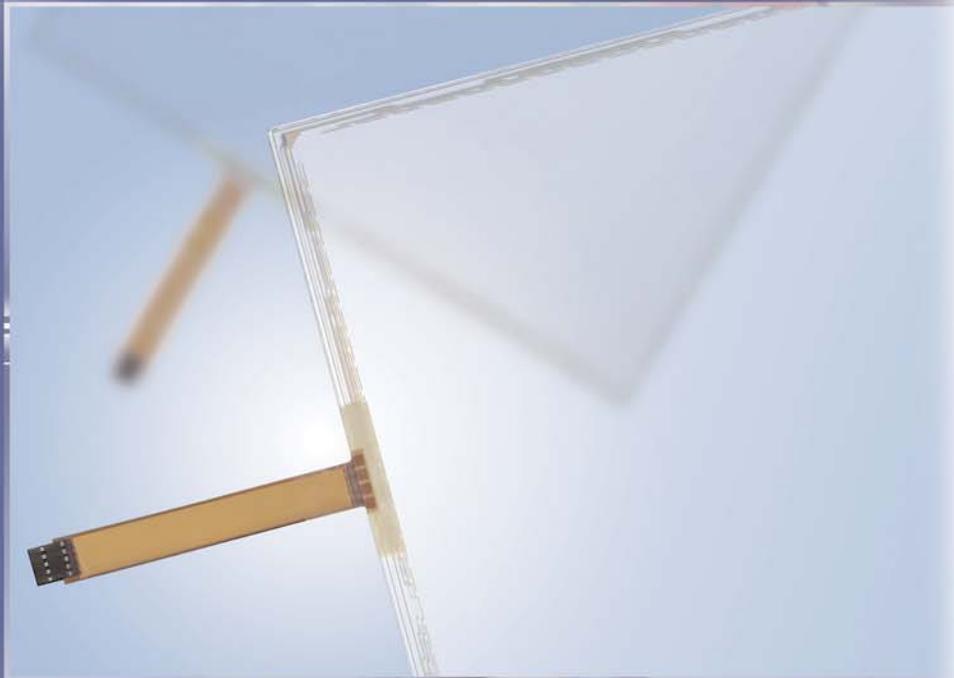




# ClearTek™ II Capacitive Touch Screen



## Product Highlights

- Excellent light transmission of 91.5% (+/-1.5%) provides vibrant optical characteristics with optimal anti-glare properties
- Resilient top coat provides smooth, easy glide surface while offering durable scratch resistance
- The accuracy, durability, and fast touch response expected from a MicroTouch™ ClearTek™ II product.
- Performance unaffected by everyday contaminants in the environment

## Better by Design

Known for innovative technology and products, 3M Touch Systems has leveraged decades of capacitive technology experience to create the **MicroTouch™ ClearTek™ II Touch Screen**. Based on a complete re-engineering of the 3M-patented Profile design, the ClearTek™ II touch screen offers optimized optics, facilitates display integration and creates a more environment-friendly touch screen.

ClearTek™ II touch screens, combined with the solid foundation of MicroTouch™ EX II electronics and robust MicroTouch™ software offer high endurance solutions for a multitude of touch applications where exceptional performance, vibrant optics and environmental robustness is mission-critical, 24/7.

## The Clear Difference

3M Touch Systems offers a wide portfolio of touch technologies and touch products with a commitment to ease of integration, responsiveness, reliability and simplicity of use. With its world-class support and service organization, 3M provides expert technical consulting service and support wherever any of our products are designed, integrated or delivered. It is this complete solution approach that ensures remarkable compatibility and exceptional service, backed by 3M.

# MicroTouch™ ClearTek™ II Capacitive Touch Screen

## Performance

|                                |   |
|--------------------------------|---|
| <b>Input Method</b>            | Finger input.   |
| <b>Accuracy*</b>               | Reported touch coordinates are within 1.0% of true position (based on the diagonal dimension of the screen) within the precision area when linearized and used with MicroTouch™ EX II Series Touch Controllers. |
| <b>Touch System Resolution</b> | 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.   |
| <b>Linearization</b>           | Factory linearization values are stored in the attached controller, represented in a 2D bar code, or in the touch screen NOVRAM when present.   |

## Optics

|                             |   |
|-----------------------------|---|
| <b>Light Transmission**</b> | 91.5% light transmission (±1.5%).   |
| <b>Surface Finish</b>       | ClearTek II hard coat with optimal anti-glare properties. Scratch resistant top coat provides smooth, easy glide touch surface. |

## Mechanical

|                                    |   |
|------------------------------------|---|
| <b>Minimum Contact Requirement</b> | 3 ms for finger input with an EX II series controller.  |
| <b>Glass Thickness</b>             | 3.18mm (±0.25mm) typical.<br>(Glass only, not including flexible tail connection; reference touch screen drawing for details.)  |
| <b>Display Size Supported</b>      | 6.4" to 32" diagonal.   |
| <b>Surface Scratch Hardness</b>    | A Mohs pick with a hardness rating of 7 or higher is required to induce a scratch which will cause a functional failure. Functionality unaffected by severe abrasion per MIL-C-675-C, exceeding number of specified cycles. Functionality unaffected by 10,500 grams of force per Balance Beam Scrape Adhesion Mar Tester with loop stylus. |
| <b>NEMA rating</b>                 | NEMA sealable.  |
| <b>Gasketing</b>                   | Complete water-resistant seal obtainable with polyethylene gasket. Please consult ClearTek™ II touch screen integration guide for further details.  |
| <b>Mounting</b>                    | Please consult MicroTouch™ ClearTek™ II Integration Guide for specific mounting instructions.   |
| <b>Cleaning</b>                    | Water, isopropyl alcohol, or similar non-abrasive cleaners.   |

## Reliability

|                               |   |
|-------------------------------|---|
| <b>Surface Obstructions</b>   | Touch screens operation withstands surface contaminants such as, dirt, dust and grease.   |
| <b>Chemical Resistance</b>    | ClearTek™ II is highly resistant to a variety of solvents, acids, and household chemicals in accordance with ASTM-D-1308-02 <sup>ε1</sup> and ASTM-F-1598-95 (reapproved 2002).                       |
| <b>Liquid Resistance</b>      | Liquids on screen do not impede touch screen performance.   |
| <b>Operating Temperature*</b> | -15° C to 70° C for the touch screen.   |
| <b>Storage Temperature</b>    | 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 touch screens in an environment where condensation may form. |
| <b>Humidity</b>               | Up to 90% RH from 0° C to +35° C, non-condensing.   |
| <b>Warranty</b>               | 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 / expansion from touch forces or temperature changes.

\*\* Test uses BYK Gardner Haze Gard Plus.



### 3M Touch Systems 3M Display & Graphics

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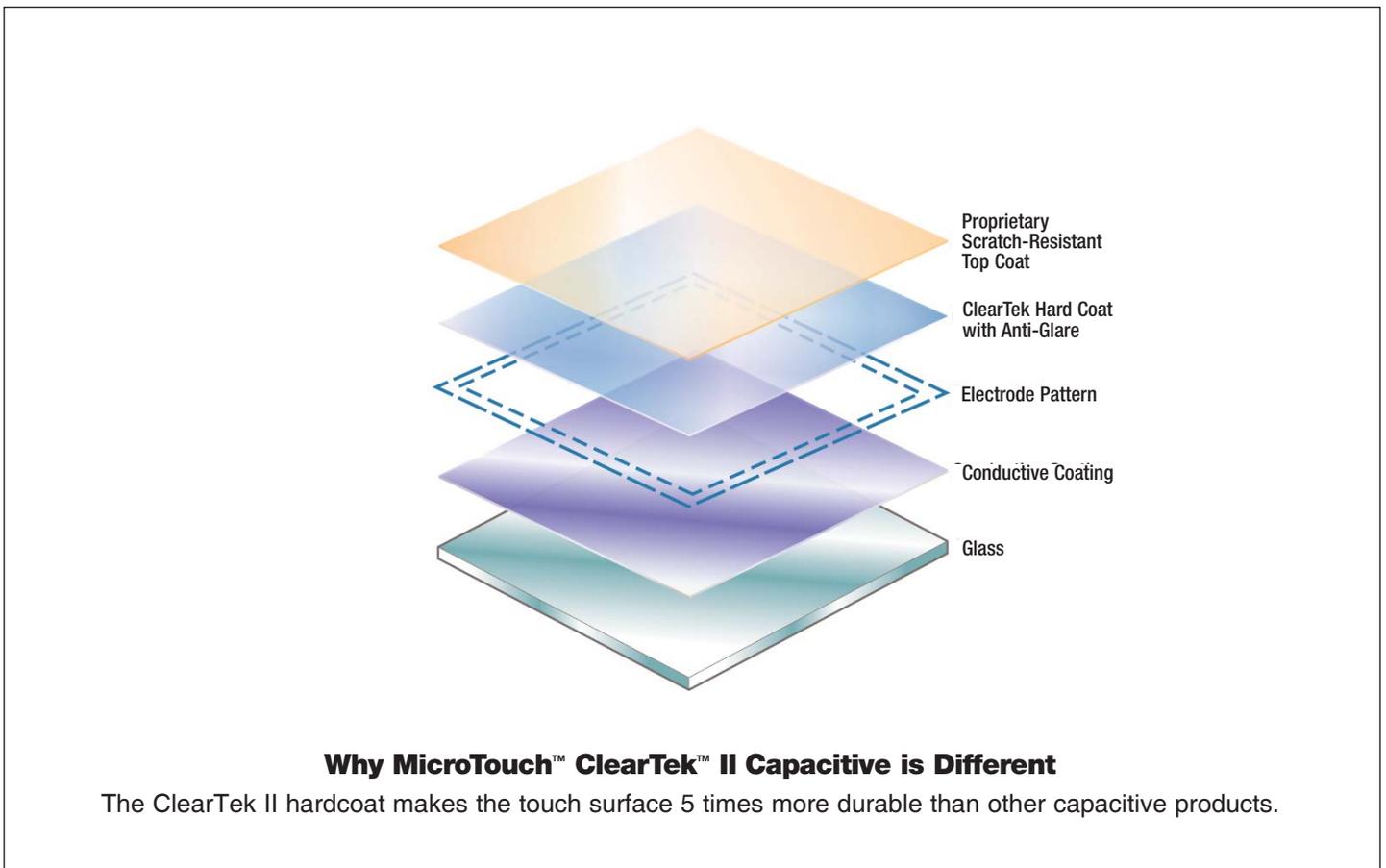
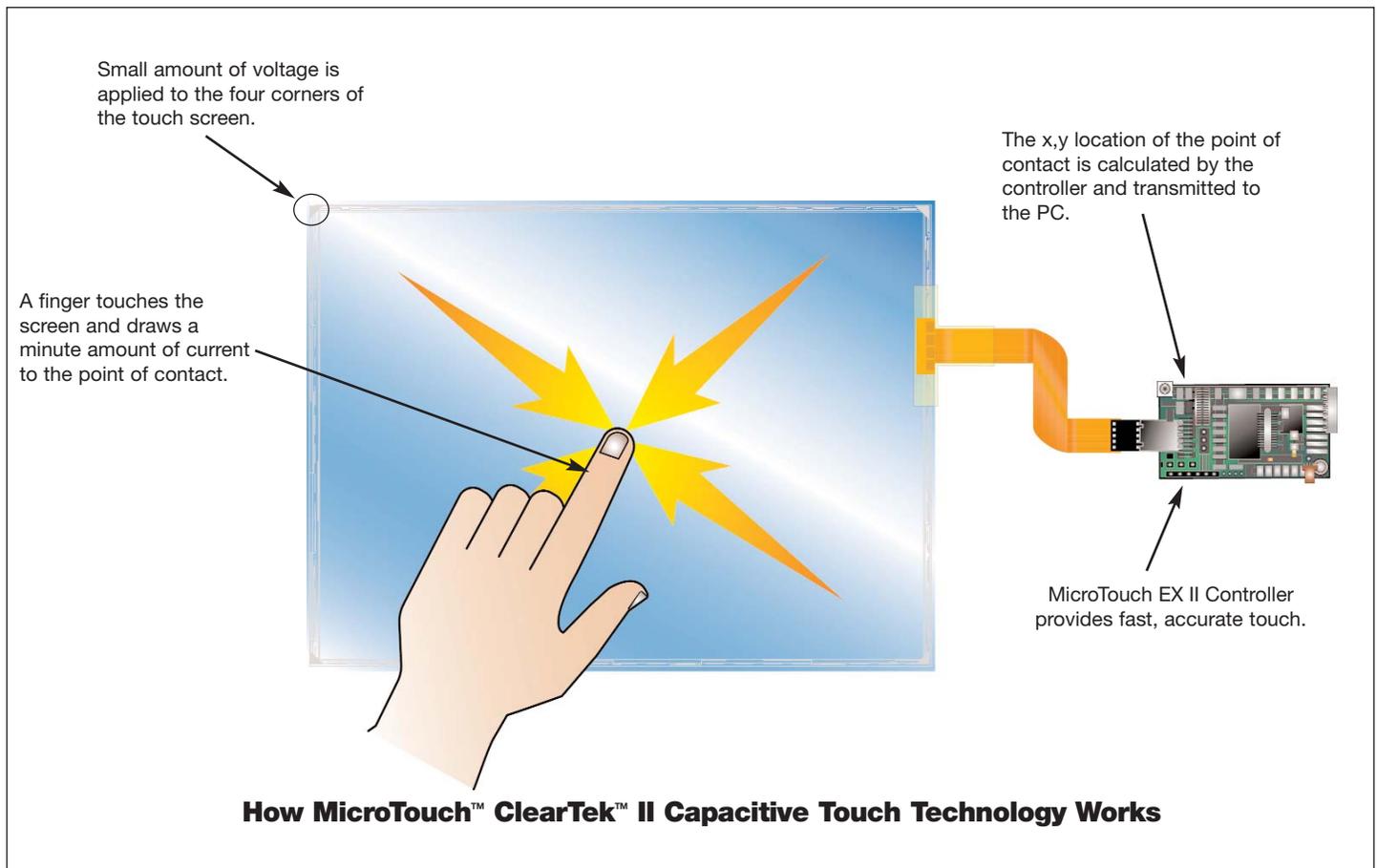
**For more information  
on 3M touch products,  
visit 3M.com/touch or  
call toll-free 1-888-659-1080**

**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.

**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 for the period stated in the specification. **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 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)

# MicroTouch™ ClearTek™ II Capacitive Key Touch Screen Features







### Smooth Drag Performance

ClearTek II provides smooth, continuous drag / draw functionality



### Contaminant Resistance

ClearTek II is able to withstand every day contaminants, and continues to work with most liquids or solid contaminants on the screen

