

General Specifications

Mechanical

Ball Material:	Phenolic Resin
Ball Colour:	Black
Ball Size:	38mm (1.5")
Resolution:	170 pulses/ball revolution
Tracking Force:	<20gms (nominal)
Ball Revolutions:	>6 million
Mounting:	Fixing holes to allow mounting at any angle to horizontal
Dimensions (mm):	78 (W) x 58 (H) x 36.17 (D) universal plate
Weight (g):	0.08Kg universal plate

Environmental

Operating Temp.:	-20°C to +60°C
Storage Temp.:	-40°C to +85°C
Relative Humidity:	95% non-condensing
Seal:	IP65
Vibration:	5G, 5-2KHz any plane

Electrical and Electronic

Supply Voltage:	5V DC \pm 5%
Supply Current:	<12mA (PS2 / RS232) <20mA (USB / PS2)

General

MTBF:	60,000 hours
Warranty:	3 year standard return to base Extendable to 5 years if required

Options and Customisation

Options

Interface:	USB / PS2 / AT / RS232 / RS422 / RS485 / XT / TTL / DEC / SUN
Mechanics:	Universal plate or reduced plate

Customisation

Trackerball:	Various colours and stainless steel
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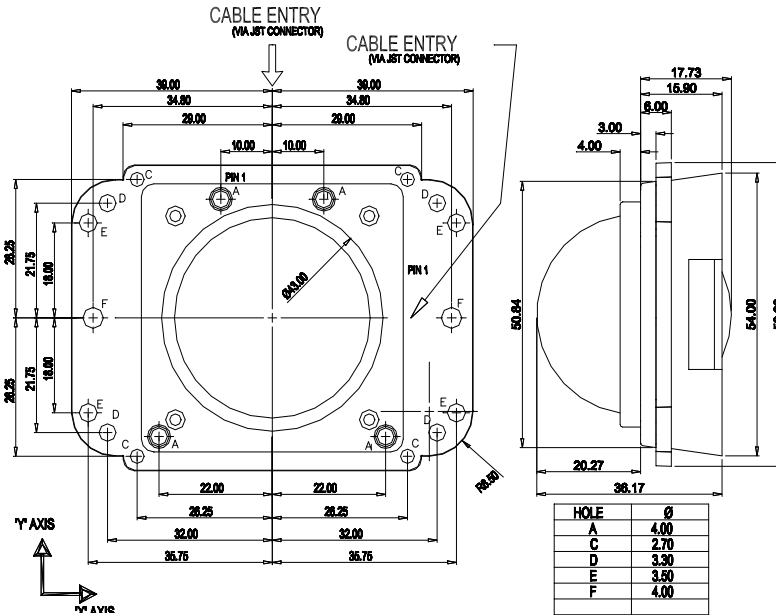
TB_38U – Universal Plate

TB_38 – Reduced Plate

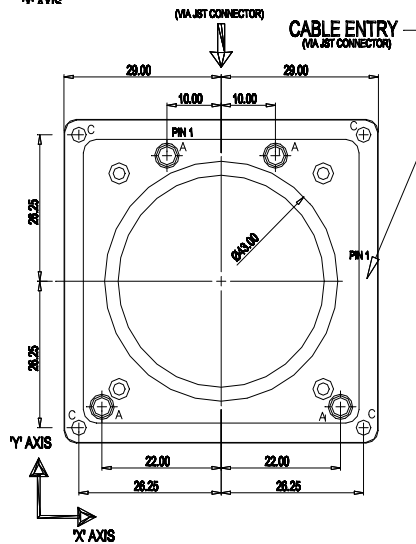


Dimensions

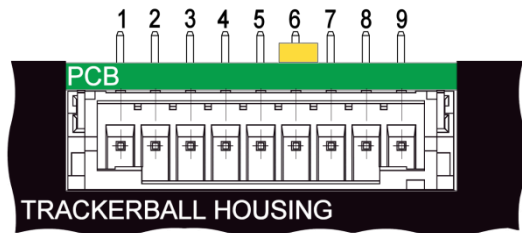
UNIVERSAL



REDUCED



TRACKERBALL CONNECTOR PIN OUT



Quadrature Switch Assembly Connections

Pin No	1	2	3	4
Description	Gnd	S3 (R)	S2 (M)	S1 (L)

Connector type JST S4B-PH-K. Mating connector JST 04CR-6H

Quadrature Output Connections (6 way)

Pin No	1	2	3	4	5	6
Description	Gnd	Y1	Y2	X1	X2	Vcc

Connector type JST S6B-PH-K. Mating connector JST 06CR-6H

Quadrature Trackerball Connector Details

Pin No	1	2	3	4	5	6	7	8	9
Description	Vcc	X1	X2	Y1	Y2	S1 (L)	S2 (M)	S3 (R)	Gnd

Connector type JST S9B-PH-K. Mating connector JST 09CR-6H

Protocol Switch Assembly Connections

Pin No	1	2	3	4
Description	S1 (L)	S2 (M)	S3 (R)	Gnd

Connector type JST S4B-PH-K. Mating connector JST 04CR-6H

PS2 / RS232 Connector Details

Pin No	1	2	3	4	5	6	7	8	9
Description	RS232 Tx	RS232 Rx	DTR	RTS	-	Gnd	Vcc	PS2 Clock	PS2 Data

Connector type JST S9B-PH-K. Mating connector JST 09CR-6H

PS2 / USB Connector Details

Pin No	1	2	3	4	5	6	7	8	9
Description	-	-	-	-	-	Gnd	Vcc	PS2 Clock / USB Data +	PS2 Data / USB Data -

Connector type JST S9B-PH-K. Mating connector JST 09CR-6H

Protocol DIP-switch Settings

PS2 / RS232 Trackerball Version

Switch No	Description	DIP Switch Settings
1	Protocol Select	See Protocol Table
2	X / Y Orientation Select	Switches Select Axis + / -
3	Baud Rate Select	See Baud Rate Table
4	Baud Rate Select	See Baud Rate Table
5	-	-
6	X / Y Orientation Select	Changes X Axis for Y Axis
7	Middle Switch Latching	Off Selects Latching off / On Selects Latching On
8	Protocol Select	See Protocol Table

Protocol Table

DIP Sw 1	DIP Sw 8	Protocol Set
On	Off	PS2
On	Off	Microsoft
Off	On	Sun
Off	Off	Mouse Systems

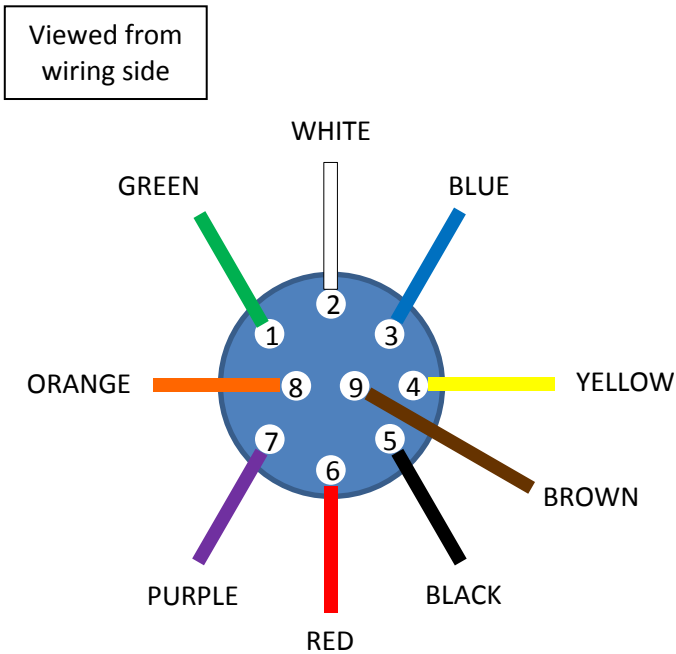
Baud Rate Table

DIP Sw 3	DIP Sw 4	Baud Rate Set
On	On	1200
On	Off	2400
Off	On	4800
Off	Off	9600

BULGIN COM Connector Details

Detailed below is the wiring assembly for the BULGIN plug for connection to a SOCKET COM port.

Recommended wire gauge 24AWG.



Pin	Colour	RS232	RS422	RS485
1	Green	DCD	TX-	RTX-
2	White	RXD	RX+	
3	Blue	TXD	TX+	RTX+
4	Yellow	DTR	RX-	
5	Black	GND	GND	GND
6	Red	+5VDC	+5VDC	+5VDC
7	Purple (Violet)	RTS		
8	Orange	CTS		
9	Brown	DSR		