

TW-38-IP65 Plastic Trackball Module

Trackball for multiple applications, ball diameter 38 mm (1 1/2"), degree of protection IP65

**Description****Features:**

- 38 mm plastic [Trackball](#) for installation in a tough ABS/polycarbonate top plate.
- The patented scraper ring enables the ball to be IP 54 ([NEMA 2](#)) or IP65 ([NEMA 4](#))
- Ideal for many applications in fields such as in kiosks, infoterminals, and industrial applications.

On request:

- Beside the black ball we also offer a high gloss high-grade steel ball
- Please you consider also the installation version with high-grade steel front plate and integrated metal switches, as you can see in the cross-reference.

The manual can be downloaded. Please click below.

Output Connector (J1):

Pin	Quadratur Ausgang	PS/2	USB
1	X1	-	-
2	X2	-	-
3	Y1	-	-
4	Y2	-	-
5	-	-	-
6	-	-	-
7	VCC +5VDC	VCC +5VDC	VCC +5VDC
8	-	DATA	D-
9	-	CLOCK	D+
10	GND	GND	GND

Input Connector (J2) for Switches :

Pin	Function
1	Left Switch
2	Middle Switch
3	Right Switch
4	GND

Power Supply for optional Backlight Power

Pin	Function
1	+5VDC
2	0V

Configuration USB-Version:

DIP-Switches	Function	Off	On
1	Orientation Setting 1	-> Diagramm	-> Diagramm
2	Orientation Setting 2	-> Diagramm	-> Diagramm
3	VX3 - virtual 3rd Axis	enabled	disabled
4	Smart Button - Button Lock	enabled	disabled

Configuration PS/2-Version (J1):

DIP-Switches	Function	Off	On
1	Orientation Setting 1	-> Diagramm	-> Diagramm
2	N/A	-	-
3	virtual 3rd Axis	disabled	enabled
4	Doppelte Tracking Rate	disabled	enabled

Explanation for VX3:

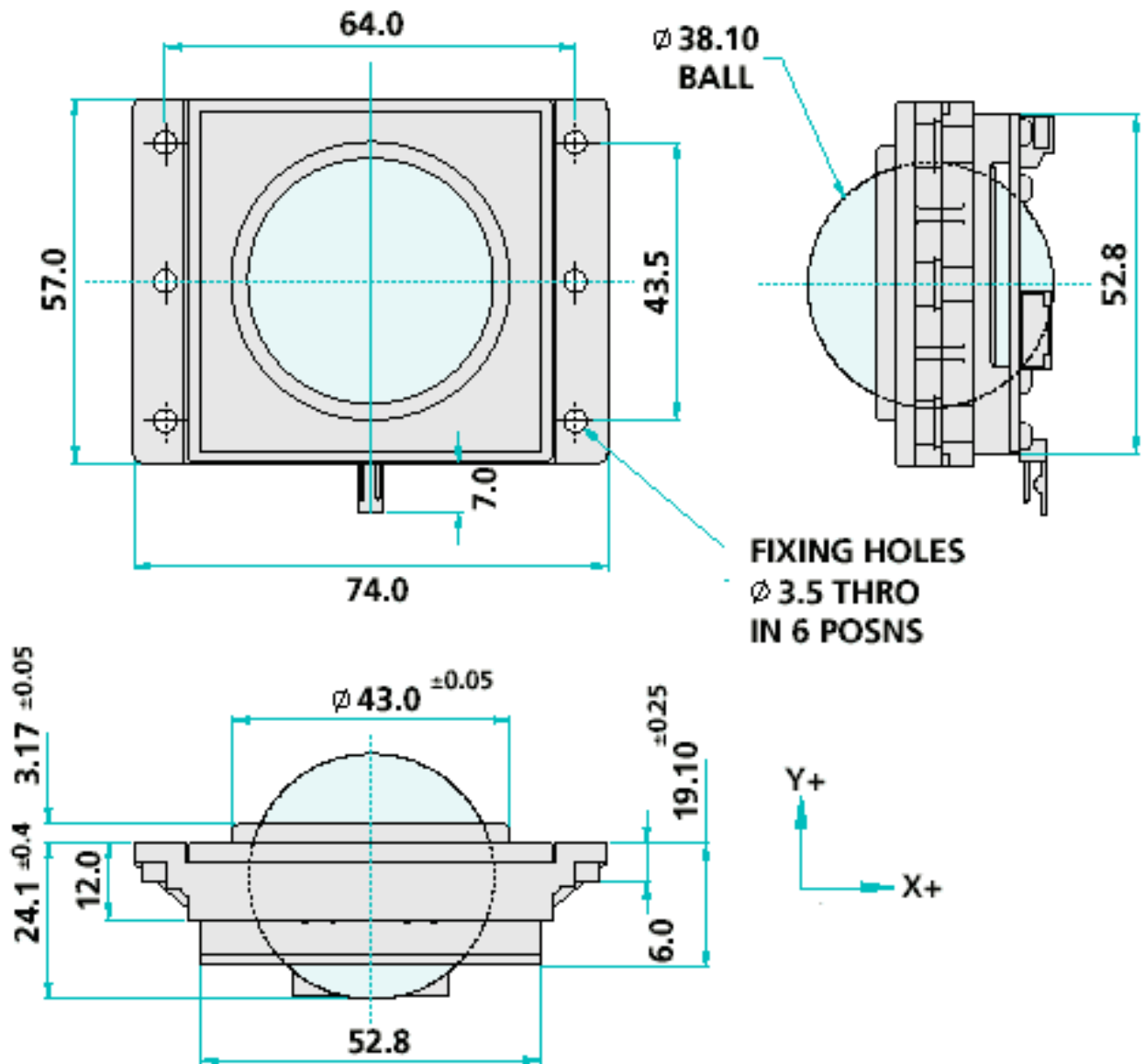
The 3rd Axis (VX3) can be of practical use for example in CAD Applications. In combination with the middle button the CAD-Program switches into PAN and ZOOM Mode, so that in a direction of rotation of the Trackball according to 3rd Axis is headed for. Repeated pressing of the middle key toggles between PAN and ZOOM Mode. Pressing either the left or right buttons to return to normal mode.

Orientation:

USB-Version	12 o'clock	3 o'clock	6 o'clock	9 o'clock
Orientation Setting 1	ON	On	Off	Off
Orientation Setting 2	On	Off	On	Off
PS/2-Version	-	3 o'clock	6 o'clock	-
Orientation Setting 1	-	On	Off	-

Explanation for orientation settings:

View from top of Trackball: Is the 10-pole. Female connector above (12 o'clock), then the Dip-switches are to be adjusted according to above table. In the example: USB-Version: Dip-1 and -2 On. The TRACK ball is to be inserted in such a way that those 10-pol. female connector left is situated (9 o'clock), then is orientation 1+2 - to place respectively Dip 1+2 on Off. Trans



Specification

Mechanical data

Dimensions:	74 x 57 x 38,1 mm
Weight:	0,085 kg
Housing:	Plastic
Degree of Protection:	IP65
Color:	black

Electric Data

Additional Interface:	for mouse 5 V & for mouse PS/2
Operating Voltage:	+5 \pm 0,25 V

Environment

Operating Temperature:	from 0 °C to +70 °C
Storage Temperature:	from -25 °C to +85 °C
Humidity:	min. 30%, max. 95%, not condensing


Additional Information

Ball material:	Thermoset Phenolic or Polyester
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Ball colour:	black (optional: ivory, grey, backlit blue)
Ball load:	200 N
Ball rotation:	continous and reversible - any direction
Ball speed:	200 RPM max
Mounting position:	horizontal to 30° (non-sealed version) horizontal to 90° (sealed-version)
Resolution (Quadrature-Output):	241 Pulses per revolution
Resolution (Protocol-Output):	482/241 (adjustable per DIP-Switch)
External switch inputs:	3 switch support - left, middle, right (only protocoll version!)
Supply Current, typical (Quadrature-Output):	6 mA
Supply Current, typisch (Protocoll-Output):	10 mA
Optional Backlight- Trackball :	+5VDC, 100mA
Vibration:	5 Gs, 2-5KHz any plane
Shock:	100 Gs, duration 11ms
Lifetime:	> 10 mio. ball revolution (non-sealed) > 2 mio. ball revolutions (sealed)

Order No.	Article	
TW1081	TW-38-IP65-PS/2	with integrated PS/2 Controller
TW1076	TW-38-IP65-USB	with integrated USB Controller
TW1094	TW-38-IP65-Seriell	Quadrature Output only

Accessories

Order No.	Article	
ZK1220	Kabel-PS2	cable PS/2
ZK1316	Kabel-Seriell	cable Seriell
ZK1290	USB Anschlußkabel, ca. 2,5m Länge	cable for USB
ZK1245	Kabel zum Anschluß von 2 Tasten (L+R) an Trackball mit integriertem Controller	Cable Left+Right Mouseswitch - > Controller
ZK1342	Kabel zum Anschluß von 3 Tasten (L+R) an Trackball mit integriertem Controller	Cable Left+Right Mouseswitch - > Controller
ZT1043	ZTS- M19 Metalltaste 	M19 Zink-Druckguß Taster
ZT1091	M19-Edelstahl	M19 Edelstahl Taster

Links

Click!	Titel
	TW-Series Trackball Modules Optical or Mechanical Trackballs in different sizes
	TW-38-IP65 Trackball in high grade steel module Trackball for built-in in industrial applications, ball diameter 38 mm, degree of protection IP40/IP65

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