Elo TouchSystems 2240L 22-inch LCD Touchmonitor User Guide

Tyco Electronics

Our commitment. Your advantage.

Elo TouchSystems

2240L 22-inch LCD Touchmonitor

User Guide

Revision B

Elo TouchSystems

1-800-ELOTOUCH
www.elotouch.com

Table of Contents

1

INTRODUCTION

About the Product

Your new Elo TouchSystems 2240L open-frame touchmonitor combines the reliable performance of touch technology with the latest advances in Liquid Crystal Display (LCD) design. The monitor comes with the following features:

- 22" color active matrix thin-film-transistor (TFT) with a native resolution of 1680 X 1050.

- Available in Acoustic Pulse Recognition (APR), IntelliTouch, SecureTouch, and Surface Capacitive touch technologies.

- All monitors have VGA video data inputs and some models also include DVI-D video data inputs.

- All touch technologies come with USB and serial interfaces.

For more detailed information, please visit our website: **www.elotouch.com**.

Precautions

Follow all warnings, installation, and maintenance recommendations in this manual to ensure operator safety and maximize the life of the monitor. See Appendix A (page 27) for information on touchmonitor safety. Before setting up and turning on your touchmonitor, read through this manual, especially Chapter 2 (*Installation and Setup*), and Chapter 3 (*Operation*).

2

INSTALLATION AND SETUP

This chapter discusses how to install and set up the LCD touchmonitor and how to install Elo TouchSystems driver software.

Unpacking Your Touchmonitor

Check that the following items are present:
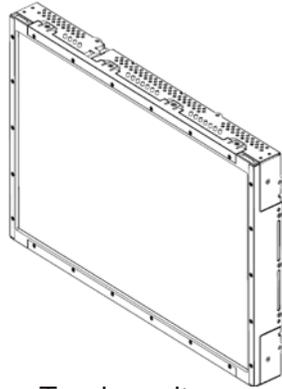
Touchmonitor
(including integrated
OSD control)

Serial Cable

AND/
OR
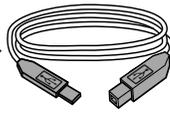
USB Cable

VGA Video Cable

AND/
OR

DVI-D Cable

(not included with
some European or
Asian models)

Power Cable
(appearance of cable
differs according to
region)

OSD Remote Control Box
Accessory (optional)

Mounting Brackets
(quantity: four)
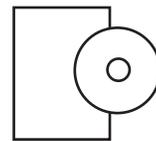
TouchTools CD and Quick
Install Guide

Connecting the Cables to the Touchmonitor and Computer

Connector Panel on Rear Side of Monitor

LED Status

Power Button

Power Cable   Serial Cable

OSD Remote Control Box Connector (Optional)

USB Cable

DVI-D Cable (not included with some European models)

Analog Video Cable
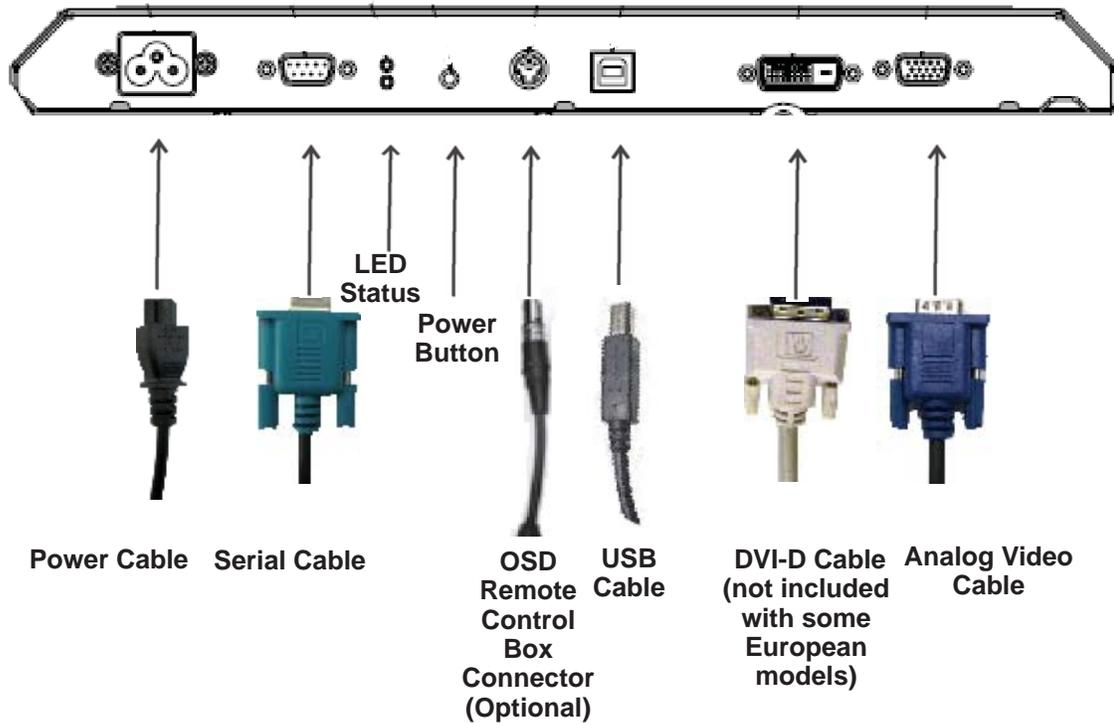
To connect your touchmonitor to your computer and power source:

1   Connect one end of the power cable to the connector panel and the other end to the power outlet.

2   Connect either the USB cable **OR** the serial cable to the rear panel of the monitor. *Note: Do not use both.* Connect the other end to your computer.

3   Connect the video cable **and/or** the DVI-D cable to the rear panel of the monitor. Tighten by turning the two thumb screws clockwise to ensure proper grounding. Connect the other end to your computer.

4   Connect one end of the OSD remote control box connector to the rear panel of the monitor and the other end to your computer.

5   Press the power button to turn the monitor on.

Installing the Touch Driver

Your Elo touchmonitor is Plug-and-Play compliant. Information on the video capabilities of the touchmonitor is sent to the video display adapter when the computer's operating system starts. If the computer's operating system detects the touchmonitor, follow the instructions on the screen to install a generic Plug-and-Play monitor.

Elo TouchSystems touchscreen driver software that allows your touchmonitor to work with your computer is located on the enclosed CD.

The latest versions of drivers and driver information for all operating systems, including those that are not included with the CD, are available on the Elo TouchSystems website at **www.elotouch.com/support/downloads/**.

To install the Touch Driver, follow the steps below:

1   Insert the TouchTools or APR CD in your computer's CD-ROM drive.
2   Click on **Install Driver for This Computer**.
3   Follow the on-screen instructions to complete the installation.

If there are no on-screen instructions when you install the TouchTools or APR CD:

1   Click **Start** > **Run**.
2   Click the **Browse** button to locate the EloCd.exe program on the CD-ROM.
3   Click **Open**, then **OK** to run EloCd.exe.
4   Follow the directions on the screen to complete the driver installation.

Monitor Overview and Dimensions (IntelliTouch Model)
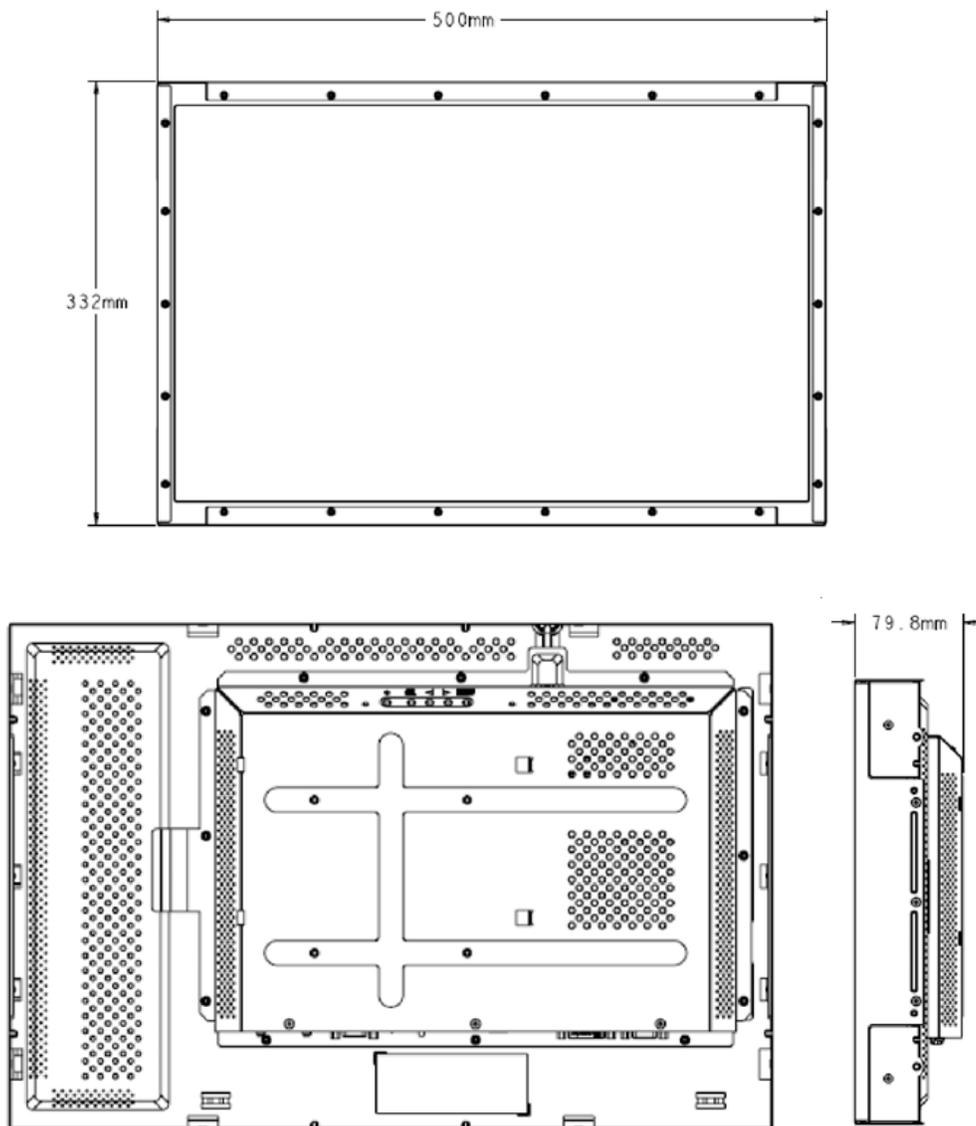
Note:
Detailed mechanical illustrations can be found at: www.elotouch.com

Monitor Overview and Dimensions (Surface Capacitive Model)

500mm

332mm

75.1mm
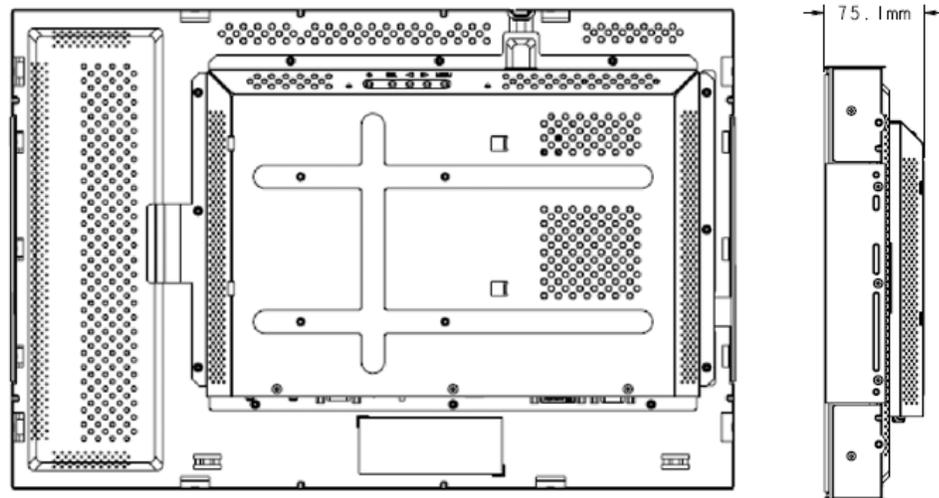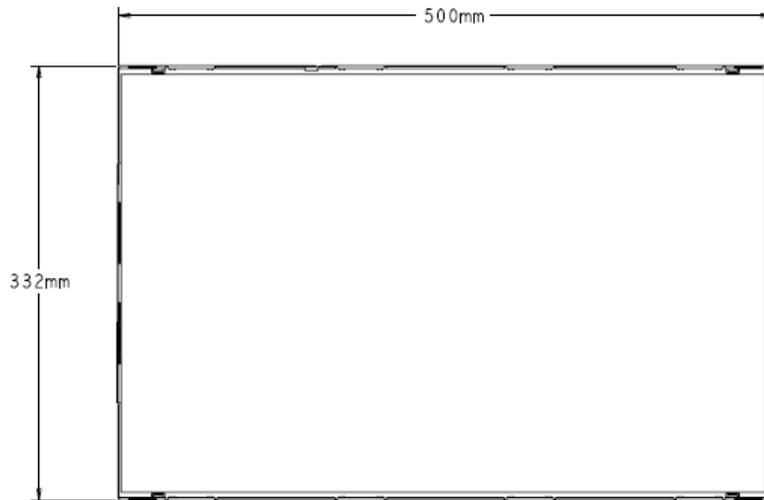
Monitor Mounting and Orientation

When the monitor is mounted in the landscape orientation, the cable connection panel must be at the bottom, as shown in the illustration below.

Rear View of Monitor—Landscape Orientation

Top

Bottom

Cable Connection Panel
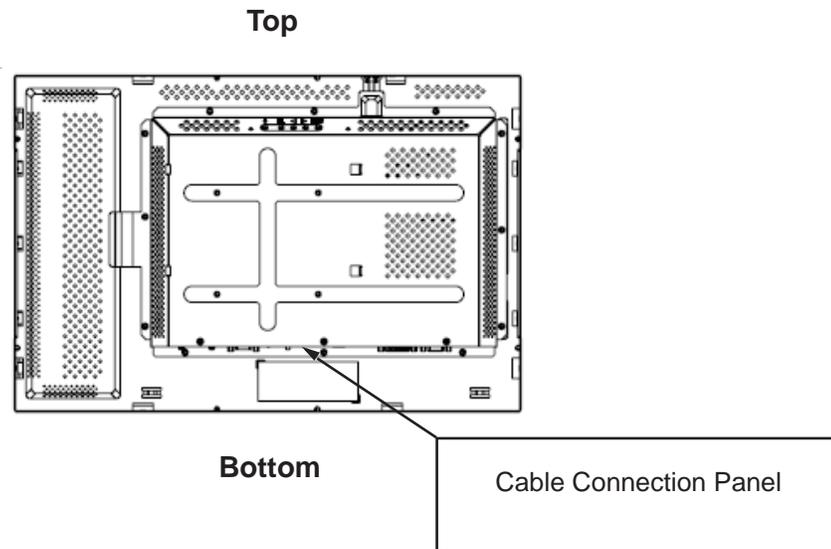
Alternatively, the monitor may be mounted in the portrait orientation. For this orientation, the cable connection panel may be on either side, as shown in the illustrations below.

Rear View of Monitor—Portrait Orientation

Cable Connection
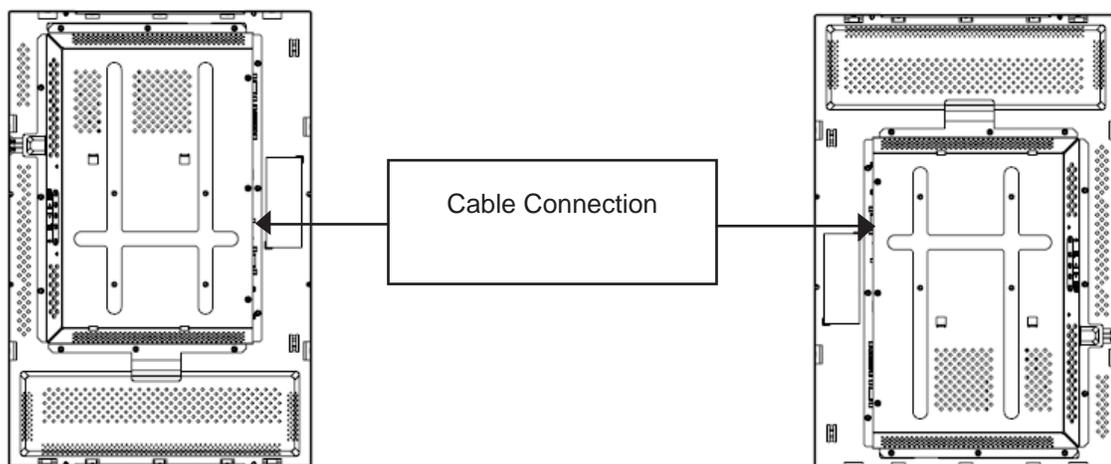
Monitor Mounting and Orientation (continued)

Landscape Orientation Angle Views

The mounting orientation can be up to a 90°
angle from vertical, as shown in the illustrations
below.

90º

90º
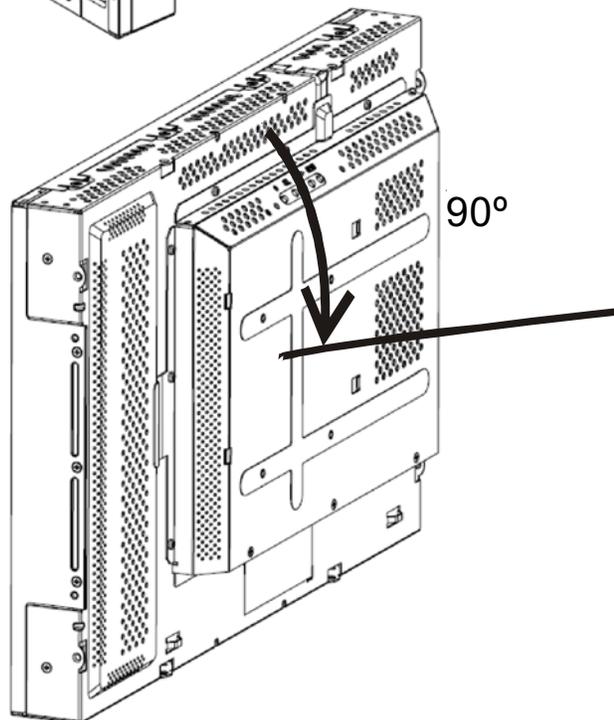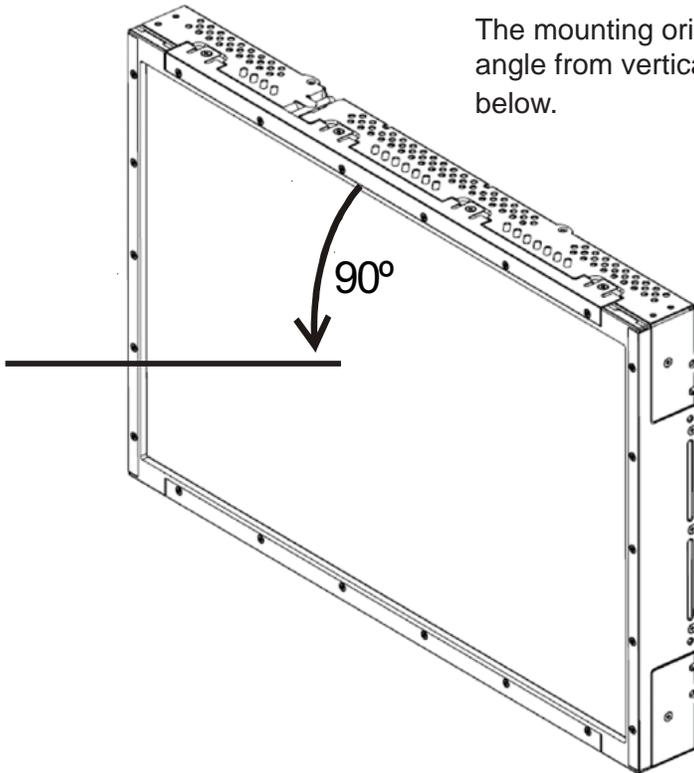
Monitor Mounting and Orientation (continued)

Portrait Orientation Angle Views

The mounting orientation can be up to a 90°
angle from vertical, as shown in the illustrations
below.

90°

90°
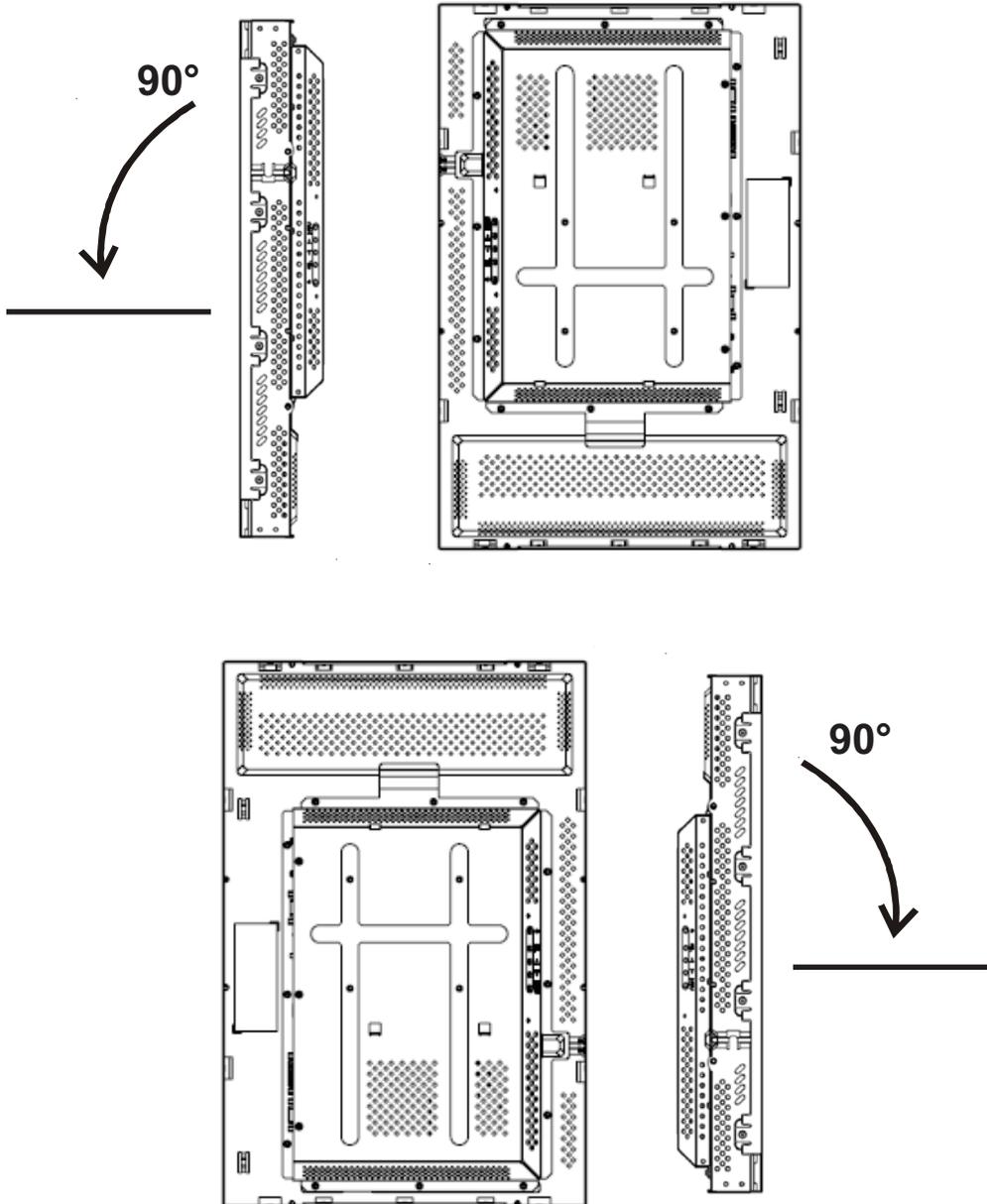
Mounting to 100 mm VESA Mount—Landscape Orientation
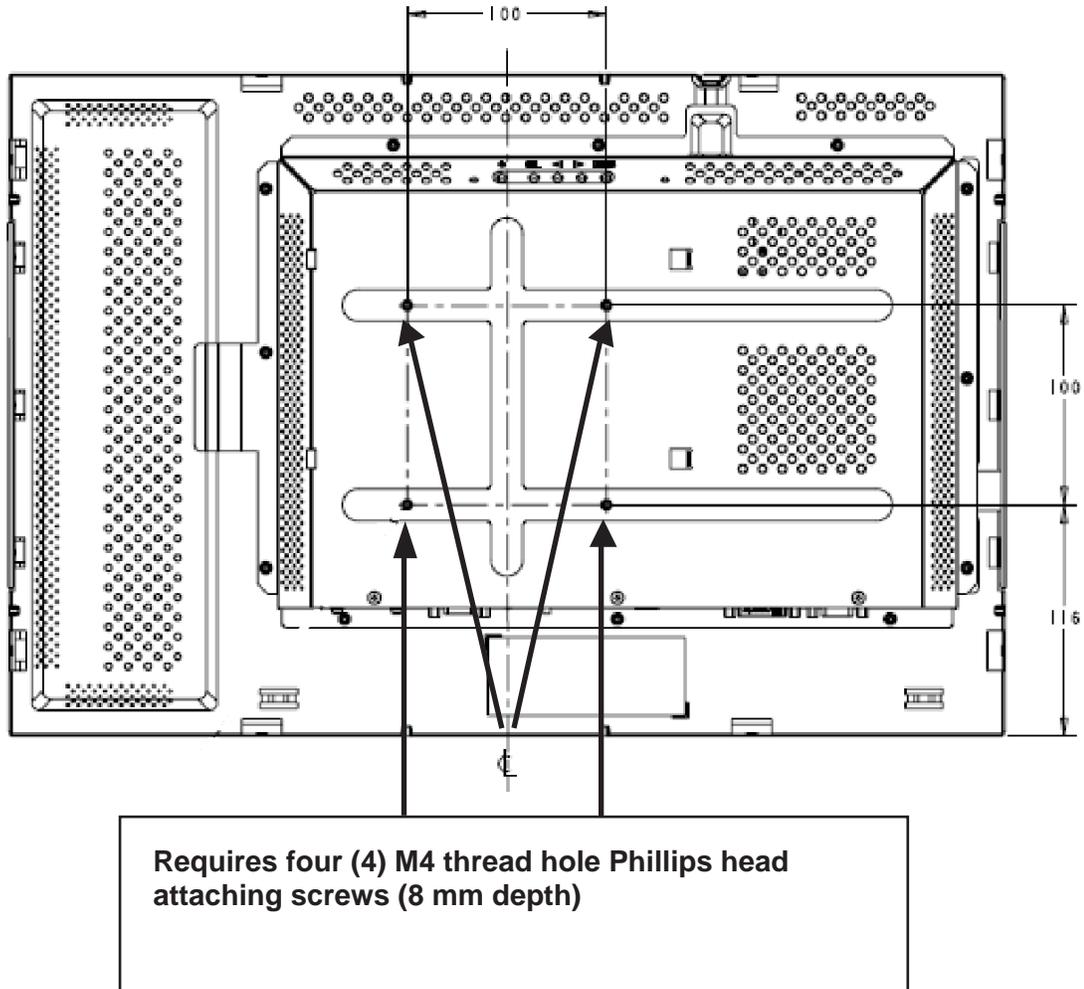
Requires four (4) M4 thread hole Phillips head attaching screws (8 mm depth)

Note:

Dimensions are in millimeters.

Detailed mechanical illustrations can be found at: www.elotouch.com

Mounting to 100 mm VESA Mount—Portrait Orientation

Requires four (4) M4 thread hole Phillips head attaching screws (8 mm depth)
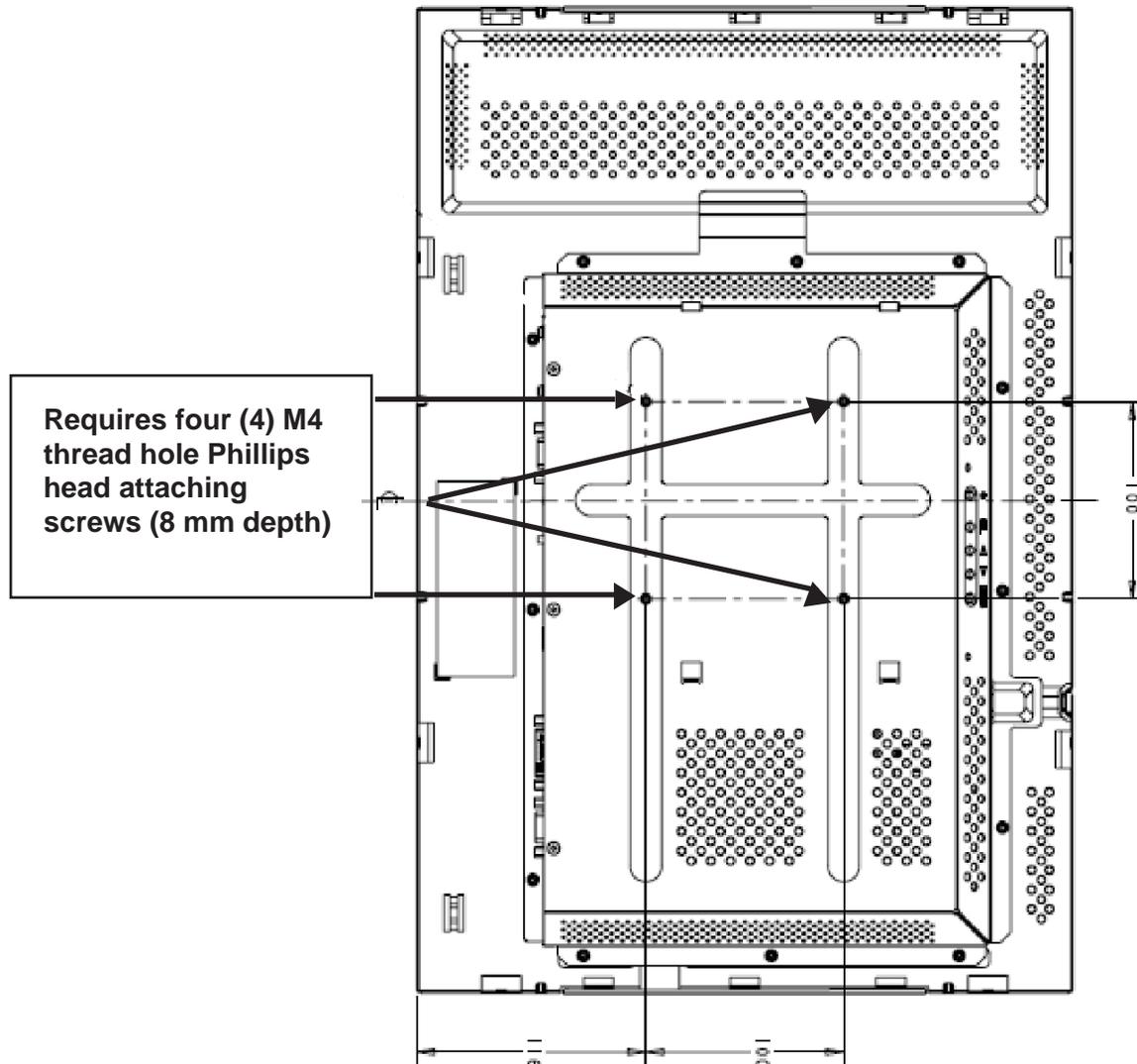
Note:

Dimensions are in millimeters.

Detailed mechanical drawings can be found at: www.elotouch.com

3

OPERATION

About Touchmonitor Adjustments

Your touchmonitor most likely will not require adjustment. However, variations in video output and application may require adjustments to your touchmonitor to optimize the quality of the display.

For best performance, your video source should be 1680 X 1050 resolution, at 60Hz vertical frame rate. Operating in other resolutions degrades video performance.

For input video outside the refresh rate and dot clock ranges, the monitor does not automatically adjust, but displays an "Out of Range" (OOR) message and the On-screen Display (OSD) menu, which ordinarily allows you to change monitor settings, is disabled.

Note: If the OOR message is displayed, do not continue to operate the touchmonitor or LCD damage may result. To enable the touchmonitor, change the computer video mode so it is within the allowable vertical frame rate range shown under "Input Video Range" on page 32.

Rear Panel Control Buttons for On-Screen Display (OSD)
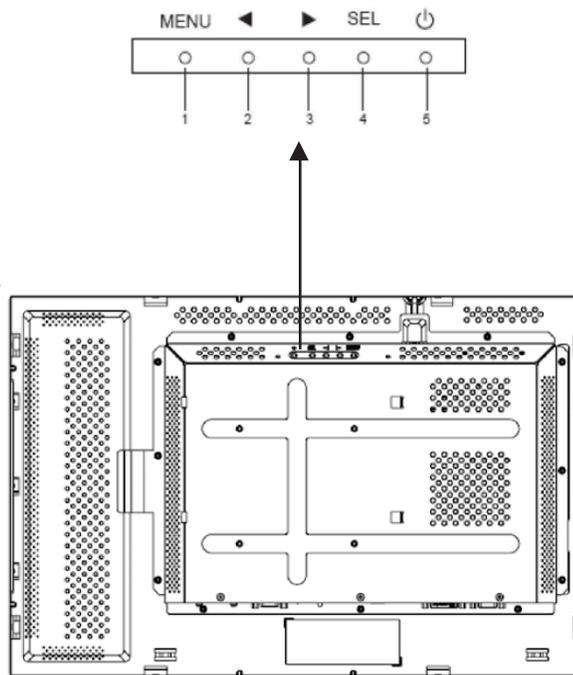
The rear panel control buttons for on-screen display (OSD) adjustments allow you to change settings on the monitor screen. There are five buttons:

1	**MENU**
2	**◄**
3	**►**
4	**SEL (select)**
5	**⏻ (power switch)**

Control	Function
MENU	Displays/exits the OSD Menus
◄	1) Enters contrast of the OSD (if no OSD is currently displayed on screen)
	2) Increases value of OSD adjustment choice
	3) Selects OSD choice counterclockwise
►	1) Enters brightness adjustment (if no OSD is currently displayed on screen)
	2) Decreases value of OSD adjustment choice
SEL	1) Automatically adjusts the image on the screen (this function not available for European models)
	2) Selects adjustment choices from the OSD menus
⏻	Power Switch turns monitor on and off

Note: After any values have been adjusted, the monitor automatically saves the changes.

On-Screen Display (OSD) Remote Control Box Accessory (optional)

OSD Remote Control Buttons
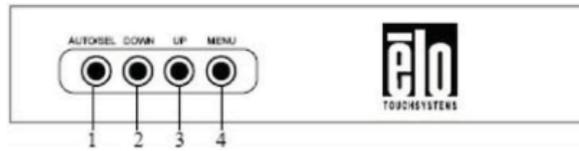
The On-Screen Display (OSD) Remote Control Box is an optional accessory that allows you to change settings on the monitor screen remotely. It has four buttons:

1	**AUTO/SEL** (select)
2	**DOWN**
3	**UP**
4	**MENU**

OSD Menu Functions

Use the control buttons for the following functions:

Control	Function
AUTO/SEL	1) Automatically adjusts the image on the screen (this function not available for European models)
	2) Selects adjustment choices from the OSD menus.
DOWN	1) Enters brightness adjustment (if no OSD is currently displayed on screen)
	2) Decreases value of OSD adjustment choice
UP	1) Enters contrast of the OSD (if no OSD is currently displayed on screen)
	2) Increases value of OSD adjustment choice
	3) Selects OSD choice counterclockwise
MENU	Displays/exits the OSD Menus

After any values have been adjusted, the monitor automatically saves the changes.

You are able to lock and unlock the OSD feature. When the OSD is locked, no OSD can be displayed or used. The monitor is shipped in the unlocked position.

To lock the OSD:

1   Press the **MENU** button and **UP** button simultaneously for 2 seconds. A window will appear displaying "OSD Unlock."

2   Continue to hold the buttons down for another 2 seconds and the window toggles to "OSD Lock."

Power Lock/Unlock

You are able to lock/unlock the Power feature. When the power is locked, pressing the power switch will not turn off the monitor. The monitor is shipped in the unlocked position. To lock the power:

1   Press the **MENU** button and the **DOWN** button simultaneously for 2 seconds. A window will appear displaying "Power Unlock."

2   Continue to hold the buttons down for another 2 seconds and the window toggles to "Power Lock."

NOTE: By default, the OSD screen will disappear if no input activities are detected for 30 seconds.

On-Screen Display (OSD) Control Options (for Rear Panel Controls or Optional Remote Control Box)

Auto Adjust
- Automatically adjusts video timing parameters (*of VGA video only*).

Luminance

   Brightness
- Adjusts the brightness.

   Contrast
- Adjusts the contrast.

Geometry (applies to analog VGA input only)

   H-position
- Moves the image left or right on the screen.

   V-position
- Moves the image up or down on the screen.

   Clock
- Stretches the image horizontally.

   Phase
- Adjusts the phase of the dot clock to image data.

Color
- Sets the color temperature.

Input Select
- Selects between VGA and DVI input signals (not available for European models).

OSD

   OSD H-Position
- Adjusts the OSD menu screen left or right.

   OSD V-Position
- Adjusts the OSD menu screen up or down.

   OSD Timeout
- Adjusts amount of time that the OSD menu is displayed.

Language
- Selects the language used for the OSD menu from English, French, German, Spanish, Italian, Traditional Chinese, Simplified Chinese, or Japanese.

Recall

    Recall Color

        • Restores default color temperature settings.

    Recall Defaults

        • Restores original factory settings for H-position, V-position, Clock, and Phase for the current video mode (*VGA only*).

        • Restores original factory settings for all other parameters and video inputs, except language (*VGA and DVI*).

Miscellaneous

    Sharpness

        • Adjusts sharpness of video.

    Display Information

        • Frequency of the input horizontal/vertical synchronizing signal is indicated.

Preset Display Modes

The touchmonitor comes with preset settings for commonly used video modes. It automatically adjusts the picture size and centering for any of the video modes listed in *Appendix B, 2240L Specifications* (page 31), under "Preset Display Modes."

4

TROUBLESHOOTING

If you are experiencing trouble with your touchmonitor, refer to the table below. If the problem persists, please contact your local dealer or our service center. Elo Technical Support numbers are listed on the following page.

Solutions to Common Problems

Problem	Suggestions
The monitor does not respond after you turn on the system	Check that the monitor's Power Switch is on. Turn off the power and check the monitor's power cord and signal cable for proper connection.
Characters on the screen are dim	Refer to the *On-Screen Display (OSD) Remote Control Box* section to adjust the brightness.
The screen is blank	If not used for a period of time, the screen may automatically turn off as a result of a computer Power Saving feature. Press any key on the computer's keyboard to see if the screen reappears. Refer to the *On-Screen Display (OSD) Remote Control Box* section to adjust the brightness.
Screen flashes when you first turn on the monitor	Turn the monitor off, then turn it on again.
"Out of Range" display	Check to see if the video mode or vertical frequency of your video source is outside the range of the touchmonitor. See Chapter 3 and Appendix B for more information on allowable video modes.
Touch doesn't work	Make sure the USB or serial cable is securely attached at both ends.

Technical Support

To contact technical support online, please go to:

www.elotouch.com/go/contactsupport

To contact technical support by telephone, please call:

1-800-557-1458

A

TOUCHMONITOR SAFETY

This appendix contains important information on the proper setup and maintenance of your touchmonitor.

1   To reduce the risk of electric shock, follow all safety notices and never open the touchmonitor case.

2   Turn off the product before cleaning. (Please refer to *Care and Handling of Your Touchmonitor* on the following page for proper cleaning methods.)

3   Your touchmonitor is equipped with a 3-wire, grounding power cord. The power cord plug only fits into a grounded outlet. Do not attempt to fit the plug into an outlet that has not been configured for this purpose. Do not use a damaged power cord. Only use the power cord that comes with your Elo TouchSystems Touchmonitor. Use of an unauthorized power cord may invalidate your warranty.

4   The slots located on the sides and top of the touchmonitor case are for ventilation. Do not block or insert anything inside the ventilation slots.

5   It is important that your touchmonitor remains dry. Do not pour liquid into or onto your touchmonitor. If your touchmonitor becomes wet do not attempt to repair it yourself.

Care and Handling of Your Touchmonitor

The following tips will help keep your Elo touchmonitor functioning at the optimal level.

- To avoid risk of electric shock, do not disassemble the touchmonitor. There are no user-serviceable parts inside the touchmonitor. Remember to unplug the touchmonitor from the power outlet before cleaning.
- Do not use alcohol (methyl, ethyl or isopropyl) or any strong solvent. Do not use thinner or benzene, abrasive cleaners, or compressed air.
- To clean the touchmonitor housing, use a cloth lightly dampened with a mild detergent.
- Avoid getting liquids inside your touchmonitor. If liquid does get inside, have a qualified service technician check it before you power it on again.
- Do not wipe the touchscreen with anything abrasive that could scratch the surface.
- To clean the touchscreen, use window or glass cleaner. Put the cleaner on a clean, soft cloth and wipe the touchscreen. *Never* apply the cleaner directly to the touchscreen.

Warning

This product consists of devices that may contain mercury, which must be recycled or disposed of in accordance with local, state, or federal laws. (Within this system, the backlight lamps in the monitor display contain mercury.)

Waste Electrical and Electronic Equipment (WEEE) Directive

In the European Union, this label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

B

TECHNICAL SPECIFICATIONS

2240L Specifications

Model	ET2240L
LCD Display	22" TFT active matrix panel
Display Size	473.76(H) x 296.1(V) mm
Pixel Pitch	.282(H) x .282(V) mm
Preset Display Modes	640 x 480 @ 60Hz
	640 x 480 @ 66Hz
	640 x 480 @ 72Hz
	720 x 350@ 70Hz
	720 x 400 @ 70Hz
	800 x 500 @ 60Hz
	800 x 600 @ 56Hz
	800 x 600 @ 60Hz
	800 x 600 @ 72Hz
	832 x 624 @ 75Hz
	1024 x 768 @ 60Hz
	1024 x 768 @ 65Hz
	1024 x 768 @ 72Hz
	1024 x 768 @ 75Hz
	1152 x 864 @ 75Hz
	1280 x 768 @ 65Hz
	1280 x 960 @ 60Hz
	1280 x 1024 @ 60Hz
	1280 x 1024 @ 75Hz
	1360 x 768 @ 60Hz
	1366 x 768 @ 60Hz
	1600 x 1200 @60Hz
	1680 x 1050 @ 60Hz
Native Resolution	1680 x 1050
Contrast Ratio	1000:1 (typical)
Brightness	No Touch: Typical 270 cd/m^2
	IntelliTouch: Typical 270 cd/m^2
	APR: Typical 270 cd/m^2
	Surface Capacitive: Typical 249 cd/m^2

Response Time	Rising and falling time: 16 ms (typical)
	Gray to gray: 6 ms (typical)
Display Color	16.7 Million
Viewing Angle	Vertical - Typical 178° at a CR>10
	Horizontal - Typical 178° at a CR>10
Input Video Signal	• RGB Analog Video
	• DVI-D Video (not available with European models)
Input Video Range	Horizontal scan frequency: 30 to 75KHz
	Vertical frame rate range: 56 to 75Hz
Video Signal Connector	Analog: 15-pin Female D-Sub
	Digital: Female DVI-D (not available with European models)
Plug & Play	DDC1 and DDC2B
VESA EDID file	Version 1.3
VESA MCCS protocol	Version 2.0
Touch Technology (optional)	IntelliTouch, Acoustic Pulse Recognition, or Surface Capacitive
Power Input	100–240 Vac, 50/60Hz
Operating Conditions	Temperature: 0°C to 40°C
	Humidity: 20% to 80% (no condensation)
	Altitude: 0 to 3,658 m
Storage Conditions	Temperature: -20°C to 60°C
	Humidity: 10% to 90% (no condensation)
	Altitude: 0 to 12,192 m
Dimensions (HxWxD)	352 x 530 x 78 mm
Weight	8.48 Kg (unpackaged)
	12.59 Kg (packaged)

REGULATORY INFORMATION

I. Electrical Safety Information:

A) Compliance is required with respect to the voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified herein may result in improper operation, damage to the equipment, invalidation of warranty, or a fire hazard if the requirements are not followed.

B) There are no operator-serviceable parts inside this equipment. There are hazardous voltages generated by this equipment which constitute a safety hazard. Service should be provided only by a qualified service technician.

C) This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.

    1) Do not substitute the cord with other than the provided approved type. Under no circumstances use an adapter plug to connect to a 2-wire outlet as this defeats the continuity of the grounding wire.

    2) The equipment requires the use of the ground wire as a part of the safety certification. Modification or misuse can provide a shock hazard that can result in serious injury or death.

    3) Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment to main power.

II. Emissions and Immunity Information

A) Notice to Users in the United States: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential or commercial installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

B) Notice to Users in Canada: This equipment complies with the Class B limits for radio noise emissions from digital apparatus as established by the Radio Interference Regulations of Industry Canada.

C) Notice to Users in the European Union: Use only the provided power cords and interconnecting cabling provided with the equipment. Substitution of provided cords and cabling may compromise electrical safety or CE Mark Certification for emissions or immunity as required by the following standards: This Information Technology Equipment (ITE) is required to have a CE Mark on the manufacturer's label which means that the equipment has been tested to the following Directives and Standards:

This equipment has been tested to the requirements for the CE Mark as required by EMC Directive 89/336/EEC indicated in European Standard EN 55022 Class B and the Low Voltage Directive 73/23/EEC as indicated in European Standard EN 60950.

D) General Information to all Users: This equipment generates, uses and can radiate radio frequency energy. If not installed and used according to this manual, the equipment may cause interference with radio and television communications. There is, however, no guarantee that interference will not occur in any particular installation due to site-specific factors.

1) In order to meet emission and immunity requirements, the user must observe the following:

a) Use only the provided I/O cables to connect this digital device with any computer.

b) To ensure compliance, use only the provided manufacturer's approved power cord.

c) The user is cautioned that changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2) If this equipment appears to cause interference with radio or television reception, or any other device:

a) Verify as an emission source by turning the equipment off and on.

b) If you determine that this equipment is causing the

interference, try to correct the interference by using one or more of the following measures:

i) Move the digital device away from the affected receiver.

ii) Reposition (turn) the digital device with respect to the affected receiver.

iii) Reorient the affected receiver's antenna.

iv) Plug the digital device into a different AC outlet so the digital device and the receiver are on different branch circuits.

v) Disconnect and remove any I/O cables that the digital device does not use. (Unterminated I/O cables are a potential source of high RF emission levels.)

vi) Plug the digital device into only a grounded outlet receptacle. Do not use AC adapter plugs. (Removing or cutting the power cord ground may increase RF emission levels and may also present a lethal shock hazard to the user.)

vii) If you need additional help, consult your dealer, manufacturer, or an experienced radio or television technician.

III. Agency Certifications

The following Certifications have been issued for the monitor:

- Argentina S-Mark
- Australia C-Tick
- CE
- China CCC
- China RoHS
- FCC
- IMERC
- Japan VCCI
- Korea MIC
- Mexico NOM
- Russia PCT
- Taiwan
- UL
- cUL
- WEEE

WARRANTY

Except as otherwise stated herein or in an order acknowledgment delivered to Buyer, Seller warrants to Buyer that the Product shall be free of defects in materials and workmanship. With the exception of the negotiated warranty periods; the warranty for the touchmonitor and components of the product is 3 years.

Seller makes no warranty regarding the model life of components. Seller's suppliers may at any time and from time to time make changes in the components delivered as Products or components. Buyer shall notify Seller in writing promptly (and in no case later than thirty (30) days after discovery) of the failure of any Product to conform to the warranty set forth above; shall describe in commercially reasonable detail in such notice the symptoms associated with such failure; and shall provide to Seller the opportunity to inspect such Products as installed, if possible. The notice must be received by Seller during the Warranty Period for such product, unless otherwise directed in writing by the Seller. Within thirty (30) days after submitting such notice, Buyer shall package the allegedly defective Product in its original shipping carton(s) or a functional equivalent and shall ship to Seller at Buyer's expense and risk.

Within a reasonable time after receipt of the allegedly defective Product and verification by Seller that the Product fails to meet the warranty set forth above, Seller shall correct such failure by, at Seller's options, either (i) modifying or repairing the Product or (ii) replacing the Product. Such modification, repair, or replacement and the return shipment of the Product with minimum insurance to Buyer shall be at Seller's expense. Buyer shall bear the risk of loss or damage in transit, and may insure the Product. Buyer shall reimburse Seller for transportation cost incurred for Product returned but not found by Seller to be defective. Modification or repair, of Products may, at Seller's option, take place either at Seller's facilities or at Buyer's premises. If Seller is unable to modify, repair, or replace a Product to conform to the warranty set forth above, then Seller shall, at Seller's option, either refund to Buyer or credit to Buyer's account the purchase price of the Prod-

uct less depreciation calculated on a straight-line basis over Seller's stated Warranty Period.

THESE REMEDIES SHALL BE THE BUYER'S EXCLUSIVE REME-DIES FOR BREACH OF WARRANTY. EXCEPT FOR THE EXPRESS WARRANTY SET FORTH ABOVE, SELLER GRANTS NO OTHER WARRANTIES, EXPRESS OR IMPLIED BY STATUTE OR OTHER-WISE, REGARDING THE PRODUCTS, THEIR FITNESS FOR ANY PURPOSE, THEIR QUALITY, THEIR MERCHANTABILITY, THEIR NONINFRINGEMENT, OR OTHERWISE. NO EMPLOYEE OF SELL-ER OR ANY OTHER PARTY IS AUTHORIZED TO MAKE ANY WAR-RANTY FOR THE GOODS OTHER THAN THE WARRANTY SET FORTH HEREIN. SELLER'S LIABILITY UNDER THE WARRANTY SHALL BE LIMITED TO A REFUND OF THE PURCHASE PRICE OF THE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR THE COST OF PROCUREMENT OR INSTALLATION OF SUBSTI-TUTE GOODS BY BUYER OR FOR ANY SPECIAL, CONSEQUEN-TIAL, INDIRECT, OR INCIDENTAL DAMAGES.

Buyer assumes the risk and agrees to indemnify Seller against and hold Seller harmless from all liability relating to (i) assessing the suit-ability for Buyer's intended use of the Products and of any system design or drawing and (ii) determining the compliance of Buyer's use of the Products with applicable laws, regulations, codes, and stan-dards. Buyer retains and accepts full responsibility for all warranty and other claims relating to or arising from Buyer's products, which include or incorporate Products or components manufactured or supplied by Seller. Buyer is solely responsible for any and all representations and warranties regarding the Products made or authorized by Buyer. Buyer will indemnify Seller and hold Seller harmless from any liability, claims, loss, cost, or expenses (including reasonable attorney's fees) attributable to Buyer's products or representations or warranties con-cerning same.

www.elotouch.com

Get the latest...

• Product information

• Specifications

• News on upcoming events

• Press release

• Software drivers

• Touch Monitor Newsletter

Getting in Touch with Elo

To find out more about Elo's extensive range of touch solutions, visit our Website at www.elotouch.com or simply call the office nearest you:

North America	**Germany**	**Belgium**	**Asia-Pacific**
Elo TouchSystems	Tyco Electronics Raychem GmbH	Tyco Electronics Raychem N.V.	Sun Hamada Bldg. 2F
301 Constitution Drive	(Elo TouchSystems Division)	(Elo TouchSystems Division)	1-19-20 ShinYokohama
Menlo Park, CA 94025	Finsinger Feld 1	Diestsesteenweg 692	Kanagawa 222-0033
USA	D-85521 Ottobrunn	B-3010 Kessel-Lo	Japan
	Germany	Belgium	
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