

# MD-124 / MD-119 Series

24 inch and 19 inch type-approved ECDIS display



- > 24" full HD LCD display
- > 19" VIS, 5:4 aspect ratio, 1280 x 1024 resolution
- > LED backlighting
- > Optical bonding (MD-124Y model and MD-119)
- > Touchscreen models available
- > ECDIS color calibration available by request
- > Supports Picture-in-a-Picture (PIP) and Picture-by-a-Picture (PBP)
- > Multi-power input (24 VDC, 110 to 230 VAC)
- > IP66 rated front panel



## Overview

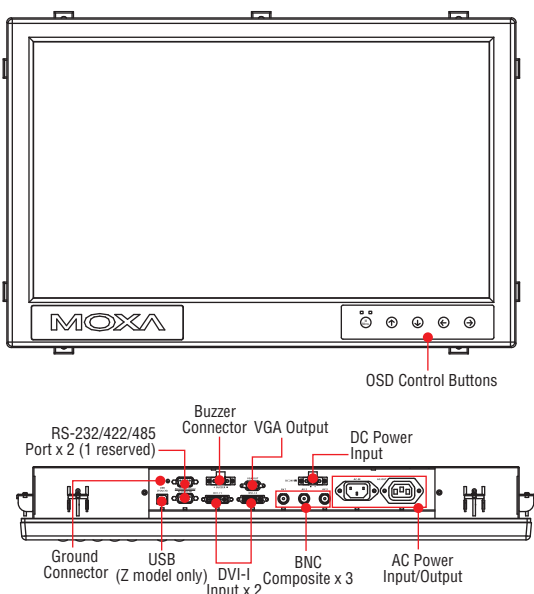
MD-124 / MD-119 marine displays are designed to meet the demanding performance and durability requirements of industrial-grade maritime service. The MD-119 has a 19 inch screen in a 5:4 aspect ratio, with 1280 x 1024 pixel resolution, PIP (Picture-in-a-Picture) and PBP (Picture-by-a-Picture). The MD-124 has a 24 inch screen in a 16:9 aspect ratio, a maximum resolution of 1920 x 1080, and also supports PIP and PBP. With full range dimming, wide viewing angles, both AC and DC power inputs, and optional touch screens or

optical bonding, MD-124 / MD-119 marine displays are ideal not only for use in ECDIS stations, but for a variety of other applications, as well, whether outdoors or on the bridge.

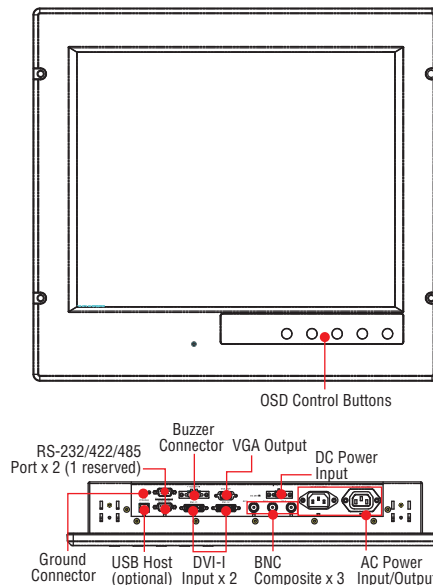
MD-124/MD-119 displays are compliant with a variety of industrial marine standards, including IEC 60945, IEC 61174, DNV, and IACS-E10, amply demonstrating their suitability for on-board marine uses.

## Appearance

### MD-124

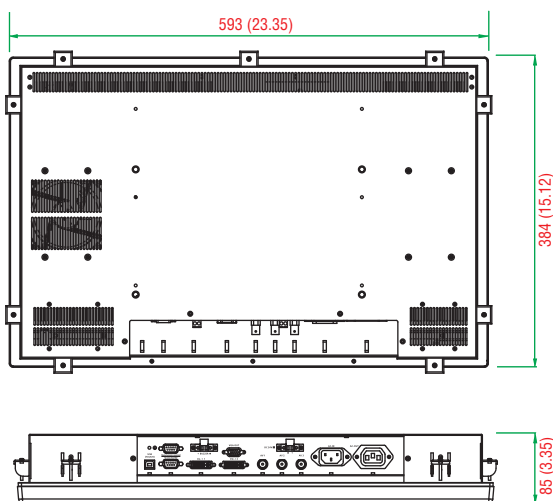


### MD-119

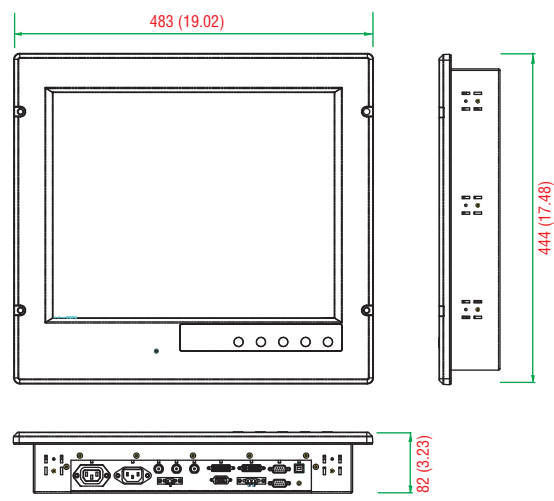


Dimensions

MD-124



MD-119



Unit: mm (inch)

Specifications

Display

Panel Size:

MD-124: 24" viewable image size

MD-119: 19" viewable image size

Panel Type: MVA

Aspect Ratio:

MD-124: 16:9

MD-119: 5:4

Pixels:

MD-124: 1920 x 1080

MD-119: 1280 x 1024 (WSXGA+)

Pixel Pitch (RGB):

MD-124: 0.282 (H) x 0.282 (V) mm

MD-119: 0.294 (H) x 0.294 (V) mm

Response Time:

MD-124: 8 ms (gray to gray)

MD-119: 5 ms (gray to gray)

Contrast Ratio:

MD-124: 5000:1

MD-119: 1000:1

Light Intensity:

MD-124: 300 cd/m<sup>2</sup>

MD-119: 350 cd/m<sup>2</sup>

Viewing Angles:

MD-124: 178° x 178° (right-left/up-down)

MD-119: 85° x 80° (right-left/up-down)

Active Display Area:

MD-124: 531.36 (H) x 298.89 (V) mm

MD-119: 376.32 (H) x 301.06 (V) mm / 14.81 (H) x 11.85 (V) in

Max Colors: 8-bit color / 16.7M

Display Interface: VGA x 1, DVI-I x 2, BNC composite x 3

Resolution:

- VGA: 640 x 480
- SVGA: 800 x 600
- XGA: 1024 x 768
- SXGA: 1280 x 1024
- WSXGA+: 1920 x 1080 (optimal setting) (MD-124 only)

Serial Interface

Serial Standards: 1 software-selectable RS-232/422/485 port, male DB9

Serial Signals

RS-232: TxD, RxD, DTR, DSR, CTS, DCD, GND (RTS for MD-124)

RS-422: TxD+, TxD-, RxD+, RxD-, GND

RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND

RS-485-2w: Data+, Data-, GND

Front Panel

Panel Control Buttons:

MD-124: 1 Power, 4 OSD control

MD-119: 1 Power, 5 OSD control

LEDs: Status, Power

Physical Characteristics

Housing: Aluminum sheet metal

Weight:

MD-124: 12 kg

MD-119: 9.7 kg

Dimensions:

MD-124: 85 x 593 x 384 mm (3.35 x 23.45 x 15.12 in)

MD-119: 82 x 483 x 444 mm (3.23 x 19.02 x 17.48 in)

Mounting: Console mounting

Environmental Limits

Operating Temperature: -15 to 55°C (5 to 131°F)

Storage Temperature: -20 to 60°C (-4 to 140°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Anti-Vibration:

- IEC 60945
- DNV 2.4, Class A/Class C

Power Requirements

Input Voltage:

- 24 VDC (with tolerance from 18 to 36 VDC, 2-pin terminal block)
- 110 to 230 VAC, 50/60 Hz

Power Consumption: 75 W (standard) to 90 W (full-loading)

- 6.21 A @ 18 VDC
- 4.55 A @ 24 VDC
- 2.95 A @ 36 VDC

### Standards and Certifications

**Safety:** UL/cUL, CCC (Pending)

**EMC:** EN 55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class A

**Marine:** IEC 60945 4th. (Pending), DNV (Pending), IACS-E10 (Pending), IEC 61174

**Green Product:** RoHS, cRoHS, WEEE

### Warranty

**Warranty Period:** 1 year

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

We recommend taking the following precautions to minimize heat build-up within the display:

- Position the display within  $\pm 40^\circ$  of the vertical.
- Install an external fan to increase airflow upwards through the display if (a) the display is not positioned within  $\pm 40^\circ$  of the vertical, (b) the ambient temperature exceeds  $25^\circ\text{C}$ , or (c) the display is used in a location with minimal ventilation.

### Important Safety Precaution:

Even though the display is rated to operate within the IEC 60945 standard of  $-15$  to  $55^\circ\text{C}$ , it is best to ensure that the ambient temperature does not exceed  $25^\circ\text{C}$ . Doing so will increase the life of your display and minimize service costs.

## Ordering Information

### Available Models

**MD-124X:** 24-inch tape bonded marine display with 16:9 aspect ratio, full HD (1920 x 1080), LED backlighting, multi-power supply (AC/DC)

**MD-124Y:** 24-inch optically bonded marine display with 16:9 aspect ratio, full HD (1920 x 1080), LED backlighting, multi-power supply (AC/DC)

**MD-124Z:** 24-inch marine touch-screen display with 16:9 aspect ratio, full HD (1920 x 1080), LED backlighting, multi-power supply (AC/DC)

**MD-119-X1:** 19-inch type approved ECDIS marine display with 5:4 aspect ratio, 1280 x 1024 resolution, LED backlighting, tape bonding, and dual AC/DC power supplies

### Package Checklist

- MD-124/MD-119 panel
- Rubber waterproofing gasket
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card