

## General Specifications

### Mechanical

Ball Material:	Phenolic Resin
Ball Colour:	Black
Ball Size:	50mm (2")
Resolution:	200 pulses/ball revolution
Tracking Force:	<50gms (nominal)
Ball Revolutions:	>6 million
Mounting:	Fixing holes to allow mounting at any angle to horizontal
Dimensions (mm):	75 (W) x 75 (H) x 50.8 (D)
Weight (g):	0.26Kg

### 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

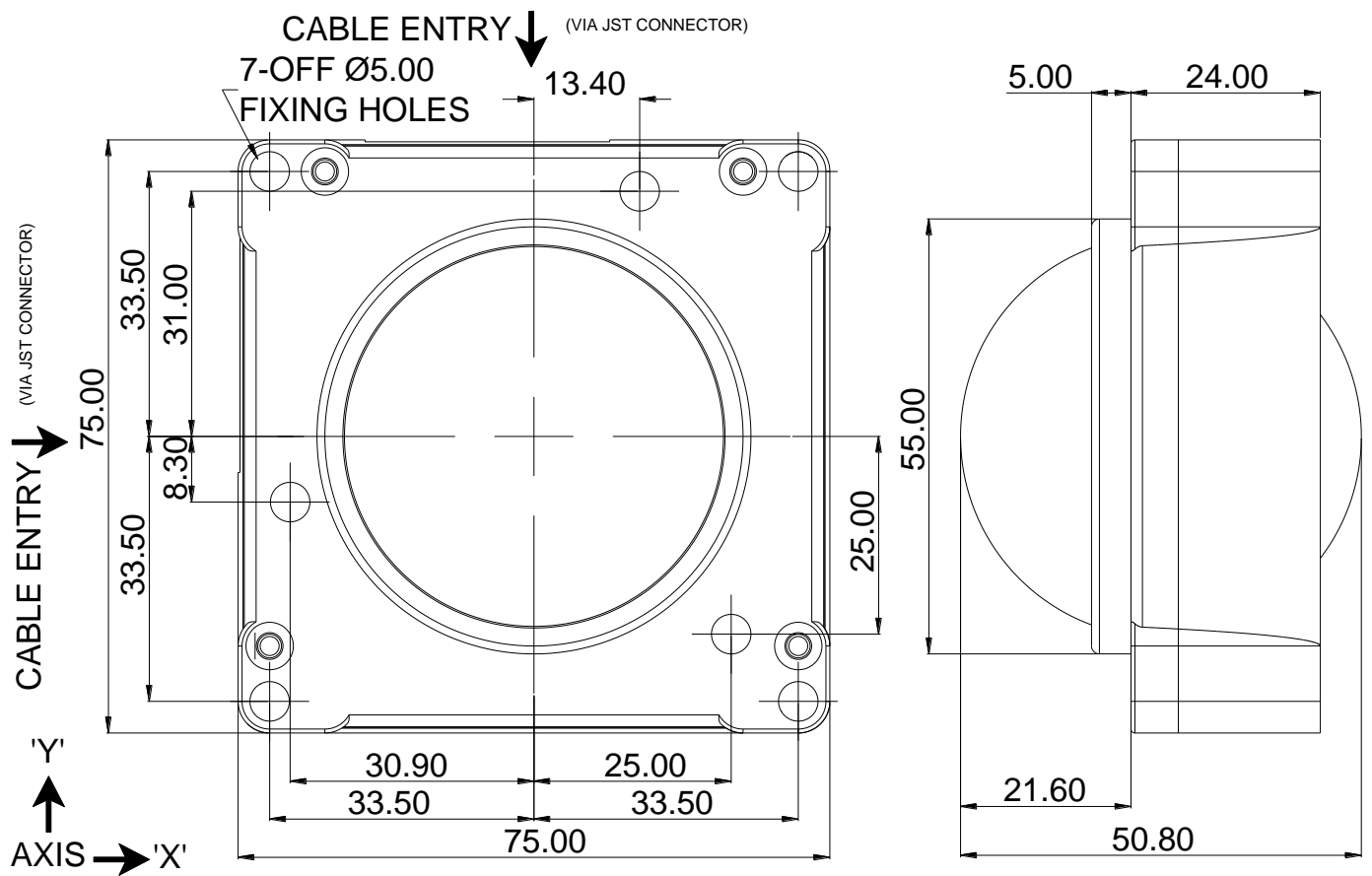
Interface:	USB / PS2 / AT / RS232 / RS422 / RS485 / XT / TTL / DEC / SUN
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### Customisation

Trackerball:	Various colours and stainless steel
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# Dimensions



## 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)

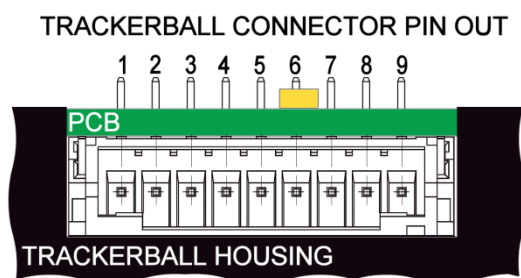
Pin No	1	2	3	4	5	6
Description	Gnd	Y1	Y2	X1	X2	Vcc

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	<b>Off</b> Selects Latching off / <b>On</b> 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

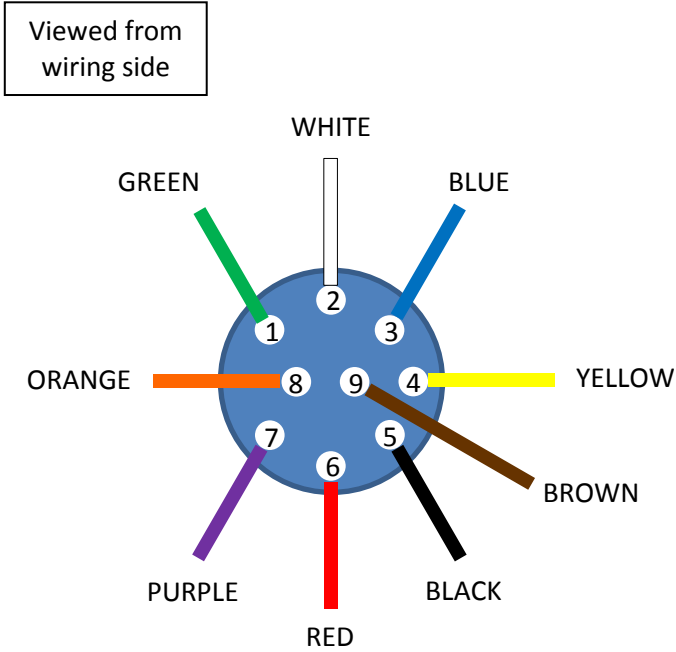
### Baud Rate Table

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		