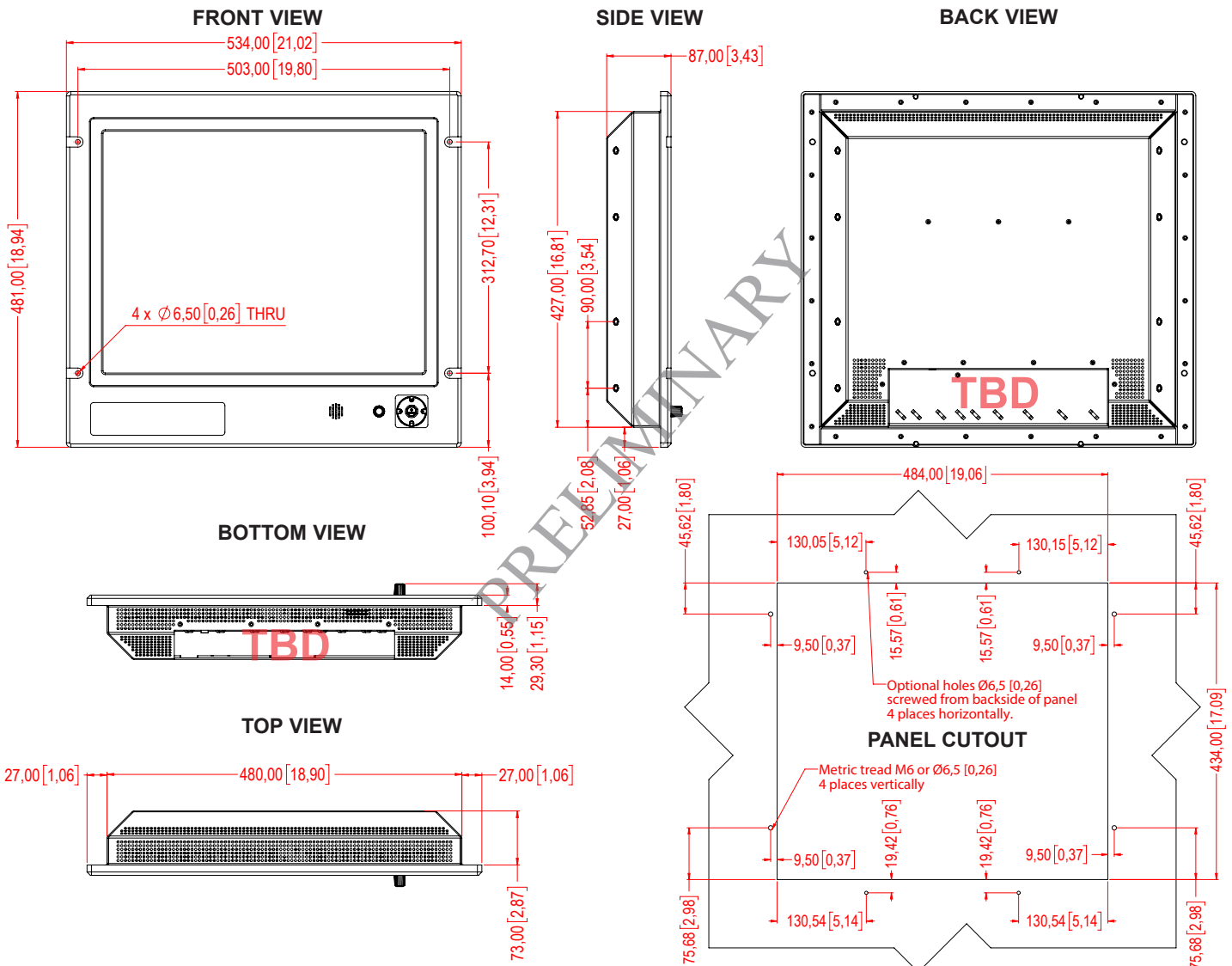


Manufacturer: Hatteland Technology AS
Product: 21.3 inch Maritime Multi Monitor
Type: JH 21T27 MMD-MRx-Ayqz1A
 x = 1 (No ECDIS) or 4 (ECDIS), y = A (No Bonding) or O (Bonding)
 q = B (Potmeter (IP66) Buzzer) or A (Buttons (IP66))z = A (No Touch) or P (Touch)

Last Revised: 29 Feb 2024
Revision#: 00_05

21.3 inch Maritime Multi Monitor - Series 1 G3

Features:



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
- 21.3 inch viewable image size, Aspect ratio: 4:3
- a-Si TFT (Thin Film Transistor) Active Matrix, RGB Vertical Stripe

TFT Characteristics:

- Pixel Number : 1600 x 1200
- Pixel Pitch (RGB) : 0.270 (H) x 0.270 (V) mm
- Response Time : 20 ms (typical), rise + fall
- Contrast Ratio : 1800:1 (typical)
- Light Intensity : 500 cd/m² (typical)
- Viewable Angle : +/- 89 deg. (typical) (Up/Down/Left/Right)
- Active Display Area : 432.0 (H) x 324.0 (V) mm
- Max Colors : 16.7 millions (RGB 8-bit)

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
- UXGA : 1600 x 1200*
- FHD : 1920 x 1080
- WUXGA : 1920 x 1200

* Recommended for optimal picture quality

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: **TBD** (Max)

Physical Considerations:

Product Dimensions and Weight:

Pending

Product Carton Size and Weight:

Pending

Signal Terminals:

- DP++ 1.2 OUT : 1 x DisplayPort Female (Dual-Mode DP++)
- HDMI 2.0 Input : 1 x 19p HDMI (female)
- USB-C : 1 x USB-C Female with DP and USB2.0(SCOM and touch)
- RGB Video IN : 1 x VGA Connector (female)
- SCOM RS-422/485 : 2 x 5-pin Terminal Block 3.81, non-isolated+Buzzer
- SCOM USB : 1 x USB TYPE A Connector (female)
- SCOM Ethernet : 1 x RJ45 Connector
- SCOM RS-232 : 1 x 9p D-SUB (female)
- 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

User Controls:

On front bezel - Keypad control (IP66) xxx-xxAx models:

- Power On/Off and On Screen Display Menu (OSD)*
- Brightness Control (up/down - push buttons)
- Hotkeys (left/right - push buttons)
- Mode Status Red/Green Illuminated LED-Ring Indicator

On front bezel - Potmeter control (IP66) xxx-xxBx models:

- Power On/Off and On Screen Display Menu (OSD)*
- Brightness Control (rotary control)
- Hotkeys (left/right - push buttons)
- Mode Status Red/Green Illuminated LED-Ring Indicator
- Buzzer (75-85dB)

*OSD Key Codes: 321=Get access to OSD, 362=Advanced Mode

Environmental Considerations:

- Operating : Temperature -15°C to +55°C
- Storage : Temperature -20°C to +60°C
- Humidity : Up to 95% (Operating / Storage)
- Shock - Vibration : 5g/11ms - 0.7g (IEC 60945 / IACS E10)
- Air Pressure Maximum Altitude : Operating: 4000m - Storage: 12912m
- Air Pressure Maximum Altitude (Bonded) : Operating: 3000m - Storage: 3000m
- IP-Rating Protection : IP66 front - IP20 rear (EN60529).
- Compass Safe Distance : Standard: **TBD** cm - Steering: **TBD** cm

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:

- JH MMDBR STD-A1 : Mounting Bracket
- JH MMDRO STD-A1 : Rotary Bracket
- JH 20TSV STD-B1 : Sun Visor
- JH 20VED STD-A1 : VESA Adapter 75/100mm
- JH 20TWC STD-B1 : Water Cover
- HD REM SX1-A1 : External Remote Control, EN60945 Tested
- HT DPUSB-2-USB-A1 : 1 x DP & USB2.0 (Male) to USB-C (Male) Adapter, 2m (not IP67)
- HT HDMIUSB-2-USB-A1 : 1 x HDMI & USB2.0 (Female) to USB-C (Male) Adapter, 2m (not IP67)

Factory Options:

- Projected Capacitive Touch Screen (Multitouch)
- Optical Bonding Technology
- Color Calibrated models (ECDIS)
- Keypad only or Keypad+Potmeter+Buzzer controls
- Expansion board

APPROVALS & CERTIFICATES

These products have been tested / type approved by the following classification societies (* = Pending):

IEC 60945 4th (EN 60945:2002)*

IACS E10*

EU RO MR - Mutual Recognition by DNV*

ClassNK - Nippon Kaiji Kyokai*

CCS - China Classification Society*

BV - Bureau Veritas*

KR - Korean Register of Shipping*

ABS - American Bureau of Shipping*

LRS - Lloyd's Register of Shipping*