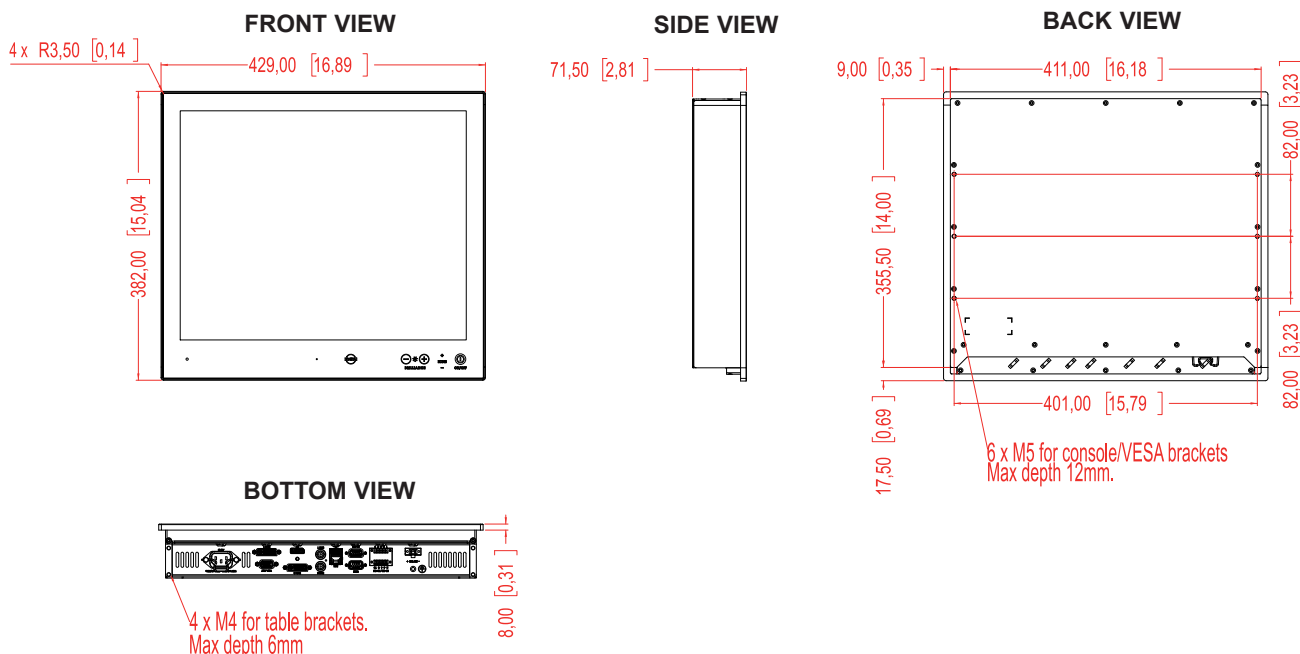
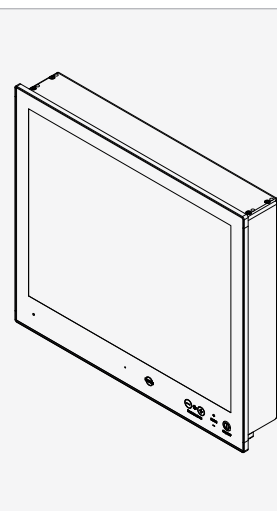
Features:

Series X Generation 2 (G2) Displays offer the ultimate in performance, convenience, state of the art design and enduring quality for system integrators and boat builders. Series X products offer a range of feature sets optimized for varying requirements and applications.

The Series X Generation 2 (G2) display range is a flexible monitor solution designed and type approved for the professional maritime segment, where reliability and long life time are key prerequisites for the industry. The product range combines stunning design and technology with innovative features and options, making it all that the integrator needs for top class type-approved marine systems.

The multi-input MMD models provide a wide choice of display size and format for a multitude of shipboard applications, where combining data and video inputs to a single unit provides maximum flexibility. Be it for ship navigation, automation or security, this range with all its possible options provides a robust and multipurpose platform from which to display and manage data and multiple camera or sensor videos.

Series X Generation 2 (G2) displays feature Glass Display Control™, LED Backlight Technology, full dimming and multipower as standard, and can also accommodate and combine a number of options such as multi-touch screen, optical bonding, sunlight readability (High Bright) and ECDIS calibration. By factory standards the 19 inch unit is ECDIS Compliant.



SPECIFICATIONS

TFT Technology:

- High Quality TFT with LED Backlight Technology
- 19.0 inch viewable image size, Aspect Ratio 5:4
- TFT active-matrix liquid crystal panel
- MVA (Multi-domain Vertical Alignment) LCD Technology

TFT Characteristics:

- Native Resolution : 1280 x 1024
- Pixel Pitch (RGB) : 0.294 (H) x 0.294 (V) mm
- Response Time : 35ms (typical), "black" to "white"
- Contrast Ratio Standard : 1500:1 (typical)
- Contrast Ratio High Bright : 2000:1 (typical)
- Light Intensity Standard : 350 cd/m² (typical)
- Light Intensity High Bright : 1000 cd/m² (typical)
- Viewable Angle Standard : +/- 85 deg. (typical) (Up/Down/Left/Right)
- Viewable Angle High Bright : +/- 89 deg. (typical) (Up/Down/Left/Right)
- Active Display Area : 376.32 (H) x 301.056 (V) mm
- Max Colors : 16.7 million

Supported Signals:

Resolutions:

- VGA : 640 x 480 (including 640 x 350)
- SVGA : 800 x 600 (including 720 x 400)
- XGA : 1024 x 768
- SXGA : 1280 x 1024*

* Recommended for optimum picture quality

Video Signals:

- Interlaced HDTV, NTSC, PAL and SECAM video
- Composite video

Power Specifications:

Multi-power Supply:

- 100-240V AC - 50/60Hz + 24 VDC

Note: You may connect either AC power or DC power or both. In case both sources are connected, power will be sourced from the AC input. If AC input is lost, there will be a uninterrupted switch-over to DC input.

Power Consumption:

- Operating AC/DC: 32W (max)

Physical Considerations:

- W:429.00 [16.89"] x H:382.00 [15.04"] x D:71.50 [2.81"] mm [inch]
- Weight: Approx. 7.2kg / 15.8lbs

Signal Terminals:

- DVI-I IN : 2 x 29p DVI Female (or as VGA IN with adapter)*
- DP1.2 IN : 1 x 20p DisplayPort (female)
- Comp. Video IN : 2 x BNC Connector (female)
- SCOM RS-422/485 : 2 x 5-pin Terminal Block 3.81, non-isolated+Buzzer
- VGA OUT : 1 x 15p HD D-SUB (female) - Clone of VGA IN**
- SCOM+Touch : 1 x USB TYPE A Connector (female)
- Ethernet : 1 x RJ45 Connector for Remote Control
- SCOM RS-232 : 1 x 9p D-SUB (female) non-isolated+Buzzer
- Potmeter/User : 1 x 9p D-SUB (male)
(Potentiometer IN, +5VDC OUT, BRT +/- IN)
- AC Power IN : 1 x Std IEC Inlet
- DC Power IN : 1 x 2-pin Terminal Block 5.08

* DVI-I Port #1 as VGA IN also acts as clone to VGA Signal Out (buffered).

**Tested at recommended resolutions. The VGA output signal (buffered) is at same resolution and sync as the VGA input. The output is working even if the display unit is turned off, but power cable/supply must be connected/provided.

User Controls:

Behind front bezel - Glass Display Control™ (GDC) IP66:

- Power On/Off, On Screen Display Menu, Brightness Control (-/+)
- Hotkeys (left/right), Mode Status Indicators (ECDIS, Service)
- Buzzer (through glass), Light Sensor (behind glass)

Environmental Considerations:

- Operating : Temperature -15 deg. C to +55 deg. C
- Storage : Temperature -30 deg. C to +70 deg. C
- Humidity : Up to 95%
- IP Rating : Protection: IP66 front – IP22 rear (EN60529)
- Compass Safe Dist. : Standard: 90cm - Steering: 45cm

Lifetime Considerations:

Even though the test conditions for bridge units provide for a maximum operating temperature of 55°C, continuous operation of all electronic components should, if possible, take place at ambient temperatures of only 25°C. This is a necessary prerequisite for long life and low service costs.

Available Accessories:

- HD CMB SX2-A1 : 1 x Console Mount Kit. EN60945 Tested
- HD TMB SX2-A1 : 1 x Table Mount Bracket. EN60945 Tested
- HD VED SX2-C1 : 1 x VESA Adapter Kit (75/75, 100/100 & 200/100mm) Not EN60945 Tested
- JH 19TAP STD-C1 : 1 x Frame Adapter (19" Series 1 to Series X) retrofit
- HD 19TAP SX2-C2 : 1 x Frame Adapter (19" Series X to Series 2) retrofit
- HD REM SX1-A1 : 1 x External Remote Control, EN60945 Tested
- HD 19COV SX1-A1 : 1 x UV Sun Cover
- P007131-1 : 1 x IP66 Mount Gasket (EPDM), for Flush/Console mount

Please see user manual/datasheet for more information

Factory Options:

- Projected Capacitive Touch Screen (Multitouch, USB, Pen/Glove supported)
- Optical Bonding Technology
- Color Calibrated models (ECDIS)
- Sunlight Readable / High Bright (includes Optical Bonding)
- 1 x Additional Composite Video IN (BNC) Connector

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (8692)22-31-93
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47