



- 6 inch
- Capacitive touch
- Glass overlay

# **6" PANEL MOUNT TOUCHPAD WITH 8 SHORTCUT KEYS**

Using years of knowledge/experience gained from developing industrial trackball technology, Cursor Controls Ltd have developed a range of advanced touchpad solutions. The touchpads provide smooth and precise cursor control using the latest and most advanced touch sensing technology and are designed for use in the most extreme environments.

This panel mount touchpad provides both conventional X and Y-axis cursor movement with plug-and-play, multi-finger gesture support for enhanced user interaction. The mutual-capacitance based tracking engine combines the benefits of solid state sensing (no moving parts) with the precision, functionality and performance associated with the Cursor Controls product range. The design allows for easy cleaning and decontamination, ensuring continued optimum performance and operation under the harshest of conditions. The unit has been designed to be front of panel mounted as part of OEM keyboards and consoles.

#### **FEATURES**

- · Solid state sensing technology capacitive touch sensing tracking engine
- USB output, 1,6 m cable
- IP65 sealing
- · Haptic and audible feedback (function specific)
- · Multi-finger gesture support
- 8 shortcut keys capacitive touch
- Smooth operation in rugged environments
- Tolerant to moisture, water and liquid contaminants
- Custom feature button configurations / overlays available

## MECHANICAL SPECIFICATIONS

Module Dimensions 148.4 mm x 114.4mm x 6.2 mm

Weight ~350grams

Touch Surface Overlay Material Glass, anti-fingerprint & anti-glare
Touch Surface Overlay Colour Metallic grey - Pantone PMS 10392

Bracket Material Aluminium
Bracket Colour Black Anodised

#### **OPERATIONAL SPECIFICATIONS**

Motion Detection Method Mutual capacitance sensing

X/Y Position Reporting Relative

Sample Rate Up to 100 samples/sec.
Touchpad Active Area Size 130mm x 80mm

### **ELECTRICAL SPECIFICATIONS**

Protocol USB Supply Voltage 4.40 – 5.25V

Supply Current 60mA typical - default resolution setting, feedback idle

300mA peak - max resolution setting, feedback effects playing

Resolution (X, Y) 960 x 720 counts (default setting)

Output Connector (CN1) 12-way connector, Molex PicoBlade Series PN: 53261-1271

#### **APPLICATIONS**

- Industrial consoles
- Medical systems
- Marine systems
- Sound and lighting desks
- Video editing consoles
- Custom keyboard applications





#### **ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature 0° to 70°C

Operating Humidity 5 to 95% relative humidity

Storage Temperature -40° to +85°C

Vibration 2g, 10-500Hz, 1 octave/min, 10 sweep cycles (IEC 60068-2-6)

Operating Shock 15g/11ms, ½ sine, 3 shocks in +ve and –ve direction, all 3 axes (IEC 60068-2-27)

Sealing Level IP65

ESD 15kV air-discharge and 8kV contact discharge (IEC 61000-4-2)
EMC Radiated immunity - limits according to level 3 of IEC 61000-4-3

Radiated emissions to EN55022 class B

#### OPERATING SYSTEM COMPATIBILITY

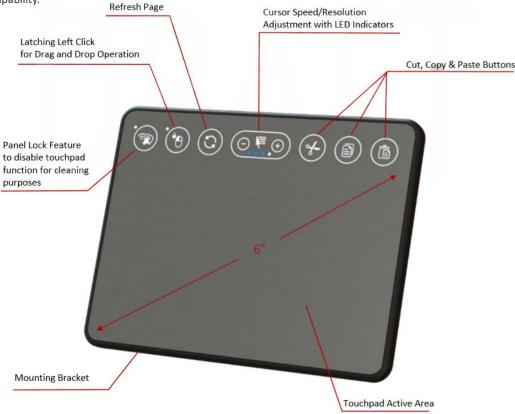
USB Windows, Linux, Mac OS, and Android

Fully compliant with USB 2.0 framework (chapter 9) & HID Specifications

#### **TOUCHPAD FEATURES**

The TPP-55A1A6 touchpad includes the following features/technologies.

- Touchpad Technology: The 6-inch touchpad active area provides both conventional X and Y-axis cursor movement with plug-and-play, multi-finger gesture support for enhanced user interaction.
- Shortcut keys: 8 x shortcut keys are located at the top of the touchpad module. These utilise capacitive touch sensing technology and incorporate frequently used functions such as Cut, Copy & Paste, cursor resolution adjustment etc., as well as a panel lock feature to facilitate cleaning/decontamination of the device.
- Mounting Bracket: The metal mounting bracket provides the system integrator with the ability to mount the module into the front of a user interface panel, keyboard or console using four threaded fixing studs. The bracket includes a rim around the glass edge for added protection and IP65 sealing capability.



### **Cursor Tracking Mode**

The touchpad includes an intuitive **Ballistic Tracking** algorithm to provide increased cursor resolution when tracking fast, whilst retaining the native resolution (960 x 720 counts) for tracking accurately at slow speeds.

The touchpad also includes an **Inertia Tracking** algorithm which applies inertia to the X and Y axis, allowing cursor movement or scroll to continue in the intended direction after the finger(s) is lifted from the touchpad surface, after which the cursor will naturally slow to a stop



#### **GESTURE OPERATIONS**

The touchpad incorporates an in-built gesture recognition engine designed to enhance user experience and increase the overall efficiency of user interaction with a host system. Use of gesture control enables the user to access frequented functions such as button clicks, scrolling and zooming by means of highly intuitive multi-finger operations. See table below for details on the available gesture actions.

GESTURE ACTION		FUNCTION
Zu	Single-Finger Tap	Left mouse button click  Double/triple tap supported
1	Two-Finger Tap	Right mouse button click  Double/triple tap supported
THE STATE OF THE S	Three-Finger Tap	Middle mouse button click  Double/triple tap supported
\$1	Two-Finger Vertical Drag	Scroll Up/Down
The state of the s	Two-Finger Horizontal Drag	Scroll Left/Right <sup>1</sup>
10 m	Two-Finger Splay	Zoom In <sup>1</sup>
705	Two-Finger Pinch	Zoom Out <sup>1</sup>
	Three-Finger Swipe Left	Back <sup>1</sup>
	Three-Finger Swipe Right	Forward <sup>1</sup>

<sup>1.</sup> Horizontal scroll and zoom functions are dependent on application support.

# CURSOR SPEED / RESOLUTION SETTINGS

The touchpad allows the user to increase or decrease the cursor resolution as required across 8 levels, indicated by the LED indicators underneath the + and - buttons. The table here below provides details of the resolution provided by each level.

11	Cursor Resolution	
Level	х	Υ
0	360	240
1	480	360
2	720	540
3 (Default factory setting)	960	720
4	1200	900
5	1440	1080
6	1680	1260
7	1920	1440





#### TOUCHPAD FEEDBACK

The touchpad features haptic and audible feedback to provide a perceptible response to user interaction events. The table here below details the default event mapping for user feedback;

Event	Haptic Feedback	Audio Feedback
Finger Taps (e.g. Left Mouse Click)	No	Yes
Gesture Operations (e.g. Two finger Vertical Drag)	Yes	Yes
Feature Buttons	Yes	Yes
Active Area Edge Detection	Yes	No

#### PANEL LOCK FEATURE

The panel lock feature allows the touchpad to be locked / disabled for cleaning purposes. This can be achieved by tapping and holding the panel lock button for 3 seconds to toggle ON or OFF. The panel lock LED will remain illuminated whilst the touchpad is locked.

#### **CONNECTION DETAILS**

PIN No.	USB
1	NC 1
2	NC 1
3	NC 1
4	NC 1
5	EARTH <sup>2</sup>
6	NC 1
7	VBUS (+5V)
8	D -
9	D+
10	GND (0V)
11	NC 1
12	NC 1
1	

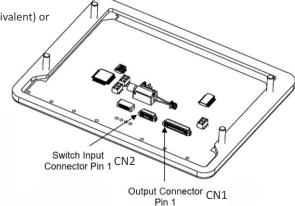
### **Output Connector: CN1**

Description : 12-way, 1.25mm pitch, right-angled connector
Manufacturer : Molex (or equivalent) – Pico Blade Series

Part number : 53261-1271 (or equivalent)

Mating Connector: 51021-1200 Crimp Housing (or equivalent) or

mating cable A033-80001

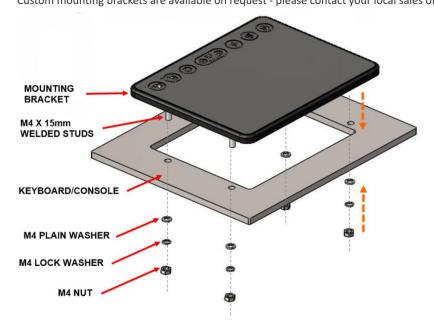


## Notes:

- 1. Pin to be left unconnected (floating).
- $2. \ Earth \ connection \ required \ for \ ESD \ management.$

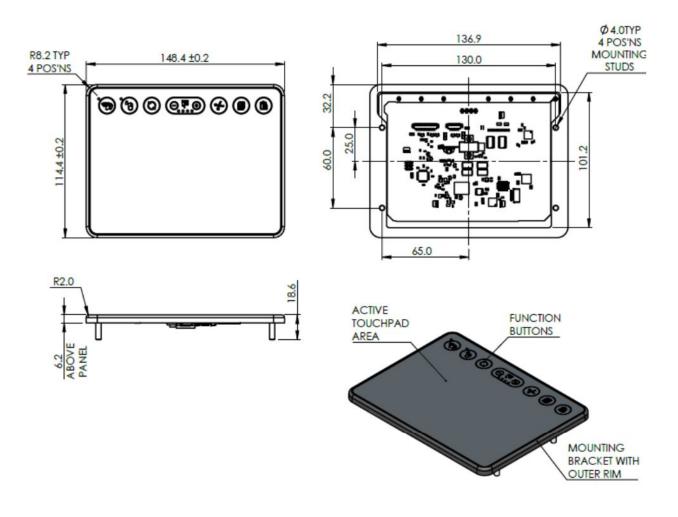
### RECOMMENDED INSTALLATION

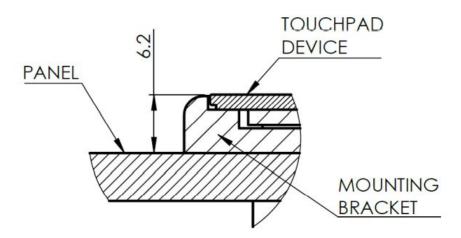
The TPP-55A1A6 panel mount touchpad has been designed to be installed into the front of a user interface panel, keyboard or console. The interface panel shall have 4 x Ø4.5mm holes to accommodate the studs on the mounting bracket of the touchpad device. Custom mounting brackets are available on request - please contact your local sales office for more information.





# TOUCHPAD DIMENSION DRAWING

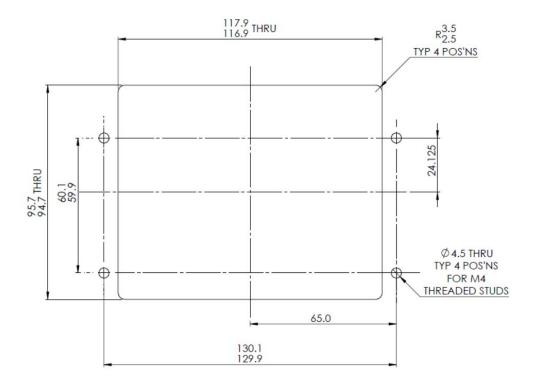




Dimensional drawing specifies factory default orientation. All dimensions are in mm unless otherwise stated. Tolerances +/- 0.2mm unless otherwise stated.



#### RECOMMENDED PANEL CUT-OUT



All dimensions are in mm unless otherwise stated. Tolerances +/- 0.2mm unless otherwise stated Please note that a STEP model is available on request. Please contact your local sales office for more information.

#### **ORDER INFO**

6 inch panel mount touchpad Glass overlay, USB output, excl. cable	TPP-55A1A6
Optional accessories USB output cable, 1,6 m Interconnection cable switches	OC5012160TP IC060024TP

### MANUFACTURER

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