

Manufacturer: **Hatteland Display AS**  
 Product: **12.1 inch Industrial Display (STD)**  
 Type: **HD 12T21 STD-xxx-Fxxx**

Last Revised: **03 May 2017**  
 Revision#: **31**

## 12.1 inch Industrial Display - Series X

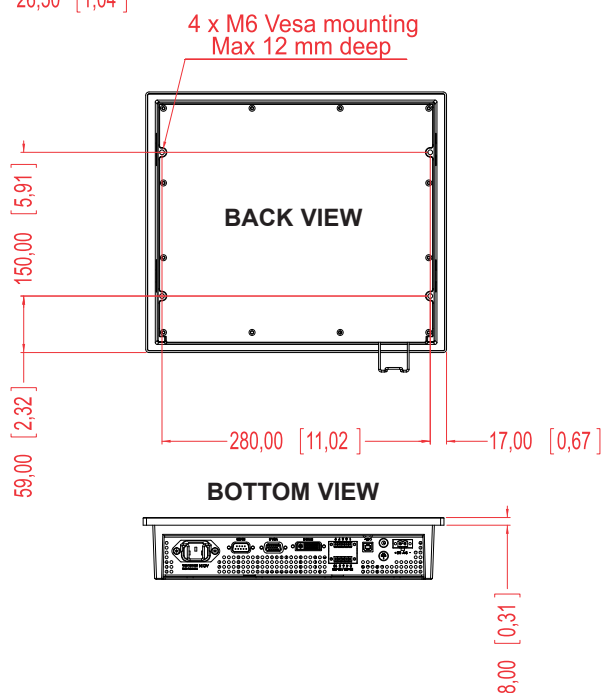
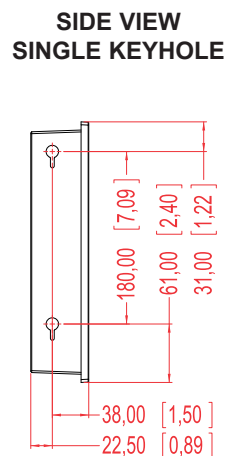
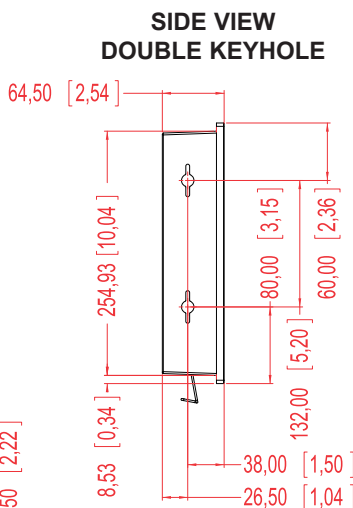
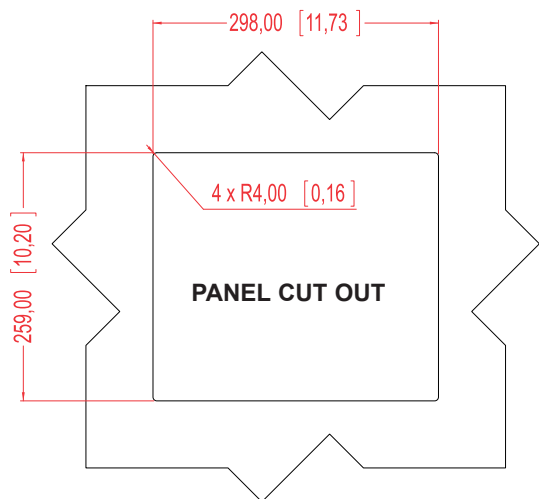
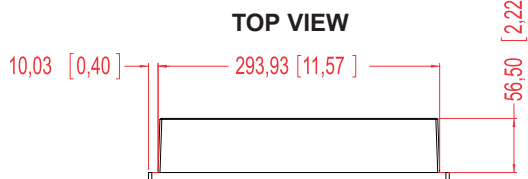
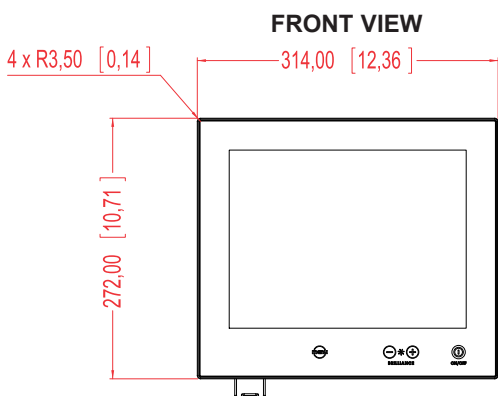
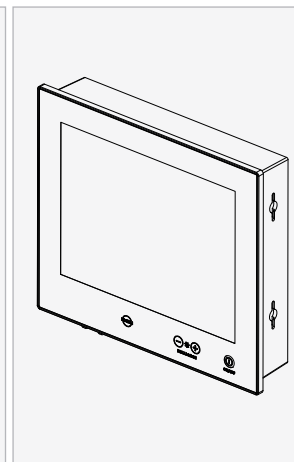
### Features:

Series X Displays and Panel Computers 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 display range is a flexible monitor solution designed and type approved for the professional maritime segment, where reliability and long life time are key pre-requisites 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 entry level STD models provide a wide choice of display size and format for shipboard applications where simple data input (DVI & RGB) is required. Be it for ship navigation or automation, this range with all it's possible options provides a robust and cost effective platform from which to display and manage data.

Series X displays feature Glass Display Control™, LED Backlight Technology, full dimming and multipower as standard, and can also accomodate and combine a number of options such as multi-touch screen and optical bonding.



Dimensions might be shown with or without decimals and indicated as mm [inches]. Tolerance on drawings is +/- 1mm. For accurate measurements, check relevant DWG file.

## TFT Technology:

- High Quality TFT with LED Backlight Technology
- 12.1 inch viewable image size, Aspect Ratio 4:3
- TFT active-matrix liquid crystal panel

## TFT Characteristics:

- Native Resolution : 1024 x 768
- Pixel Pitch (RGB) : 0.24 (H) x 0.24 (V) mm
- Response Time : 35ms (typical), black to white
- Contrast Ratio : 700:1 (typical)
- Light Intensity : 600 cd/m<sup>2</sup> (typical)
- Viewable Angle : +/- 80 deg. (L/R), +/- 70 deg. (U/D) (typ)
- Active Display Area : 245.76 (H) x 184.32 (V) mm
- Max Colors : 16.7 million

## Synchronization:

- Digital separate synchronization
- Composite synchronization
- Synchronization on green
- Auto detects VGA -> XGA, interlaced and non interlaced
- Video Signal : Analog RGB 0,7Vp-p
- Input Impedance 75 Ohm

## Synchronization Range:

- Horizontal : 31,5 kHz to 91,1 kHz
- Vertical : 60 Hz\* to 85 Hz

\* Recommended for optimal picture quality

## Supported Signals:

### Resolutions:

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

\* Recommended for optimal picture quality

## Power Specifications:

### Multi-power Supply:

- 115&230VAC - 50/60Hz + 24 VDC - HD 12T21 STD-Mxx-Fxxx

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 : 60W (max) - 15W (typ)

## Physical Considerations:

- W:314.00 [12.36"] x H:272.00 [10.71"] x D:64.50 [2.54"] mm [inch]
- 4 x M6 VESA mounting 280x150mm, Max 12mm deep
- Weight: 3.8kg / 8.4lbs

## Signal Terminals:

- DVI-D Signal IN : 1 x 24p DVI (female)
- RGB Signal IN : 1 x 15p HD D-SUB (female)
- SCOM RS-422/485 : 1 x 5-pin Terminal Block 3.81, non-isolated+Buzzer
- SCOM RS-232 : 1 x 9p D-SUB (female) non-isolated+Buzzer
- If Touchscreen : 1 x USB TYPE B Connector (female)
- AC Power IN : 1 x Std IEC Inlet
- DC Power IN : 1 x 2-pin Terminal Block 5.08

## User Controls:

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

- Power On/Off, On Screen Display Menu, Brightness Control (-/+)
- Hotkeys (left/right), Mode/Status Indicator (Service)
- Buzzer (not visible), Light Sensor (not visible)

## Environmental Considerations:

- Operating : Temperature -15 deg. C to +55 deg. C  
- Humidity up to 95%
- Storage : Temperature -20 deg. C to +60 deg. C  
- Humidity up to 95%
- IP Rating : Protection: IP66 front - IP22 rear (EN60529)

### Lifetime Considerations:

Even although 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 SX1-A2 : 1 x Console Mount Kit (1-12.75mm). EN60945 Tested
- HD CMB SX1-A3 : 1 x Console Mount Kit (1-12.75mm). EN60945 Tested  
Long screws for easier installation in tight spaces.
- HD TMB SX1-A1 : 1 x Table Mount Bracket. EN60945 Tested
- HD VED SX1-A1 : 1 x VESA Bracket, not EN60945 Tested
- HD REM SX1-A1 : 1 x External Remote Control, EN60945 Tested

Please see user manual/datasheet for more information

## Factory Options:

- Projected Capacitive Touch Screen (Multitouch, USB interface)
- Optical Bonding Technology

Compass Safe Distance: HD 12T21 STD-xxx-Fxxx

Standard: 125cm

Steering: 75cm

## APPROVALS & CERTIFICATES

This product have been tested / type approved by the following classification societies:

**IEC 60945 4th** (EN 60945:2002)

**GL** - Germanischer Lloyd

**CCS** - China Classification Society

**EU RO MR** - Mutual Recognition

**IACS E10**

**DNV** - Det Norske Veritas

**BV** - Bureau Veritas

**ClassNK** - Nippon Kaiji Kyokai

**ABS** - American Bureau of Shipping

**LRS** - Lloyd's Register of Shipping