when reliability is critical ™

How to Select an Industrial Trackball

Congratulations! You have found the world's finest industrial trackballs. 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 trackballs 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 trackballs 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 Trackballs as well as customized (Build to Print) manufacturing. Advanced rapid prototyping and optimization to your demanding requirements is available.

Simply, CTI's NEMA 12 (IP54) sealing industrial trackball is a mouse cursor control device design and manufactured to the MIL-HDBK-217F standard. Yet, it's a very high precision (up to 640 cts/rev) movement device that can accurately trace very small objects (0.04" 1mm). Sophisticated enough to operate at high altitudes (+30,000 feet), with 100% non-condensing humidity, and in a -25°C to +80°C temperature range. CTI is so confident is these industrial trackballs that it offers, an unheard of, five (5) year Repair Policy on it's Panel Mount and Plug-n-Plays.

Pointing device selection should be 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 a 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 trackball solution to the specific requirements of your application we ask that you provide as much detailed information as possible.

Describe how and where the Industrial Trackball will be used:
Ex. 1) The trackball will be used to outline anatomical images from medical x-ray scans in a hospital.
Ex. 2) The trackball will be used as a mouse cursor control for sizing targets onboard a Marine vessel.

Describe the tasks an Operator will perform while using the Trackball Mouse Pointing Device:

How many hours of an eight hour day will the Trackball Mouse be used? 0 hours/day

Understanding NEMA and IP Ratings

Environment of Usage: Indoor Outdoor Both Other:

Operating Temperature Range: (-25°C to 0°C) (0°C to +40°C) (+40°C to +80°C) Other:

Does your application require Conformal Coating on PCB? Yes No Not Sure
Conformal Coating on the PCB protects electrical components from moisture and prolongs life. Conformal coating is used when the environment may contain moisture caused by either condensation from high humidity or rapid changes in temperature.

Does your application require Friction Dampening Material around the Ball? Yes No Not Sure
Friction Dampening Material is silicone based and will prevent unwanted movement of the pointer in mobile applications having high vibrations such as airplanes, helicopters, marine vessels, etc.

Will the Industrial Trackball be subjected to Hazardous Substances: Yes No

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

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 Quadrature Other

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

With Quadrature output select length of the ribbon cable (inches): 6 12 18 Other

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

Select a Trackball stage of manufacture:
OEM – An industrial trackball that is mounted utbmanunderneath a panel or into an enclosure.
Approximate Ball Diameters: 1.3" (33mm) 1.5" (38mm) 2.0" (51mm) Other

Panel Mount – An industrial trackball mounted into an enclosure that is mounted into a panel cut-out.
Without Mouse Buttons
Approximate Ball Diameters: 1.3" (33mm) 1.5" (38mm) 2.0" (51mm) 3.0" (76mm) Other

With 3 Mouse Buttons
Approximate Ball Diameters: 1.5" (38mm) 2.0" (51mm) 3.0" (76mm) Other

Describe any other requirements of the Trackball

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

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