

# MD-219 Series

**19-inch type approved ECDIS marine display: 5:4 aspect ratio, 1280 x 1024 resolution**



- > 19-inch display, 5:4 aspect ratio
- > High quality LCD with LED backlight
- > Color calibrated for ECDIS compliance
- > Full range dimming, 0 to 100%
- > SavvyTouch™ display controls
- > Built-in RS-232/422/485 interfaces
- > Dual power supplies (AC & DC)
- > IP54 (front) / IP22 (rear) rated



## Introduction

The MD-219 series of marine displays comes with full range dimming, wide viewing angles, and optional optical bonding. These displays are built with a small-profile modular design that allows easier integration into industrial marine systems, reducing deployment costs and overall time-to-market.

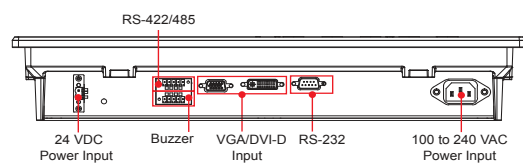
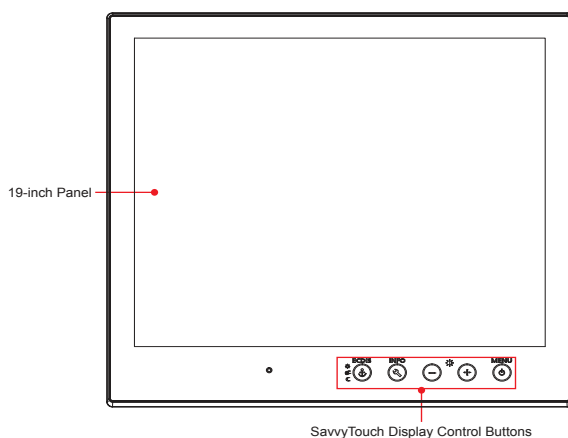
The innovative and user-friendly SavvyTouch display controls offer several unique features not found on any other marine display console: a proximity sensor for convenient adjustments in dark conditions, an info button for immediate updates on power status, and a quick-switch

to adjust between day, dusk, and night-time ECDIS modes (for color-calibrated ECDIS models only).

The MD-219 series displays are compliant with IEC 60945, DNV, and IACS E10, verifying their resilience and durability in maritime conditions. Their IP54 rated enclosure provides additional protection against dust and moisture above and beyond the limits established by these international standards bodies.

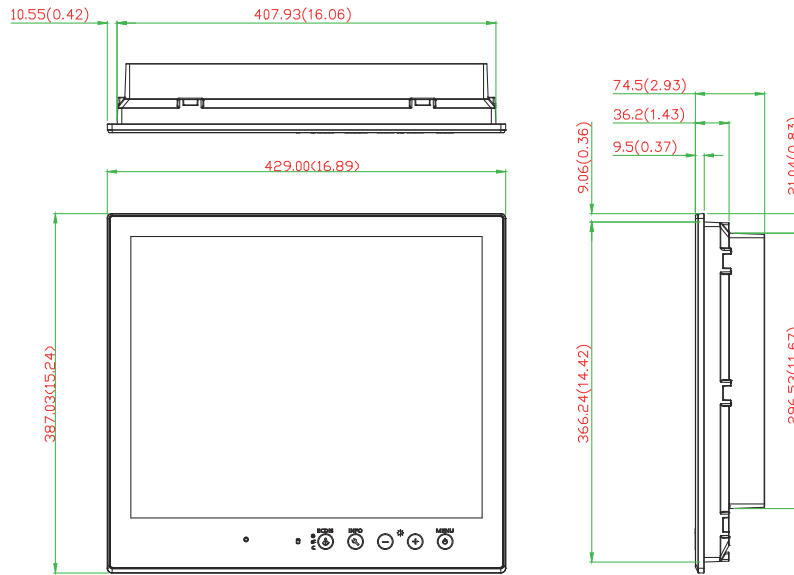
ECDIS-approved models are also available, offering an excellent HMI solution for ECDIS charting and navigation stations.

## Appearance



## Dimensions

Unit: mm (inch)



## Specifications

### Display

- Panel Size:** 19" viewable image size
- Panel Type:** MVA
- Aspect Ratio:** 5:4
- Pixels:** 1280 x 1024 (SXGA)
- Response Time:** 20 ms (gray to gray)
- Contrast Ratio:** 2000:1
- Light Intensity:** 300 cd/m<sup>2</sup>
- Viewing Angles:** 178°/178°
- Active Display Area:** 376.32 (H) x 301.06 (V) mm
- Max Colors:** 16.7M / 8-bit color
- Display Interface:** VGA input x 1, DVI-D input x 1
- Resolution:**
  - VGA: 640 x 480
  - SVGA: 800 x 600
  - XGA: 1024 x 768
  - SXGA: 1280 x 1024

### Serial Interface

**Serial Standards:** 1 RS-232 port (DB9), 1 RS-422/485 port (terminal block)

**Optical Isolation Protection:** 4 kV

### Serial Signals

- RS-232:** TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
- RS-422:** TxD+, TxD-, RxD+, RxD-, GND
- RS-485-2w:** Data+, Data-, GND

### Front Panel

**LEDs:** MENU, brightness, INFO, ECDIS, Day/Dusk/Night  
**Smart OSD:** Yes

### Physical Characteristics

- Housing:** Aluminum sheet metal
- Weight:** 7.8 kg
- Dimensions:** 429 x 387 x 75 mm (16.89 x 15.24 x 2.95 in)
- Mounting:** VESA, panel, and desktop (temporary)

### 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)

### IP Rating:

- Front: IP54
- Rear: IP22

### Anti-Vibration:

- 0.7 g @ DNV 2.4 (Class A), sine wave, 2-100 Hz, 1 Oct./min., 1.5 hr per axis
- 1 Grms @ 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 per axis

### Power Requirements

#### Input Voltage:

- DC: 24 VDC (with tolerance from 18 to 30 VDC, 2-pin terminal block)
- AC: 100 to 240 VAC

**Power Consumption:** 40 W (max.)

### Standards and Certifications

**Safety:** UL 60950-1, CCC

**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 Standards:** IEC-60945 4th, IEC-61162, IEC-61174

**Marine Type Approval:** DNV 2.4 and IACS E10, ABS

**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-219X:** 19-inch, 5:4 aspect ratio display (1280x1024), LED backlight, DVI-D/VGA, RS-232 and RS-422/485 serial ports, AC/DC dual power, tape bonding

**MD-219Z:** 19-inch, 5:4 aspect ratio display (1280x1024), projected capacitive multi-touch, LED backlight, DVI-D/VGA, RS-232 and RS-422/485 serial ports, AC/DC dual power, tape bonding

### Optional Accessories (can be purchased separately, for AC power input)

**PWC-C13US-3B-183:** Power cord with 3-pin connector, USA plug

**PWC-C13EU-3B-183:** Power cord with 3-pin connector, Euro plug

**PWC-C13UK-3B-183:** Power cord with 3-pin connector, British plug

**PWC-C13AU-3B-183:** Power cord with 3-pin connector, Australian plug

**PWC-C13CN-3B-183:** Power cord with 3-pin connector, Chinese plug

### Optional Mounting/Bracket Kits (can be purchased separately)

**MPC-MD-2-19-PMTK:** Panel mounting kit

**MPC-MD-2-19-VESAMTK:** VESA mounting kit

**MPC-MD-2-19-DMTK w/o hinge:** Desktop mounting kit without hinge

**MPC-MD-2-19-DMTK w/ hinge:** Desktop mounting kit with hinge

### Package Checklist

- MD-219 display
- VGA cable
- DVI-D cable
- 2-pin terminal block x 1
- 5-pin terminal block x 2
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card