

MicroTouch™ ToughTouch II



Capacitive Touch System

Product Highlights

- Laminated construction provides high impact resistance for vandal-prone locations
- Excellent light transmission supports dynamic interactive applications
- IP66 / NEMA 4 sealability protects from liquids and other contaminants affecting touch screen operation or damaging LCD display
- UL-60950-1 compliant
- Available “viewer privacy” feature with 3M Vikuiti Light Control Film for ATMs and many public applications

High Performance in Extreme Environments

Designed to withstand heavy abuse in unattended, vandal-prone applications, MicroTouch™ ToughTouch II capacitive touch systems are an ideal solution for extreme environments that require a toughened, shatter-resistant, liquid-resistant touch solution. Whether you're designing ticketing kiosks or gaming machines, providing ATM solutions or require a toughened product for challenging industrial environments, ToughTouch II touch systems can meet or exceed your design requirements

ToughTouch II is constructed by optically laminating 4 mm glass to the back of a MicroTouch™ ClearTek™ II touch screen – the “de facto” standard for capacitive touch screens. By combining ClearTek II's industry-leading features for reliability and robustness with laminated impact-resistant characteristics, ToughTouch II offers excellent touch performance when and where ever you need it.

The Clear Difference

MicroTouch™ ToughTouch II – along with its best-in-class MicroTouch™ EX II touch electronics – sets the standard in “strengthened capacitive” touch system offerings. Along with its worldwide support and service organization, 3M provides expert technical support wherever any of our products are designed-in, integrated, or delivered. It is this complete solution approach that ensures remarkable compatibility and exceptional service, backed by 3M.

MicroTouch™ ToughTouch II Capacitive Touch System

Performance	
Input Method	Finger input
Accuracy*	Reported touch coordinates are within 1.0% of true position (based on viewing area dimensions) when linearized and used with a MicroTouch™ EX II Series touch controller
Touch System Resolution	Touch screen resolution defaults to settings in the electronics and software, generally 1024 x 1024, but capable of 16K x 16K when used with EX II.
Linearization	Factory-linearized values are stored in the attached controller, represented in a 2D barcode or in the touch screen NOVRAM, when present.
Impact Resistance	Passes the UL-60950-1
Optics	
Light Transmission**	86.5 % (± 1.5%) light transmission (tested on the BYK Gardner Haze Gard Plus)
Surface Finish	ClearTek™ II hard coat with optimal anti-glare properties. Scratch resistant top coat provides smooth, easy glide, easy to clean touch surface
Mechanical	
Minimum Contact Requirement	5.4 ms for finger input with an EX II Series controller
Glass Thickness	7.57mm (± 0.58mm) With 3M Vikuiti™ Light Control Film (privacy): 8.23mm (± 0.58mm)
Display Size Supported	Supported for display sizes ranging from 6.5" to 32" diagonal (Light Control Film: 17" diagonal maximum)
Surface Scratch Hardness	A Mohs pick with a hardness rating of 7 or higher is required to induce a scratch which will cause a functional failure. Exceeds severe abrasion test per MIL-STD-675C
Sealing rating	Can be sealed to meet the IP 66 or NEMA 4 standard for resistance to infiltration of fluids into the enclosure.
Gasketing	Complete water-resistant seal obtainable with a polyethylene gasket. Please consult the ToughTouch II Integration Guide for further details.
Mounting	Please consult ToughTouch II Integration Guide for specific mounting instructions.
Cleaning	Water, isopropyl alcohol, or similar non-abrasive cleaners.
Reliability	
Surface Obstructions	The touch screen continues to operate with surface contaminants such as, dirt, dust and grease.
Chemical Resistance	ClearTek™ II is highly resistant to corrosives, in accordance with ASTM-D-1308-07 (1993) and ASTM - F- 1598-95.
Liquid Resistance	Liquids on screen do not impede touch screen performance.
Operating Temperature*	-15° C to 70° C for the touch screen.
Storage Temperature	Always store the touch screen in its original shipping container between -50° C and 85° C (up to 90% RH from 0° C to + 35° C). Never store the touch screen in an environment where condensation may form.
Humidity	Up to 90% RH from 0° C to +35° C, non-condensing.
RoHS Compliance	ToughTouch II is compliant with the European Union 2002/95/EC Directive on Restriction of Hazardous Substances (RoHS).
Warranty	5 years

* Achievement of the listed specifications has been demonstrated in monitor integrations where the touch screen is mounted to monitor frame such that the spacing between the touch screen and monitor screen does not vary due to compression on expansion from touch forces or temperature changes.

** Test uses BYK Gardner Haze Gard Plus.

3M Touch Systems
3M Display & Graphics
300 Griffin Brook Park Drive
Methuen, MA 01844
U.S.A.

1-888-659-1080

www.3M.com/touch

For more information
on 3M touch products,
visit 3M.com/touch
or call toll-free 1-888-659-1080

RoHS Directive compliant: In accordance with European Directive 2002/95/EC, "RoHS Directive compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based on information provided by third party suppliers to 3M. (9/06)

NOTICE: Given the variety of factors that can affect the use and performance of a 3M Touch Systems Product (the "Product"), including that solid state equipment has operation characteristics different from electro mechanical equipment, some of which factors are uniquely within User's knowledge and control, it is essential that User evaluate the 3M Touch Systems Product and software to determine whether it is suitable for User's particular purpose and suitable for User's method of application. 3M Touch Systems' statements, engineering/technical information, and recommendations are provided for User's convenience, but their accuracy or completeness is not warranted. 3M Touch Systems products and software are not specifically designed for use in medical devices as defined by United States federal law. 3M Touch Systems products and software should not be used in such applications without 3M Touch Systems' express written consent. User should contact its sales representative if User's opportunity involves a medical device application.

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