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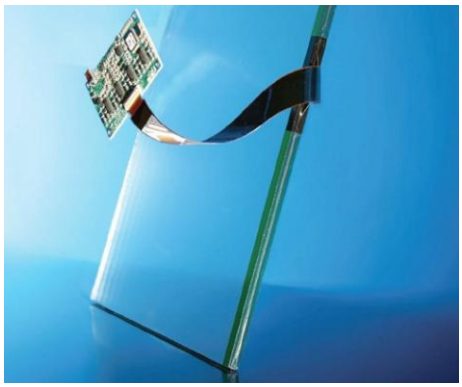
ZYTOUCH

Technology



The ZYTOUCH touch sensor is the most robust touch sensor based on Zytronic's embedded Projected Capacitive Technology (PCT™).

By utilizing Zytronic's traditional lamination expertise, ZYTOUCH touch sensors are designed to provide the highest levels of transmission, excellent readability and unsurpassed protection against a wide range of physical threats in the touch market today. The touch sensors are accurate, highly dependable and have a rapid response time.

ZYTOUCH offers the designer of touch displays some unique competitive advantages, including:

- Unsurpassed impact, vandal and scratch resistance
- Ideal for public use and external applications
- 10ms response time
- No drift, no recalibration required
- Works with gloved and ungloved finger
- Unaffected by moisture and rain
- Increased reliability and life expectancy
- Ability to create sealed designs that comply with NEMA 4, 12 and IP65 standards or higher
- Output protocols compatibility for a variety of operating systems
- Numerous customizable options, including screen printed borders and logos, anti reflective treatments, thermal or chemical glass strengthening, integrated optical filters, etc.

Operation

The electronic controls effectively divide the screen into pixel sized sensing cells, using an array of embedded micro fine single track electrodes which are nearly invisible on a powered display. These electrodes are connected to a controller board, and an oscillation frequency is established for each. Touching the glass causes a change in the frequency of the electrodes around that particular point, the position of which is accurately calculated and identified by the controller. Unlike other capacitive systems where the operator touches the actual conducting surface of the sensing panel, the active component of the PCT sensing element is embedded within the body of the laminate construction, ensuring long product life and stability. The front glass surface acts as a dielectric and enhances the capacitance of the touch sensor.

ZYTOUCH sensors can be supplied with a number of options including front surface anti-glare treatments, rear surface anti-reflection coatings, thermal or chemical glass strengthening and privacy or contrast enhancement filters.

The driver software allows the touch sensor to interface with the host computer's operating system by emulating the behaviour of a computer 'mouse' and translates taps on the touch sensor surface into mouse clicks.

Applications

ZYTOUCH touch sensors are proven to meet today's demanding requirements for public access human machine interfaces, such as ATM's, ticket machines, medical displays, industrial displays, pay-at-the-pump gas machines, and interactive kiosk systems. The touch sensor is uniquely durable and dependable, the construction protecting the sensing elements against damage caused by moisture, heat and even vandalism.

Specification

The touch sensor comprises a laminated sensor, which encompasses the sensing medium

SENSOR

— Detection Method	Projected Capacitive Technology (PCT)
— Sensor	Multi layer glass laminate with embedded microfine sensing array
— Electronics	Remotely sited PCB, Serial or USB connectivity (On-board PCB - available)
— Size Range	Sizes 5.7" thru 82"
— Optical Resolution	>4 lines/mm (NBS1963A)
— Light Transmission	~90%
— Haze	<3% (Gardner Haze)

ENVIRONMENT

— Operating Temperature	-35°C to +70°C
— Humidity	RH 0 to 90% up to 40°C
— Storage Temperature	-40°C to +80°C
— Storage Humidity	RH 0 to 90% up to 40°C (Max 2 weeks)
— Resistance to Contamination	Sensing media protected by glass. Exceeds requirements of ASTM-F1598-96
— Water Resistance	Unaffected by water droplets or condensation

MECHANICAL

— Immunity to Damage	Glass surface with no moving parts
— Sensor Thickness	From 3mm upwards
— Stylus Type	Finger, gloved hand
— Operation Force	<0.1g
— Hardness	Glass hardness – Mohs 7
— Sensor MTBF	Glass with no moving parts or coatings. No known wear out mechanisms
— Sealibility	Can be sealed to meet NEMA 4 & 12, and IP 65 standards
— Vibration	In accordance with IEC 60068-2-64 when installed in a suitable bezel
— Options	Anti-Glare Glass (clear, tinted, thermally/chemically toughened), Anti-Reflective rear, Optical enhancement filters including Louvered LCF and Circular Polarisers

CONTROLLER

— Power Requirements	<100mA, USB Controller powered from VBUS 5V dc ± 5% tolerance, Serial Controller powered by a regulated 5V dc ± 5% tolerance external power supply
— EMC	CE, FCC Class B
— ESD	±25kV Air Discharge when mounted in plastic bezel. Per EN 61000-4-2, 1995
— Resolution	5.7” to 32” <1mm, above 32” < 3mm
— Speed of Response	<10ms
— Calibration Drift	One time calibration, no drift
— Functionality	Active on touch, activate on release, drag & drop, double click, right click
— Multiple Monitors	Option available for multiple monitor use
— Connectivity	Serial, USB v1.1 compatible with USB 2.0
— Driver OS Supported	Win 2000, Win XP, Win XPe, Win Vista, Win CE, Linux (with remote PCB)
— Output Protocol	Protocol available to allow users to customize their driver design (with remote PCB)

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