



- 38 mm optical ball
- IP68 sealing
- Integrated scroll wheel

## ERGONOMICAL 38 MM PANEL MOUNT TRACKBALLS

The TBE38 trackball is an extremely high specification device that incorporates the latest IP68 technology. The trackball combines the patented optical trackball technology with the new hall-effect scroll wheel to provide a fully waterproof desktop trackball solution.

To compliment these two technologies the trackball also includes left, middle, and right switch functionality as found in all conventional trackballs/mice making the TBE38 trackball a complete human interface solution for control of a cursor. The solid state design allows the device to be subjected to extreme conditions and provides the user with the ability to wash down, decontaminate, and sterilise the module, making it the ideal trackball for a wide range of demanding applications and environments.

### MECHANICAL SPECIFICATIONS

#### UNIT

Weight	~700 grams
Housing material	PC/ABS
Housing colour/finish	Black/fine-textured finish
Base plate material	Aluminium
Base plate finish	Bead blasted & clear anodised
Mounting position	All angles

#### TRACKBALL ASSEMBLY

Ball size/material	Ø38.1mm (1.5")/Epoxy resin
Tracking force	20 grams nominal – damper ring seal 20-40 grams – PTFE seal
Ball load	100N (10Kg) maximum downward pressure for 2 minutes @ 20°C
Resolvable ball speed	30 IPS (inches per second)
Tracking engine	Infra-red optical navigation technology
Removable ring	PC/ABS, black

#### SCROLL WHEEL

Wheel diameter	Ø25mm
Wheel material	PC/ABS
Wheel colour	Grey
Encoding technology	Hall effect
Magnet strength	N42
Detent-scrolling force	30 grams nominal
Switch actuation force	275 ± 125 grams force

#### LEFT/RIGHT SWITCH

Switch actuation force	250 ± 100 grams force
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### FEATURES

- Sealing to IP68 (fully waterproof)
- Infra-red optical navigation technology
- Integrated IP68 hall-effect scroll wheel
- Integrated left, middle and right switch functionality
- 38mm ball for precise cursor movement
- Removable ball for easy cleaning
- Outputs: USB & PS/2 (auto select)
- Wired USB cable providing high reliability and avoiding the need for batteries
- Smooth operation in rugged environments
- No special driver required

### ORDER INFO

panel mount/studs	<b>TBE38FO</b>
panel mount/holes	<b>TBE38NO</b>

## ENVIRONMENTAL SPECIFICATIONS

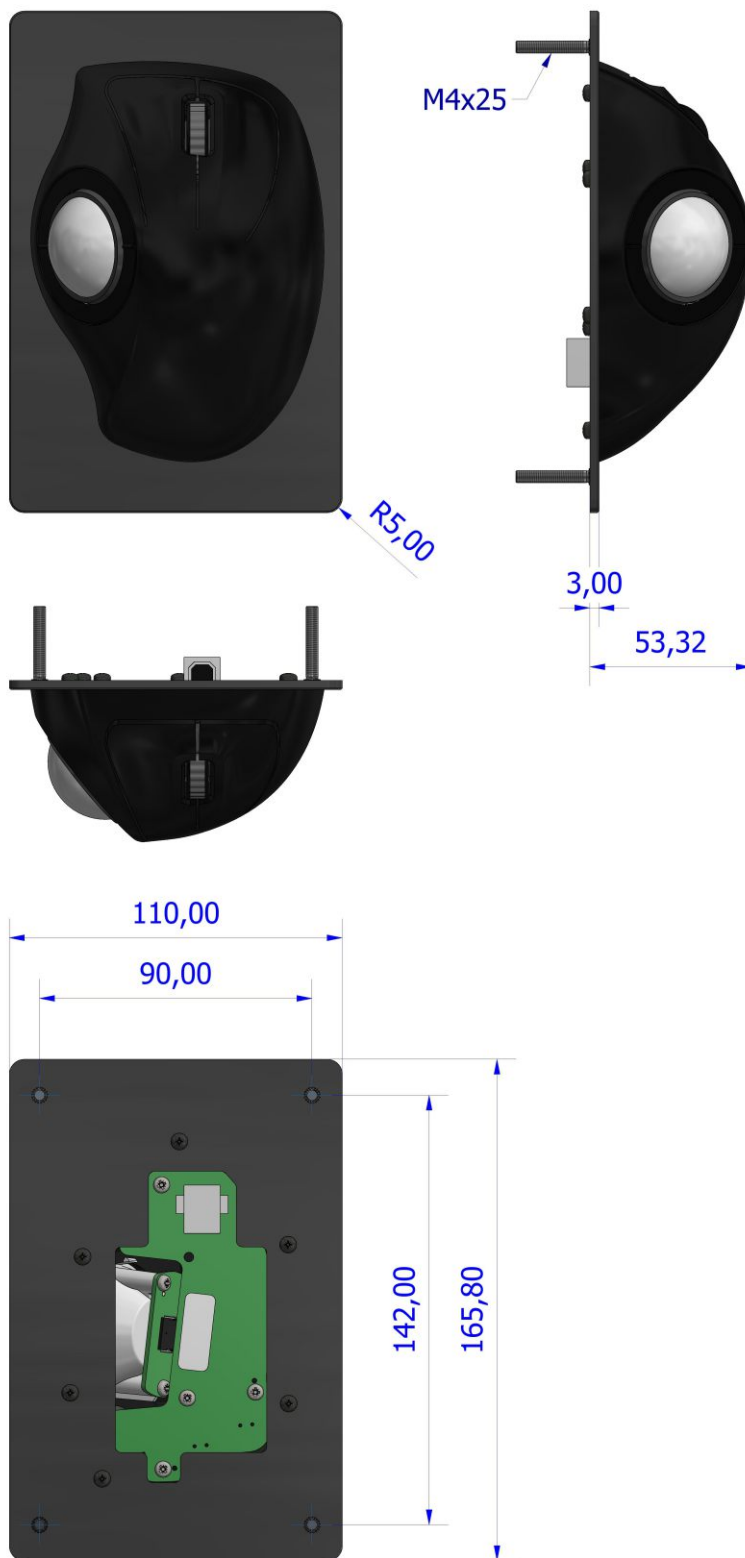
Operating temperature	0°C to +55°C (IEC 60068-2-1, IEC60068-2-2)
Storage temperature	-40°C to + 85 °C (IEC 60068-2-1, IEC60068-2-2)
Operating humidity	93% RH @ 40°C, non-condensing (IEC 60068-2-78)
Storage humidity	10%-95% non-condensing (IEC 60068-2-78)
Vibration	2g, 10-500Hz, 1 octave/min, 10 sweep 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)
Mechanical lifetime	1 million ball revolutions
MTBF	in excess of 80,000 hours (MIL-STD-217F)
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
Sealing capability	IP68

## ELECTRICAL SPECIFICATIONS

Protocol	USB & PS/2 (auto-select)
Supply voltage	4.4V to 5.25V DC
Supply current	100mA Max.
Trackball resolution	1200 counts per ball revolution @ 1 IPS (inches per second) +/- 10% 2400 counts per ball revolution @ 5 IPS (inches per second) +/- 10%
Scroll wheel resolution	24 counts per wheel revolution
Output connector	USB "A" type connector with 2 metre cable
Mating output connector	Standard USB "A" type socket

The E38 trackball provides conventional X and Y axis cursor movement with an additional Z-axis scroll wheel. The Z-axis scroll wheel provides scroll/zoom and middle button capabilities for more effective navigation in complex user interfaces and operating systems (please note the function of the scroll wheel is software dependent). The trackball also features a removable retention ring enabling the user to remove the ball for servicing and maintenance purposes.

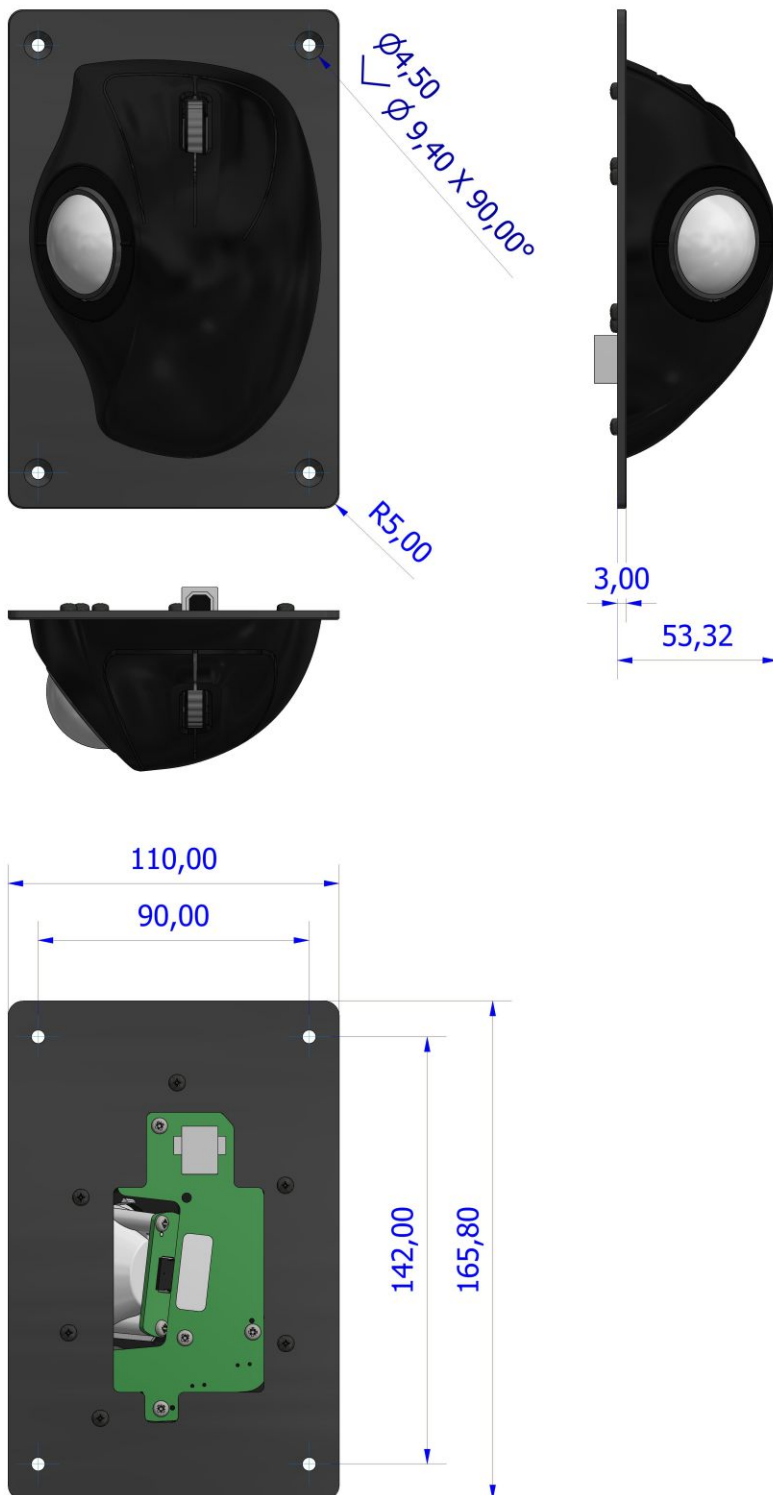
DIMENSIONAL DRAWING  
Panel mount with studs



Dimensional drawing specifies factory default orientation.  
All dimensions are in mm unless otherwise stated.  
Tolerances  $\pm 0.25$ mm unless otherwise stated  
IGES/STEP model available on request.

The company reserves the right to alter without prior knowledge the specification or design of any standard product or service.

DIMENSIONAL DRAWING  
Panel mount with holes



Dimensional drawing specifies factory default orientation.  
All dimensions are in mm unless otherwise stated.  
Tolerances +/- 0.25mm unless otherwise stated  
IGES/STEP model available on request.

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