

# How to Select an Industrial Pointing Device

Congratulations! You have found the world's finest industrial pointing devices. Why? Because CTI Electronics Corporation completely designs and manufactures all of the critical sensors, components, circuitry, and firmware necessary to ensure our customers guaranteed long term availability. CTI's industrial pointing devices have survived 25 years of service; this high durability of success is due to the uses of thick layers of hard gold, dual encoder optical sensors, vibration dampening material, and shielding to minimize effects of high EMI and RFI signals. The reliability is unquestionable; 7x24x365 performance in the most critical of environments (Aviation, Marine, Military, Medical) require that these industrial pointing devices be designed to an aerospace grade quality. That's why we say, "When Reliability is Critical" you need to talk with us. CTI's offers Commercial Off-The-Shelf (COTS) Industrial pointing devices as well as customized (Build to Print) manufacturing. Advanced rapid prototyping and optimization to your demanding requirements is available.

Simply, an Industrial Pointing device is a computer mouse or cursor controller, allowing the operator to position the pointer on the monitor. Joysticks and trackballs are typical industrial pointing devices. Which is the most appropriate pointing device? It is CTI's goal to navigate you through the selection process in determining the best human machine interface device for your application. The selection of the most appropriate device requires a fundamental understanding of the application, Installation Details, Environmental Conditions, Operation, Usage, and Interface requirements. Other factors involved are budget & time constraints, time-to-market issues, etc which also affect the choice of an appropriate industrial pointing device.

**Industrial pointing device selection is based upon operator's frequency of usage, cursor speed, fluidity of movement, and size of the targets:**

**Industrial Mouse®** - Trademark first used in 1989, application of a Joystick mouse pointing device.  
(High Usage, Rapid Speed, Smooth Movement of 360° in very fine detail, target size >1mm(0.04"))

**Arrow Mouse®** - Trademark first used in 1994, application of an Arrow (up, down, left, right) mouse pointing device.  
(Medium Usage, Rapid Speed, Jumping Movement in up, down, left, right direction, target size >6mm(0.25"))

**Orbital Mouse®** - Trademark first used in 2003, application of a Button Style, circular, mouse pointing device.  
(Low Usage, Variable Speed, Jumping Movement of 360° to approximate location, target size >25mm(1.0"))

**Trackball** - The Ball mouse pointing device provides an IP65 sealing (static) and IP54 sealing (rotating).  
(Low to High Usage, Slow Speed, Precise Movement in exacting detail, target size ≤ 1mm(0.04"))  
e.g. tracing/outlining objects

**To allow CTI to optimize the industrial pointing device solution to the specific requirements of your application we ask that you provide as much detailed information as possible.**

**Installation:** OEM      Panel Mount      Plug-n-Play      Other:  
OEM – Open electronics parts which require mounting into an enclosure/panel.  
Panel Mount – Open/Closed electronics with a metal plate requires mounting into an enclosure/panel.  
Plug-n-Play – Enclosed electronics that can be a handheld or desktop version.

**Describe any extraordinary Installation/Removal Requirements:**  
Ex. 1) The pointing device will be mounted on a vertical wall. Ex. 2) The pointing device needs to be easily plugged/unplugged into a panel that constantly requires cleaning with harsh chemicals and water.

[Understanding NEMA and IP Ratings](#)

**Environmental Conditions:** Indoor    Outdoor    Both    Other:

**Operating Temperature Range:** (-40°C to 0°C)    (0°C to +40°C)    (+40°C to +80°C)    Other:

**Will the Industrial Pointing Device be subjected to Hazardous Substances:** Yes    No    Not Sure  
(check all that apply)

Liquids: Water    Oil    Grease    Bio-Hazard    Chemical    Others:  
Solids: Dirt    Dust    Food    Bio-Hazard    Chemical    Others:  
High Emission Signals: EMI    RFI    Specifics:

**Will the Industrial Pointing Device be subjected to Vibration/Movement:** Yes    No    Not Sure  
Mobile applications subject pointing devices to high vibrations such as airplanes, helicopters, marine vessels, trucks, etc.

**Operation:**  
Describe how and where the Industrial Pointing Device will be used:

Ex. 1) The pointing device will be used to outline anatomical images from medical x-ray scans in a hospital.  
Ex. 2) The pointing device will be used as a mouse cursor control for sizing targets onboard a Marine vessel.

**Will the Operator of the Industrial Pointing Device be using gloves?** Yes    No  
Heavy/Thick    Flexible/Thin    Other

Usage:  
Describe the tasks an Operator will perform while using the Industrial Pointing Device:

Ex. 1) The operator will walk over to a monitor then quickly point and click (left mouse button) on large icons with the pointing device.  
Ex. 2) The operator will be sitting at a desk to move the cursor up/down and across the display into fields of a spread-sheet type of application.

**How many hours of an eight hour day will the Pointing Device be used?**

**Interface:**  
**Select the computer Operating System:** Windows    Solaris    Unix    Linux    Real-Time  
...Other

**Select the Communication Interface:** `USB    `PS/2    `Microsoft Mouse Serial    `Mouse Systems Serial  
...Other

**Serial output requires a +5V input source:** `Q Cable(AT Port)    `P Cable(PS/2 Port)    `PJ0105 Power Adaptor  
...Other

**Describe any other requirements of the Industrial Pointing Device:**

**Contact Information:**  
First: \_\_\_\_\_ Last: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address 1: \_\_\_\_\_  
Address 2: \_\_\_\_\_  
City: \_\_\_\_\_ State/Province: \_\_\_\_\_ Country: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_