



ZYBRID®

Touch Sensor by Zytronic

**Zytronic Official Agent and Distributor
Approved and Certified Integrator**

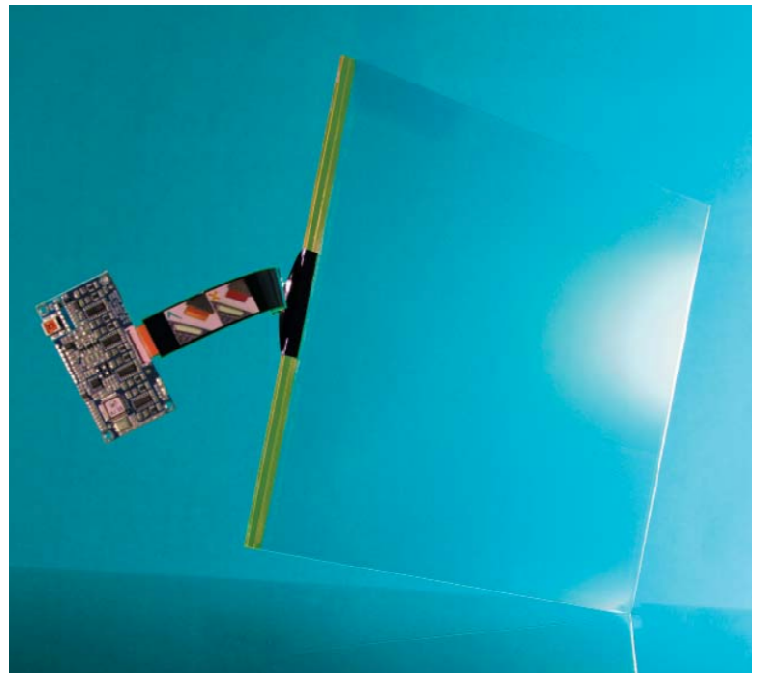
The customisable touch sensor solution for today's varied and demanding applications.

ZYBRID touch sensors are manufactured using the latest cold lamination process, and are based on Zytronic's awardwinning embedded Projected Capacitive Technology (PCT™) that offers:

- Increased reliability and life expectancy
- Performance unaffected by moisture and surface contaminants
- Operation with gloved and ungloved finger
- Drift-free operation-no recalibration required
- Highly durable, vandal and scratch resistant touch sensing
- Fast and accurate response times
- The ideal solution for today's demanding environments

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

- A chemical, physical and mechanically inert glass touch surface
- A touch sensor that can operate through a covering medium
- The ability to create sealed designs that comply with NEMA 4, 12 and IP 65 standards or higher
- Unrivalled size and dimensional flexibility between 5.7" - 82"
- Excellent light transmission with or without optical coating enhancements
- Output protocol compatibility for a variety of operating systems
- Sensor thickness up to ~6mm
- Numerous customisable options, including screen printed borders and logos, rear anti-reflective treatments, front surface anti-glare etch, thermal or chemical glass strengthening etc.



Operation

The electronic controls effectively divide the screen into pixel-sized sensing cells, using an array of embedded microfine single track electrodes, which are not ITO based, and are near invisible to the human eye on the powered display.

These tracks are connected to an electronic controller board, and an oscillation frequency is established for each track. When a capacitive body approaches the surface of the sensor, a change in the oscillating frequency of the tracks around that particular point is registered; the position is then determined by the controller and firmware combination. Unlike conventional capacitive systems the active component of PCT is embedded behind the front substrate, ensuring protection, long life, and stability.

The unique sensing characteristics of PCT sensing eliminates the need for an operating force. Users are therefore not required to use credit cards, pens and other potentially damaging implements to activate the sensor.

Applications

Zytronic's touch sensors are well proven to meet today's demanding touch requirements and the ZYBRID sensor combines durability and the possibility to design a bespoke part. Its construction protects the sensing elements against damage caused by moisture, heat and surface contaminants without any compromise on the brightness or optical clarity of the display.

The sensors can be used in a variety of applications including, industrial panel PCs, medical displays, gaming displays and digital signage units.



ZYBRID Specification

Sensor

— Detection Method	Projected Capacitive Technology (PCT)
— Sensor	Glass 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	<6mm
— 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
— Sealability	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, Printing

Controller

— Power Requirements	<100A, 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 XP-E, Win Vista, Win CE, Linux (with remote PCB)
— Output Protocol	Protocol available to allow users to customise their driver design (with remote PCB)

Now Available Singletouch Controller or Dualtouch Controller.