USER MANUAL

Elo Touch Solutions
90 Series Open Frame Touchscreen

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Section 1: Introduction

Product Description

Your new touchscreen display combines Elo's latest developments in touch technology and display design with the reliability for use in high-traffic environment.

This touchscreen incorporates a 24-bit color, active matrix thin-film-transistor LCD panel to provide high quality display performance. The 90 Series offers sizes that range from 10.1-inch to 27 -inch and resolutions that range from 800x600 to Full HD 1920x1080. The LED backlight significantly reduces power consumption and eliminates mercury (compared to CCFL-backlit panels). Other features that enhance this LCD monitor's display performance are Plug & Play compatibility, remote on-screen display (OSD) controls and flexible mounting options.

Precautions

Follow all warnings, precautions and maintenance as recommended in this user manual to maximize the life of your unit and prevent risks to user safety. See the Safety & Maintenance Section for more information.

This manual contains information that is important for the proper setup and maintenance of the unit. Before setting up and powering on your new touchscreen, read through this manual, especially the Installation, Mounting, and Operation Sections.

Section 2: Installation

Unpacking the Touchscreen Display

Open the carton and verify that the following items are present:

- User Manuals CD

- Japanese language regulatory information pamphlet

- Quick Install Guide

- HDMI cable

- EEI label

- VGA cable

- USB cable (not available for ETXX9XL-0NXX models)

- Mounting brackets

- OSD remote

Connector Panel & Interfaces

*Please note the COM (Serial) port for touch is only applicable for EXX9XL-XCXX models and removed for the rest models.

With COM (Serial) port

12V DC in   Displayport   HDMI   VGA   OSD Remote   USB for Touch   COM(Serial) for Touch

Without COM (Serial) port

12V DC in   Displayport   HDMI   VGA   OSD Remote   USB for Touch

Touchscreen Display Connections

1. Connect the HDMI/DP/VGA video cables between the monitor's HDMI/DP/VGA input connectors and your HDMI/DP/VGA video source. Tighten the video cable's screws for best performance on VGA connector.

2. Connect the USB touch cable between the monitor's USB connector and your PC's USB port. (Not applicable for EXX9XL-0NXX models)
   * Or Connect the Serial touch cable between the monitor's COM (Serial) connector and your PC's COM (Serial) port. (Only applicable for EXX9XL-XCXX models)

3. Connect a 12VDC power supply to the monitor's input power jack.

4. The touchscreen display ships in an ON state, video should be displayed on your monitor already.

Installing the Touch Technology Software Drivers

No additional drivers are required for your projected-capacitive touchscreen displays with Windows 7 and 8 operating systems, it uses Windows HID drivers. If the monitor is used with Windows XP operating system, follow below steps to install Windows XP touch driver.
To download the latest touch drivers

1. Visit www.elotouch.com/Support/Downloads/Driver/DriverDownload/Default.aspx

2. Select the operating system from "Operating System" dropdown menu.

3. Select the technology from "Technologies" dropdown menu.

4. Click on the driver version required for your touchscreen display.

5. Click "Accept" once you are directed to the "Driver License Agreement" page.

6. Enter your email address, Click on "Next Step". Your driver download will start automatically.

7. If you are a new user, fill in the required information and click on "Register". Your driver download will start automatically.
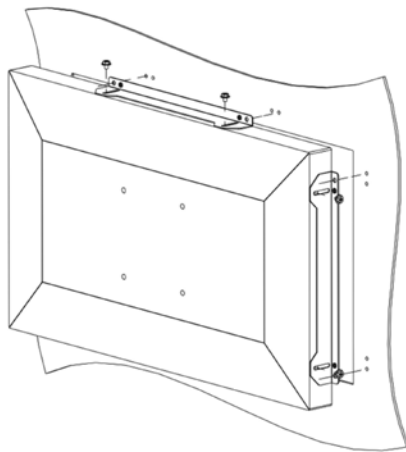
Section 3: Mounting
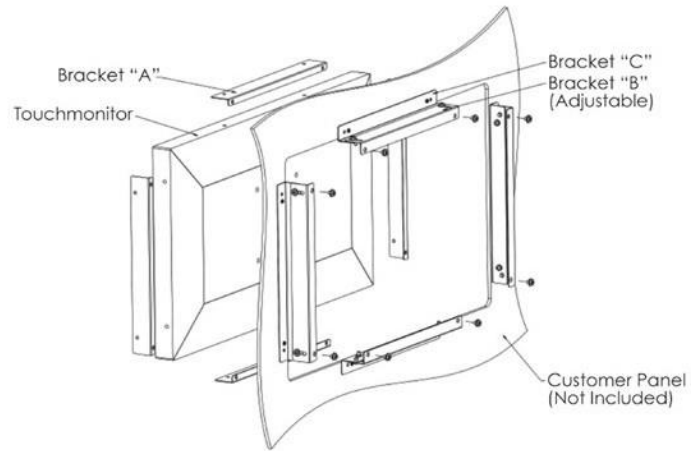
Flush Mount

Flush-mount Bracket Installation Notes:

Bracket shape varies for each model, drawing for illustration purposes only. See dimensional drawing for exact dimensions.

1. Attach bracket "A" To touchscreen display (all four sides) with M4 screws (included)

2. Attach bracket "C' to customer panel per drawing (all four sides)

3. Attach bracket "B" to bracket "C" on all four sides with M4 screws (included)

4. Adjust depth of bracket "B" so monitor is flush with customer panel

5. Place touchscreen display into customer panel opening

6. Secure touchscreen display to bracket "B" from behind with M4 screws (included)

Side Bracket Mount

Side-mount Bracket Installation Notes:

Bracket shape varies for each model, drawing for illustration purposes only. See dimensional drawing for exact dimensions.

Rear VESA Mount

A four-hole mounting pattern for M4 screws is provided on the rear of the monitor.

The VESA FDMI-compliant counting is coded: VESA MIS-E,C.
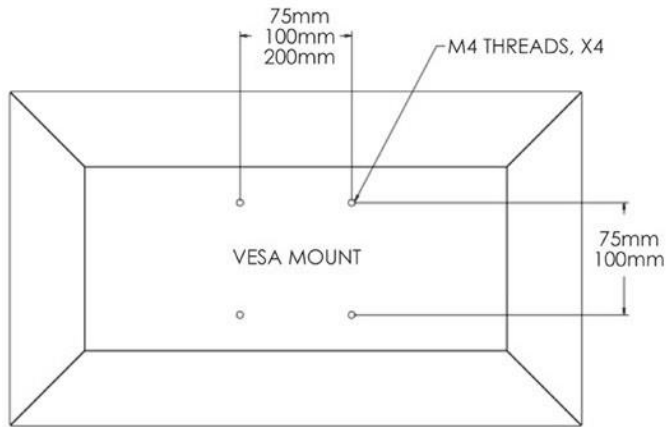
	ET1093L	ET1291L	ET1590L	ET1593 L	ET1790L	ET1990/1991L	ET2094L	ET2293/2294L	ET2494L	ET2794L
75 x 75 mm	X	X	X	X	X	X (depends on different model)				
100x100 mm			X		X	X	X	X		
200x100 mm									X	X

Section 4: Operation

Power

The touchscreen display ships in an ON state.

To turn the touchscreen display on or off, press the touchscreen display power button on the OSD controller once. The power status LED on the OSD controller functions according to the following table.

Touchscreen Display/Computer Module Status	LED Status
OFF	OFF
SLEEP	PULSING
ON	ON

The system consumes low power when in SLEEP and OFF modes. For detailed power consumption specifications, refer to technical specifications on the Elo website http://www.elotouch.com

Touching the screen will bring the attached host PC out of SLEEP mode (similar to moving the mouse or pressing a keyboard key).

To improve reliability and reduce wasteful power consumption, disconnect the AC power cable from the monitor when long periods of disuse are planned.

Touch

Your touchscreen display is factory-calibrated and should not need manual calibration (unless the input video is not fully scaled to the native resolution, or the touch experience needs to be calibrated to a specific user).
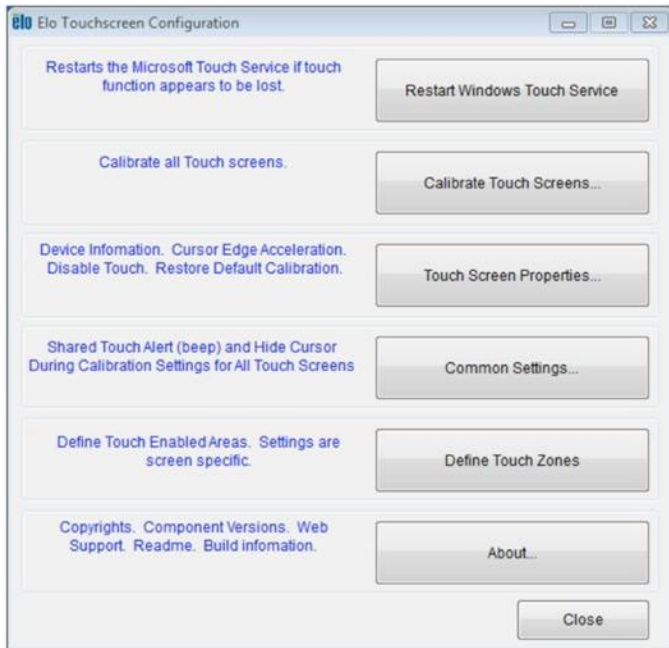
IntelliTouch Dual Touch Technology

When connected to Windows 7 computers, the touchscreen display can report 2 simultaneous touches. When connected to Windows XP computers, the touchscreen display reports single touch.

The IntelliTouch Dual Touch touchscreen can be re-calibrated to your displayed video image, if needed, through the calibration function in the Elo driver control panel.

The IntelliTouch Dual Touch driver will only support multiple monitors if they are all using the IntelliTouch Dual Touch technology.

To use multiple IntelliTouch Dual Touch monitors, double click on the EloConfig desktop shortcut to open up the Elo Touch Configuration screen

Select "Match Touch to Display..." to calibrate multiple monitors.

Projected Capacitive Touch Technology

When connected to Windows 7 or 8 computers, the touchscreen display can report 10 simultaneous touches. When connected to Windows XP computers, the touchscreen display reports single touch.

No additional drivers are required for this technology to work with Windows 7 and 8, it uses Windows HID drivers.
Refer to Chapter 2, Section "Installing the Touch Technology Software Drivers" to find instructions to download touch drivers for Windows XP.

Gesture Support

The IntelliTouch Dual Touch technology enables several gestures that support single and multiple touches. Refer to the Microsoft Website http://msdn.microsoft.com/en-us/library/dd940543 on the various gestures that are supported in Windows 7.

Video

A display's native resolution is its width and height measured in number of pixels. Generally, for best performance, an image

displayed on this monitor will look best when your computer's output resolution matches this monitor's native resolution.

For computer output resolutions at non-native resolutions, the monitor will scale the video to its panel's native resolution. This involves stretching or compressing the input image as needed in the X- and Y-dimensions to fit the display's native resolution. An unavoidable byproduct of the scaling algorithms is a loss of fidelity when the computer's output video image is scaled by the monitor to fit the display. This loss of fidelity is most apparent when viewing feature-rich images at close distances (for example images containing small-font text).

Your touchscreen display will likely not require video adjustments. However, for analog VGA video, variations in video graphic card outputs may require user adjustments through the OSD to optimize the quality of the monitor's displayed image. These adjustments are "remembered" by the touchscreen display. Also, to reduce the need for adjustments for different video mode timings, the monitor correctly scales and displays some of the video industry's most common video timing modes. Refer to the technical specifications for this monitor at http://www.elotouch.com for a list of these Preset Video Modes.
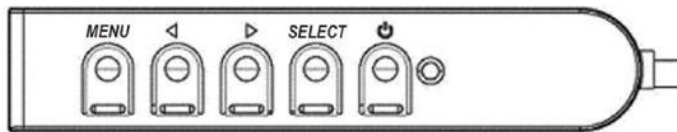
On-Screen Display (OSD)

Four OSD buttons are located on a wired control box. These can be used to adjust various display parameters. The buttons and their functionality are:

Button	Function when OSD is not displayed	Function when OSD is displayed
Menu	Display OSD Main menu	Return to previous OSD menu
◀	Display OSD Contrast submenu	Decrease value of selected parameter / select previous menu item
▶	Display OSD Brightness submenu	Increase value of selected parameter / select next menu item
Select	Display Video Priority submenu	Select parameter for adjustment / select submenu to enter

Using the OSD buttons controls an on-screen graphical user interface which displays on top of your input video, allowing intuitive adjustment of the following display parameters:

Parameter	Available Adjustment
Brightness	Increase/decrease monitor brightness. Default: maximum
Contrast	Increase/decrease monitor contrast. Default: best gray-shade performance
Clock	Allow fine adjustments of the panel's pixel dot clock. *Only applicable for VGA input video*
Phase	Allow fine adjustments of the panel's pixel dot clock phase. *Only applicable for VGA input video*
Auto Adjust	Automatically adjusts the system clock to the input analog VGA video signal, affecting the H-position, V-position, Clock, and Phase menu items. *Only applicable for VGA input video*
H-position	Move the image horizontally on the display in single-pixel increments. Default: centered *Only applicable for VGA input video*
V-position	Move the image vertically on the display in single-pixel increments. Default: centered Only applicable for VGA input video
Aspect Ratio	Switch the scaling method between Full Scaling and Maintain Aspect Ratio. Default: Full Scaling Full Scaling – scale the X- and Y-dimensions of the input video (up or down as needed) to the display's native resolution. Fill To Aspect Ratio – Assuming a landscape orientation and an input video with aspect ratio smaller than 16:9, scale the Y-dimension of the input video (up or down as needed) to the display's Y-resolution, and scale the X-dimension to maintain the input video's aspect ratio (and fills the rest of the display with equal black bars on the left and right). *Other touchscreen technologies may need recalibration when switching between Aspect Ratio options.* *this function is available only on wide monitors.
Sharpness	Adjust sharpness of the displayed images. Default: no sharpness adjustment *Only applicable at non-native input video resolutions.*
Color Temperature	Select the display's color temperature. The available color temperatures are 9300K, 7500K, 6500K, 5500K, and User Defined. If the User Defined option is selected, the user can change the color temperature by changing individual R, G, and B gains on a scale from 0 to 100. Default: User Defined with R, G, and B all set to 100.

Parameter	Available Adjustment
OSD H-Position	Adjust the horizontal location of the OSD menus on the display. Default: centered
OSD V-Position	Adjust the vertical location of the OSD menus on the display. Default: centered
OSD Timeout	Adjust how long a period of OSD button inactivity the touchscreen display will wait before closing the OSD. The adjustable range is between 5 and 60 seconds. Default: 15 seconds
OSD Language	Select which language the OSD information is displayed in. The available languages are: English, French, Italian, German, Spanish, Simplified Chinese, Traditional Chinese, and Japanese. Default: English
Recall Defaults	Select "Recall Defaults" restores all factory default settings for OSD-adjustable parameters (except OSD Language) and for Preset Video Mode timings.
Video Priority	The monitor continually scans for active video on the VGA and Display port connectors. This adjustment selects which of those input ports should be given priority to be displayed. The options are: HDMI Priority, VGA Priority, DP Priority Default: HDMI Priority
Touch on Sleep	Touch function enabled/disabled when the monitor goes into the sleep mode. Default: On
Touch Through	Switch to support two touches when adding a 6mm thickness glass in front of the original touch screen with no air gap. Default: Off *This function is only for 10.1" – 21.5", for the 2494L and 2794L, please contact local sales/FAE to get support as these are addressed through a configuration file that will need to be loaded.

All touchscreen display adjustments made through the OSD are automatically memorized as soon as they are entered.
This feature saves you from having to reset your choices every time the touchscreen display is unplugged or powered off
and on. If there is a power failure, the touchscreen display settings will not default to the factory specifications.

OSD and Power Lockouts

Press and hold the "Menu" and "Down" buttons for two seconds to enable/disable the OSD Locking feature. When the OSD
Locking is enabled, pressing any of the Menu, Up, Down, or Select keys will have no effect on the system.

Press and hold the "Menu" and "Up" buttons for two seconds to enable/disable the Power Locking feature. When
the Power Locking is enabled, pressing the power switch will have no effect on the system.

Section 5: Technical Support

If you are experiencing trouble with your touchscreen display, refer to the following suggestions.

If the problem persists, please contact your local dealer or contact Elo Customer Service. Worldwide technical support phone numbers are available on the last page of this use manual.

Solutions to Common Problems

Problem	Suggested Troubleshooting
The touchscreen display does not respond when turning on the system	Check that the DC power adaptor is properly connected Verify the DC power adaptor is functioning
Monitor display is dim	Use the OSD to increase the brightness. Use the OSD to increase the contrast
Monitor display is blank	If the Power Status LED is blinking, the monitor or Computer Module may be in SLEEP mode Press any key / move the mouse / touch the touchscreen to see if the image reappears Check that the signal source device is turned on Check that that there are no loose cable connections
Monitor displays an "Out Of Range" message	Adjust your computer's resolution/timing mode to be within the allowable timing ranges specified for your touchscreen display (see website for specifications)
Monitor display image looks strange	Adjust your computer's resolution/timing mode to be within the allowable timing ranges specified for your touchscreen display (see website for specifications) Use the Auto Adjust function in the OSD
Touch functionality doesn't work	Verify your PC has the latest Elo drivers installed Perform the calibration routine provided with the latest Elo drivers
The OSD buttons or power button does not respond when pressed	Check to see if the OSD lock or power lock functions is on
Can't wake on touch	Check to see if the OSD touch on sleep function is disabled
Only have two touches	Check to see if the OSD touch through function is on

Technical Assistance

Technical Specifications	Support
visit **www.elotouch.com/products** for technical specifications for this device	visit **www.elotouch.com/support** for technical support

See this user manual's last page for worldwide technical support phone numbers.

Section 6: Safety & Maintenance

Safety

- To avoid risk of electric shock, follow all safety notices and do not disassemble the touchscreen display. They are not user-serviceable.

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

- The touchscreen display ships with a 3-wire, grounding power cord. The power cord plug only fits into a grounded outlet. Do not fit or modify 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 came with your Elo touchscreen display. Use of an unauthorized power cord might invalidate your warranty.

- Ensure that your installation is equipped to maintain the specified environmental conditions listed in the Technical Specifications chapter.

Care and Handling

The following tips will help keep your touchscreen display functioning at an optimal level:

- Disconnect the AC power cable before cleaning.

- To clean the display unit cabinet, use a clean cloth lightly dampened with a mild detergent.

- It is important that your unit remains dry. Do not get liquids on or inside the unit. If liquid does get inside, turn the unit off and have a qualified service technician check it before you power it on again.

- Do not wipe the screen with a cloth or sponge that could scratch the surface.

- To clean the touchscreen, use window or glass cleaner applied to a clean cloth or sponge. Never apply the cleaner directly to the touchscreen. Do not use alcohol (methyl, ethyl or isopropyl), thinner, benzene, or other abrasive cleaners.

- Ensure the environmental temperature and humidity are maintained within specification and do no block ventilation slots.

- Monitors are not designed for outdoors.

Waste Electrical & Electronic Equipment Directive (WEEE)

This product should not be disposed of with household waste. It should be deposited at a facility that enables recovery and recycling.

Section 7: Regulatory Information

Electrical Safety Information

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 will likely result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.

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.

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

Emissions and Immunity Information

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 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.

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 Industrial Canada.

CAN ICES-3(B)/NMB-3(B)

This device complies with Part 15C of FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

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 2014/30/EU as indicated in European Standard EN 55032 Class B and the Low Voltage Directive 2014/35/EU as indicated in European Standard EN 60950-1.

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 line 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. 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 line cord ground may increase RF emission levels and may also present a lethal shock hazard to the user.)

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

Agency Certifications

The following certifications and marks have been issued or declared for this monitor:

- Australia RCM
- Canada CUL, IC
- China CCC
- Europe CE TUV
- Japan VCCI
- Russia EAC

- Korea KCC
- Mexico CoC
- Taiwan BSMI
- United States FCC, UL
- International CB

Explanation of Markings

1. In accordance with the SJ/T11364-2014 requirement, the electronic information products are marked with the following pollution control logo.
The Environment-Friendly Use Period for this product is 10 years. The product will not leak or mutate under normal operating conditions listed below, so that the use of this electronic information product will not result in any severe environmental pollution, any bodily injury, or damage to any assets.

Operating Temperature:0 ℃ -40 ℃ / Humidity:20%-80% (non-condensing). Storage Temperature: -20 ℃ ~60 ℃ / Humidity:10%~95% (non-condensing).

2. It is encouraged and recommended that this product be recycled and reused according to local laws. The product should not be thrown away casually.

Power Adapter Specifications

Electrical Ratings

Input	100 - 240VAC, 50/60Hz
Output	12VDC, 3 or 3.5A, LPS (Power adapter needs to be UL approved, 3A is for specific models)

Monitor Specifications

Electrical Ratings

Input

1093L	ET1291L	ET1590L	ET1593 L	ET1790L	ET1990 /1991L	ET2094L	ET2293 /2294L	ET2494L	ET2794L
12Vdc,1A	12Vdc,1.5A	12Vdc,1.5A	12Vdc,1.5A	12Vdc,2A	12Vdc,2.5A	12Vdc,2.5A	12Vdc,3 or 3.5A	12Vdc,2.5A	12Vdc,3 or 3.5A

Operating Conditions

Temperature	0 ℃ – 40 ℃
Humidity	20% to 80% (non-condensing)
Altitude	0 to 3,048m

Storage Conditions

Temperature	-20℃ - 60℃
Humidity	10% to 95% (non-condensing)
Altitude	0 to 12,192m

Section 8: Warranty Information

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. The warranty for the touchscreen display and their components is three 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 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 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 Product less depreciation calculated on a straight-line basis over Seller's stated Warranty Period.

These remedies shall be the buyer's exclusive remedies for breach of warranty. Except for the express warranty set forth above, seller grants no other warranties, express or implied by statute or otherwise, regarding the products, their fitness for any purpose, their quality, their merchantability, their non-infringement, or otherwise. No employee of Seller or any other party is authorized to make any warranty 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 substitute goods by Buyer or for any special, consequential, 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 suitability 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 standards. 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 concerning same.

Notes

www.elotouch.com

Visit our website for the latest

- Product Information

- Specifications

- Upcoming Events

- Press Releases

- Software Drivers

- Touchmonitor Newsletter

To find out more about our extensive range of Elo touch solutions, go to **www.elotouch.com**, or call the office nearest you.

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