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Find the *BEI TBS20-200-1-5-1* at our website: *Click HERE*

# MODEL TBS20

## Low-Profile Panel Mount Trackball



With the drive to ever more compact systems, the TBS20 provides an ideal solution for highly precise control in a smaller package. The TBS20 offers many of the same attributes as the TBS II, but its lower profile consumes a mere 1.5 inches of below panel space. This trackball series has found wide use in industrial machine control, medical equipment, video mixing machines and graphic workstations.

The TBS20's sealed ball, 3-point stainless steel ball suspension, and precision encoders provide excellent feel and reliable operation in less than ideal environments. With a built-in drain plug for ease in spills cleanup, the TBS20 is one of BEI's most versatile trackballs. And the TBS20 is easily used "by feel" or with gloves due to its large 2" diameter ball.

The TBS20 is easily integrated into a wide variety of systems. Its low profile allows easy integration in compact systems, and its low power consumption makes it ideal for battery powered applications.

The TBS20 is an excellent choice for commercial or industrial application.
Call one of our applications engineeers today and get the precision low-profile option.

## Specifications

### Mechanical

**Weight:** 8 oz. MAX

**Ball Diameter:** 2.00"

**Housing Size:** 3.25" SQ. X 1.5"

**Tracking Force:** 1.5 to 2.0 oz

**Mounting Surface:** 45° MAX from Horizontal

### Electrical

**Resolution:** 200 cycles per one full revolution of ball

**Supply Voltage:** +5 VDC @ 10mA

**Output :** 2 Channels in Quadrature (TTL/CMOS)

**Mouse Compatibility:** PS/2

**Interface Connector:**

8 Pin Modular Phone Jack (Molex connector P/N 95001 or equivalent, mates with FCC-68 Type Male Locking Plug)

10-pin dual row (Thomas & Betts connector P/N 622-100M or equivalent, mates with standard 0.100" grid pcb headers)

### Environmental

**Temperature:**
$0^{o}$ to $+50^{o}$ standard, $-20^{o}$ to $+60^{o}$ extended

**Vibration:** 5 to 60 Hz @ 5 G's

**Shock:** 15 G's 11 msec duration

## TBS20 Low-Profile Ordering Options

***For assistance, call 800-350-2727***

*Use this diagram, working left to right to construct your model number.*

***Example: TBS20-200-AB-RJ45*** *(one possible configuration of the TBS20 Low-Profile)*

**TBS20** — [ ] — [ ] — [ ] — [ ]

**HOUSING:**
TBS = Trackball System
20 = 2.0" ball diameter

**RESOLUTION:**
Cycles per turn
200 = 200 CPT

**OUTPUT TYPE:**
AB = Dual channel in quadrature
PS = PS/2 compatible mouse

**CONNECTOR:**
RJ45 = 8 pin phone jack (AB versions only)
PR10 = 10-pin dual row receptacle on 6" ribbon cable

**SPECIAL FEATURES:**
Blank = None
S = Special

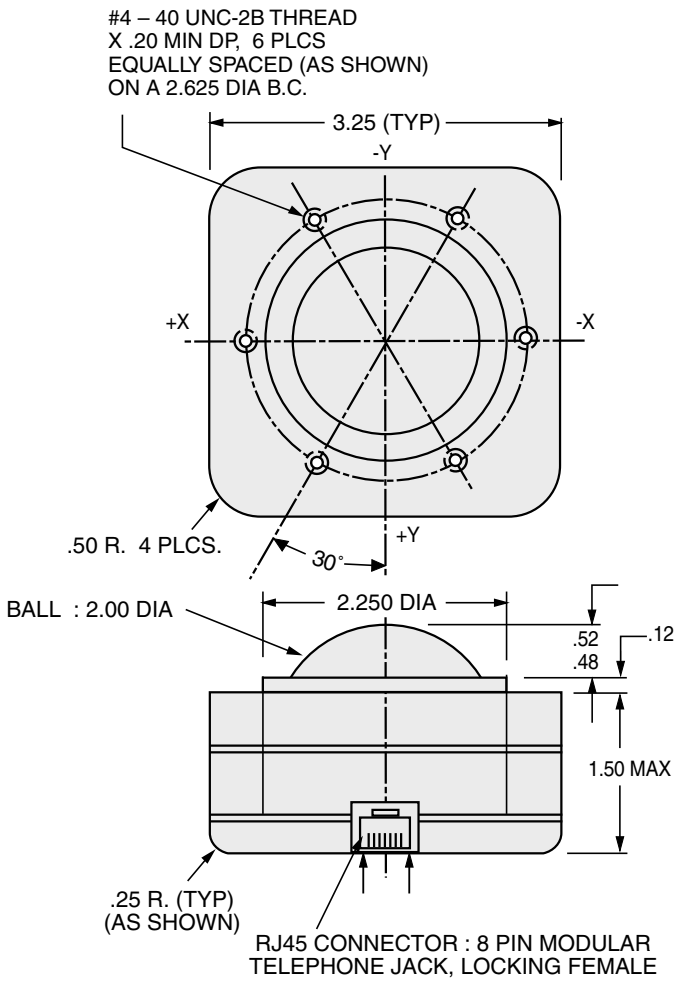


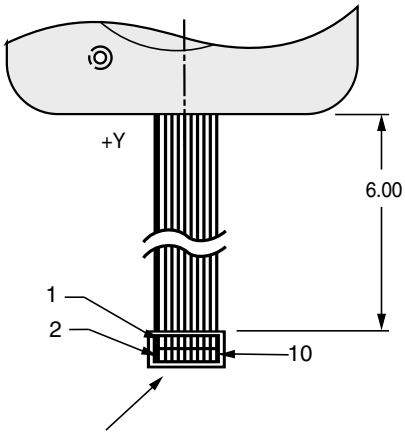
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## Table 1 TBS20 Connector Pinout Functions

| PIN # | RJ45 CONNECTOR AB FUNCTION | PR10 CONNECTOR AB FUNCTION | PR10 CONNECTOR PS FUNCTION |
|---|---|---|---|
| 1 | BY (-Y AXIS) | +5 VDC | PS/2 DATA |
| 2 | AY (+Y AXIS) | GROUND | +5 VDC |
| 3 | +5 VDC | BY (-Y AXIS) | CLOCK IN |
| 4 | NC | AY (+Y AXIS) | GROUND |
| 5 | BX (-X AXIS) | BX (-X AXIS) | NC |
| 6 | AX (+X AXIS) | AX (+X AXIS) | NC |
| 7 | GROUND | NC | SWITCH GROUND |
| 8 | GROUND | NC | SWITCH INPUT–LEFT |
| 9 | | NC | SWITCH INPUT–MIDDLE |
| 10 | | NC | SWITCH INPUT–RIGHT |

## TBS20 Low-Profile Dimensions




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