

PanelX™ 38mm Trackball

DESCRIPTION

Designed for demanding industrial environments, PanelX builds on the proven design of Pretorian Technology's PanelPro™ panel mounting trackballs. They incorporate a PanelPro 38mm trackball into a convenient brushed stainless steel fascia for easy mounting into a larger panel.

Industry-standard fixing centres via four welded studs ensure that the unit may be retro-fitted into existing applications.

The unit incorporates either one, two or three buttons, according to the application requirements, and benefits from an attractive brushed stainless steel fascia.

PanelX is the only pointing device family to combine all of the connection formats (protocols) used in modern computer systems into a single unit. Units are capable of phase quadrature, USB, PS/2, Microsoft, Sun and Mouse Systems formats. Quadrature (X and Y) outputs are available simultaneously with any one of the remaining formats.

Each unit has the option of a self-adjusting seal around the ball which affords the unit an IP65/NEMA 4 rating whilst ensuring that the ball tracks smoothly and accurately under all operating conditions. A gasket between the trackball body and the fascia ensures that the overall seal rating is not compromised.

A robust, durable metal bezel may be fitted to the unit in contrasting black anodised aluminium or stainless steel. A shock-transmission plate may also be fitted to the unit to protect from abuse.

The left, middle and right buttons (where fitted) may be configured for latching functions. The latches may be programmed (using a DIP Switch) to operate instantaneously when the button is pressed, or after approximately one second of the button being pressed.

Additionally, the buttons may be wired in any order on request. For example, two buttons wired as 'left click' and one as 'right click' etc.

A facility is also provided to connect a scroll wheel, similar to that on a 'wheel mouse', giving pan, zoom and scroll features in numerous software packages.

SPECIFICATIONS



Model shown: T538BE1A3

In USB and PS/2 formats, an extended feature set may be enabled (using a DIP Switch), allowing an optional buzzer to indicate when a button latch is engaged and disengaged.

Each unit is shipped with a 3 metre PS/2 cable. Other cables are available as accessories- see Page 6.

All units are shipped with a comprehensive Data Log which provides a hard-copy of the tests performed by the Automatic Test Equipment.

The trackball incorporated into PanelX is exactly the same as the PanelPro range from Pretorian Technologies. Please refer to PanelPro data sheets for complete information on trackball configuration and features.

FEATURES

- Durable 38mm phenolic resin or solid stainless steel 440 ball.
- Attractive brushed stainless steel fascia.
- Three buttons (fewer buttons to special order).
- IP65 (NEMA 4) or IP40 (NEMA 2) sealing.
- Phase Quadrature, USB, PS2, Microsoft, Sun and Mouse Systems protocols from a single unit.
- Z-axis inputs for scroll wheel operation.

APPLICATIONS

- Industrial process control.
- Medical equipment.
- Air traffic control/ marine/ radar equipment.
- Studio equipment.

Mechanical

Weight	300 grams (without bezel) 310 grams (with metal bezel) (Add 130g for coated steel ball and 175g for stainless steel ball)
Ball dimensions	38.1mm ±0.05mm
Tracking force	50g nominal- any direction (tangential to ball)
Ball speed	250 rpm maximum
Seal material	PTFE with low friction fill
Ball material	Phenolic resin or stainless steel 440
Body material	PC/ABS
Bezel material	Black anodised aluminium or stainless 303
Shaft material	Stainless 303
Fascia material	Stainless 316S31
Mounting torque (M4 bolt, washer and nut, 3 locations)	40 Ncm

Electrical

Supply voltage	5.0V dc ±10%
Resolution	150 pulses/ball revolution 600 counts/ball revolution
Switch debounce	30ms rising and falling
Supply current (quadrature)	5mA maximum
Supply current (protocol)	15mA maximum
Supply current (with backlight)	100mA maximum
Supply current (USB Suspend Mode)	450µA maximum
Button pullup resistors	7kΩ nominal
Z1, Z2 pullup resistors	100kΩ nominal.
Maximum voltage connected to button and Z1, Z2 inputs	5.5V dc
Minimum voltage connected to button and Z1, Z2 inputs	-0.7V dc
Maximum backlight current per colour	50mA
Maximum voltage connected to J4	5.5V dc.
Minimum voltage connected to J4	-0.7V
Minimum output high voltage X1,X2, Y1, Y2, Data, Clk	4.5V
Maximum output low voltage X1, X2, Y1, Y2, Data, Clk	0.8V
Piezo buzzer nominal sound pressure	88dB at 0.1m

Buttons

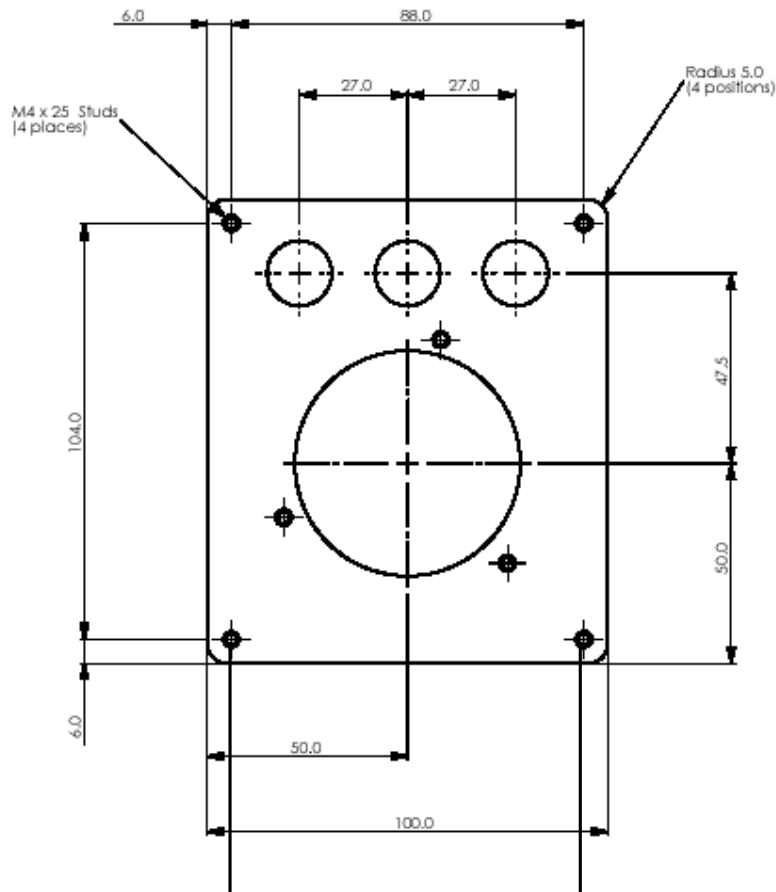
Type	16mm anti-vandal
Body Material	Nickel plated brass and PBT
Operating temperature	-20°C to +55°C
Switch rating	200mA at 48V dc
Switch life	1 000 000 cycles

Trackball Environmental

Storage temperature	-25°C to +85°C
Operating temperature	0°C to +70°C
Humidity	95% rh, non-condensing, maximum
Vibration	5G, sinusoidal, 2-5kHz (swept), any plane
Static ball load	1000N maximum
Shock ball load	10J maximum- single blow
Lifetime	10 million ball revolutions minimum

MOUNTING DETAILS (FROM REAR OF PANEL)

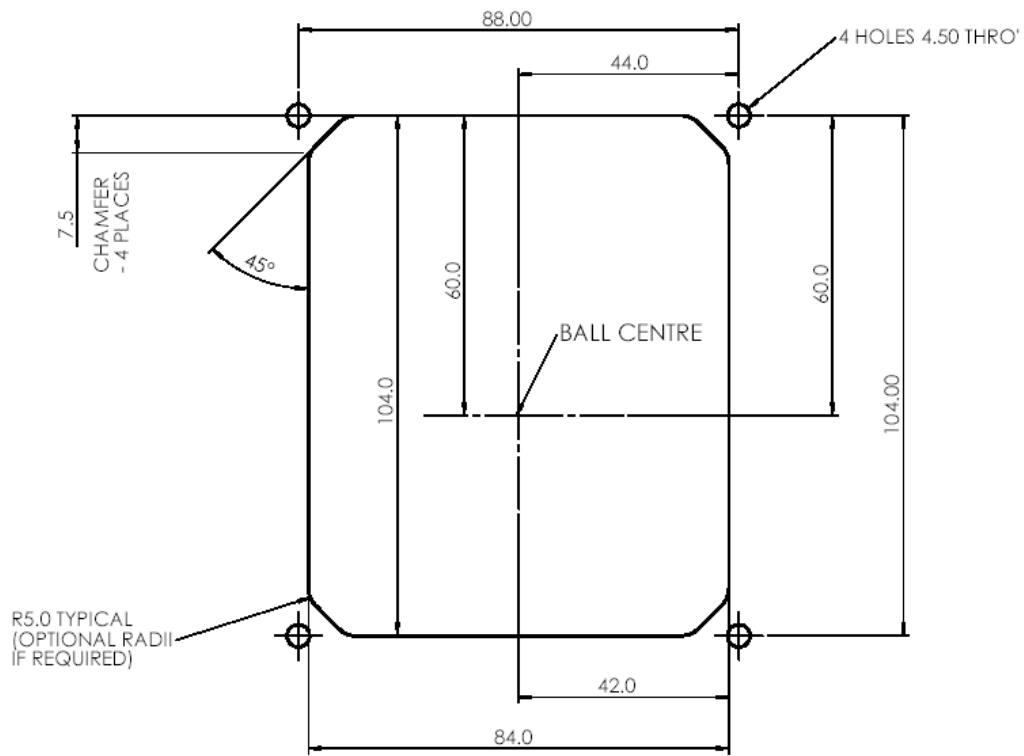
Note that an *IGES* model of this unit is available on the Pretorian Technologies website- www.pretorianuk.com. This model contains only the outer detail but is sufficient to allow the model to be incorporated into a 3D model of the target equipment to ensure correct fitting.



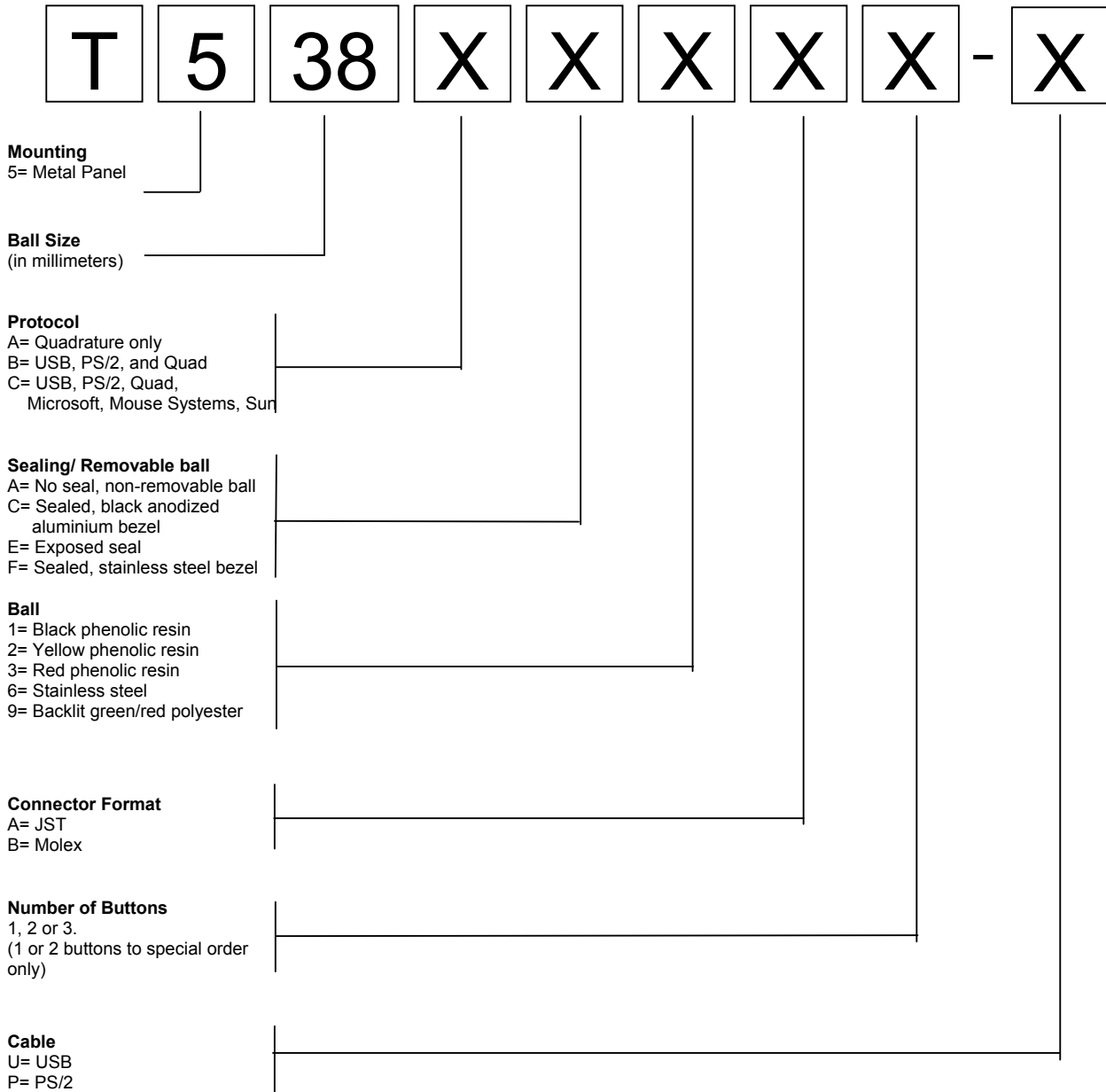
View on rear of panel
 showing position of fixing studs

Panel thickness is 2mm
 Grain direction is north-south

SUGGESTED PANEL CUT-OUT DETAILS



ORDERING INFORMATION



Examples:

The following are common order code examples:

T538BC1A3-U 38mm PanelX, PS2/USB output, IP65 with black anodised bezel, black phenolic ball, JST connectors, three buttons, USB cable.

T550BE1A3-P 38mm PanelX, PS2/USB output, IP65 with no bezel, black phenolic ball, JST connectors, three buttons, PS/2 cable

OPTIONAL EXTRAS

Shock transmission (anti-vandal) plate- 38mm square (order code X199010)
2m Lead assembly USB (order code X199003)
2m Lead assembly PS/2 (order code X199004)
2m Lead assembly RS232 (order code X199005)
Adaptor plug USB → PS2 (order code X199006)
0.5m Lead assembly buttons (order code X199012)
0.5m Lead assembly buttons/wheel (order code X199007)

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