Let Your Fingers Do The Directing

Touch screens have become a prevalent user interface because they are simple and intuitive to use. These wear-resistant surfaces can sense a single touch or multiple finger gestures. Grayhill’s projected capacitative sensing multi-touch functionality is precise and light to the touch.

Instinct Touch Panels can quickly and accurately track up to 10 touch points at a time. For environments where water or gel may be present, the touchscreen can be set to Fluid Rejection Mode. In this mode, the touch panel can also be set to recognize moisture and automatically enter Fluid Compatibility Mode. It can recognize touch points despite heavy gloves, and automatically return to bare finger usage once the gloves are off. The touch sensor is designed with high resolution, allowing two touch points to be easily recognized.

An optically bonded lens provides superior mechanical and visual performance. Instinct Touch Panels have superior EMI performance without compromising optical clarity or multi-touch abilities. The touch panel can be customized to meet practically any strength or impact requirements. Custom panel printing is also available.

Grayhill can optically bond your touchscreen to the LCD of your choosing to improve impact resistance and sunlight viewability.

www.grayhill.com

Features:
• Projected capacitance (PCAP)
• In-House optical bonding
• Optically clear
• Easy configuration
• High resolution
• High density touch differentiation
• Supports up to 10 touch points
• Thin frame design
• Wider viewing angle
• Quick and easy integration
• Native Win 7&8 support, as well as many distributions of Linux
• Responsive operation

Eliminates traditional PCAP problems:
• High fluid compatibility mode
• Heavy glove compatibility mode
• Latest PCAP technology from Microchip

Environmental:
• Rugged, impact resistant
• Chemically resistant
• Industrial temperature range

Electrical:
• High electrical noise immunity
• USB or I2C communication

Available Customizations:
• Sizes and aspect ratios
• Legending and buttons
• Lens size, thickness, hardness, and impact resistance
• Connection position and controller geometry

Applications:
• Medical devices
• ATM machines
• Off-Highway vehicles
• Rugged hand held devices
• Lottery and gaming machines
**Dimensions**

in inches (and mm)

<table>
<thead>
<tr>
<th>Size</th>
<th>7-Inch Display</th>
<th>5-Inch Display</th>
<th>5-Inch Display</th>
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<tbody>
<tr>
<td>5.0&quot; = 050</td>
<td>5.87 ± 0.015</td>
<td>0.50 ± 0.015</td>
<td>0.50 ± 0.015</td>
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<tr>
<td>6.5&quot; = 065</td>
<td>6.317 ± 0.015</td>
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**Thickness**

Thickness for all sizes: 0.12 inch [3mm]

**Ordering Information**

T401 - XXXX - XXX - X

- **Size**
  - 5.0" = 050
  - 6.5" = 065
- **Aspect Ratio**
  - A = 4:3
  - B = 5:3
  - C = 16:9
  - D = 16:10
- **Controller Output**
  - 1 = USB 2.0
  - 3 = I2C
- **Border Option**
  - N = None
  - B = Black
- **Cover Lens**
  - S = Strengthened Soda-Lime Glass
  - D = Alkali-Aluminosilicate Glass
- **Lens Treatment**
  - N = None

Contact Grayhill for Custom Options.

Grayhill, Inc. • 561 Hillgrove Avenue • LaGrange, Illinois 60525-5997 • USA • Phone: 708-354-1040 • Fax: 708-354-2820 • www.grayhill.com
COMMUNICATION

USB: Full Speed HID Compliant - 2.0, 3.0 Compatible
I2C: 400KHz, I2C-HID or Atmel I2C-Generic w/ Interrupt, Device Address Selectable: 0x4A or 0x4B
OS: Windows 7, 8, 10, Linux, Android

CONNECTION

Mating Connector: Molex, 503480-0800

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ENVIRONMENTAL & MATERIAL SPECIFICATIONS

Operating temperature -20°C to +70°C
Storage Temperature -30°C to +80°C
Humidity 95% Humidity at +40°C for 240 hours
Thermal Shock Thermal Shock (IEC 60062-2-14)

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS

Designed and tested for use in systems requiring IEC 60601-1
RF Emissions CISPR 11 Group 1 Class B
Electrostatic Discharge IEC 61000-4-2 ±8kV Contact ±16kV Air
Electrical Fast Transient/Burst IEC 61000-4-4 ±1kV
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8 3 A/m
Conducted RF IEC 61000-4-6 Level 2 - 130dBµV, 150 kHz to 80 MHz
Radiated RF IEC 61000-4-3 3 V/M 80 MHz - 2.5 GHz

ELECTRICAL PERFORMANCE SPECIFICATIONS

Operating Voltage 4.5 to 5.5 Vdc
Operating Current Max 45mA
Resolution 1024 x 614
Aspect Ratio 5 : 3
Nominal Latency 50mS
Report Rate 45Hz
Accuracy 1.5% F.S.
Two Touch Differentiation 15mm
Maximum Number of Touches 10
Minimum Actuation Size 9.5mm
Controller IC Atmel mXT640T

MECHANICAL PERFORMANCE SPECIFICATIONS

Chemical resistance (Resistance to accidental spills and disinfectants) 72 Hr exposure to Coffee, Cola, Saline, Methylated spirits, Isopropyl, Ammonia, Chlorine bleach, Sodium Hypochlorite, Ethanol, Dupont® Virkon®, Dupont® RelyOn®, Betadine, Hydrogen Peroxide, Cidex®, Steris®, Civco®
Surface Hardness 6H
Impact Resistance 50g sphere from 50cm
Impact IK05
Optical Clarity 85%
Color Fastness Delta E of <3.0 in VA (Viewable Area), after UV exposure per ISO4892-2Method B
B-Star Change in b∗<2.0 (yellowing) after UV exposure ISO4892-2 Method B 300hrs
Mechanical Shock Mechanical Shock (MIL-STD 202, Method 213B Test Condition A
Vibration Random (MIL-STD-202G, Method 214A IB) - 2 hrs per axis

Specifications subject to change