# DATA SHEET

# **HATTELAND**<sup>™</sup>

Manufacturer: Jakob Hatteland Display AS

Product: 10.4 inch Maritime Multi Display (MMD)

Type: **JH 10T06 MMD** 

Last Revised: 03 Mar 2006

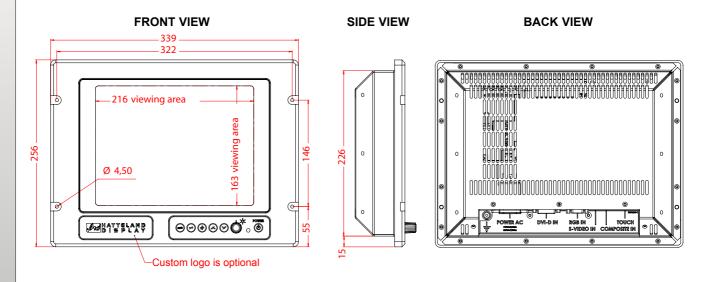
Revision#: 12

# IO.4 inch Maritime Multi Display (MMD)

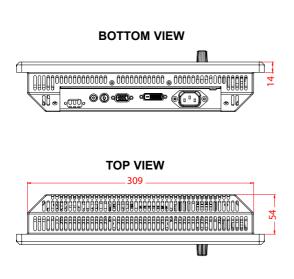
#### **Features:**

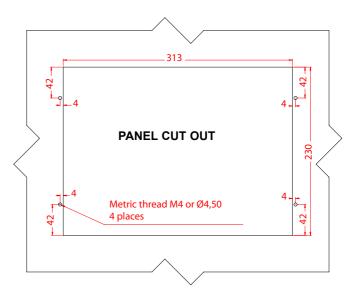
The color display described in this Data Sheet is an industrialized version of a high quality Sharp TFT based display. The MMD allows you to display professional applications with clarity and enhanced color and image quality. The MMD have DVI-D Input, RGB Input, Video Input (Composite/SVHS) and PiP (Picture in Picture) functions.

The controller and the high light intensity in combination with the high contrast and wide backlight adjustment control, allow the product to be used in many environments. Brightness is adjustable from 0 to 100%



Due to dimensions without decimals, the tolerance on drawings is +/- 1mm (For accurate measurements, measure in AutoCAD)





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Note: All specifications are subject to change without prior notice!

# TECHNICAL DESCRIPTION

# TFT Technology:

- 10.4 inch viewable image size
- Active Matrix, Thin Film Transistor (TFT)
- RGB vertical stripe

#### **TFT Characteristics:**

• Pixel Number : 640 x 480

• Pixel Pitch (RGB) : 0.33 (H) x 0.33 (V) mm

• Response Time : 20 ms (typical), "black" to "white"

• Contrast Ratio : 300:1 (typical)

Light Intensity
Viewable Angle
350 cd/m2 (typical)
+/- 70 deg. (H), 40

Viewable Angle : +/- 70 deg. (H), 40 deg. (V)
 Active Display Area : 211.2 (H) x 158.4 (V) mm

• Max Colors : 262,144 colors (6-bit max)

#### **Synchronisation:**

## **Sync Signal:**

- Digital separate synchronisation
- Composite synchronisation
- Synchronisation on green.

• Video Signal : Analog RGB 0,7Vp-p

: Input Impedance 75 Ohm

## **Synchronisation Range:**

Horizontal
 31,5 kHz to 91,1 kHz
 Vertical
 60 Hz to 85 Hz

# **Supported Signal Inputs:**

### **Resolutions:**

• VGA : 640 x 480 (including 640 x 350)

## **Video Signals:**

- Interlaced NTSC and PAL/SECAM video
- Composite video
- S-Video
- \* Recommended for optimum picture quality

# **Power Specifications:**

## **Power Supply Options:**

115 & 230VAC - 50 / 60Hz
 24 VDC
 Model JH 10T06 MMD A1
 Model JH 10T06 MMD A2

## **Power Consumption:**

• Operating : 60 W (max)

# MECHANICAL DESCRIPTION

### **Physical Dimensions:**

- 339 (W), 256 (H), 54 (D) mm
- Weight: 3,5 kg (approx)

# **Input Signal Terminal:**

DVI-D (PC) signal : DVI-D Input 24pin Connector
RGB (PC) signal : 15pin mini D-SUB (female - Input)

Composite Video : RCA Phono plugS-Video (SVHS) plug

AC Power signal : Std IEC Inlet Model JH 10T06 MMD A1
 DC Power signal : Screw terminal Model JH 10T06 MMD A2

**Accessories:** 

• Touchscreen : 1 x D-SUB 9P Connector (female)

#### **User Controls:**

#### On front bezel:

- Power On/Off (push button)
- Brightness Control
- Mode Status LED
- On Screen Display control (OSD/OSM)

### **Environmental Considerations:**

• Operating : Temperature -15 deg. C to +55 deg. C Humidity 30% to 90% (non condensing)

Tomporature 20 dog C to 160 dog C

• Storage : Temperature -20 deg. C to +60 deg. C

Humidity 10% to 90% (non condensing)

# Safety 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 Options:**

• JH 10TBR = Bracket \*

• JH XXTRO STD = Bracket \*

• JH 10TSV = Sun Visor \*

• Touch Screen = Factory mounted

\*Option: Standard or custom logo and color

\*Option: See separate datasheet for specifications on bracket options.

Compass Safe Distance: JH 10T06 MMD Standard: 100cm Steering: 70cm

# APPROVALS & CERTIFICATES

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

**EN60945 3rd** (IEC945 3rd)

**EN60529** (IP66) (Applies only for flush mounting)

**DNV** - Det Norske Veritas

**GL** - Germanischer Lloyd

BV - Bureau Veritas

ClassNK - Nippon Kaiji Kyokai

ABS - American Bureau of Shipping