Technical Application Documentation

Configuration

Desktop: Enclosed or encased pointing device configured for desktop, tabletop or benchtop applications.

Panel Mount: Pointing device configured for rear mounting in an aperture on the surface of a keyboard or an OEM designed instrumentation or equipment panel. The OEM design engineer supplies the keyboard panel or enclosure. These units do not have an enclosure, case or front panel adapter plate. These units are supplied with the mating connector and crimps.

Fascia Mount: Pointing device configured for mounting on the front surface of a keyboard or an OEM designed instrumentation or equipment panel. The OEM design engineer supplies the panel or enclosure. These units are supplied with the mating connector and crimps.

Other: Other mounting or configuration options not listed.

Interfaces Available

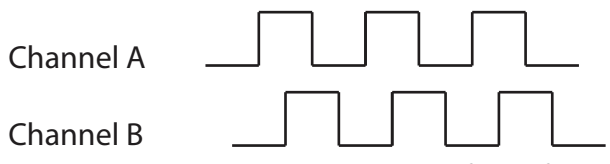
Sun: Interfaces compatible with Sun Microsystems workstations and computer systems

IBM PS2/AT: A serial interface type based on IBM's Personnel System 2 (PS/2) computer interface that utilizes a small 6-pin DIN connector. XT/AT is a legacy type interface that is still widely used. The 6-pin Mini-DIN PS/2 connector is smaller than the 5-pin IBM XT/AT connector. Most of today's keyboards utilize a PS/2 interface. Modern trackballs use internal electronics to automatically detect the type of interface and provide backward compatibility for systems with XT or AT interfaces.

Serial: Microsoft Mouse interface is an RS232 serial type interface.

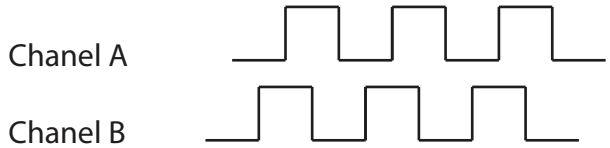
USB: Universal Serial Bus. The standard serial bus for low-to-medium speed peripheral device connections to computers, including keyboards, mice, trackballs, modems, printers, joysticks, audio functions, monitor controls, etc.

Quadrature: Phased quadrature is the basic form of logical output produced by the shaft encoders of an optical interrupter mouse or trackball. Each axis has two optical interrupters set close together so the bars of the disc obstructs the light from first one interrupter closely followed by the second one. When these interruptions are converted into a logic signal the following output is obtained:



Phase Quadrature Waveforms (forward direction)

The reason that two channels are used, is to enable the direction of motion to be determined as well as the speed. In the reverse direction the relative phase of the two signals changes:



Phase Wuadrature Waveforms (reverse direction)

Each transition of both channels can be decoded by a suitably programmed microprocessor (or other logical system) to determine a single pixel movement in either the forward or reverse directions.

Apple Desktop Bus:

A low-speed serial bus that connects input devices, such as keyboards, trackballs and other mouse devices to a Macintosh® computer or to other hardware equipment.

Environmental / Industrial Features

Wireless: The device does not need a cable to connect to and transmit data to the computer system. Data is transmitted by RF, infrared or microwave signals. This option is only available on some of our units.

Intrinsically Safe:

The trackball is suitable for hazardous environments where explosive or combustible materials may be present. Available on request

EMI/EMC Tested:

The keyboard is designed to pass or meet tests ensuring the unit complies with standards or ratings for electromagnetic conditions.

Applications

General Purpose:
General commercial applications such as security systems, video & audio broadcast or editing equipment, medical, point of sale (POS) and computer workstations for CAD/CAE or other office applications.

Industrial: For use with industrial computers, PLC or other industrial control units. The operator interface unit of machining or specialized manufacturing equipment, data acquisition system, and machine vision workstation or process instrumentation may also require an industrial pointing device.

Kiosk / POS: Kiosks are information centers located in airports, museums or other public areas and often require vandal proof trackballs.

Medical: Trackballs designed for integration by an OEM into medical equipment such as an ultrasound, NMR, X-ray or surgical laser units. The device may have more stringent hygienic requirements.

Aerospace / Military : Trackballs suitable for military, aircraft or other governmental applications meet more stringent additional military, government or aerospace specifications for the required operating altitude, shock, vibration or temperature ranges.

Vehicular: Trackballs for integration into automobiles, locomotives, material handling vehicles, trucks or off-road vehicles for computer / Internet access, navigational / GPS system access, vehicle or equipment control or other applications. Shock and vibration resistance are of greater importance in these applications.

Marine / Shipboard: Trackballs for marine applications such as navigational instruments or control centers on boats, ships, or offshore oilrigs. The device would have to meet more severe NEMA or IEC Ingress protection (IP) rating for marine applications. NEMA 4, 4X or IP x6x. The second digit of the IP rating indicate resistance to the ingress of water

x6x - Protected against heavy seas or strong water jets

x7x - Protected against low pressure immersion (1 to 15 meters)

x8x - Protected against continuous submersion under pressure

NEMA 4 - Type 4 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose-directed water; and to be undamaged by the formation of ice on the enclosure. They are not intended to provide protection against conditions such as internal condensation or internal icing.

Other: Any queries as to types of application which are not covered here are more than welcome as we specialize in making products to customer requirements.