Marine Display

15”/19”/24”/26” Flat PCAP Touchscreen (R2AH)

r

ECDIS Series

Model No.:

R15L600-MRA3FP
R19L300-MRA1FP
W24L100-MRA1FP
W26L100-MRA1FP

User Manual

Version 1.0
Document Part Number: 91521110100X

Preface

Copyright Notice

Trademark Acknowledgement

Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W14Axxxxxxxx means October of year 2014.

Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.

NOTE:
A note is used to emphasize helpful information

IMPORTANT:
An important note indicates information that is important for you to know.

CAUTION/ ATTENTION
A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.
Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.

WARNING! / AVERTISSEMENT!
An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.
Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.

ALTERNATING CURRENT / MISE À LE TERRE!
The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.
Le symbole de Mise à Terre indique le risquépotential de choc électrique grave à la terre incorrecte.

Safety Information

WARNING! / AVERTISSEMENT!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Onlyexperiencedelectronics personnel should open the PC chassis.
Toujours débrancher le cordon d'alimentation du chassis lorsque vous travaillez sur celui-ci. Ne pas brancher de connections lorsque l'alimentation est présente. Des composantes électroniques sensibles peuvent être endommagées par des sauts d'alimentation. Seulement du personnel expérimentédevraitouvrirces chassis.

CAUTION/ATTENTION

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.
Toujours verifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques moderns sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.

Safety Precautions

For your safety, carefully read all the safety instructions before using the device and follow all warnings and cautions marked on the product. Keep this user manual for future reference.

- Always disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection and to protect the equipment from overheating.

CAUTION/ATTENTION
Do not cover the openings!
Ne pas couvrir les ouvertures!

- Before connecting the equipment to the power outlet make sure the voltage of the power source is correct.
- This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. (For AC version only).
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- All cautions and warnings on the equipment should be noted.

***Let service personnel to check the equipment in case any of the following problems appear:**

- The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- The equipment does not work well or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.

- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20°C (-4°F) or above 60°C (140°F). It may damage the equipment.

CAUTION/ATTENTION

Use the recommended mounting apparatus to avoid risk of injury.
Utiliser l'appareil de fixation recommandé pour éliminer le risque de blessure.

WARNING ! /AVERTISSEMENT!

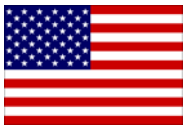
Only use the connection cords that come with the product. When in doubt, please contact the manufacturer.
Utiliser seulement les cordons d'alimentation fournis avec le produit. Si vousdoutez de leur provenance, contactez le manufacturier.

WARNING!/AVERTISSEMENT!

Always ground yourself against electrostatic damage to the device.
Toujours vérifier votre mise à la terre afin que l'équipement ne se décharge pas sur vous.

- Cover workstations with approved anti-static material. Use a wrist strap connected to a work surface and properly grounded tools and equipment.
- Use anti-static mats, heel straps, or air ionizer for added protection.
- Handle electrostatic-sensitive components, PCB's and assemblies by the case or the edge of the board.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Keep the work area free of non-conductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Use filed service tools, such as cutters, screwdrivers, and vacuum cleaners that are conductive.
- Always put drivers and PCB's component side on anti-static foam.

Important Information

Countries/ Area	Symbol	This equipment complies with essential requirements of:
 USA		FCC Part 15 Subpart B Regulations Class B
 European Union		Electromagnetic Compatibility Directive(2014/30/EU) Low Voltage Directive (2014/35/EU) Restrictions of the use of certain hazardous substances (RoHS) Directive (2011/65/EU)
Internationally	 Marine	IEC 60945 4th Edition

Federal Communications Commission Radio Frequency Interface Statement

This device complies with part 15 FCC rules.
Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "B" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.

European Union

This equipment is in conformity with the requirement of the following EU legislations and harmonized standards.Product also complies with the Council directions

Electromagnetic Compatibility Directive (2014/30/EU)

- EN55024: 2010 EN 55022: 2010 Class B
    - IEC61000-4-2: 2009
    - IEC61000-4-3: 2006+A1: 2007+A2: 2010
    - IEC61000-4-4: 2012
    - IEC61000-4-5: 2014
    - IEC61000-4-6: 2013
    - IEC61000-4-8: 2010
    - IEC61000-4-11: 2004
- EN55022: 2010/AC:2011
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)

- EN 60950-1:2006/A11:2009/A1:2010/A12:2011/ A2:2013

About This User Manual

This User Manual provides information about using the Winmate® ECDIS Marine Display.

The documentation set for the Winmate® ECDIS Marine Display provides information for specific user needs, and includes:

- **ECDIS Marine Display Quick Start Guide**- describes how to get the display up and running
- **ECDIS Marine Display User Manual** – contains detailed description on how to use the display, its components and features

NOTE:

Some pictures in this guide are samples and can differ from actual product.

Model Number Naming Rule

R19LXXX-MRXXFP

Item	Description
R	Panel Type
19	Panel Size
LXXX	Product Size
MR	Mechanical Type
XX	Panel Model
FP	Touch Type

Revision History

Version	Date	Note	Author
1.0	22-Sep-2016	Initial document release	Austin Chang

Contents

Preface ..... **ii**

About This User Manual ..... **x**

1 Introduction **1**

1.1 Product Features 1

1.2Packing List 2

1.3Appearance and Layout 3

1.3.1Appearance and Layout 15” 3

1.3.2 Appearance and Layout 19” 4

1.3.3 Appearance and Layout 24” and 26” 5

1.4 OSD Control Keys 6

1.5 ECDIS Mode Indicators 7

1.6Dimensions 8

1.6.1 Dimensions 15” 8

1.6.2 Dimensions 19” 9

1.6.3 Dimensions 24” 10

1.6.4 Dimensions 26” 11

2 Mounting Solutions **13**

2.1 Cable Mounting Considerations 13

2.2 Safety Precautions 13

2.3Mounting Guide 15

2.3.2Panel/ Flush Mount 15

2.3.4VESA Mount 16

3Getting Started **19**

3.1 Powering On 19

3.1.1 AC Adapter Components 19

3.1.2 Connecting the Power 20

3.2Connecting Data Transmission Cables 22

3.2.1 DC InputConnector 22

3.2.2 RS-232Connector (For Remote Control) 22

3.2.3 USB 2.0 Connector (For Touch) 22

3.2.4 DVI Connector 22
3.2.5 HDMI 1.4 Connector 23
3.2.6 VGA Connector 24
3.3 Turning On and Off 25
3.3.1 Turning On 25
3.3.2 Turning Off the Screen 25
4On-Screen Display (OSD) Control 27
4.1 OSD Control Key and LED Indicators 27
4.2 OSD Menu Navigation 27
4.3 OSD Menu description 28
4.4 ECDIS Mode Brightness Adjustment 31
4.3.1 Introduction 31
4.3.2 Switching to DAY Mode 32
4.3.3 Switchingto DUSK Mode 32
4.3.4 Switching to NIGHT Mode 32
5Maintenance 34
5.1 Cleaning the Display Screen 34
5.2 Cleaning the Casing 34
6 Technical Support 36
6.1 Troubleshooting 36
6.2 Problem Report Form 37
6.3 Technical Support 38
6.3.1 Winmate Download Center 38
6.3.2 Winmate File Share 38
Appendix A Technical Specifications 40
A1 DisplayTechnical Specifications 40
Appendix B PCAP Touchscreen 43
B1 Technology Overview 43
B2 Touchscreen Technical Specifications 43
Appendix CAvailable Input Signals 45

Introduction

This chapter gives you product overview, describes features and hardware specification. You will find all accessories that come with your device in the packing list. Mechanical dimensions and drawings included in this chapter.

1 Introduction

Congratulations on purchasing Winmate® ECDIS Marine Series Display. The design meets the requirements of industrial marine standards, including IEC60945 4th Edition, DNV2.4, IACS E10.

Modern marine sector requires durable devices that can withstand long periods submersed in water. Winmate® ECDIS Marine Series Display is suitable for navigation, ship automation, and surveillance, rugged industrial and light military applications.

Flat easy-to-clean surface delivers aesthetically pleasing look. Due to dimmable backlight the Display suitable for high and low ambient light conditions. You can mount the Display on the bridge of a ship. The Display features user-friendly and resistant to scratches PCAP touch-screen. All models sealed with front IP 66 dust and water proof.

1.1 Product Features

Winmate® ECDIS Series Marine Display offers the following features:

- Hyper Dimming
- Anti-corrosion IP66 Proof
- Projective capacitive multi-touch screen
- Edge-to-edge narrow bezel design
- Color calibrated for ECDIS compliance
- Capacitive touch keys for quick function access and display control (Support ECDIS DAY, DUSK, and NIGHT mode switching)
- Support capacitive touch key lock / touchscreen lock function
- Compliant with marine standards (DNV2.4, IEC 60945 4th, IACS-E10)

Type Approved Product

ECDIS

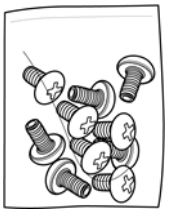
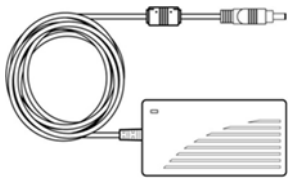
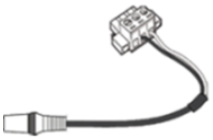
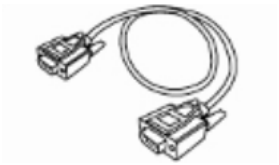
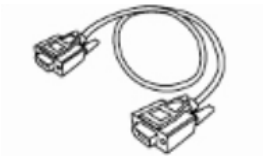
Approved Marine Display

Winmate's Marine product line designed to follow IEC-60945 Maritime Navigation and Radio-communication Equipment and Systems requirements. Marine Display series line varies in screen size from 19 inches to 26 inches. By testing for usability in a ship's wheelhouse during different ambient light conditions we developed products that meet demands in maritime applications especially for navigation, ship automation and maritime surveillance.

1.2Packing List

Carefully remove the box and unpack yourdevice. Please checkif all the items listed below are inside your package.If any of these items are missing or damaged contact us immediately.

Standard factory shipment list:

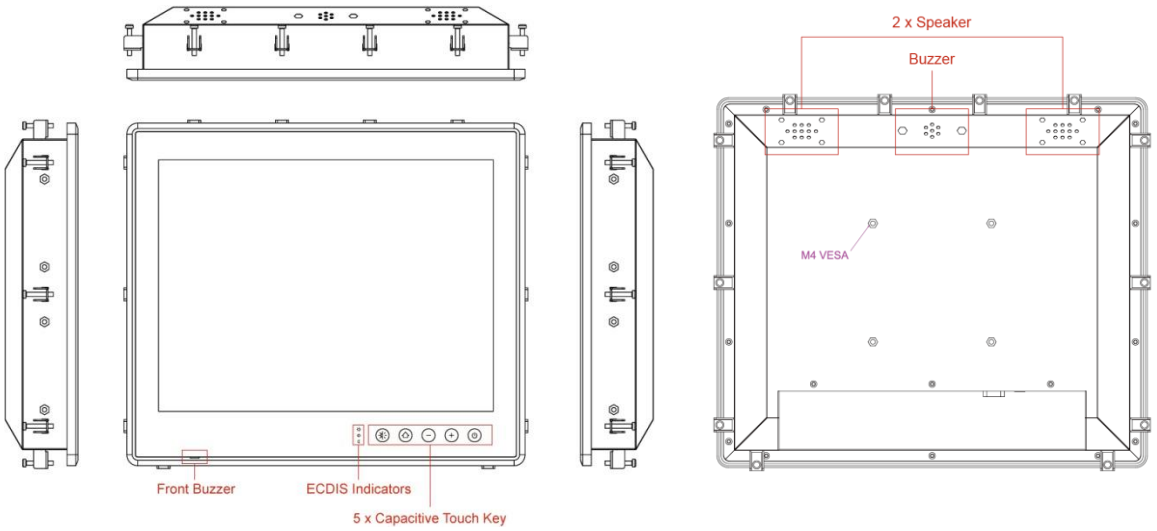
			
Display	**User Manual**	**Quick Start Guide (Hardcopy)**	****M4 x 12 black screw bolts**
			
AC Adapter (Input 100-240V AC Output: 12V/ 80W)	**Power Cord**	**3pin Terminal Block**	**1 x HDMI Cable (HDMI 19pin Male to 19pin Male)**
			
1 x VGA Cable (D-SUB 15pin Male to 15pin Male)	**1 x RS232 Cable (D-SUB 9pin Male to 9pin Female)**	**1 x DVI Cable (DVI-D 24pin Male to 24pin Male)**	

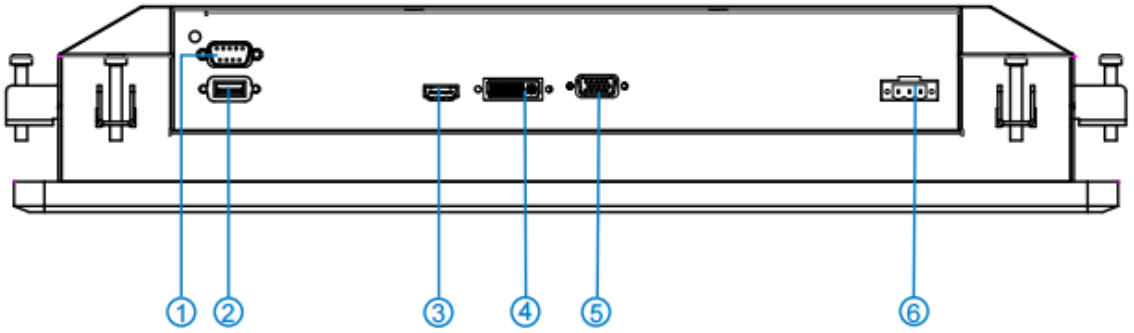
**AC adapter, 3-pin terminal block, and power cord shipped with Display for testing purposes only.*
***Notice: Screw bolts provided by Winmate only to be used to screw the display onto a console from the rear side. If you prefer your own bolts, please make sure to use M4 and 30mm in length.*

1.3Appearance and Layout

This section contains appearance of the Display and I/O layout.

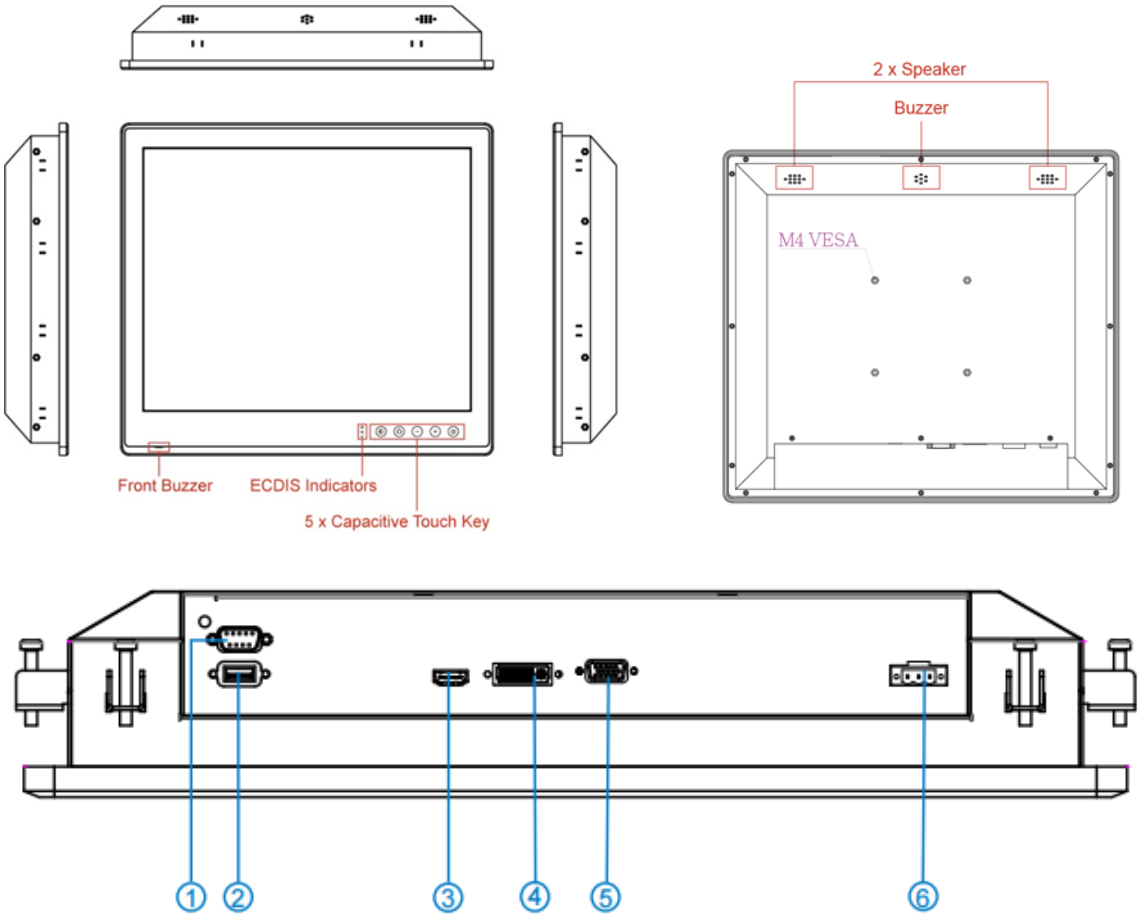
1.3.1Appearance and Layout 15”





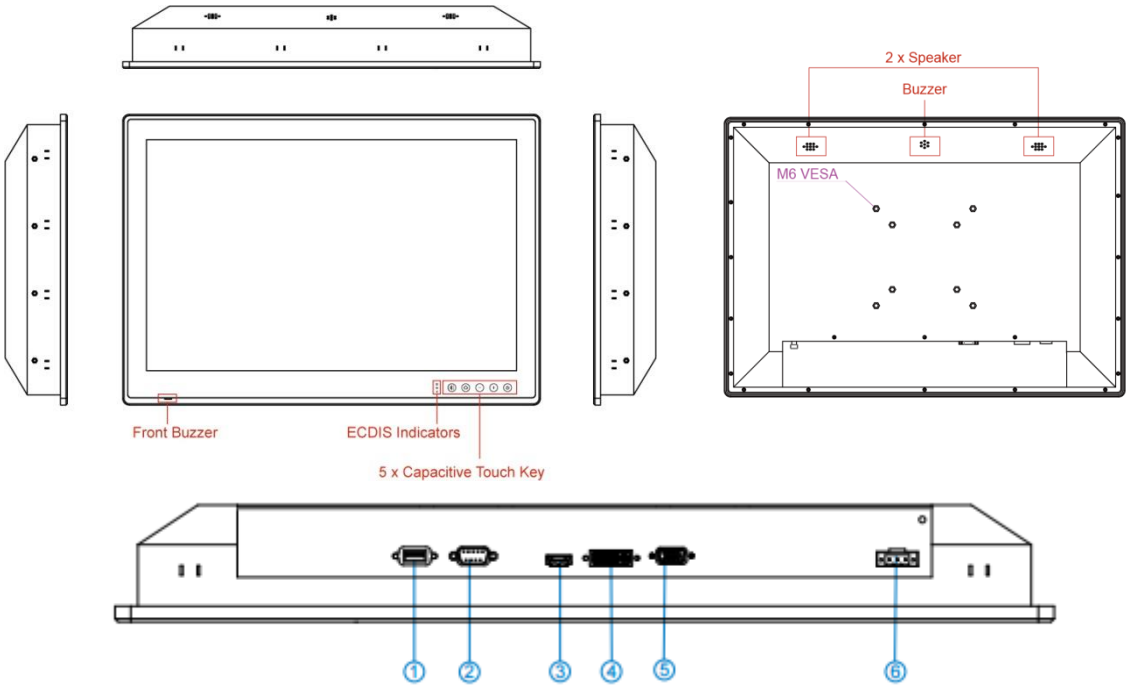
No	Description	No	Description
①	RS232 (Remote control)	④	DVI-D
②	USB (for Touch)	⑤	VGA
③	HDMI 1.4	⑥	DC Input

1.3.2 Appearance and Layout 19”



No	Description	No	Description
①	RS232 (Remote control)	④	DVI-D
②	USB (for Touch)	⑤	VGA
③	HDMI 1.4	⑥	DC Input

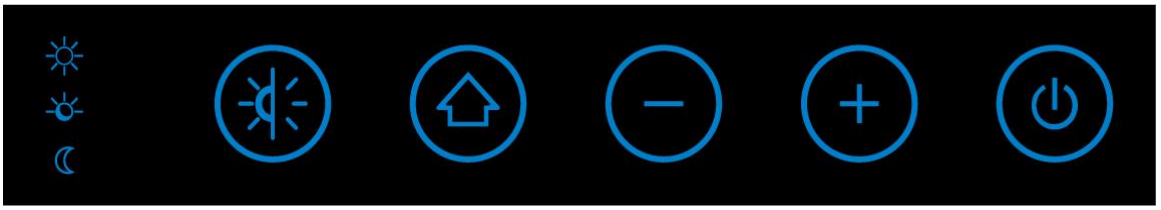
1.3.3 Appearance and Layout 24” and 26”



No	Description	No	Description
①	USB (for Touch)	④	DVI-D
②	RS232 (Remote control)	⑤	VGA
③	HDMI 1.4	⑥	DC Input

1.4 OSD Control Keys

Capacitive touch keys and ECDIS mode indicators located on the front of your Display.



Capacitive Touch Keys		
Touch Key	**Function**	**Description**
	Power	Power on/off control
	Brightness	To increase brightness of panel
	Brightness	To decrease brightness of panel
	OSD/ Enter	Opens OSD Menu or performs Enter button function
	ECDIS Key/ ESC	Switching ECDIS standard range mode (Day / Dust / Night mode) or performs ESC button function

1.5 ECDIS Mode Indicators

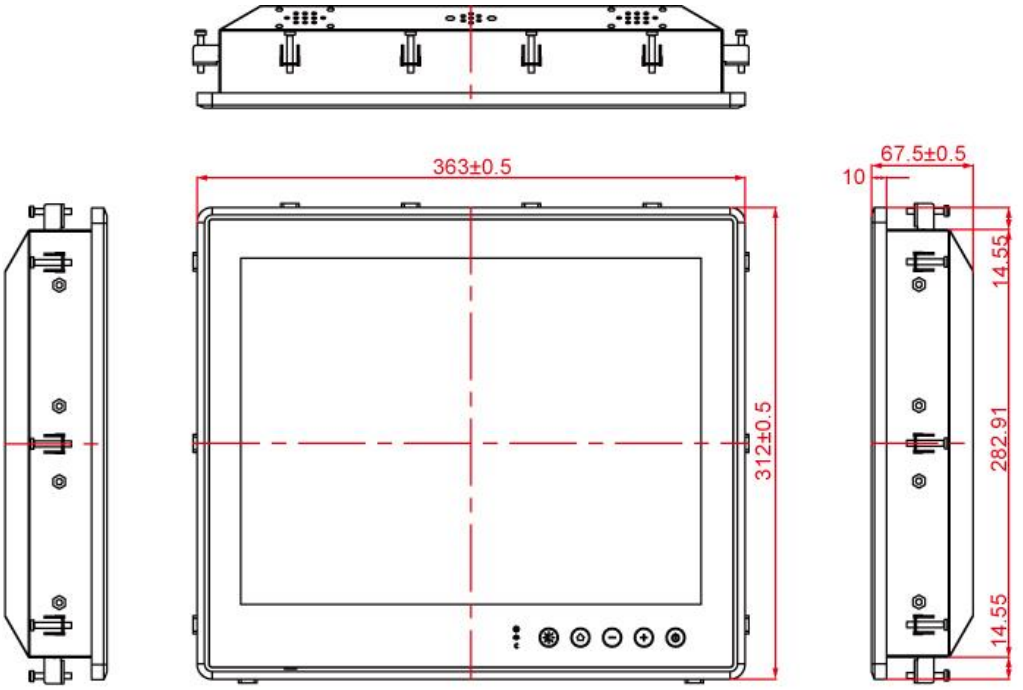
ECDIS mode indicators notify users which mode is activated according to ECDIS standard.

ECDIS Mode Indicators		
Icon	**Function**	**Description**
	Day Mode	Lights up when ECDIS brightness adjusted to day mode
	Dusk Mode	Lights up when ECDIS brightness adjusted to dusk mode
	Night Mode	Lights up when ECDIS brightness adjusted to night mode

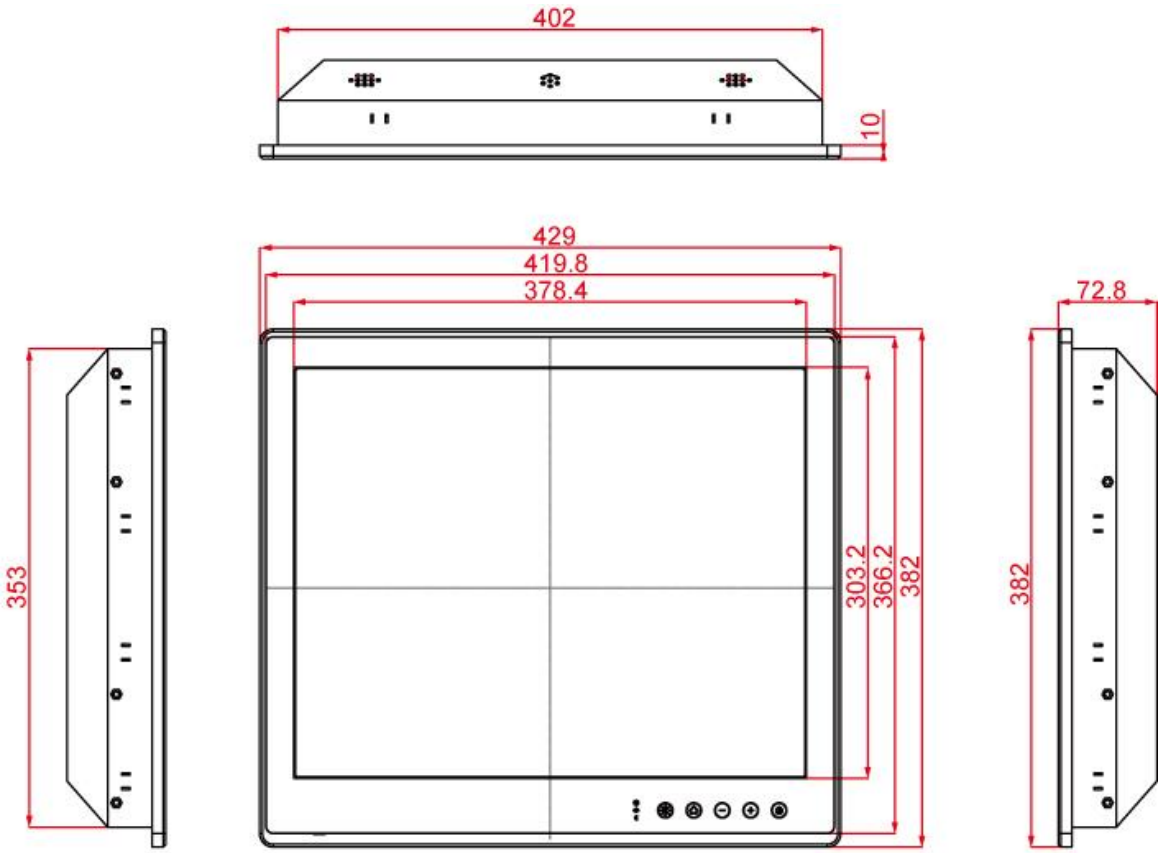
1.6Dimensions

This section contains mechanical dimensions of ECDIS Marine Display.

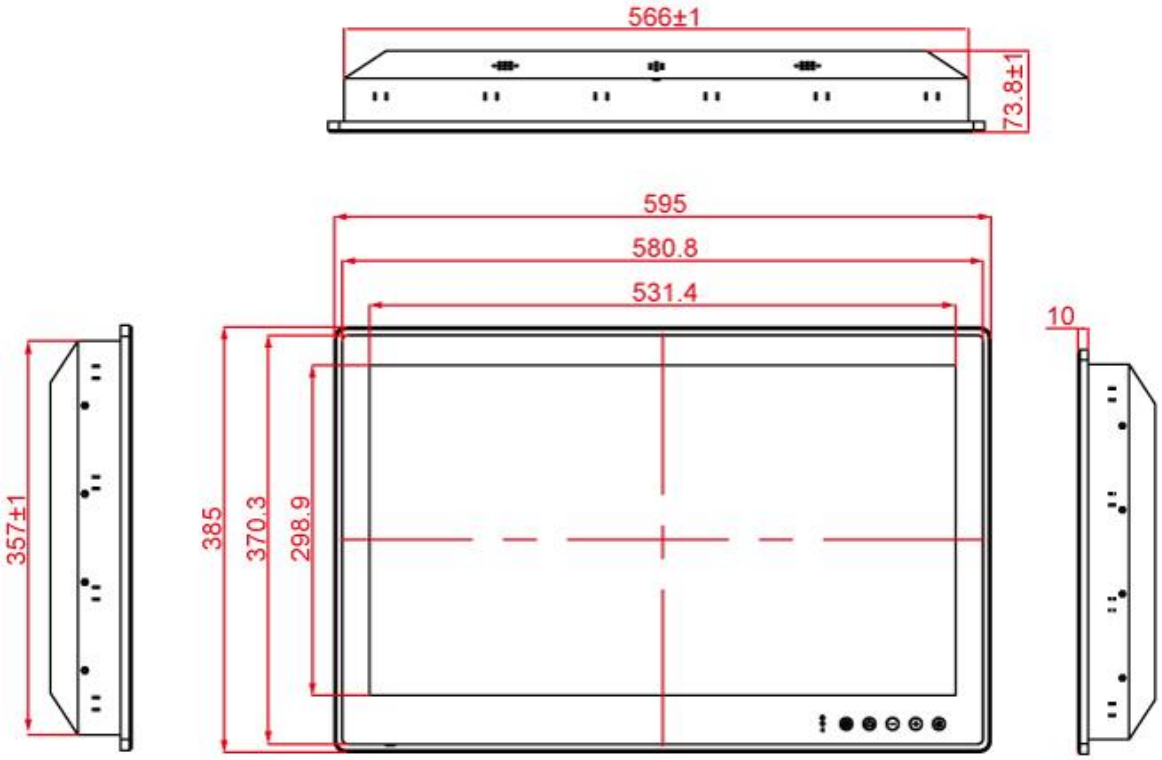
1.6.1 Dimensions 15”



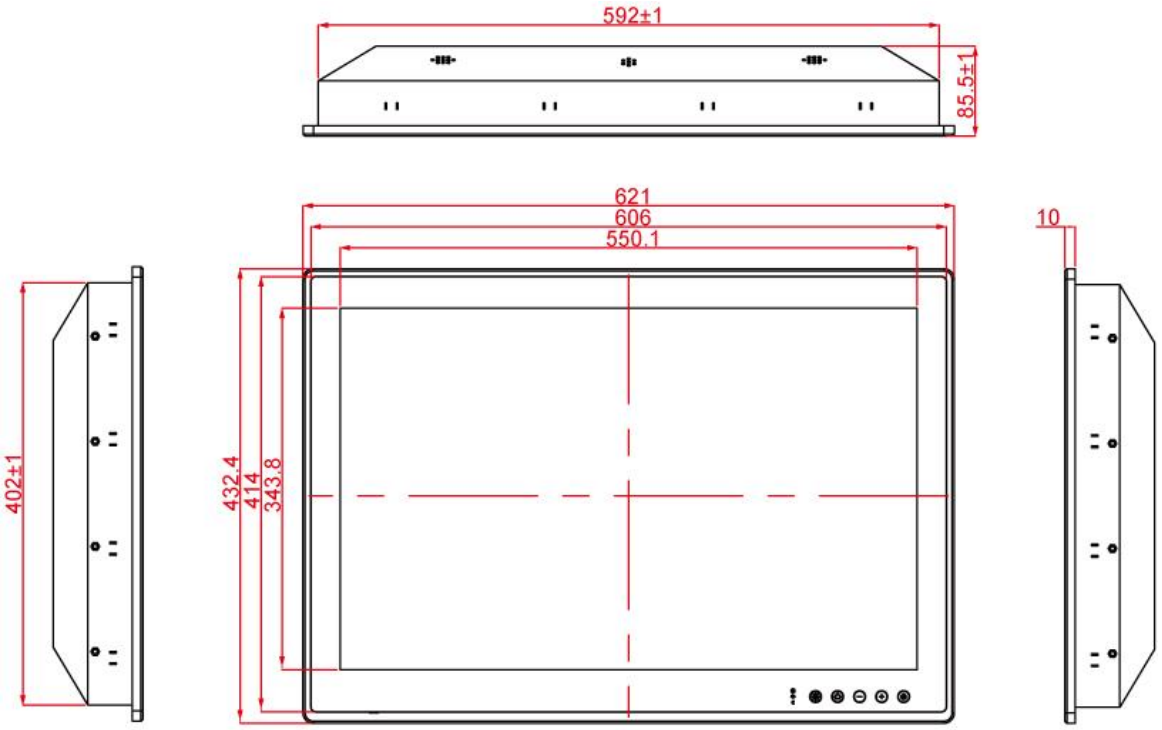
1.6.2 Dimensions 19”



1.6.3 Dimensions 24”



1.6.4 Dimensions 26”



Mounting Solutions

This chapter provides step-by-step mounting guide for all available mounting options.

2 Mounting Solutions

This chapter provides mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages.

2.1 Cable Mounting Considerations

For a nice look and safe installation, make sure cables are neatly hidden behind the device.

CAUTION/ ATTENTION
Observe all local installation requirements for connection cable type and protection level.

Suivre tous les règlements locaux d'installations, de câblage et niveaux de protection.

CAUTION/ ATTENTION
Turn off the device and disconnect other peripherals before installation.

Éteindre l'appareil et débrancher tous les périphériques avant l'installation.

ALTERNATING CURRENT / MISE À LE TERRE!
To prevent electrical shock, the Safety Ground location on the rear must be bonded to the local earth ground through a minimum 12 AWG wire as short as possible.

Pour éviter les chocs électriques, l'emplacement de la prise terre àl'arrière doit être lié à terre locale, à travers un 12 AWG minimum et aussi court que possible.

2.2 Safety Precautions

Observe the following common safety precautions before installing any electronic device:

- Use separate, non-intersecting paths to route power and networkingwires. If power wiring and device wiring paths must be crossed make sure the wiresare perpendicular at the intersection point.
- Keep the wires separated according to the interface. Wires that share similar electrical characteristics must be bundled together.
- Do not bundle input wiring with output wiring. Keep them separate.
- When necessary, it is strongly advised that you label wiring to all devices in thesystem.

ATTENTION


CORRECT Handling !!
WRONG Handling !!
Place the product on clean and smooth table
Do not stress the corners, nor place it on a dirty table

2.3Mounting Guide

The Marine Display can be applied for several different installation methods, including panel (flush) mounting, bracket mounting, VESA mounting. For a use in a ship's wheelhouse the main mounting approach is panel (flush mount)–veryuser-friendly in terms of installation.Refer to sub-sections below for more details.

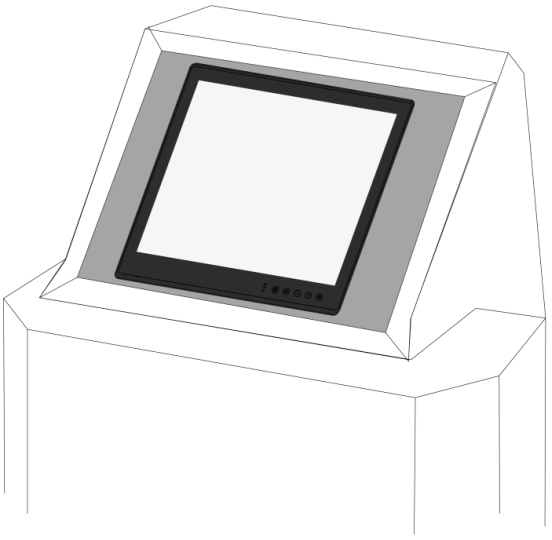
CAUTION/ ATTENTION

Follow mounting instructions and use recommended mounting hardware to avoid the risk of injury.

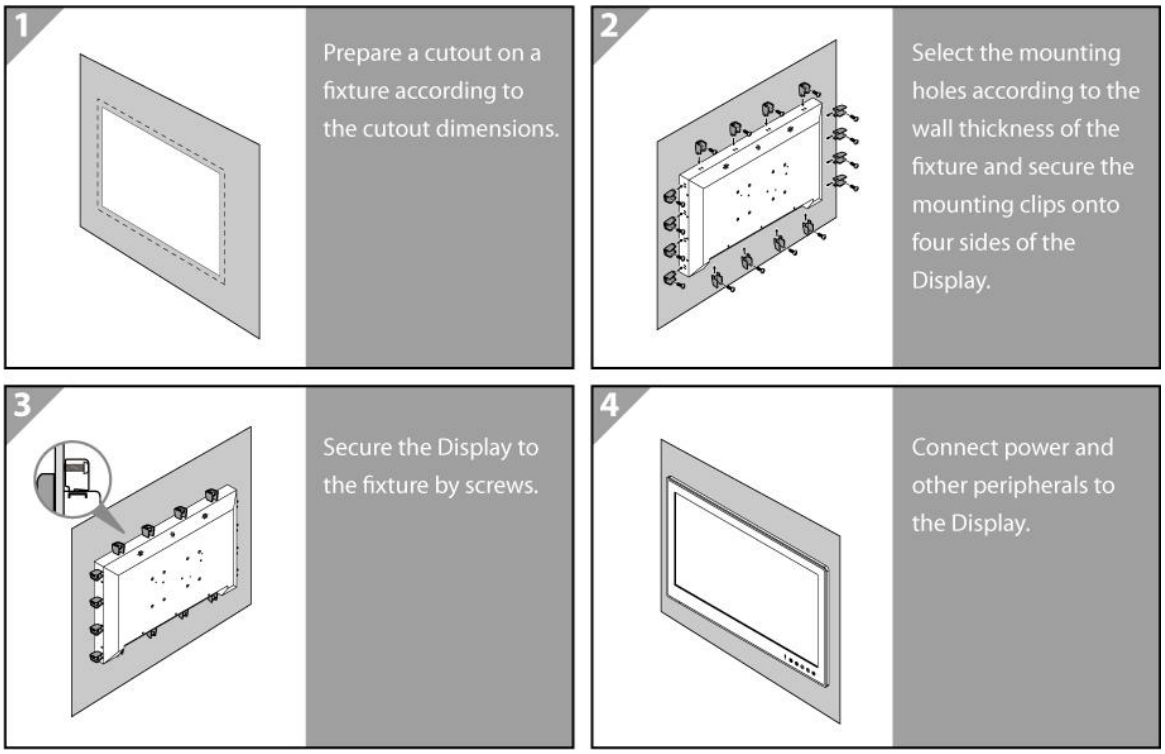
Suivez les instructions de montage et d'utilisation recommandé le matériel de montage pour éviter le risque de blessure.

2.3.2Panel/ Flush Mount

The Marine Display comes with clamp mounts that enable you to install the unit onto a wall (where space has been cut out to accommodate the rest of the hardware) or into console where a flush mount is needed.Winmate provides VESA and Wall Mount Kits by request.



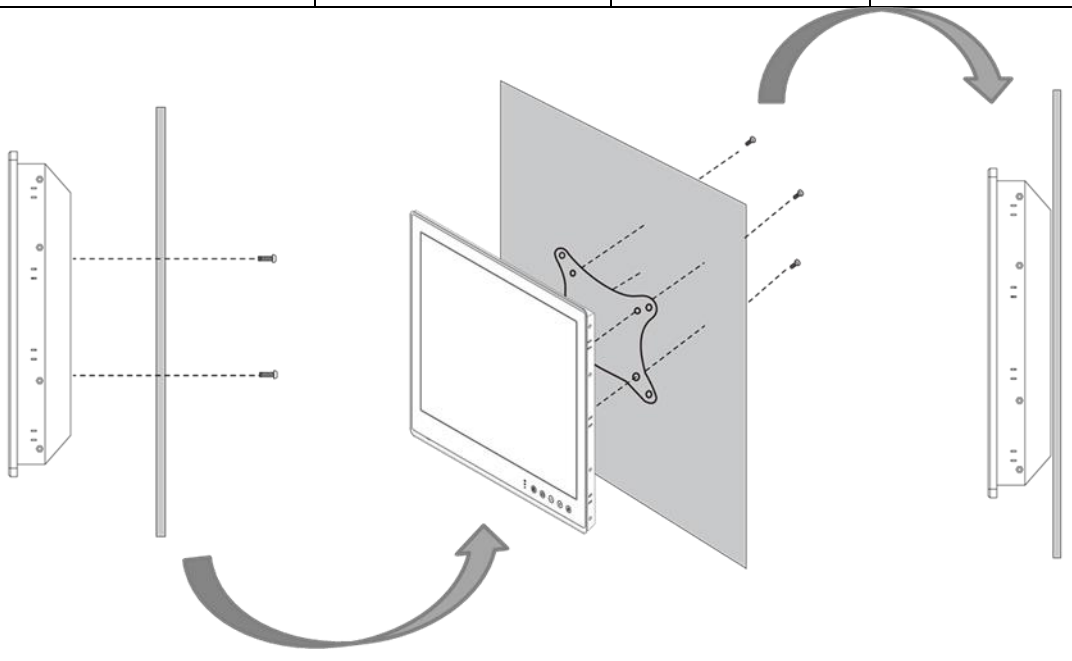
Cutout dimension (W x D in mm)			
15"	19"	24"	26"
330 x 280	408 x 359	572 x 363	598 x 408
Mounting Kit		**Mounting Kit**	
Mounting Clips: 12pcs Short screws:15mm M4 Long screws:30mm M4		Mounting Clips: 16pcs Short screws:15mm M4 Long screws:30mm M4	



2.3.4VESA Mount

ECDIS Marine Display comes with VESA Mount holes for mounting.

VESA Plate Dimensions			
15”	19”	24”	26”
100 x 100	100 x 100	150 x 150	100 x 200
Screw hole diameter			
M4 D=3mm	M6 D=5mm	M6 D=5mm	M6 D=5mm



Mounting Steps:

1. Screw VESA bracket to the fixture (ex. wall) withfour screws (refer to the table above for screw hole diameter).
2. Place the device on VESA bracket.
3. Connect all cables and peripheral devices.
4. When the installation is complete, plug the power cord into a grounded AC outlet. Turn on the power.

NOTE:
Notice that both hooks on bracket should lock the notches on the back cover of the device.

Getting Started

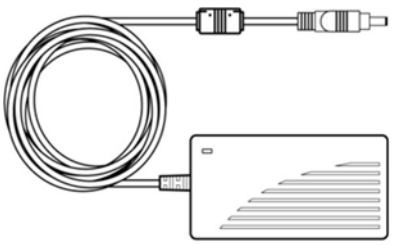
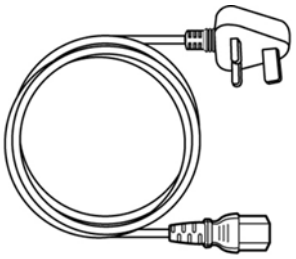
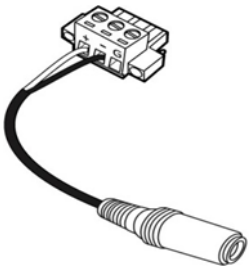
This chapter tells you important information on power supply, adapter and precautions tips. Pay attention to power considerations.

3Getting Started

This chapter provides information on how to connect the Display to the source of power, connector pinouts and the guideline to turn on/off the Display.

3.1 Powering On

3.1.1 AC Adapter Components

		
AC Adapter (Input 100~240V AC Output 12V/80W)	**Power Cord**	**3-Pin Terminal Block to DC Jack**

Note:
AC adapter, power cord and 3-pin terminal block to DC Jack provided by Winmate for testing purposes only.

Safety Precautions:

- Do not use the adapter in a high moisture environment
- Never touch the adapter with wet hands or foot
- Allow adequate ventilation around adapter while using
- Do not cover the adapter with paper or other objects that will reduce cooling
- Do not use the adapter while it is inside a carrying case
- Do not use the adapter if the cord is damaged
- There are NO serviceable parts inside
- Replace the unit if it is damaged or exposed to excess moisture

While using the AC Adapter always:

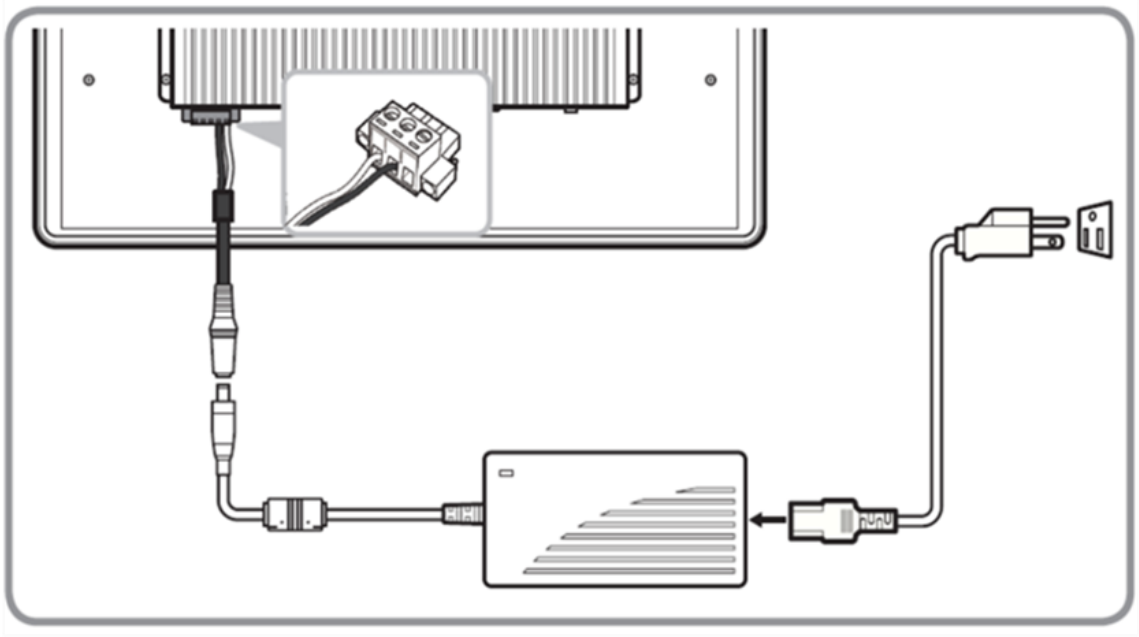
- Plug-in the power cord to easy accessible AC outlet
- Plug-in the AC adapter to a grounded outlet

ALTERNATING CURRENT / MISE À LE TERRE!
This product must be grounded. Use only a grounded AC outlet. Install the additional PEground wire if the local installation regulations require it.
**If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.*

Ce produit doit être mis à la terre. Utiliser seulement un cordon d'alimentation avec mise à la terre. Si les règlements locaux le requiert, installer des câbles de mise à la terre supplémentaires.
**Si vous n'utiliser pas une prise d'alimentation avec mise à la terre, vous pourriez remarquer une sensation de picotement électrique quand la paume de vos mains touche à l'appareil.*

3.1.2 Connecting the Power

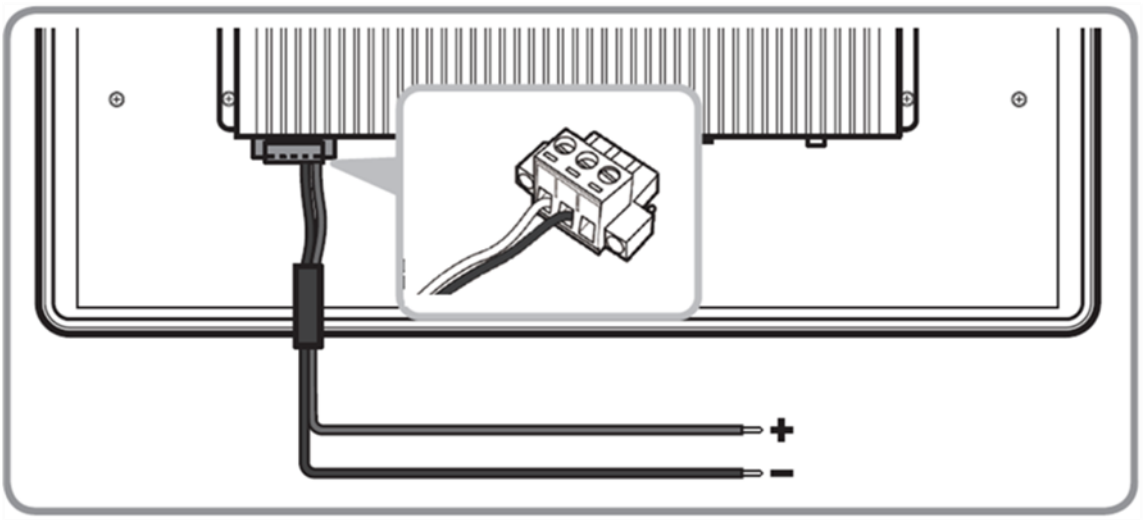
3.1.2.1 Connecting to AC Power Source (For testing)



1. Plug one end of the terminal block cable firmly to the DC IN Jack.
2. Plug the other end of the terminal block plug to the AC adapter.
3. Connect the AC adapter to the power cord.
4. Plug the power cord to a working AC outlet.The device will boot automatically.

Note:
Power cords vary in appearance by region and country.

3.1.2.2 Connecting to DC Power Source



1. Insert the exposed wires of the DC Power Cable to the appropriate connectors on the terminal block plug.
2. Plug the terminal block plug firmly to the DC IN Jack.
3. Connect the other end of the DC power cable (wires with lug terminals that are labeled **+** and **–** to the terminals of the 9~36V DC Power Source. Ensure that the power connections maintain the proper polarity.

CAUTION/ATTENTION
Make sure that the polarization of the power lines is correct and complete including chassis ground. Wrong polarization will result in serious damage to the equipment.

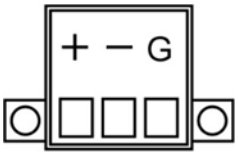
3.2Connecting Data Transmission Cables

This section describes how to connect Marine Display to various interfaces and contains connector pinouts.

WARNING!/AVERTISSEMENT!
Make sure the power is off when connecting and disconnecting the connectors.
Assurez-vous que l'alimentation est coupée lors de la connexion et la déconnexion des connecteurs.

3.2.1 DC InputConnector

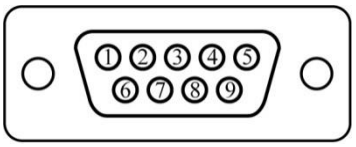
DC terminal block power source input compact design meets the maritime application. The 3-pin terminal block is to be secured that the cable to screw terminal.



Pin №	Signal Name	Description
1	VIN+	9-36V DC Input +
2	VIN-	9-36V DC Input -
3	GND	Ground

3.2.2 RS-232Connector (For Remote Control)

Connect Standard D-SUB 9pin connector from your system to connect to the monitor.



Pin №	Signal Name	Pin №	Signal Name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

3.2.3 USB 2.0 Connector (For Touch)

Use standard USB type A cable to connect the device that use USB interface for touch.

Pin №	Signal Name	Pin №	Signal Name
1	+5V	2	Data-
3	Data+	4	GND

3.2.4 DVI Connector

Use DVI to connector in the rear of PC system,and plug the other end to the TFT LCD display. Fasten cable connectors with screws.

Pin №	Signal Name	Pin №	Signal Name
1	DVI_RX2-	2	DVI_RX2+
3	GND	4	4-
5	4+	6	DVI SCL
7	DVI SDA	8	NC
9	DVI_RX1-	10	DVI_RX1+
11	GND	12	3-
13	3+	14	+5V
15	DVI_CON_CABLE	16	DVI_CON_HP
17	DVI_RX0-	18	DVI_RX0+
19	GND	20	5-
21	5+	22	GND
23	DVI_CLKP	24	DVI_CLKN
C1	NC	C2	NC
C3	NC	C4	NC
C5	NC		

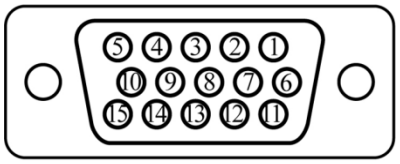
3.2.5 HDMI 1.4 Connector

Use HDMI to connector in the rear of PC system,and plug the other end to the TFT LCD display. Fasten cable connectors with screws.

Pin №	Signal Name	Pin №	Signal Name
1	HDMI_RX2+	2	GND
3	HDMI_RX2-	4	HDMI_RX1+
5	GND	6	HDMI_RX1-
7	HDMI_RX0+	8	GND
9	HDMI_RX0-	10	HDMI_RXC+
11	GND	12	HDMI_RXC-
13	HDMI_CON_CEC	14	NC
15	HDMI_CON_SCL	16	HDMI_CON_SDA
17	GND	18	+5V_HDMI
19	HDMI_CON_HP		

3.2.6 VGA Connector

ECDIS Marine Display has VGA connector (D-Sub 15pin Female). Use VGA cable to connect the display to the PC system. Fasten cable connectors with screws.



Pin №	Signal Name	Pin №	Signal Name
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	RED_RTN
7	GREEN_RTN	8	BLUE_RTN
9	KEY/PWR	10	GND
11	NC	12	SDA
13	H Sync	14	V Sync
15	SCL		

3.3 Turning On and Off

This section describes how to turn on or off the ECDIS Marine Display.

3.3.1 Turning On

Press a capacitive power key () until the image appears on the monitor.

IMPORTANT:
Make sure the signal source from system is correct (VGA / DVI/ HDMI/ Display Port).

3.3.2 Turning Off the Screen

Press capacitive power button (), then the screen turns black.

On-Screen Display (OSD) Control

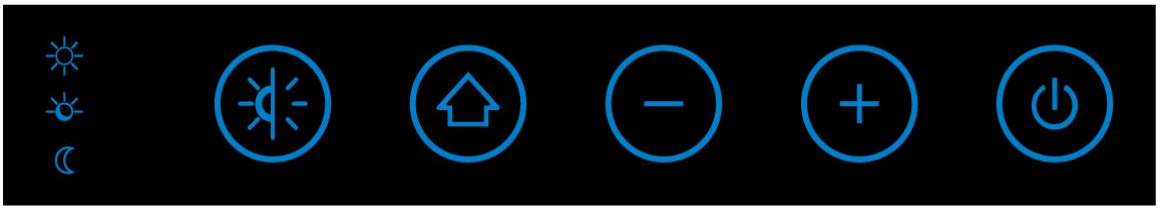
This chapter provides detailed information on how to navigate the On-screen Display (OSD) and how to use the menus to adjust the panel's image properties.

4On-Screen Display (OSD) Control

This chapter provides detailed information on how to navigate the On-screen Display (OSD) and how to use the menus to adjust the panel's image properties.

4.1 OSD Control Key and LED Indicators

Capacitive touch keys and ECDIS mode LED indicators located on the front of your Display.



For more information on OSD control, refer to Ch.1 "OSD Control Keys"and "ECDIS Mode Indicators"of this User Manual.

4.2 OSD Menu Navigation

	BRICONTRAST	BRIGHTNESS CONTRAST	XII	GAMMA	GAMMA0 GAMMA1 GAMMA2
	POSITION	Only support VGA mode		CHANNEL	AUTO ANALOG DVI HDMI
	IMAGE	Only support VGA mode		RECALL	YES NO
	COLOR	USER 9300K 6500K ADC RIGHTNESS	EXIT	OSD EXIT	YES NO
OP	OPTION	ECDIS LED ADJUST VR BRIGH VOLUME ADJUST SPEAK ON/OFF			

4.3 OSD Menu description

BRICONTRAST

OSD icon	Sub menu	Settings	Note
 BRICONTRAST	**BRIGHTNESS**	**slider bar**	Default 50
	Use to adjust the screen's brightness.Range 0 to 100		
	CONTRAST	**slider bar**	Default 50
	Use to adjust the screen's contrast. Range 0 to 100		

POSITION (VGA mode only)

OSD icon	Sub menu	Settings	Note
 POSITION	**H POSITION**	**slider bar**	
	Use to adjust the image to the left or right on the screen		
	V POSITION	**slider bar**	
	Use to adjust the image up or down on the screen		

IMAGE (VGA mode only)

OSD icon	Sub menu	Settings	Note
 IMAGE	**AUTO**	**Select and execute**	
	Use to choose the best settings for the current input signal		
	CLOCK	**slider bar**	Default 50
	Use to adjust the value of horizontal image. Range 0 to 100		
	PAHSE	**slider bar**	Default 50
	Use to adjust the phase control (Phase adjustment may be required to optimize the display quality)		
	WHITE BALANCE	**Select and execute**	
	Use to set RGB signal voltage level		

COLOR

OSD icon	Sub menu	Settings	Note
 COLOR	**USER**	**R.G.B slider bar**	
	Choose RED/GREEN/BLUE to set value of color temperature brightness to suit you own preference		
	9300K	**Select and execute**	
	Use to set value of monitor for the CIE coordinate 9300 color temperature		
	6500K	**Select and execute**	
	Use to set value of monitor for the CIE coordinate 6500 color temperature		
	ADC RIGHTNESS	**slider bar**	Default 50
	Set value of monitor for ADC Brightness. Range 0 to 100		

GAMMA

OSD icon	Sub menu	Settings	Note
XII GAMMA	**GAMMA 0**	**Select and execute**	Default GAMMA0
	Choose the parameter of GAMMA 0 as default setting		
	GAMMA 1	**Select and execute**	
	Choose the parameter of GAMMA 1 as default setting		
	GAMMA 2	**Select and execute**	
	Choose the parameter of GAMMA 2 as default setting		

OPTION

OSD icon	Sub menu	Settings	Note
OP OPTION	**ECDIS**	**DAY MODE** **DUSK MODE** **NIGHT MODE**	
	Day / Dusk / Night Mode support ECDIS		
	LED ADJUST	**slider bar**	
	Adjust the LED brightness		
	VR Brightness	**ON/OFF**	Default OFF
	Choose the brightness control mode by VR control		
	Volume	**slider bar**	Default 10
	Use to set value of Volume		
	Speaker	**ON/OFF**	Default 10 OFF
	Use to set value of Volume Speaker		

CHANNEL

OSD icon	Sub menu	Settings	Note
CHANNEL	**AUTO SCAN**	**Select and execute**	Default mode
	Auto detect the input source		
	ANALOG	**Select and execute**	
	Switch the setting of signal input to Analog mode		
	DVI	**Select and execute**	
	Switch the setting of signal input to DVI mode		
	HDMI	**Select and execute**	
	Switch the setting of signal input to HDMI mode		

RECALL

OSD icon	Sub menu	Settings	Note
RECALL	**YES**	**Select and execute**	
	Recall the factory default setting		
	NO	**Select and execute**	
	Return to main menu		

EXIT

OSD icon	Sub menu	Settings	Note
 EXIT	**YES**	**Select and execute**	
	Exit the OSD menu		
	NO	**Select and execute**	
	Return to main menu		

4.4 ECDIS Mode Brightness Adjustment

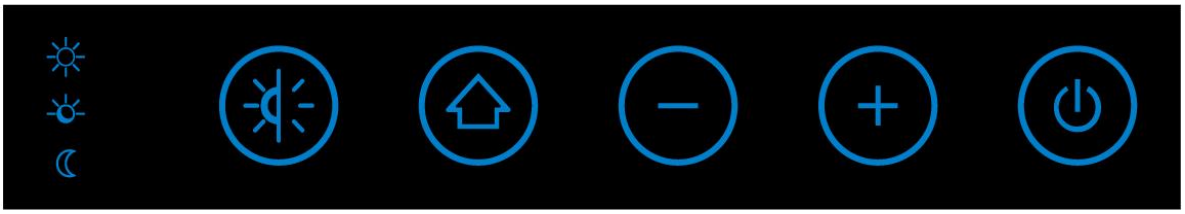
Winmate provides quickly adjustable Buttons for the ECDIS mode switch (DAY, DUSK , NIGHT).

4.3.1 Introduction

Switch the ECDIS mode by tapping capacitive touch key. Tap the ECDIS Mode Quick Button ( ), and the level of brightness is automatically adjusted according to ECDIS standard. ECDIS Mode Indicator shows the mode that has been activated.

The sequence of the switching modes is as follows:

DAY Mode→ DUSK Mode → NIGHT Mode → DAY Mode



ECDIS Mode Indicator			**Capacitive Touch Key**		
Icon	Function	Description	Touch Key	Function	Description
	Day Mode	Lights up green when ECDIS brightness adjusted to day mode		ECDIS Mode Quick Button	Switching ECDIS standard range mode (Day /Dusk / Night mode)
	Dusk Mode	Lights up green when ECDIS brightness adjusted to dusk mode			
	Night Mode	Lights up green when ECDIS brightness adjusted to night mode			

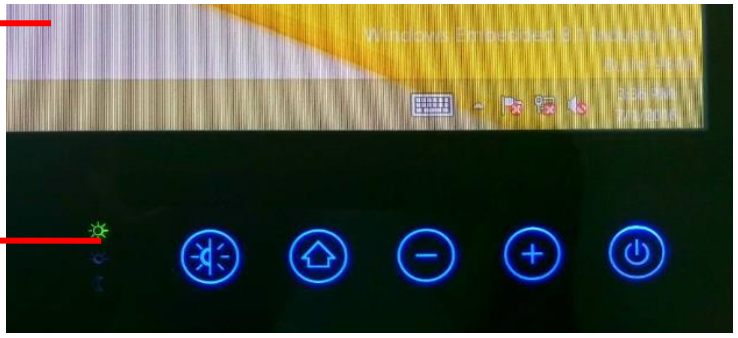
NOTE:

In ECDIS Mode (DAY, DUSK, NIGHT) you can adjust the brightness manually. Notice when the brightness parameter is above the ECDIS Standard, the LED indicator light disappears. You should switch the ECDIS mode quick button again to correct the brightness parameter.

4.3.2 Switching to DAY Mode

The brightness was adjusted to DAY Mode

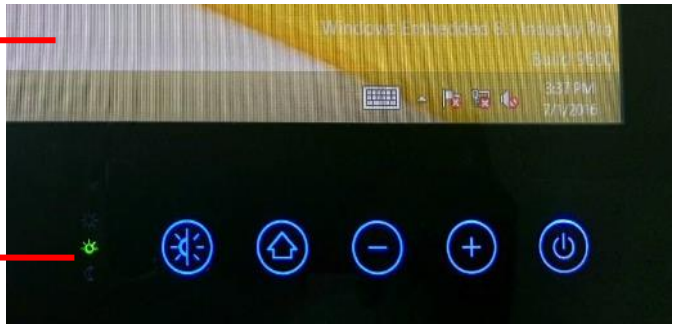
DAY Mode LED Indicator



4.3.3 Switchingto DUSK Mode

The brightness was adjusted toDUSK Mode

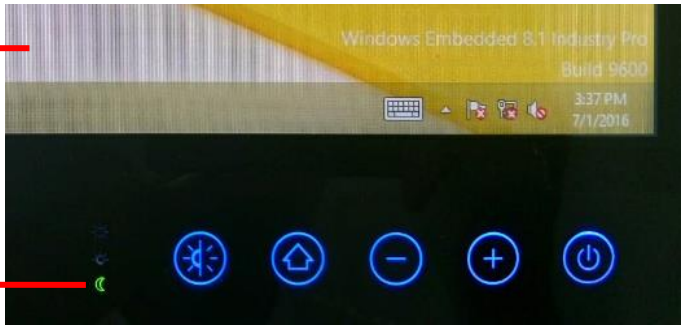
DUSK Mode LED Indicator



4.3.4 Switching to NIGHT Mode

The brightness also be adjusted to NIGHT Mode

NIGHT Mode LED Indicator



Maintenance

This chapter provides information on regular cleaning and maintenance procedures.
Follow all the recommendations included in this chapter in order to ensure long product lifecycle.

5Maintenance

This chapter includes regular cleaning and maintenance procedures. Follow all the recommendations in this chapter in order to ensure long product lifecycle.
This equipment is extremely rugged and does not require a lot of maintenance.
Remember that electrical equipment should be handled with care and used accordingly to its specifications.

5.1 Cleaning the Display Screen

- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.Do not use acetone, ethyl alcohol, toluene, ethyl acid or methyl chloride to clear the panel. It may permanently damage the display screen.
- You can apply a small amount of non-ammonia; non-alcohol based glass cleaner onto a clean, soft, lint-free cloth and wipe the screen.
- Never spray or pour any liquid directly on the screen or case.
- **Do Not** use water or oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

5.2 Cleaning the Casing

Use the following procedure to clean the equipment.

CAUTION/ ATTENTION
Always turn off the device and disconnect other peripherals before cleaning and maintenance procedures.

Toujourséteindre l'appareil et débrancher tous les périphériques avant que les procédures de nettoyage et d'entretien.

Before Cleaning:

- Make sure the device is turned off.
- Disconnect the power cable from any AC outlet.

When Cleaning:

- Wipe dust off the outside casing with a cloth slightly moistened with water or mild ammonia-based cleaning solution. Do not use this cloth on a display screen!
- Do not use an abrasive cleaner or high pressure washer on the screen.
- Do not rub the unit with a dry cloth. This action can result in a static charge being built up and cause a spark. Always use damp cloth while cleaning the unit.

WARNING!/AVERTISSEMENT!
POTENTIAL ELECTROSTATIC CHARGE HAZARD – SEE INSTRUCTIONS

POTENTIEL ÉLECTROSTATIQUE CHARGE DANGER - VOIR INSTRUCTIONS

Technical Support

This chapter includes directory to our technical support.

6 Technical Support

This chapter includes troubleshooting guide and problem report form. Free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.If any problem occurs fill in problem report form enclosed and immediately contact us.

6.1 Troubleshooting

If your monitor fails to operate correctly, consult the following chart for possible solution before calling for repairs:

Condition	Check Point
The picture does not appear	• Check if the signal cable is firmly seated in the socket. • Check if the Power is ON at the computer • Check if the brightness control is at the appropriate position, not at the minimum.
The screen is not synchronized	• Check if the signal cable is firmly seated in the socket. • Check if the output level matches the input level of your computer. • Make sure the signal timings of the computer system are within the specification of the monitor. • If your computer was working with a CRT monitor, you should check the current signal timing and turn off your computer before you connect the VGA Cable to this monitor.
The position of the screen is not in the center	• Adjust the H-position, and V-position, or Perform the Auto adjustment.
The screen is too bright (too dark).	• Check if the brightness or contrast control is at the appropriate position, not at the Maximum (Minimum).
The screen is shaking or waving	• Press (the Auto - adjustment control) to adjust. • Moving all objects which emit a magnetic field such as motor or transformer, away from the monitor. Check if the specific voltage is applied. • Check if the signal timing of the computer system is within the specification of monitor.

Note: If you are unable to correct the fault by using this chart, stop using your monitor and contact your distributor or dealer for further assistance.

6.2 Problem Report Form

ECDIS Marine Display (Flat PCAP Touchscreen)

Customer name:	
Company:	
Tel.:	Fax:
E-mail:	Date:

Product Serial Number: _____

Problem Description: Please describe the problem as clearly as possible. Detailed description of the occurred problem will allow us to find the best solution to solve the problem as soon as possible.

6.3 Technical Support

This section describes where to find the latest user manual, driver, or other supporting documents for ECDIS Marine Display.

6.3.1 Winmate Download Center

http://www.winmate.com.tw/>Support > Download Center > Marine Grade >ECDIS Marine LCD

Or follow the link below:http://www.winmate.com/DownCenter/DownLoadCenter.asp?DownType=0618&OnlyContent=

6.3.2 Winmate File Share

http://www.winmate.com/> Support > Download Center >Marine Grade > Marine Display> ECDIS Marine LCD

Or follow the link below:https://winmate.box.com/v/Winmate-ECDIS-Marine-Display

Product Specifications

This section includes technical specifications of Marine Display

Appendix A

Appendix A Technical Specifications

A1 DisplayTechnical Specifications

Model Name	R15L600-MRA3FP	R19L300-MRA1FP	W24L100-MRA1FP	W26L100-MRA1FP
Display				
Panel Size	15"	19”	24”	26”
Resolution	1024 x 768	1280 x 1024	1920 x 1080	1920 x 1200
Pixel Pitch (H x V, mm)	0.2947 x0.2947	0.294x0.294	0.276x0.276	0.2865x0.2865
Brightness	400 cd/m^2	350 cd/m^2	350 cd/m^2	350 cd/m^2
Contrast Ratio	700:1 (typ.)	1000:1 (typ.)	5000:1 (typ.)	1500:1 (typ.)
Viewing Angles (Up/Down/Left /Right)	80°/80°/60°/80°	85°/85°/80°/80°	89°/89°/89°/89°	88°/88°/88°/88°
Active Display Area, H x V , mm	306 x 230	376.32x 301.06	531.36 x 298.89	550.1 x 343.8
Max Colors	16.2 M colors, 8 bits/color	16.7 M colors, 8 bits/color		
Touch Screen	PCAP	PCAP (Optional AR Protection Glass)		
Buzzer	75 dB~80 dB, 2300 Hz, 1m			
Mechanical				
Dimensions, mm	363 x 312 x 66.5	429x 382x 72.8	595 x 385 x 63.8	621 x 432.4x 85.5
Panel Mount Cutout, mm	330 x 280	408 x 359	572 x 363	598 x 408
Housing	Anodized Aluminum Bezel			
Mounting	Panel Mount/ VESA Mount			
Input/ Output Connectors				
DVI Input	1 x DVI-D 24pin (Female)			
HDMI Input	1 x HDMI 1.4			
VGA Input	1 x D-SUB 15pin (Female)			
Remote control via RS232	1 x D-SUB 9pin (Female)			
Touch	1 x USB type A (Female)			
DC Input	1 x Terminal block 3pin (Phoenix type)			
User Controls				
OSD Control	Via programmable capacitive touch keys: ECDIS, Home, Brightness (+/-), Power			
Remote Control	Via RS232 serial interface			
Power Specifications				
Power Input	24V DC-in with Isolation (9~36V acceptable)			
Power	80W (Max)			

Consumption	
Environment	
IP Rating	IP66 (Front Side)
Operating Temperature	-15 to +55°C
Operating Humidity	5%-95%, non-condensing
Anti-Vibration	0.7g@DNV2.4 (Class A)
Anti-Shock	15G,11ms duration

Touchscreen

This section includes information on projected capacitivetouchscreen (PCAP), its technology and specifications.

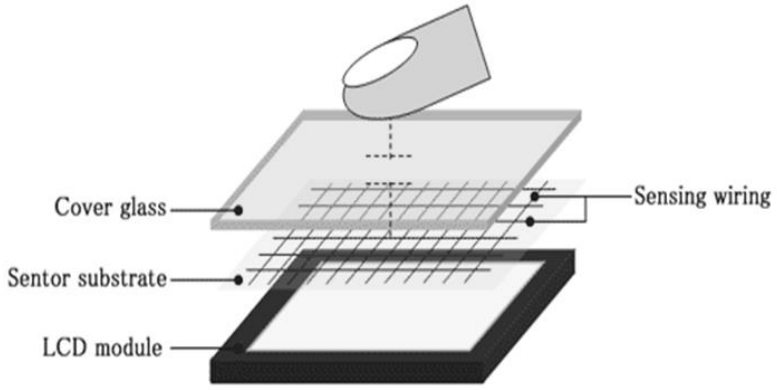
Appendix

Appendix B PCAP Touchscreen

This section includes information on projected capacitive touchscreen (PCAP), its technology and specifications.

B1 Technology Overview

Projected Capacitive Touch (PCAP) technology is a variant of capacitive touch technology. All PCAP touch screens are made up of a matrix of rows and columns of conductive material, layered on sheets of glass.Projected capacitive technology enables touches to be sensed through a protective layer in front of a display, allowing touch monitors to be installed behind store windows or vandal-resistant glass. In addition, the surface material is glass, which is scratch-resistant, durable, and reliable in harsh environments.



The operational theory of a PCAP touch screen begins with two patterned Indium Tin Oxide (ITO) layers under a glass substrate cover which create a X-axis and Y-axis electric field. These electric fields project above the glass surface between adjacent ITO traces. When a finger approaches the glass surface, a new balance in the electric field will be established between the finger and the corresponding X-axis and Y-axis. The controller IC will locate the ITO traces exhibiting capacitance changes to pinpoint the finger touch accurately.

B2 Touchscreen Technical Specifications

Subject	Details
Input Method	Finger
Positional Accuracy	<1.5% of reported position in recommended viewing area.
Resolution	Touchpointdensityisbasedoncontrollerresolution.
Touch ActivationForce	No minimum touch activation force is required
LightTransmission	Up to 90% per ASTM D1003-92

Available Input Signals

This section lists all available input signals.

Appendix

Appendix CAvailable Input Signals

This section lists all available input signals of ECDIS Marine Display.

NOTE:
The choice of supported input signals depends on the monitor native resolution.

DVI		
No.	**Resolution**	**Frequency (Hz)**
1	800x600	60
2	1024x768	60
3	1280x1024	60
4	1366x768	60
5	1680x1050	60
6	1920x1200	60
7	1600x1200	60
8	1920x1080	60

VGA		
No.	**Resolution**	**Frequency (Hz)**
1	640x480	60
2	640x480	72
3	640x480	75
4	800x600	56
5	800x600	60
6	800x600	72
7	800x600	75
8	1024x768	60
11	1280x1024	60
12	1280x1024	75
13	1366x768	60
14	1600x1200	60
15	1680x1050	60
16	1920x1200	60
17*	1920x1080	60

HDMI 1.4		
No.	**Resolution**	**Frequency (Hz)**
1	800x600	60
2	1024x768	60
3	1280x1024	60
4	1366x768	60
5	1600x1200	60
6	1680x1050	60
7	1920x1080	60
8	1920x1200	60

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