*注意事項:

elo 告知:纸箱的版本有变更,承認書內不會包含包裝式樣圖面,(不同的來料時間包裝如下圖所示),mail 如附件說明(20230831)









設計驗證
工程課
2023. 08. 31
發行









設計驗證
工程課
2023.08.31
發行

p: +886 2 5594 1723
f: +886-2-7743-3668
a: Rm. C, 5F., No.3, Yuandong Rd., Banqiao Dist., New Taipei City 220, Taiwan
w: EloTouch.com

APPROVAL SHEET

Customer	DIVA 3ZTSPJR5340(Z0166)
Elo Product:	Touch Screen 19” AT
Elo P/N	E115352

Signature by DIVA



Prepared By Bob.Huang 12/18/2023
Field Application Engineer

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CONTENTS

1) The Touch Specification 11 pages

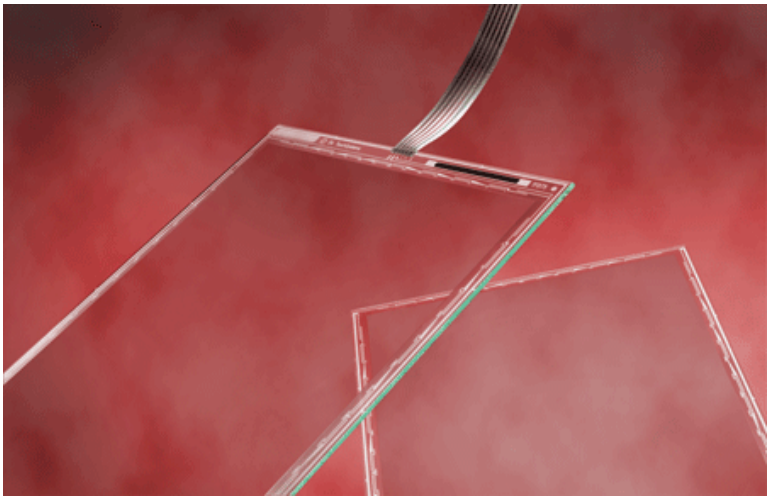
2) The RoHS declaration of Touch Screen 4 pages

3) The Return and Repair Policy 2 pages

4) R.M.A. detail form 1 page

5) SN Format 2 pages

Change note	
Revision	Description
F	Change PF
G	Change ITO glass



TrueFlat AccuTouch

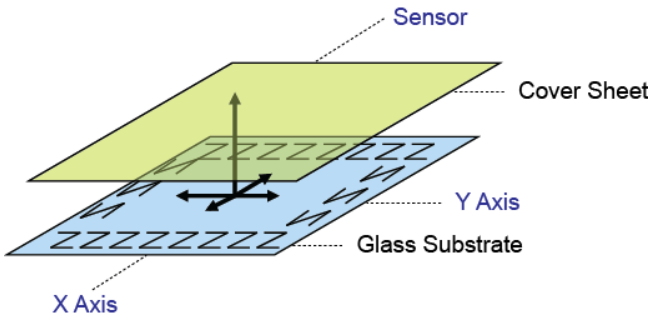
Technology Specifications

elo TOUCH SOLUTIONS

Rev. 1.3• 01-2013

TrueFlat AccuTouch Technology Specifications

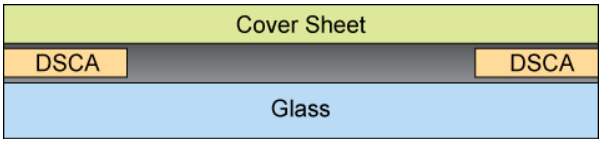
The AccuTouch five-wire resistive touchscreens use a glass panel with a uniform resistive coating. A thick polyester coversheet is tightly suspended over the top of the glass, separated by small, transparent insulating dots. The coversheet has a hard, durable coating on the outer side and a conductive coating on the inner side.



When the screen is touched, the conductive coating makes electrical contact with the coating on the glass. The voltages produced are the analog representation of the position touched. The controller digitizes these voltages and transmits them to the computer for processing. AccuTouch five-wire technology utilizes the bottom substrate for both X and Y-axis measurements. The flexible coversheet acts only as a voltage-measuring probe. This means the touchscreen will continue working properly even with non-uniformity in the coversheet's conductive coating. The result is an accurate, durable and reliable touchscreen that offers drift free operation. AccuTouch screens are sealed against contamination and moisture. This prevents wicking of fluid between the coversheet and glass.

Mechanical

TrueFlat AccuTouch Construction



AccuTouch screens come in two configurations. Standard touch screens have a flat flexible cable that is soldered to the glass. There is a bump where the cable attaches that is typically 0.010" (0.25 mm) high. True Flat touch screens use a flexible printed circuit cable that is attached to the glass using anisotropic film. The border area of True Flat screens is flat within +/- 0.002" (0.050mm).

Cable typically exits from the left side, terminating in a five-position, 0.025 inches (0.635 mm) square post receptacle. The connector shall be capable of at least 100 insertions and withdrawals of a compatible male contact without affecting the electrical performance of the touchscreen. For standard touchscreens, the cable to touchscreen interface shall be capable of withstanding a straight-line pull of 10 pounds, maintained for a period of five minutes. For True Flat touchscreens, the cable to touchscreen interface shall be capable of withstanding a straight-line pull of 4 pounds (1.8 kg), at an angle of 45° in the plane of the glass using an Instron tensile strength testing machine.

The cable to connector housing interface shall be capable of withstanding a straight-line pull of eight pounds, maintained for a period of five minutes. The cable shall be capable of withstanding a forming bend of 180° over a cylinder of radius 0.0625 inches. This bend may be repeated up to 25 times. The cable shall be capable of being folded and creased at least once in any location.

Positional Accuracy

Precision area: for all flat screens up to 18 inches in diagonal, the maximum error is 0.180 inches (4.572 mm) in either axis. For flat screens larger than 18 inches in diagonal, the maximum error is 1% of the diagonal of the active area.

Non precision area: due to resistive touch materials property, the linearity gets worse toward the glass edge. Elo provides a software fix to get the linearity improved in non precision area. With Elo driver with 25-point calibration, for all flat screens up to 18 inches in diagonal, the maximum error is 0.180 inches (4.572 mm) in either axis. For flat screens larger than 18 inches in diagonal, the maximum error is 1% of the diagonal of the active area.

Touchpoint Density

TouchPoint Density is based on controller resolution of 4096x4096. This equates to more than 100,000 touchpoints/in^2 (15,500 touchpoints/cm^2) for a typical touchscreen when used with Elo controllers.

Touch Activation Force

When activated by a Standard Finger (Per Elo Document SD000444), the activating force is typically less than 4 ounces (113 grams).

Hardcoat Pencil Hardness

TrueFlat AccuTouch: meets pencil hardness 4H per ASTM D3363.

Abrasion Test

Meets Taber Abrasion Test (per ASTM D1044), CS-10F wheel, 500 grams.

Expected Life Performance

AccuTouch technology has been operationally tested to greater than 35 million touches in one location without failure, with a stylus similar to a finger.

Test Setup

Each touchscreen to be tested shall be subjected to the normal QC acceptance testing which shall included linearity, open and closed circuit resistance, and visual defects inspection. Each touchscreen shall be connected to a COACh controller and computer. The touchscreen under test shall be mounted to a fixture, which will hold the touchscreen under a pneumatic cylinder. The output piston of the pneumatic cylinder shall be fitted with a "standard finger" conforming to drawing SD000444. The air pressure on the pneumatic cylinder shall be adjusted to provide an actuating force of from 10 to 12 ounces on the "standard finger" when measured at the surface of the touchscreen. The pneumatic cylinder controller shall be adjusted to provide a touch rate of approximately 2 per second (100 to 135 per minute).

Test Procedure

Turn on test computer and monitor. Change directory to the test directory where the "TIC" program is resident and activate the "TIC" program. (This program receives the position information from the touchscreen controller, reports the date, time and position data; and displays it on the monitor; and stores it on the hard drive of the computer. It also compares the position data received at any time with the initial few positions reported and indicates any deviation from the original readings.) Watch the monitor and observe that the data is being taken and recorded. Check output each working day to ensure that the operation is continuing properly (NOTE: AccuTouch HL screens in certain situation will build up a significant amount of static energy on the coversheet. Periodically this static build up must be discharged as to not interfere with the touch test). A failure is recorded anytime the change in positional output data reaches or exceeds 150 counts (this value was chosen to allow for wear on the "standard finger" and on the pneumatic cylinder). At the completion of the test, remove touchscreen from the test fixture and send it to Quality Control for linearity testing and visual inspection. Report the results in the test data report. Send the test data (number of contacts, final positional data, start and stop dates, any unusual circumstances or test equipment failures) to the responsible Product Engineering Department for use in the preparation of the final report.

MTBF

AccuTouch touchscreens have a calculated MTBF of over 490,000 hours based on returns data and hours of usage. See method below:

- The current probability of survival is 0.989 (definition of reliability, R)
- The typical usage rate for 1 year in hours can be estimated as a median usage of 5420 hrs (t): between a minimum 8 hrs/day, 5 days/week, 52 wks/yr or 2080 hrs and a maximum 24 hrs/day, 365 days/yr or 8760 hrs.
- Using the basic reliability formula:
  R = exp -t/MTBF
  0.989 = exp (-5420/MTBF)
  ln (0.989) = 5420/MTBF
  MTBF = 5420/-0.011061
  MTBF = 490,012 hrs

Sealing

Dust Seal

When dirt and dust seals are necessary, open cell foam material, similar to that used between the touchscreen and the display, can easily be applied between the touchscreen and bezel. If the seal contacts the active area of the touchscreen, avoid compression of the seal sufficient enough to cause continuous touch between the touchscreen coversheet and glass. This can be monitored during installation by connecting an ohmmeter between pin 1 and 3 of the touchscreen cable.

Watertight Seal

A Watertight seal is achievable by applying a gasket around the inactive border region of the touchscreen. Elastomer gaskets of almost any type may be used to make a seal between the touchscreen and bezel in this region. In order to prevent unwanted touches caused by the gasket pressing on the active touch area, gaskets must be applied in the inactive border region of the touchscreen. Seals that meet NEMA 4 and 12, and IP65 standards are recommended.

Open-cell or closed-cell foam gaskets manufactured without sulfur vulcanized elastomers are recommended for use with standard touchscreens. In some highly unusual situations associated with high heat and humidity, cell foam gaskets manufactured with sulfur vulcanized elastomers can migrate from these gaskets and attack the silver electrode pattern of the touchscreen. Examples of sulfur vulcanized elastomers include neoprene or polychloroprene (CR), ethylene propylene rubber (EPDM), styrene-butadiene rubber (SBR), nitrile rubber (NBR) and natural rubber (NR). These elastomers can also be cross- linked without the use of sulfur.

To avoid confusion in selecting suitable gasket materials, elastomers that cannot be cross-linked using sulfur are recommended for use with standard touchscreens. These elastomers include silicones, polyurethanes and saturated polyolefins, which are cross-linked using high energy irradiation, peroxide or other chemical crosslinking reactions. Examples of vendors of these materials include Rogers Corporation (www.rogerscorp.com) for silicone gasket materials (BISCO Cellular Silicones) and polyurethane gaskets (PORON) and Voltek, Division of Sekisui America Corporation, which supplies irradiation and chemically crosslinked polyethylene foams (Volara and Minicel).

True Flat screens have a special sealant around the cable attachment area and have been successfully used in installations with sulfur in the air.

Application Note: When necessary to achieve a robust, watertight seal, it is important to note the following. Resistive touchscreen coversheets are inherently hydroscopic, and thermally responsive. They may have a different coefficient of expansion than the bezel, and as such, forces can be transferred to the coversheet which may, in extreme environmental conditions, affect the coversheet fit. It is important to consider your bezel compatibility, adhesive rigidity, and environment before integrating ANY resistive touch screen. It is also recommended that AccuTouch touchscreens are not glued or tightly clamped to a rigid bezel as this could lead to buckling of the coversheet. However, if it is necessary to glue the touchscreen to the bezel, then a screen built with thermal-cured caulk should be used. In addition, the touchscreen should be glued into the bezel using an acrylic adhesive like GE Infinity.

Environmental

Temperature

- **Operating**: -10℃ to 50℃
- **Storage**: -40℃ to 71℃

Functionality is not adversely affected within these operating guidelines.

Application Note: When AccuTouch touchscreens are stored in temperatures below 0℃, Elo recommends pre-conditioning the touchscreen temperature above 0℃ prior to handling or removing the touchscreens from their original packaging.

Relative Humidity

- **Functional operating limits**: TrueFlat design: 90% RH at max 50℃
- **Functional storage limits**: TrueFlat design: 90% RH at max 50℃ for 240 hrs, noncondensing

Thermal Cycling

The touchscreen shall be capable of functioning normally after the completion of fifty thermal cycles from room conditions to 70° C, back to room temperature; and then to -40° C a nd back to room temperature at a rate not to exceed 2º C per minute and with a one hour soak at each temperature extreme.

Immersion

The touchscreen shall be capable of functioning normally after having its lower edge immersed in water containing 5% isopropyl alcohol to a height one third of the overall height of the touchscreen, for a period of six hours.

Water Spray

The touchscreen shall function normally and not be damaged by running water applied to the active area.

Chemical Resistance

The active area of the touchscreen is resistant to the following chemicals when exposed for a period of one hour at a temperature of 70℉ (21℃) :

- **Industrial Chemicals:** Acetone, Methylene chloride, Methyl ethyl ketone, Isopropyl alcohol, Hexane, Turpentine, Mineral spirits, Unleaded Gasoline, Diesel Fuel, Motor Oil, Transmission Fluid, Antifreeze.
- **Food Service Chemicals:** Ammonia based glass cleaner, Laundry Detergents, Cleaners (Fantastic, Formula 409, Joy, etc.), Vinegar, Coffee, Tea, Grease, Cooking Oil, Salt.

Altitude

- **Operating**: The touchscreen shall be capable of operating at an altitude of 10,000 feet above sea level.
- **Storage**: The touchscreen shall be capable of being stored without damage at an altitude of 50,000 feet above sea level.

Vibration

The touchscreen shall not be damaged by being subjected to a vibration of 0.01 inches peak to peak excursion, at a frequency of 5 to 455 Hz, for a period of 15 minutes in each of three axes.

Shock

The touchscreen, in its standard shipping container, shall be capable of withstanding the drop test of Project 1A of the National Safe Transit Association Program Pre-shipment Test Procedures (10 drops from a height of 30 inches).

Electrical

Electrostatic Discharge Protection

The touchscreen withstands 20 discharges of 15KV, distributed randomly across the active area of the touchscreen with proper transient protection, per EN 61000-4-2 (1995)

Contact Bounce

Measured from the beginning of the touch pulse shall not exceed 15 milliseconds.

Open Circuit Resistance

Greater than 20K ohms, when measured from the signal contact (pin 3) to any drive contact (pins 1, 2, 4, or 5) on the connector, with no force applied to the active surface. Although typical open circuit resistance measurements are in the millions of ohm range, Elo controllers are designed to distinguish resistance values less than 10K ohms to filter false or near touches.

Closed Circuit Resistance

Shall be less than 3000 ohms when measured between the signal contact (pin 3) to any drive contact (pins 1, 2, 4, or 5) on the connector when the touchscreen is actuated anywhere within the Touch Active Area with a Standard Finger (SD000444) exerting a force of 10 to 12 ounces.

Breakdown Voltage

The touchscreen, with no force applied to the active surface, shall be capable of withstanding a difference of potential of 50 volts DC, between the signal contact (pin 3) and any drive contact (pins 1, 2, 4, or 5) on the connector for a period of 5 minutes.

Optical

Test Environment

The test environment for optical inspection is critical. The following criteria are derived from the ASTM D618 Standard Practices for Conditioning Plastics for Testing.

Conditioning: AccuTouch touchscreens should be conditioned at 23 +/- 2℃ (73.4 +/- 3.6℉) and 50 +/- 5% relative humidity for not less than 40 hours prior to test, in accordance with Procedure A of ASTM Practice D618.

Test Conditions: AccuTouch touchscreens should be set up for testing in an atmosphere maintained at 23 +/- 2℃ (73.4 +/- 3.6℉) and 50 +/- 5% relative humidity.

Available Coversheets

Coversheets are available in high light transmission (HL, antiglare) version.

Light Transmission

Light Transmission testing is in accordance with ASTM D1003.

- **HL Products**: 80% +/-5% at 550 nm wavelength (visible light spectrum).

Visual Resolution

All measurements made using USAF 1951 Resolution Chart, under 30X magnification, with test unit located approximately 1.5 inch (38 mm) from surface of resolution chart.

- **Antiglare surface**: 6:1 minimum

Haze

Haze testing is in accordance with ASTM D1003.

- **Antiglare surface**: Less than 15%

Gloss

Gloss testing is in accordance with ASTM D2457.

- **Antiglare surface**: 130 ± 20 gloss units tested on a hard-coated front surface.

Cosmetic

Scope and Test Environment

This document applies to all standard AccuTouch touchscreens. Due to the subjective nature of cosmetic inspections, cosmetic inspection techniques are only applicable for incoming inspections of new touchscreen product. Cosmetic inspection techniques may not be applicable for product that has been excessively handled, integrated into final assemblies or has remained in the customer's inventory for more than 90 days. Cosmetic touchscreen issues do not effect the operational specifications of the AccuTouch touchscreen product.

The test environment for cosmetic inspection is critical. The following criteria are derived from the ASTM D618 Standard Practices for Conditioning Plastics for Testing.

Conditioning

AccuTouch touchscreens should be conditioned at 23 +/- 2℃ (73.4 +/- 3.6℉) and 50 +/- 5% relative humidity for not less than 40 hours prior to test, in accordance with Procedure A of ASTM Practice D618.

Test Conditions

AccuTouch touchscreens should be set up for testing in an atmosphere maintained at 23 +/- 2℃ (73.4 +/- 3.6℉) and 50 +/- 5% relative humidity.

Surface Quality

Circular Criteria

Surface quality criteria identify cosmetic irregularities appearing on or between the glass and plastic surfaces of the touchscreen. Elo surface quality criteria are consistent with the criteria used by the major LCD and display manufactures. Circular criteria identify surface quality irregularities that are circular in nature. This includes dirt, particles, glass bubbles, digs, hard coat flaws, etc. Size will be measured across its diameter. Irregularly shaped circular defect diameters will be designated by the smallest diameter into which the defects could be completely contained, i.e. the length at the widest point of the defect.

Active Area: In the active area, no defect larger than 0.020 inches is allowed. There shall be no more than two defects in the range of 0.015 and 0.020 inches contained within a 2 inch diameter area. The sum of the diameters of all circular defects contained within a 2 inch diameter area shall not exceed 0.050 inches. Black- colored specks or dirt larger than 0.005 inches are not allowed.

Viewable DSCA Area: In the viewable DSCA (double-sided coversheet adhesive) area, no defect larger than 0.040 inches is allowed. The viewable DSCA area of the touchscreen is the area seen by the customer under normal use. Normally, the viewable area coincides with the active area, but depending on the customer's application, it could extend outwards. Therefore, the standard definition of the viewable DSCA area is the area 0.125 inches larger per side than the active area (adhesive edge) or the area between the active area and frit pattern whichever is smaller.

Outside Viewable Area: Free area, no criteria for circular defects and no particles that affect form or function of the screen allowed.

Linear Criteria

Surface quality criteria identify cosmetic irregularities appearing on or between the glass and plastic surfaces of the touchscreen. Elo surface quality criteria are consistent with the criteria used by the major LCD and display manufactures. Linear criteria are quality irregularities that are linear in nature. Linear defect size will be measured across the width of the defect at its widest point. Linear defects smaller than 0.001 inches will not be considered in the evaluation of cosmetic acceptability.

Active Area: In the active area, no defect having a width larger than 0.004 inches is allowed. The maximum length of a single defect, with a width between 0.003 and 0.004 inch is 0.500 inches. The combined length of multiple linear defects within a 2 inch diameter area shall not exceed the requirements shown. The distance between two linear defects shall not be less than the separation shown below. When two linear defects are in different width categories, the largest width category shall be used to determine minimum separation.

Width Range	Max Length	Min Separation
0.0031-0.0040	0.500	0.250
0.0021-0.0030	1.000	0.150
0.0010-0.0020	1.500	0.050

Outside Active Area: No linear defect will be accepted having a width larger than 0.012 inches.

Inspection Method

Inspection will be accomplished by looking through the touchscreen at the inspection light. The inspection light will consist of U.S. standard cool white fluorescent, F2, lamps which are mounted 3 to 4 inches behind an acrylic diffuser, producing light energy of approximately 750+/-250lux. The outer surface of the inspection light will be covered with equally spaced horizontal black stripes, approximately 2 inches wide, and covering roughly 50% of the light's outer surface. The element will be held 6 to 12 inches from the face of the inspection light, and will be viewed at a distance of 12 to 18 inches. Move touchscreen slowly up and down while viewing all areas as they pass from light to dark then back to light. Inspection will be performed using the un-aided eye, excluding prescription eyeglasses or contact lens. Measurement of defect size may be aided by magnification.

Passable Criteria

The AccuTouch polyester coversheet has a durable hardcoat and antiglare coating on the outer surface, and conductive metallic coating on the inter surface. The combination of lighting conditions, inspection viewing angle, background, etc. may reveal additional defects that are inherent with the material and coatings. The following defects will pass if they fade in front of a light box:

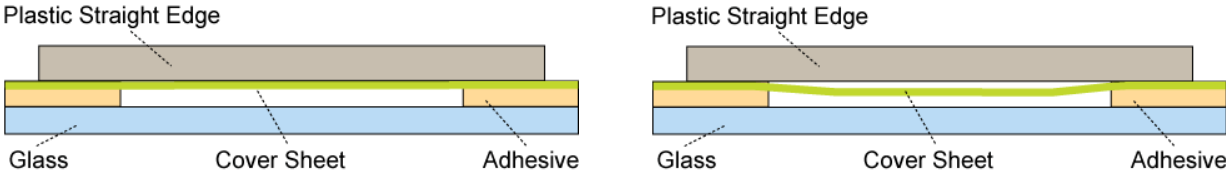
- Stain
- Discoloration
- Infringement patterns (optical characteristic caused by fluorescent lights)
- Streaks
- Stress
- Scuffs

Coversheet Fit Criteria

Coversheet fit criteria pertain to the degree of tightness of the coversheet to the touchscreen glass. The following criteria is based on flat screens.

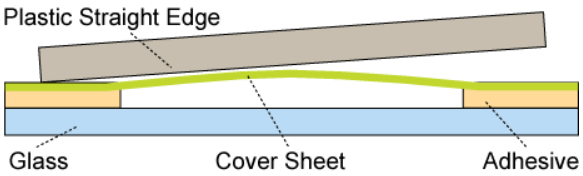
Proper Fit

Proper fit is characterized by a tight fitting coversheet. Place a plastic straight edge diagonally across the entire surface of the coversheet. Apply pressure in one corner in the area over the adhesive. The straight edge should rest on the opposite corner for an acceptable fit.



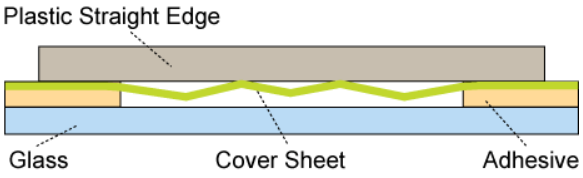
It is acceptable for the coversheet in the active area not to touch the straight edge when the straight edge is extended across the sensor on top of the adhesive.

Excess Air Criteria



The excess air criteria are characterized by a coversheet with air trapped in the space between the coversheet and the glass. Place a plastic straight edge diagonally across the entire surface of the coversheet. Apply pressure in one corner in the area over the adhesive. The straight edge should rest on the opposite corner for an acceptable fit. If the straight edge does not touch the opposite side of the sensor, because of the trapped air under the coversheet, the screen should fail for improper fit.

Ripple Criteria



Ripple criteria are characterized by a wave or ridge in the coversheet that usually extends from a high point on the screen for example the cable contact area. Place a plastic straight edge diagonally across the entire surface of the coversheet. Apply pressure in one corner in the area over the adhesive. The straight edge should rest on the opposite corner for an acceptable fit. If the coversheet drops below the straight edge and then rises and falls multiple times, the touchscreen should fail for improper fit.

Stroke Length Criteria

The stroke length criterion is a measurement of the distance from the glass surface to the bottom of the coversheet. The required stroke excursion to activate the touchscreen shall not exceed 0.020 inches as measured a minimum of 1 inch into the active area from the edge of the double-sided coversheet adhesive. If the coversheet displacement is more than 0.020 inches the screen fails.

Cable Handling Instructions

Use caution when handling the flat flexible cable to avoid damaging the connection where it is bonded to the glass. Do not lift the touchscreen by pulling or holding onto the cable. Do not bend the cable upward at the attachment point. Doing so could damage the UV caulk cured below the cable and weaken the cable's bond to the glass.

Agency Approvals

UL Safety Certifications

UL Compliance: AccuTouch touchscreens and controllers are UL and cUL recognized components (File E162681) and TUV Rheinland (File S9577193 and S9577140).

Ball Impact Compliance

When properly installed, meets UL 1950 standard.

Fire Retardation Compliance

Meets UL-746C, 0.75-in flame test.

CE Compliance

Systems incorporating Elo Touchscreens, controllers, and cables can be approved for CE marking. Where appropriate, Elo touchmonitors are marked CE compliant, and are typically CISPR22 Class B.

FCC Compliance

Systems incorporating Elo touchscreens, controller, and cables have been approved to FCC Class A compliance. Elo touchmonitors are typically FCC Class B verified.

Agency Approval Certificates

- Agency approval certificates for all Elo controllers and touchscreens (366K PDF)
- RoHS Certificate of Compliance for touchscreens (134K PDF)

Warranty

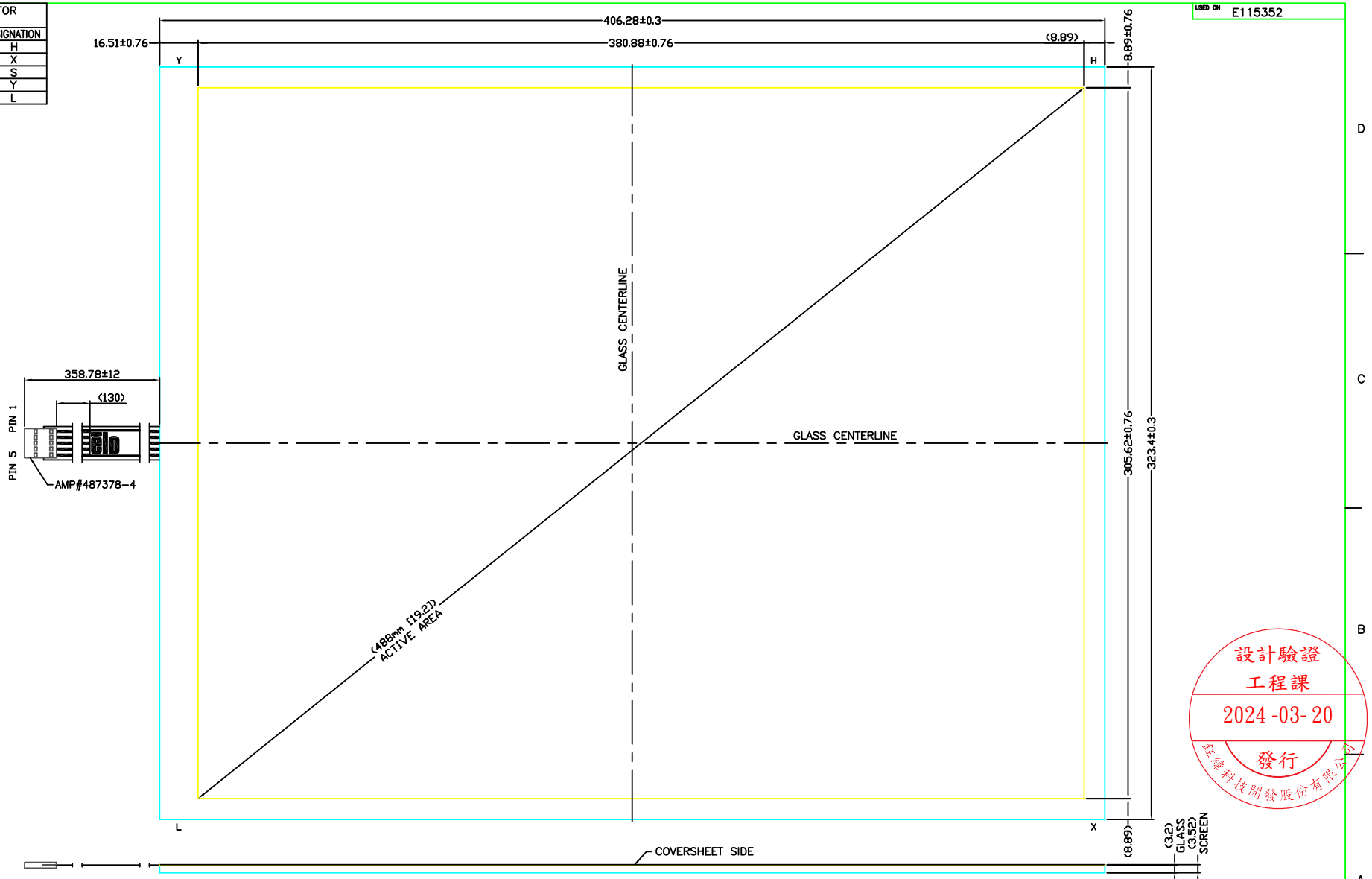
Five-year limited warranty (when sold as components)

CONNECTOR PINOUT	
PIN NO.	DESIGNATION
1	H
2	X
3	S
4	Y
5	L

DRD NO MS601622

THIS DRAWING IS A CONTROLLED DOCUMENT.

USED ON E115352



設計驗證
工程課
2024-03-20
發行
鈺鑽科技開發股份有限公司

THIS INFORMATION IS CONFIDENTIAL AND PROPRIETARY TO ELO TOUCH SOLUTIONS AND IT MAY NOT BE REPRODUCED, USED OR DISCLOSED TO ANYONE OTHER THAN ELO PERSONNEL, WITHOUT AUTHORIZATION FROM ELO (www.ELOTOUCH.com).

3ZTSPJR5340(Z0166)

LOC	NOTES:
08	1. GLASS THICKNESS 3.2mm NOMINAL.
DIST 08	2. FINISHED PART THICKNESS 3.52±0.2m.
	3. SEE SEPARATE BOM FOR PARTS LIST AND CURRENT REV LEVEL.

P	LTR	REVISION RECORD	DATE	DWN	APVD
	A	ECO-14-1104: INITIAL RELEASE	10/20/14	QC	QC

DIMENSIONS: mm

TOLERANCES UNLESS OTHERWISE SPECIFIED:
0 PLC ± .8
1 PLC ± .4
2 PLC ± .2
3 PLC ± -
4 PLC ± -

ANGLES± 1/2°
SURFACE TEXTURE N/A

DWN	Q. CHUNG	10/10/14	MATERIAL N/A / HEAT TREAT N/A
CHK			
APVD	Q. CHUNG	10/10/14	

NAME: DIMENSIONAL DRAWING
SCN-A5-FLT19.0-GH1-0H1-R

SCALE	SIZE	DRAWING NO	SHEET	REV
1:1	A2	MS601622	1 OF 1	A

3307-7 (3/11)

8 7 6 5 4 3 2 1

D C B A

Declaration of Compliance for Elo AccuTouch Screens

Date: February 27, 2023

Product: **AccuTouch Screens (model numbers starting with SCN-AT or SCN-A5)**
See attached list of applicable part numbers

Elo Touch Solutions Inc. (“Elo”) hereby certifies to the best of its knowledge the following about the above Elo product(s):

RoHS:

The products meet the substance restrictions of Article 4 of EU Directive 2011/65/EU (and all its current amendments including Directive 2015/863). The following exemption is claimed:

7(c)-I: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezo electronic devices, or in a glass or ceramic matrix compound.

The products meet the substance restrictions of UK SI 2012 No.3032. The following exemption is claimed:

21: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezo electronic devices, or in a glass or ceramic matrix compound.

中国电子电气产品环境信息

China EEP Environmental Information

Accutouch 触摸屏 (Accutouch Touchscreen)	有毒有害物质或元素 Hazardous Substance					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
玻璃 (Glass + Glass frit)	X	O	O	O	O	O
电缆组件 (Cable Assembly)	O	O	O	O	O	O
焊料熔剂 (Solder Flux)	O	O	O	O	O	O
DSCA (DSCA)	O	O	O	O	O	O
绝缘颗粒油墨 (Spacer Dot Ink)	O	O	O	O	O	O
盖板 (Coversheet)	O	O	O	O	O	O

本表格依据 SJ/T 11364 的规定编制.

This table is prepared in accordance with the provisions of SJ/T 11364.

O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下.

Indicates that said hazardous substance contained in all homogenous materials for this part is below the limit requirement of GB/T 26572.

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求.

Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572.

Applicable EPUP Symbol (for China SJ/T 11364 “China RoHS”):



REACH:

The products meet the substance restrictions of Article 67 of EU Directive 1907/2006 (REACH Annex XVII).

The products do not contain a reportable amount of the January 17 2023 published Candidate List of 233 substances of very high concern for Authorisation (REACH "SVHC" list), except for:

SVHC	Elo P/N	Elo Model Number	SVHC where-used	Amount of SVHC contained
Trixylyl Phosphate (CAS 25155-23-1)	E438341 E438546	SCN-AT-FLW15.4-K01-0H1-R SCN-AT-FLW20.0-K01-0H1-R	screen border tape	unknown, but above 0.1% declaration limit.
Azodicarbonamide (ADCA) (CAS 123-77-3)	E001087 E090464 E299646 E421684	SCN-AT-FLT12.1-ZT1-0H1-R SCN-AT-FLT12.1-Z12-0H1 SCN-A5-FLT12.1-Z12-0H1-R SCN-AT-FLT12.1-Z12-0H1-R	screen foam gasket	unknown, but above 0.1% declaration limit.

PERSISTENT ORGANIC POLLUTANTS (POP):

The products meet the substance restrictions of Article 3 of EU Regulation 2019/1021 on Persistent Organic Pollutants.

CALIFORNIA PROP 65:

WARNING This product can expose you to chemicals including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

PACKAGING

The products' packaging complies with the substance restrictions of Annex 11 of the European Directive 94/62/EC On Packaging and Packaging Waste.

SAFETY:

The products have UL "Recognized Component" certification to the following safety standards:

UL 60950-1 2nd Edition under Category Code NWGQ2

CSA 22.2 No. 60950-1-07 2nd edition under Category Code NWGQ8

Elo's UL file number is E162681. The certification can be reviewed at UL's online certifications directory at http://www.ul.com/database.

The products have TUV "Type Approval" certification to the following safety standards:

EN 62368-1:2014+A11

The TUV certificate number is R50281753. The certification can be reviewed at TUV's online certifications directory at http://www.certipedia.com.

DISCLAIMER

This Elo Declaration of Compliance is subject to the Elo Terms and Conditions of Sale (located at the following website: https://www.elotouch.com/terms-of-sale) and in no case shall Elo be liable for any incidental, indirect or consequential damages arising out of the sale, resale, or misuse of Elo products. Users of Elo products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures.

I hereby certify to the best of my knowledge that this Declaration of Compliance is accurate.

Regards,



Vincent Pallaver
Components Engineering Compliance Manager
Elo Touch Solutions, Inc.

RETURN AND REPAIR POLICY

Return Material Authorization Numbers (RMAs)

- Before a purchaser ships a product back to Elo TouchSystems, the purchaser must obtain a valid RMA number. Boxes received without an authorized RMA Number will be shipped back.
- Authorized RMA Numbers will expire 45 days after they are issued.
- Only the Elo TouchSystems product and quantity specified on the original RMA request can be returned with the RMA Number issued.
    - If returning additional products to Elo, a new RMA Number will be required.
    - If we receive a shipment containing products not authorized for return on that RMA Number, we will return them as is.

Warranty Repair & Replacements

- Elo TouchSystems warrants that the product is free from defects in material or workmanship under normal operation.
- Any replacement parts furnished at no cost to the purchaser in fulfillment of this warranty are warranted only for the unexpired portion of the original warranty. Any services or repair outside the scope of this limited warranty shall be at Elo's rates and terms then in effect
- Normal "Wear and Tear" as determined by Elo TouchSystems, is NOT covered by this warranty.
- Standard products deemed defective within the first 30 days of the warranty period are eligible for Warranty Replacement. As soon as the purchaser notifies us of a defective product, we will ship a new unit to the purchaser by surface freight at Elo's expense. We will charge the purchaser's account or credit card for the new unit and issue a full refund once we receive the original unit from the purchaser.
- After 30 days, standard products returned for in-warranty repair are NOT eligible for Warranty Replacement.
- Custom products are not eligible for Warranty Replacement.
- Elo TouchSystems does not provide loaner units.
- Elo TouchSystems does not warrant the model life of monitors. Elo's suppliers may at any time make changes in the monitors delivered as products or components.
- Elo is not responsible for damages outside of Elo's control including, but not limited to, physical damage, modifications to the product, or improper packaging.

Advance Unit Replacements

- Only materials purchased with Elo's Advance Unit Replacement Program are eligible for advance replacement.
- Approved RMA's issued by 12:00pm Pacific Time will ship same day. RMAs issued after 12:00pm Pacific Time will ship the next business day.
- Replacements are shipped standard delivery for the next business day (no Saturday or early AM delivery).
- Elo will pay for the return of the defective material.
- Replacement material may be refurbished and are warranted only for the unexpired portion of the original warranty or 90 days (which ever is greater).

Out of Warranty Repair Services

- Warranty exclusions include, but are not limited to, physical damage, modifications to the product, or improper packaging.
- If a touchmonitor is out-of-warranty, Elo will charge a flat rate fee for the evaluation and repair of product based on model. Prior to proceeding with the repair of a product that is out-of-warranty, Elo will send the purchaser a cost proposal that must be signed for acceptance and returned.
- Electing not to have Elo repair the product, the product will be returned to you as is.

Returns for Credit

- Elo only issues credit for materials purchased directly from Elo
- To receive credit where applicable for standard product, the product must be in resalable condition. We will make that determination after evaluating the returned product.
- Elo may refuse all or partial credit for any of the following conditions:
    - Improper installation or testing

- Failure to provide a suitable operating environment
- Use of the product for purposes other than those for which it was designed
- Failure to monitor or operate the product in accordance with applicable seller specifications and good industry practice
- Unauthorized attachment, removal, or alteration of any part of the product
- Unusual mechanical, physical, or electrical stress, scratches, or dents
- Modifications or repairs done by parties other than the seller
- Abuse, misuse, neglect, or accidental damage
- Failure to return units with the complete accessory kit originally supplied. For touch computers, this includes the serialized operating system CD's.

- Elo is under NO obligation to accept RMA's for wrongly ordered goods. Elo MAY consider exceptions based on individual situations, a minimum 15% and up to 40% restocking fee will apply. Products beyond 4 (four) months in age are not eligible for consideration.
- If within 7 days of product receipt the purchaser notifies Elo that the product is defective, damaged or if Elo shipped the wrong product, we may waive the restocking fee.

Labeling and Address

- The RMA Number must appear on the outside of the carton(s) in BOLD print. Any product returned without a valid RMA Number will be returned to the sender.
- Return products to the address provided on your RMA authorization form.

Packaging

- Elo TouchSystems recommends returning products by United Parcel Service, Federal Express, DHL, or another reputable freight forwarder.
- Touchmonitors 26" and larger should be returned on a pallet to prevent damage.
- To avoid damage, separate the monitor's detachable stand, if any, for shipment.
- Controllers MUST be returned in anti-static bags. If they are not, Elo TouchSystems will consider them damaged and ship them back to the sender, as is, with no credit issued or repair attempted.
- To avoid voiding the warranty, use Elo TouchSystems or equivalent packaging to return a product. This includes complete packaging, high-density foam and/or cardboard separators

Freight Payment

- The customer prepays all inbound freight charges for both in-warranty and out-of-warranty repairs. Elo TouchSystems is not responsible for damage during shipment. We recommend that you insure the shipment.
- Elo TouchSystems will pay for surface/ground return freight only, for warranty repairs. If you require overnight or other special requirements for expedited shipment, these will be at the purchaser's expense. Please provide your preferred carrier and account number.

Freight Claims and Shipment Damage

- If the purchaser receives the original product in damaged condition, notify RMA Services immediately. If the shipment was made by an Elo "prepay and add freight" service, Elo will help the purchaser process the damage claim.
- If the original freight charges were paid in advance—by freight collect or other means—notify the carrier immediately to initiate a claims inspection. Elo RMA Services will provide assistance, as necessary, to process the freight claim.
- If your returns/repair shipment to Elo is received in damaged condition, Elo will notify the purchaser. The purchaser will need to notify the carrier immediately to initiate a claims inspection. Elo RMA Services will provide assistance, as necessary, to process the freight claim.

ELO TouchSystems Inc.

R.M.A. Detail Form

Tel: 800-557-1458 Ext. 5052 (For Taipei Contact- Tel: (02) 8768-2788 # 432 or 435 Fax: (02) 8768-1277)
"christine.chen@tycoelectronics.com" or "arvin.liu@tycoelectronics.com"

RMA#	

For proceeding your request more efficiently, please complete the following information in details by English.
為求迅速電子化處理, 請用英文及電子檔.

1.) Applicant Details:	**2.) Returning Shipping Address:**
Request Date:	Company Name:
Company:	Address:
Contact Person:	
Tel:	City:
Fax:	Country:
Total qty. (生產/檢測總數量):	Receiver:

3.) Please complete the item detail. (請詳照要求填寫結果)

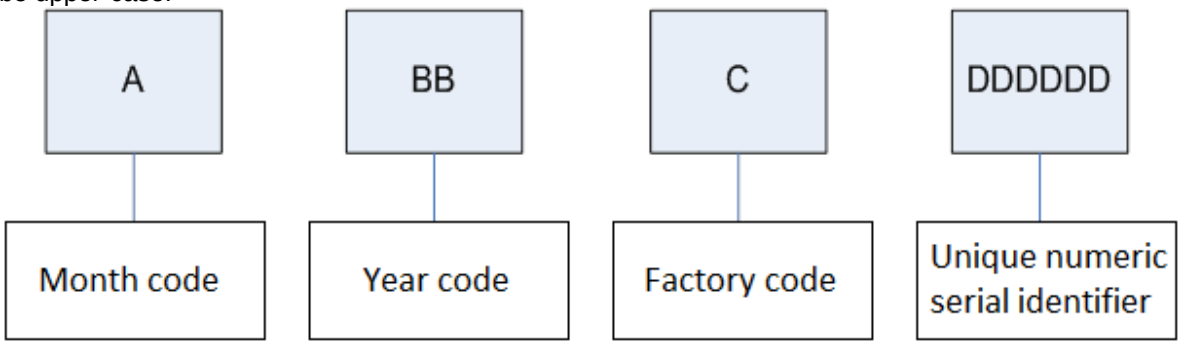
No.	ELO Part Number	Serial Number	Defective Code	Defective Measuring Result (*) 檢測結果數值	Remark	ELO Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Defective Criteria per ELO Touch Specification (reference: "www.elotouch.com")
依照產品規格訂定之許可值為標準: (reference: "www.elotouch.com")

Failure Symptom	Code		Failure Symptom	Code	
Scratch Linear/線形圓形刮傷	SC		Connector break/連接器受損	CC	
Scuff/內層磨損	SF		Chipped Glass/觸摸屏邊緣缺角	CG	
Contamniated Linear/線形圓形污物	FP		Broken Transducers/發射器受損	BT	
Connector housing break/接頭破損	CC		Damaged Cable/連接線損壞	DC	
No Touch Function/無觸控功能	HR		Not working/無動作	NW	
Touch unstable/觸控功能不穩定	PF		Bad Solder Joint/焊接不良	SJ	
Accurancy/精確性	NL		LED Fail/LED 不良	LF	
Constant Touch/持續觸控	SP		No Video/無影像	NV	
Others/其它	U		No Touch/無觸控功能	NT	

1.0 SERIAL NUMBER FORMAT SPECIFICATION

1.1 The serial number shall be 10 alphanumeric characters, formatted ABBCDDDDDD. All letters shall be upper-case.



1.1.1 Definition of Month code:

A single alphabetic character representing month of manufacture according to the following table.

Month Code	Month
A	January
B	February
C	March
D	April
E	May
F	June
G	July
H	August
I	September
J	October
K	November
L	December

1.1.2 Definition of Year code:

Two numeric characters representing year of manufacture. Use the last two digits of the year.
Example: if unit was built in year 2014, the Year code is 14.

1.1.3 Definition of Factory code:

A single alphanumeric character representing the factory in which the unit was made. Due to their proprietary nature, the factory codes are defined in document ES500210, separately from this specification. Suppliers should ask their Elo manufacturing engineering contacts directly for their Factory code(s).

1.1.4 Definition of Unique Numeric Serial Identifier

Six numeric characters that uniquely identify the unit for a given month in a given factory.

The first unit built in a given factory in a given month shall have the serial identifier 000001.

Each subsequent unit produced at that given factory in that given month, whether the same Elo part number or a different part number, shall be assigned a sequentially increasing number.

Due to time variations in production planning and the potential existence of multiple lines in a given factory, it is expected that the serialization of all units exiting a factory may not be perfectly sequential.

1.2 **Examples**

The very first unit produced by Factory “X” in January 2014 will have serial number A14X000001.

The 1000th unit produced by Factory “B” in December 2012 will have serial number L12B001000

1.3 **Limitations of the specified format**

1.3.1 Number of factories

Since the Factory code is limited to a single alphanumeric character, the number of factories is limited to 36.

1.3.2 Monthly capacity of a given factory

Since the unique serial identifier for a given month at a given factory is limited to 6 digits, and numbering starts at 000001, the monthly capacity of a given factory is limited to 999,999 units.

1.3.3 Serial number uniqueness

Since the Year code is limited to the last two digits of the year, serial number uniqueness is only guaranteed for 100 years.

Product Change Notification

January 8, 2024
Product Manager: John Huang

Change notice of Update to AccuTouch Resistive Touch Screen for RoHS compliance

Description of Change:

Elo will be updating the ITO glass of the AccuTouch screens. The reason is RoHS exemptions for Lead likely to expire in July of 2024 and it effects the current glass/ITO/silver structure used in AccuTouch and AccuTouch Zero Bezel designs. While Elo makes every effort to minimize product changes, they are needed from time to time. Elo is pro-actively qualifying an alternate source that will meet 2024 RoHS requirements. The full qualification is ongoing and comparison data will be provided once ready. The new design with the base ITO glass change will not impact the performance, function, or form factor of the product. This change will be implemented with a revision increment.

Change Detail:

The original design uses a cured silver paste to form the conductive traces on the glass, while than the new design uses a sputtered metal alloy to form the conductive traces. This is similar to the process we use today for PCAP screens.

Test result:

Sample Summary

This report covers the results of below 3 screens ranged from 6.4” to 23.8”.

P/N	Size	Samples q'ty
E019369	6.4"	57
E305595	17"	57
E993555	23.8"	57

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Test Summary

Screen Qualification Result:

Items	Condition	SPEC	Qty.(each size)	Result
ITO adhesive	Cross-Hatch test	5B	1	Pass
Metal trace adhesive	Cross-Hatch test	5B	3	Pass
Light Transmittance	Transmittance at 550nm wavelength	80% ±5%	3	Pass
Linearity	ALT test	max<=0.180", Std <=0.08"	All	Pass
Temperature Humidity	60C/90RH,240hrs	function & cosmetic observation	5	Pass
Temperature Cycling	-40C to 70C, 50Cycle	function & cosmetic observation	5	Pass
Low temperature storage	-40C, 240hrs	function & cosmetic observation	5	Pass
High temperature storage	70C, 240hrs	function & cosmetic observation	5	Pass
Tapping Accuracy	STB test	Standard deviation error is less than 0.080” (2mm)	1	Pass

Contacts

For more information on price and lead time for ordering products, please contact Elo customer sales and support for assistance.

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Toll 800-ELO-TOUCH
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EloSales.NA@elotouch.com
www.elotouch.com

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