

Durable, Reliable,
Adaptable Touch
Technology





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INTRODUCTION

The Zytronic range of touch sensing products are based upon our internationally award winning and patented projected capacitive technologies.

We develop and manufacture highly durable and adaptable touchscreens in a near limitless range of shapes and sizes, ideally suited for the most demanding self-service, industrial and public-facing interactive systems.

We've been developing and manufacturing touch sensors for over 15 years, (and processing glass components for decades before that).

Our range of patented and award winning projected capacitive technology (PCT™ and

MPCT™) touchscreens offer the ultimate solution for challenging environments in Digital Signage, Gaming, Point of Sale, Financial and Industrial applications.

You've probably, unknowingly used one of our touchscreens at some point in your life – buying a train ticket, withdrawing cash from an ATM, choosing a soft drink, or playing a slot machine.

Durable, reliable and adaptable, Zytronic puts the world at your fingertips.



ABOUT US

We are global leaders in providing touch solutions that are incredibly durable and exceptionally responsive. Our products are proven in the toughest environments and are trusted by major corporations around the globe, to provide reliable performance 24 hours per day, 7 days per week, and 365 days per year – year after year.



LOCATION

Manufacturing in three modern factories in the north east of England, our range of patented and internationally award winning range of projected capacitive (PCT™ and MPCT™), sensing products offer the ultimate touchscreen solution for challenging environments and self-service applications such as Leisure, Digital Signage, Retail, Surfaces, Banking and Industrial applications.



BACKGROUND

Zytronic Displays Ltd. is a wholly owned subsidiary of Zytronic PLC. Quoted on the London Stock Exchange Alternative Investment Market (AIM) since July 2000, our passion and commitment to the technology we both develop and produce has brought us a long way in a short period of time.

In recent years we have expanded our global presence; forming Zytronic Inc. in 2014 to support our customers in North America, followed by the establishment of a representative office in Taiwan, responsible for Greater China, and the creation of Zytronic Japan in 2015.



EXPERTISE

We know glass. Our in-house facilities include automated cutting, edge grinding, polishing and drilling machines, complemented by bending and thermal tempering ovens and screen printing equipment. Our dedicated and talented manufacturing team has decades of experience in glass processing and lamination.

Our commitment to develop innovative touch technology is backed up by stringent (ISO approved) quality systems and our multilingual/multinational sales, customer service and technical support team is always on hand to assist customers throughout a project.



INNOVATION

We invented the term “projected capacitance” more than 15 years ago and we are global leaders in its development with our proprietary Projected Capacitive Technology (PCT™) and patented Multitouch Projected Capacitive Technology (MPCT™).

At Zytronic we are committed to the future of touch interactivity for self-service and public use, and we reinvest approximately 10% of our annual revenue into the development of new technology and product development.

TECHNOLOGY

At Zytronic we are leaders in projected capacitive touch technology, specializing in highly durable and stable products, where our proprietary PCT™ touch sensing products, provide both precision and resilience at the fingertips of the end user. With over 40 years' experience in glass lamination, our know-how and processes are unique within the field.



SINGLE TOUCH

PCT™ projected capacitive touch technology works by sensing minute frequency changes in an X-Y matrix of conductive traces. These microscopic traces are laminated to the rear of the sensor, and when a finger or conductive stylus approaches the surface of the screen, capacitive coupling occurs between the finger and the traces immediately beneath, disrupting the sensor's electromagnetic field and altering the frequency. The touch controller monitors the frequency in each trace and the touch position is calculated by determining which X and Y trace is closest to this peak change, which is then output to the host Operating System as a coordinate. This method is so sensitive that a touch can be detected through very thick glass overlays.

Unlike conventional capacitive, acoustic and optical touch sensors the active component of PCT™ is embedded behind the front substrate, ensuring protection, long life, and stability.



MULTI-TOUCH

Zytronic's patented MPCT™ touch technology is capable of detecting 80 or more touch events at once. And there's no compromise on accuracy, even at ultra large sizes up to 85". MPCT™ multi-touch sensors are capable of millisecond-fast response speeds and excellent touch-point resolution.

MPCT™ projected capacitive touch technology works by a two layer matrix of microscopic conductive cells is laminated to the rear of the MPCT™ touch sensor and a small charge is applied to one layer, which in turn passes to the other. When a finger or conductive stylus approaches the surface of the MPCT™ sensor, a change in the charge is induced and detected in the nodes immediately beneath adjacent cells.

The position of this change is then calculated by the touch controller, and its X-Y coordinate is output to the host Operating System.

SECTORS

At Zytronic we strive to be ahead of the trends in our core sectors, offering our award winning projected capacitive touch technology products for secure encrypted touch sensors in transactional kiosks, curved interactive surfaces for casino cabinets, and rugged, anti-microbial glass touch screens for high use unattended environments. It is extremely likely that whether recently purchasing a train ticket, withdrawing cash, fuelling a car or buying a snack, a Zytronic touch sensor has unknowingly been used.



LEISURE

Our highly durable and customisable touch sensors are used in a variety of entertainment applications, from video jukeboxes to the latest slot machines. They provide reliable performance and enable engaging designs.



SURFACES

Our award winning multi-touch, MPCT™ touch sensors are available in any size or shape up to 85", perfect for multi-user touch tables in retail, leisure and commercial applications.



SIGNAGE

Our large format PCT™ touch sensors are increasingly used in digital signage, helping advertisers to engage directly with individual customers outdoor and indoors, and are reliable in all conditions.



INDUSTRIAL

Our rugged, reliable touch sensors are used in a variety of workplace applications, from medical diagnostic equipment to oil field machinery controls, providing low maintenance, year round performance in all environments.



RETAIL

Our durable, customisable touchscreens enable self-service equipment to be deployed at the point of sale irrespective of the location and able to provide 24/7 customer access in the harshest environments and climates.

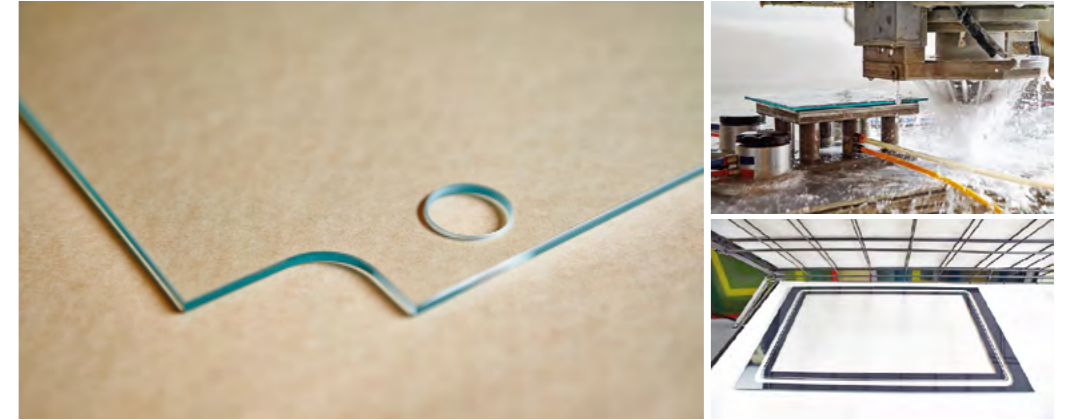


BANKING

Our vandal resistant touch sensors have been trusted by global ATM and financial kiosk manufactures for over a decade to provide reliable self-service performance both indoors and outdoors.

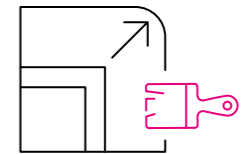
BENEFITS

Zytronic's PCT™ and MPCT™ products offer equipment designers and end-users a unique blend of high durability and environmental stability, in customer and application specific designs in a limitless variety of shapes, sizes, thicknesses, strengths, colours and capable of use in any location.



HIGH-IMPACT RESISTANCE

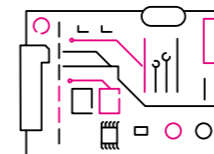
The MPCT™ multi-touch sensors are typically constructed from a laminated toughened glass substrate of up to 10mm thick, meaning they are durable enough to withstand most impacts and extreme environments. All of our PCT™ sensors can be made from even thicker glass, and are unaffected by rain.



CUSTOMISATION OPTIONS

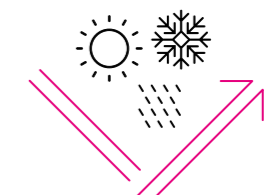
Designed and manufactured at our in-house glass processing facilities, our dedicated and experienced engineers create bespoke products tailored to the exact requirements of our clients and their customers.

Touch sensors are available in a near limitless choice of sizes, in glass of various thicknesses and types – for example, anti-reflective, mirrored and antimicrobial surfaces are available. Customers can also specify whether their touch screen is flat or curved and request special edge profiles, cut outs, holes and slots, as well as screen-printed logos and borders in a variety of colours.



SENSITIVITY

Zytronic touch technology will detect fingers, conductive stylus and even gloved hands, through glass thicknesses of 10mm or more. Yet, it ignores raindrops, leaves, dirt, ice, etc., making the touch sensors ideal for self-service and public use, in any environment.

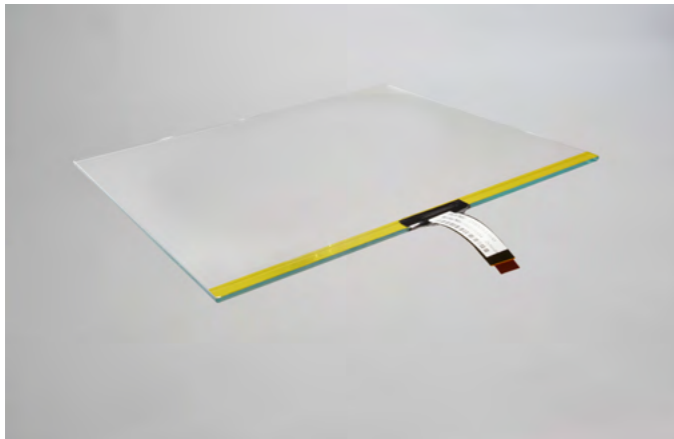


RELIABILITY

With its unrivalled durability, PCT™ and MPCT™ provides 24/7 functionality in the most difficult of environment, minimising system downtime, reducing maintenance and maximising return on system investment. It is proven, dependable, vandal-resistant and is practically immune to most types of physical, mechanical and chemical abuse.

PRODUCT TYPES

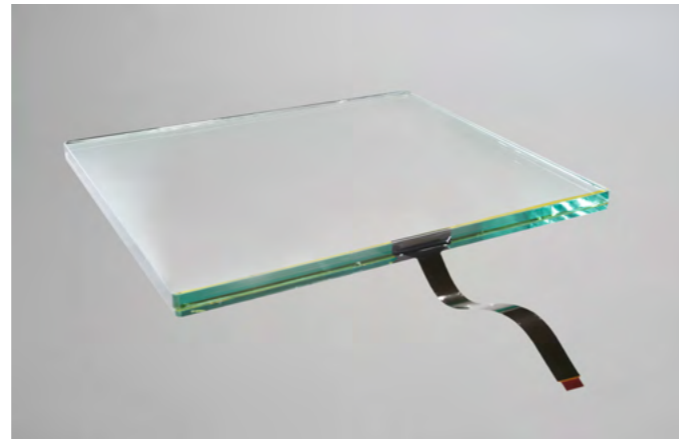
ZyPoS®



Our entry level PCT touch sensor, ZYPOS® is our standard sensor range, capable of Single touch detection when combined with the appropriate Zytronic controller.

These touch sensors are suitable for Indoor use and provide moderate impact resistance. Available from stock in sizes from 7-20" they are the perfect choice for basic self-service kiosks in supervised environments. ZYPOS® - our most cost effective touch solution.

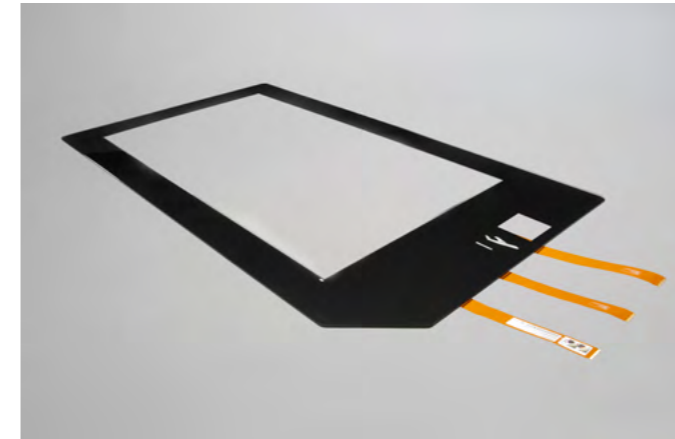
ZyTouch®



Our most durable touch sensor, manufactured by laminating 2 or more layers of glass together. ZYTOUCH® sensors are designed to provide the most extreme impact resistance, and are perfectly suited for the most extreme environments, such as mining or prisons.

The touch sensors can be designed in sizes up to 85", with either Single or Multi-touch functionality. ZYTOUCH®, unbeatable for rugged reliability.

ZyBrid®

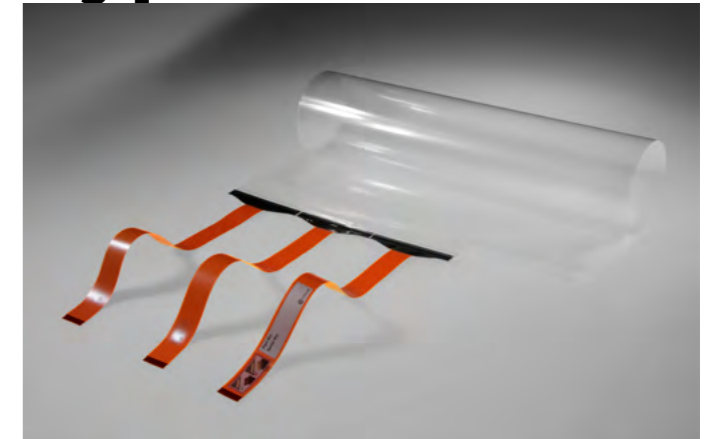


ZYBRID® is our most adaptable touch sensor range, offering a touchscreen designer limitless customisation options to suit any requirement.

When designed with thick, toughened glass, these sensors offer high impact resistance suitable for almost any environment in both indoor and outdoor applications. They are also available in sizes up to 85", and can be designed to work with our Single or Multitouch controller ranges, making them ideal for most self-service applications from vending machines to digital signs, and ATM's.

ZyFilm®

ZyproFilm®



Our award winning projected capacitive touch technology is also available in a clear flexible/rollable foil format, and can be supplied with a cling film for temporary application, or an adhesive front surface for more permanent installations. Typical applications for ZYFILM® are retail promotions or exhibitions. These touch films are available in almost any size to support displays up to 85" with either Single or Multi-touch functionality. ZYFILM®, is the flexible touch solution.

ZyproFilm® has an integrated rear projection film and is designed to be used with projected images (not LCD's).

CONTROLLERS; SINGLE TOUCH

Zytronic have developed an extensive range of proprietary touch controllers to work with our portfolio of highly durable, projected capacitive (p-cap) touch sensing products. Supporting sizes from 5-85" our controllers offer Single or full Multi-touch functionality, and provide benefits including smart, plug & play Operating System support (making it quick and easy to set up our touch sensors), and outstanding "palm rejection" capability (to help reduce incidents of "false" touches, when users lean on a touch sensor).

Zytronic's controller range is compatible with Android, Linux, Windows 7, Windows 8, and Windows 10 (where the version of the operating system supports the appropriate number of touch points).

ZXY100™

The ZXY100™ is Zytronic's touch controller designed for use with our award winning self-capacitive Projected Capacitive Technology (PCT™). It supports single touch operation and where the Operating System allows, also simple gestures such as swipes.

The ZXY100™ controller range covers the full range of touch sensor sizes offered by Zytronic:



ZXY100™ 32 INPUT

USB or Serial versions suitable for PCT™ sensors from 5" - 18" screen sizes.



ZXY100™ 64 INPUT

USB or Serial versions suitable for PCT™ sensors from 19" - 47" screen sizes.



ZXY100™ 128 INPUT

USB only version suitable for PCT™ sensors >47" screen sizes.

ZXY110™

The ZXY110™ is Zytronic's innovative touch controller designed for use with our award winning self-capacitive Projected Capacitive Technology (PCT™). It supports single touch operation, and where the Operating System allows, also dual touch gestures.

The ZXY110™ controller range is designed to work with touch sensor sizes from 5" - 47":



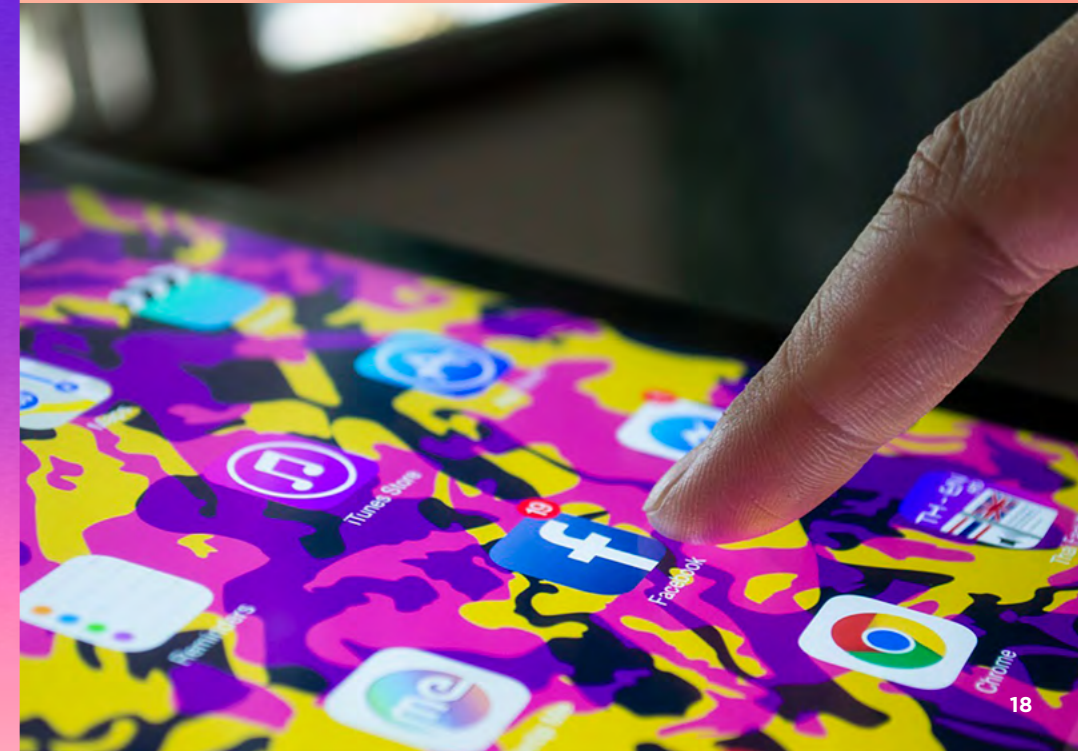
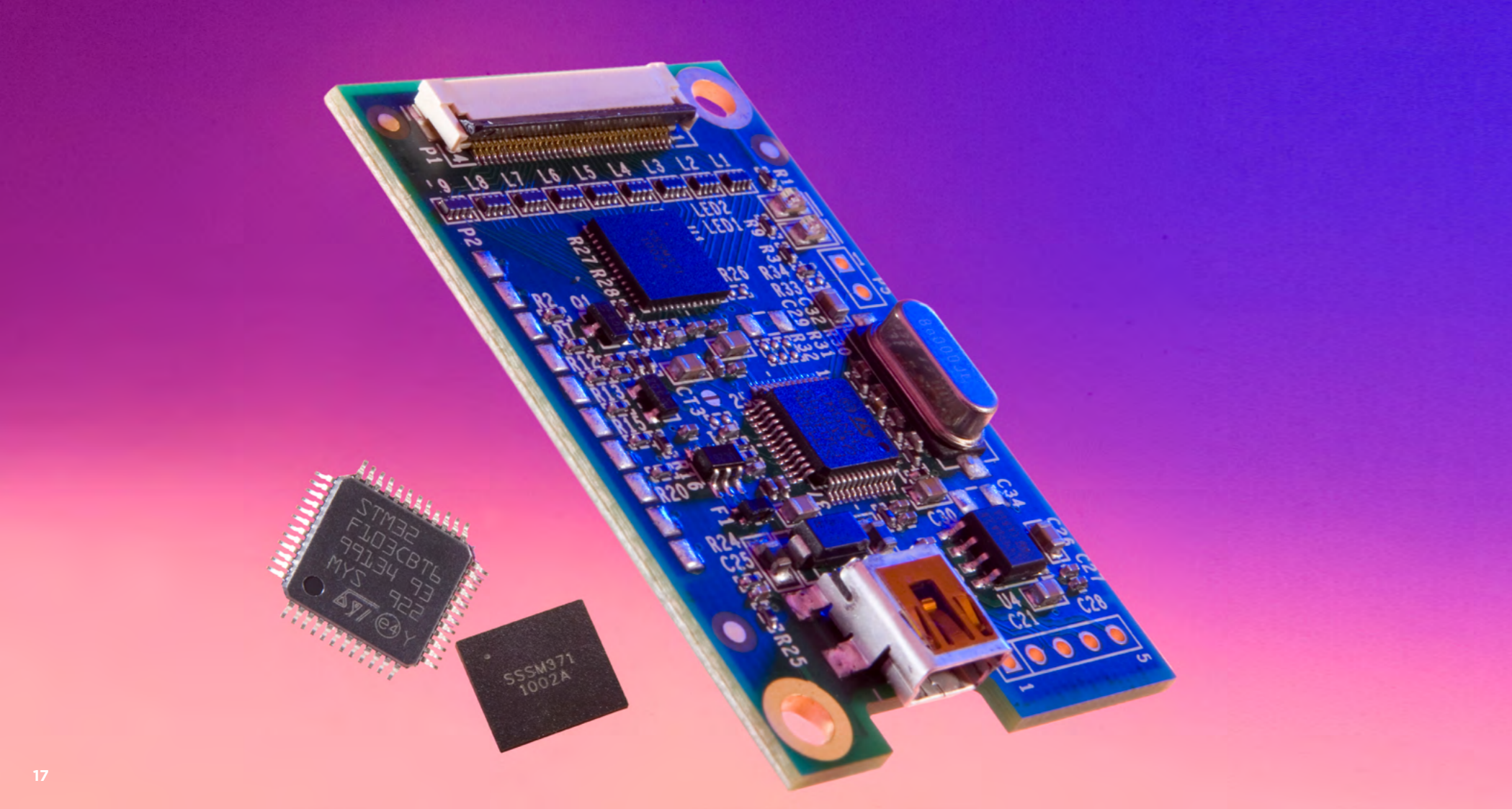
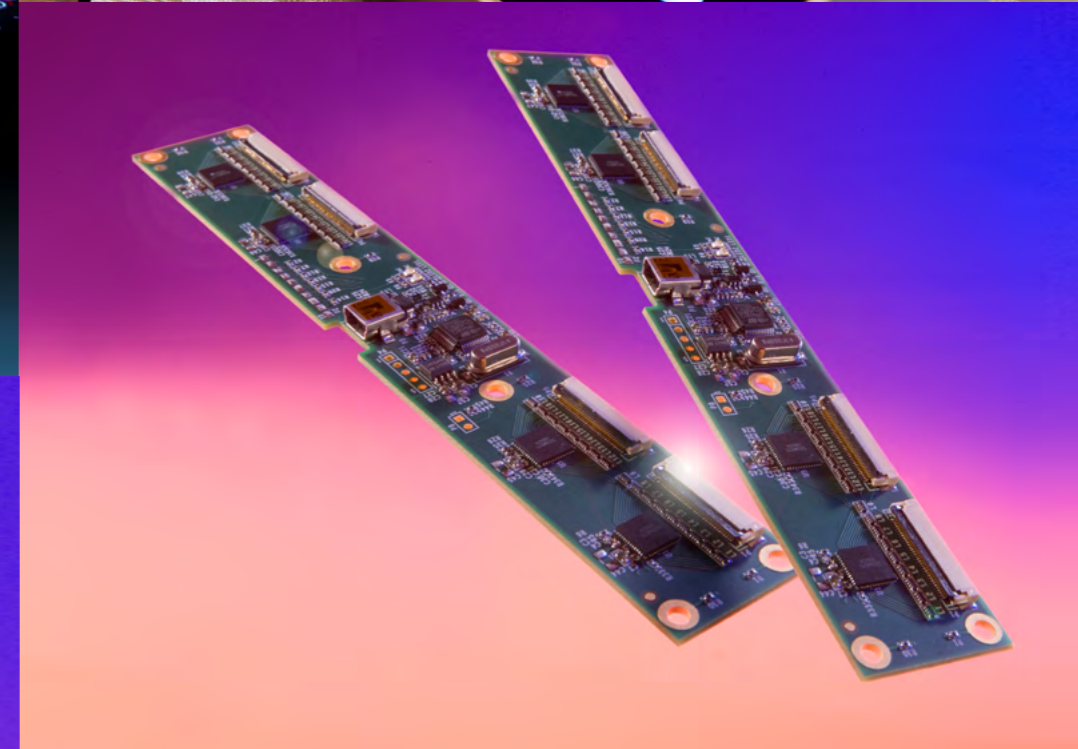
ZXY110™ 32 INPUT

USB version suitable for PCT™ sensors from 5" - 18" screen sizes.



ZXY110™ 64 INPUT

USB version suitable for PCT™ sensors from 19" - 47" screen sizes. The controller also contains additional "noise" (EMI) avoidance technology.



CONTROLLERS; MULTI-TOUCH

The ZXY500™ range of controllers are based around a unique, proprietary Zytronic ASIC (Application Specific Integrated Circuit) and feature multi-touch functionality with palm rejection, higher noise immunity, faster speed of operation and the ability to offer reduced non-active borders for Zytronic multitouch sensors.

ADVANTAGES

- USB powered.
- Reduced controller size.
- Configurable up to 80 touches.
- Improved rapid touch detection and reduced latency.
- Palm rejection enabled and configurable.
- Windows 7, 8,10, Linux and Android plug-and-play HID support.
- On board calibration storage and fully firmware upgradable.
- Operation with gloved hand and on-screen water conditions.
- Multiple on board configurable communication outputs – USB, Serial, I2C, SPI.
- Chip set available upon request.
- Pressure sensing, object recognition and virtual button firmware options available.



ZXY500™ 64 INPUT

Suitable for MPCT™ sensors ~20" screen sizes.



ZXY500™ 128 INPUT

Suitable for MPCT™ sensors ~55" screen sizes.



ZXY500™ 256 INPUT

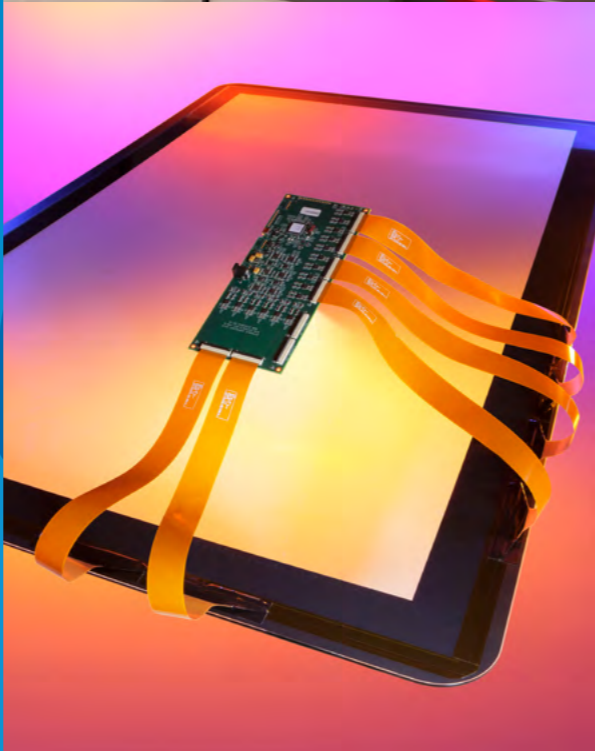
Suitable for MPCT™ sensors 55" and above.



IMPORTANT NOTE

ZXY500™ controllers are NOT backward compatible with XY150/200/300 sensors due to advancement in the new ZXY500™ sensor designs.

TECHNICAL SPECIFICATIONS



CONTROLLERS SINGLE TOUCH

	ZXY100™ 32 INPUT	ZXY100™ 64 INPUT	ZXY 100™ 128 INPUT	ZXY110™ 32 INPUT	ZXY110™ 64 INPUT
Supporting screen size	5" - 18"	19" - 47"	>47"	5" - 18"	9" - 47"
USB or serial	USB & Serial	USB & Serial	USB & Serial	USB	USB
Number of touches	1	1	1	2	2
Palm rejection	Yes	Yes	Yes	Yes	Yes
Force sensing	Yes	Yes	Yes	Yes	Yes
Object Recognition	No	No	No	No	No
Smart' frequency scanning	No	No	No	Yes	Yes

CONTROLLERS MULTI-TOUCH

	ZXY500™ 64 INPUT	ZXY500™ 128 INPUT	ZXY500™ 256 INPUT
Supporting screen size	10" - 22"	22" - 55"	>55"
Multiple on-board configurable communication outputs	USB, Serial, I2C, SPI	USB, Serial, I2C, SP	USB, Serial, I2C, SP
Number of touches	80	80	80
Palm rejection	Yes	Yes	Yes
Force sensing	Yes	Yes	Yes
Object recognition	Yes	Yes	Yes
Smart' frequency scanning	Yes	Yes	Yes

SENSORS

	ZyPOS®	ZyBrid®	ZyTouch®	ZyFilm®	ZyProfilim®
Supporting screen size	7" - 20"	5" - 85"	5" - 85"	5" - 85"	5" - 85"
Number of Touches	Single Touch or Dual Touch	Single/Dual or Multi Touch	Single/Dual or Multi Touch	Single/Dual or Multi Touch	Single/Dual or Multi Touch
Size	Yes	Yes	Yes	Yes	Yes
Format/Size	Standard sizes only	Customisable	Customisable	Available in flat or rollable formats	Flat format only
Other	Annealed 3mm AG glass only	Variety of glass types, thicknesses and filter options	Variety of glass types, thicknesses and filter options	Available with temporary Static Cling or semi permanent PSA and Release liner	Available with temporary Static Cling or semi permanent PSA and Release liner

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