

MD-119/124 Series

19 inch and 24 inch type-approved ECDIS displays



- > 19/24-inch marine display
- > LED backlighting
- > Full range dimming
- > Dual power supplies (AC and DC)
- > Picture-in-Picture (PIP) and Picture-by-Picture (PBP)
- > ECDIS color calibration (by request)
- > IP66 (front) and IP22 (rear) ratings



Overview

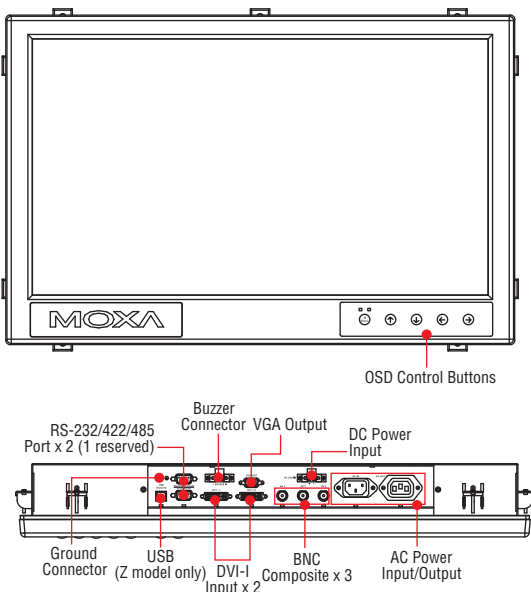
MD-119 and MD-124 marine displays are designed to meet the demanding performance and durability requirements of industrial-grade maritime service. The MD-119 has a 19 inch screen in a 5:4 aspect ratio, with 1280 x 1024 pixel resolution, PIP (Picture-in-a-Picture) and PBP (Picture-by-a-Picture). The MD-124 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-119 / MD-124 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.

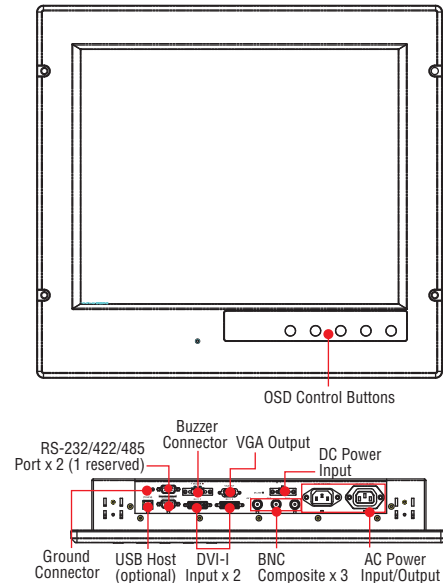
MD-124/MD-119 displays are compliant with a variety of industrial marine standards, including IEC 60945, IEC 61174, DNV, and IACS-E10, amply demonstrating their suitability for on-board marine uses.

Appearance

MD-124

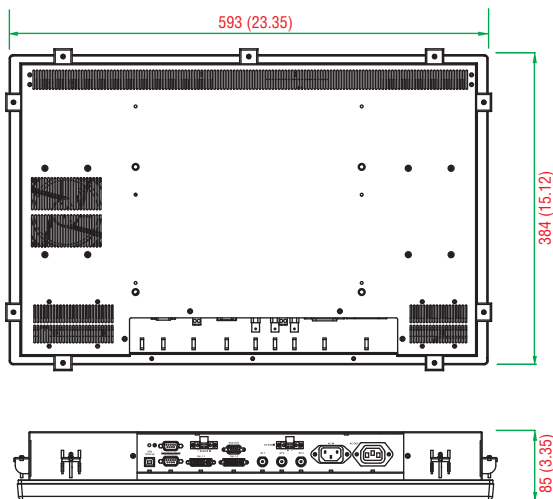


MD-119

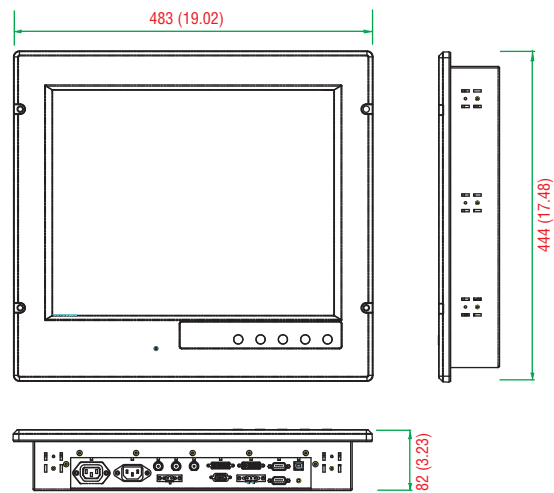


Dimensions

MD-124



MD-119



Unit: mm (inch)

Specifications

Display

Panel Size:

MD-124: 24-inch viewable image size
MD-119: 19-inch 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/m
MD-119: 350 cd/m/m

Viewing Angles:

MD-124: 178° x 178° (right-left/up-down)
MD-119: 178° x 178° (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. No. of Colors: 16.7M (8-bit)

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: Power x 1, OSD controls x 4

LEDs: Status, Power

Physical Characteristics

Housing: Aluminum sheet metal

Weight:

MD-124: 12 kg (26.67 lb)
MD-119: 9.7 kg (21.56 lb)

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:

- 0.7 g @ DNV 2.4 (Class A), sine wave, 2-100 Hz, 1 Oct./min., 1.5 hr per axis
- 1 g @ DNV 2.4, random wave, 3-100 Hz, 2.5 hr per axis
- 2.1 g @ DNV 2.4 (Class C), sine wave, 2-50 Hz, 1 Oct./min., 1.5 hr

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:

MD-119: 60 W max.
MD-124: 90 W max.

Standards and Certifications

Safety: UL 60950-1, CCC

EMC: EN 55022/24, CISPR 22, FCC Part 15B Class A

Marine: CCS

Green Product: RoHS, cRoHS, WEEE

Warranty

Warranty Period: 1 year

Details: See 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°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°C , it is best to ensure that the ambient temperature does not exceed 25°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, multipower supply (AC/DC)

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

MD-124Z: 24-inch marine touch-screen display with 16:9 aspect ratio, full HD (1920 x 1080), LED backlighting, multipower 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-119/MD-124 panel
- Rubber waterproofing gasket
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card