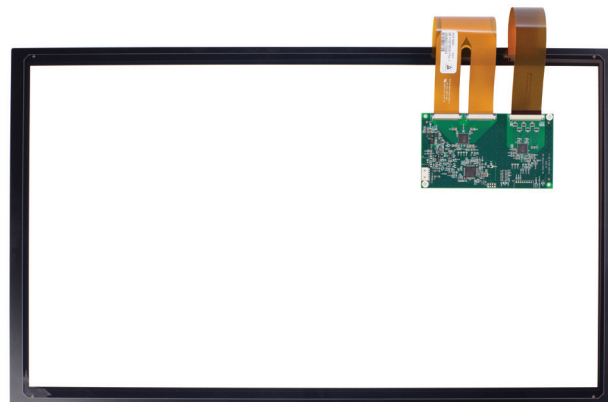




3M Touch Systems

# 3M™ PCAP Systems

**Engineered for multi-touch  
commercial display applications  
27-inches and smaller\***



Introducing a more durable, scalable and easy-to-integrate multi-touch system that stands up to rugged industrial environments, makes retail brand experiences more robust and makes public exhibits more interactive.

The ultrafine metal mesh projected capacitive (PCAP) multi-touch systems deliver. Ideal for small format multi-touch display applications, this system offers display integrators and equipment manufacturers a reliable, easy-to-integrate multi-touch system with no bulky bezels. The system's glass-to-edge design delivers the same modern design aesthetic users have come to expect from today's personal smart phones and tablets.

## Proprietary Ultrafine Metal Mesh Design

At the core of this new multi-touch system offering is an ultrafine metal mesh conductor — a sensor unlike other known metal mesh technologies available in the marketplace today. This new technology overcomes design and optical challenges found in other projected capacitive touch (PCT) solutions by utilizing advanced optical modelling techniques developed by 30 years of 3M science and service to the display industry. The result is a sensor designed to work universally on 2K and 4K applications across a range of sizes, including planar (curved) screens, while maintaining high image quality and touch responsiveness. Additionally, this unique technology minimizes moiré and sparkle, which are known problems in other PCAP systems.

## Integrated 3M™ Multi-Touch Controller PX5000 for Ultimate Speed and Responsiveness

The 3M PX5000 controller allows for multi-user, multi-touch points without sacrificing speed or accuracy. Whether you're designing for multi-touch, multi-users, gestures or all of the above, the 3M PX5000 controller has the speed and responsiveness to make your applications shine. The advanced controller design has a built-in palm-rejection feature, which helps ignore unintended screen touches that can occur through natural user interaction. Additionally, this ASIC chip is built on a proven and stable platform that display integrators and OEMs can rely on today and in the future. The 3M PX5000 controller uses just one standard protocol for all sizes from 15–65 inches, making it easy to interface with operating systems — Windows, Linux, OSx, and Android — regardless of system size.

All backed by world-class 3M science, global supply chain with localized support.

- ✓ Robust
- ✓ Scalable
- ✓ Durable and Dependable
- ✓ Customizable
- ✓ Modern Design
- ✓ Long Life-Cycle

## Recommended Applications

- Gaming
- Point of Information Displays
- Assisted Selling
- Exhibits and Museums
- Self Service
- Retail Brand Experience
- Industrial Machinery and Heavy Equipment

\* Refers to diagonal dimensions of the display

Feature	Benefit
<b>Proprietary Ultrafine Metal Mesh Design</b>	<ul style="list-style-type: none"> <li>• Touchscreen and electronics tuned for precise, full multi-touch functionality, even at the edges and corners of the display</li> <li>• Integrated standard systems offered from a single source ensures full system support and warranty</li> <li>• Robust system solution tested to work with many display technologies provides integration and design flexibility</li> <li>• Ultrafine metal mesh based on sophisticated 3M optical modeling</li> <li>• Scalable from 15–65 inches</li> </ul>
<b>Proprietary 3M Electronics</b>	<ul style="list-style-type: none"> <li>• Reports simultaneous multi-touch events while supporting palm rejection at high speeds</li> <li>• High signal-to-noise ratio provides input flexibility including thin gloves and fingertips</li> <li>• Ultra-high definition touch for smooth draw capability and ability to distinguish multiple fingers in close proximity</li> <li>• Custom ASIC design offers a standard protocol for any size between 15 and 65 inches and facilitates seamless application development</li> </ul>
<b>3M PCT with Chemically Strengthened Cover Glass</b>	<ul style="list-style-type: none"> <li>• All glass front surface provides a sleek, modern aesthetic</li> <li>• Durable cover glass unaffected by scratches, contaminants or items resting on the surface</li> <li>• Enables leading edge industrial design solutions with a uniform narrow black border graphics design</li> <li>• No surface components or bezel requirement limits debris build up which results in increased reliability</li> <li>• Easy-to-clean, virtually “no wear” surface provides operation unaffected by surface scratches</li> <li>• Smooth edge finish for improved durability and handling safety</li> <li>• Anti-glare for table-top applications or strong ambient lighting environments</li> </ul>

### 3M™ Multi-Touch Display Systems Specifications for Small Format

System Performance	
<b>Touch Inputs</b>	20 touches with palm rejection
<b>Input Method</b>	Finger, thin gloves
<b>Accuracy</b>	>99% of true position
<b>Resolution</b>	32K x 32K
<b>Linearization</b>	Inherently Linear (only video alignment needed)
<b>Tail Connection</b>	Solderless design
<b>Light Transmission</b>	>90%

Electronics (3M Multi-Touch Controller PX5000)	
<b>Communication</b>	USB HID Digitizer
<b>Operating Current</b>	<133mA Max
<b>Power Connection</b>	USB Vbus
<b>Connectors</b>	ZIF (touchscreen side), Molex (USB COM)
<b>Touch Refresh Rate<sup>1</sup></b>	Greater than 100 Hz (<10ms)

Reliability	
<b>Surface Obstruction</b>	Withstands most surface contaminants
<b>Chemical Resistance</b>	ASTM-D-1308-2 and ASTM-F-1598-95
<b>Operating Temperature</b>	-10°C to +70°C (up to 90% RH from 0°C to +35°C (above +35°C, see specification))
<b>Storage Temperature</b>	-40°C to +70°C (up to 90% RH from 0°C to +35°C (above +35°C, see specification))

System Warranty	
Three years	

<sup>1</sup>Time between touch position updates

Mechanical	
<b>Total Thickness</b>	2.0mm
<b>Graphics</b>	Black border (standard design)
<b>Display Size</b>	Supports 15" to 27" (standard sizes available)
<b>Durability</b>	Non-active cover glass, no wear mechanism
<b>Sealing</b>	NEMA 4X/IP66, complete water-resistant and seal compatible
<b>Regulatory</b>	FCC-B, CE, IEC 609050 (Agency Approvals)
<b>RoHS Compliant</b>	Yes

Operating Systems Supported	
<b>Native Driver Support</b>	Windows XP, Vista, 7, 8, 10; Linux Kernels 3.5 or later for Windows 7 compatible FW; Linux Kernels 3.12 or later for Windows 8 compatible FW
<b>3M Driver Support</b>	MT 7 (Windows XP, Vista, 7, 8, 10, XPe, WEPOS, CE, Linux kernels 2.6 and 3.0)
<b>3rd-party Driver</b>	Mac OS (Intel)

Ordering Information			
Diagonal	Format	Sensor Part No.	Controller Part No.
15"	4:3	98-1100-0638-8	98-1100-0609-9
15.6"	16:9	98-1100-0639-6	98-1100-0609-9
17"	5:4	98-1100-0640-4	98-1100-0672-7
18.5"	16:9	98-1100-0641-2	98-1100-0606-5
19"	5:4	98-1100-0642-0	98-1100-0672-7
21.5"	16:9	98-1100-0643-8	98-1100-0606-5
22"	16:10	98-1100-0644-6	98-1100-0606-5
23"	16:9	98-1100-0645-3	98-1100-0606-5
24"	16:9	98-1100-0629-7	98-1100-0606-5
27"	16:9	98-1100-0673-5	98-1100-0579-4



**3M Touch Systems**  
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**RoHS Directive compliant:** RoHS 2011/65/EU means that the product or part does not contain any of the substances in excess of the maximum concentration values ("MCVs") in EU RoHS Directive 2011/65/EU, unless the substance is in an application that is exempt under EU RoHS. The MCVs are by weight in homogeneous materials. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M. (3/13)

**IMPORTANT NOTICE TO PURCHASER:** Specifications are subject to change without notice. These 3M Touch Systems' Products and software are warranted to meet their published specifications from the date of shipment and one year from the time of purchase. 3M Touch Systems makes no additional warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose. User is responsible for determining whether the 3M Touch Systems Products and software are fit for User's particular purpose and suitable for its method of production, including intellectual property liability for User's application. If the Product, software or software media is proven not to have met 3M Touch Systems' warranty, then 3M Touch Systems' sole obligation and User's and Purchaser's exclusive remedy will be, at 3M Touch Systems' option, to repair or replace that Product quantity or software media or to refund its purchase price. 3M Touch Systems has no obligation under 3M Touch Systems' warranty for any Product, software or software media that has been modified or damaged through misuse, accident, neglect, or subsequent manufacturing operations or assemblies by anyone other than 3M Touch Systems. 3M Touch Systems shall not be liable in any action against it in any way related to the Products or software for any loss or damages, whether non-specified direct, indirect, special, incidental or consequential (including downtime, loss of profits or goodwill) regardless of the legal theory asserted. (7/02)

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