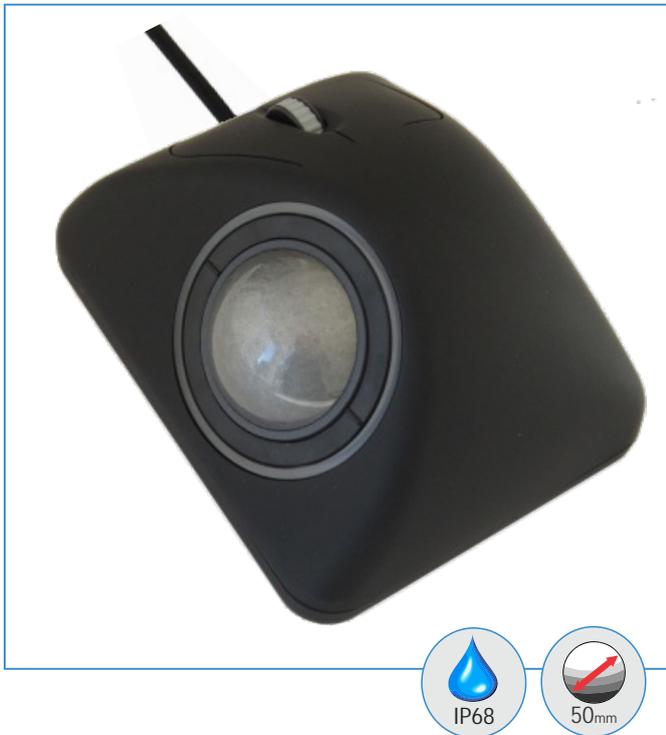# NSi

INDUSTRIAL KEYBOARDS & POINTING DEVICES

ERGONOMICAL IP68 TRACKBALL UNIT
Waterproof trackball & scroll wheel

The E50 Series desktop 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 desktop trackballs/mice making the E50 trackball a complete human interface solution for control of a cursor.

In the standard configuration the E50 Series is supplied with a black soft touch case, USB and PS/2 output, and a grey scroll wheel.

The unit has been designed to be a freestanding desktop device and optimises desk space when compared to a mouse.

FEATURES

- Sealing to IP68 (fully waterproof)
- Infra-red optical navigation technology
- Integrated IP68 hall-effect scroll wheel
- Integrated left, middle and right switch functionality
- Large 50mm ball for precise cursor movement
- Removable ball for easy cleaning
- Outputs: USB & PS/2 (auto select)
- Smooth operation in rugged environments
- No special driver required

IEC60945 marine certification available Q2/2014

IP68   50mm

MECHANICAL SPECIFICATIONS

UNIT

Weight	~500 grams
Case material	PC/ABS
Case colour/finish	Black/soft touch

TRACKBALL MODULE

Ball size/material	Ø50.8mm (2")/Epoxy resin, metallic grey (other colours on request)
Tracking force	30-80 grams – PTFE seal
Ball load	200N (20Kg) 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 style/colour	Bayonet style locking ring/black

SCROLL WHEEL

Wheel diameter	Ø25mm
Wheel material	PC/ABS
Wheel colour	Grey – various colours available
Encoding technology	Hall effect
Magnet strength	N42
Detent-scrolling force	30 grams nominal
Switch actuation force	150 ± 50 grams force

LEFT/RIGHT SWITCH

Switch actuation force	150 ± 50 grams force

VER. 1.1

ERGONOMICAL IP68 TRACKBALL UNIT
Waterproof trackball & scroll wheel

ELECTRICAL SPECIFICATIONS

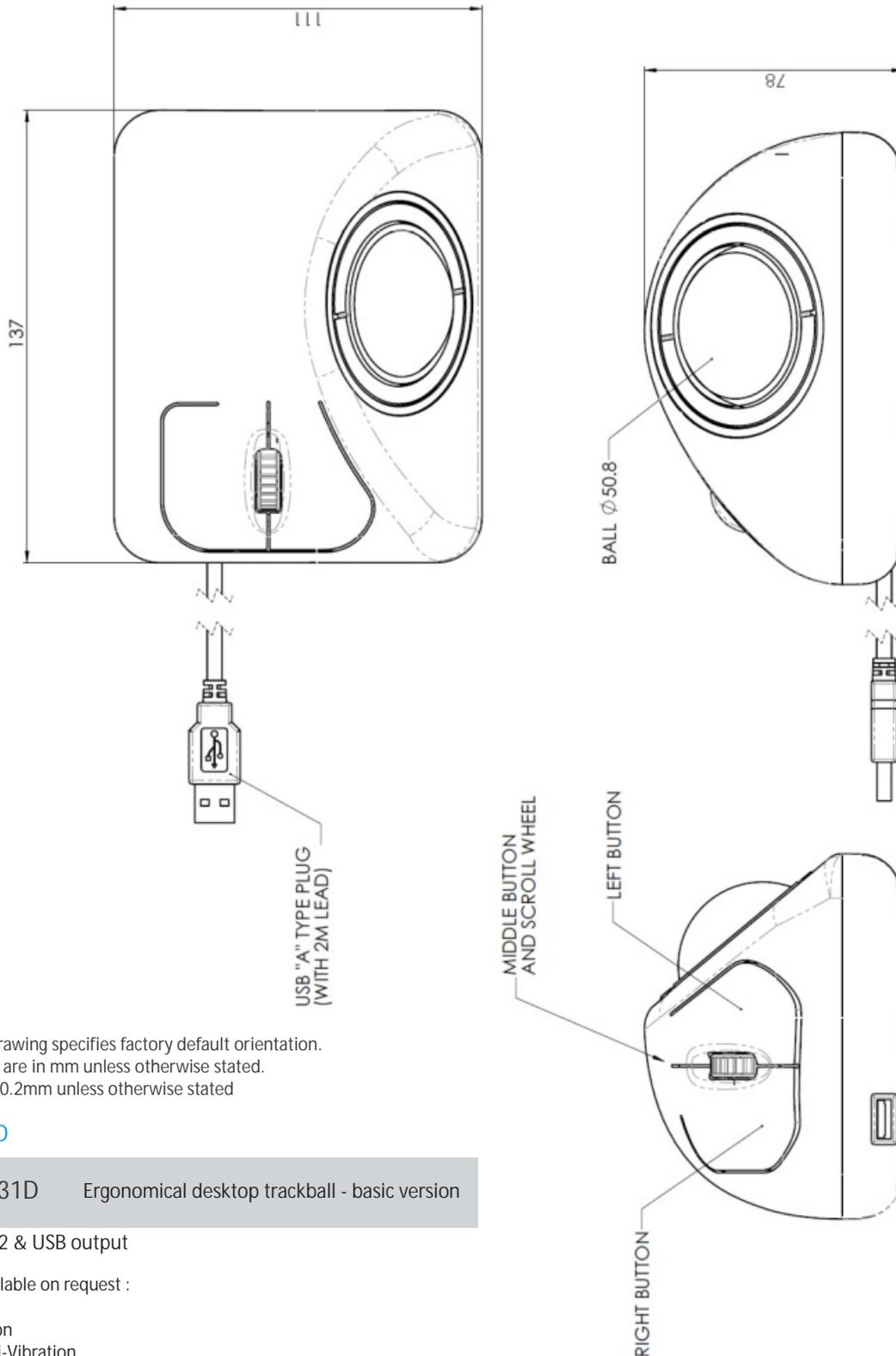|	
Protocol	USB & PS/2 (auto-select)
Supply voltage	4.4V to 5.25V DC
Supply current	100mA Max.
Trackball resolution	1200 counts per ball revolution @ 1 IPS (inches per second) +/- 10%
	2400 counts per ball revolution @ 5 IPS (inches per second) +/- 10%
Scroll wheel resolution	24 counts per wheel revolution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

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

VER. 1.1

ERGONOMICAL IP68 TRACKBALL UNIT
Waterproof trackball & scroll wheel

ELECTRICAL SPECIFICATIONS

BALL ⌀50.8

USB "A" TYPE PLUG
(WITH 2M LEAD)

MIDDLE BUTTON AND SCROLL WHEEL

LEFT BUTTON

RIGHT BUTTON

Dimensional drawing specifies factory default orientation.
All dimensions are in mm unless otherwise stated.
Tolerances +/- 0.2mm unless otherwise stated

ORDER INFO

E50-76A31D	Ergonomical desktop trackball - basic version

combo PS/2 & USB output

Options available on request :
Backlit
Anti-Vibration
Backlit - Anti-Vibration

VER. 1.1