

K38 Series KEYBOARD TRACKERBALL

Specifications

Mechanical

Weight	90gms (Polyester ball) approx 98gms (Phenolic ball) approx 286gms (Stainless Steel ball) approx
Ball	Thermoset Phenolic, Polyester or Stainless Steel 38mm, 1_ "
Tracking Force	8gms Nominal continuous – no seal (IP40), Polyester
Ball Load	200N Maximum downward pressure (20Kg) @ 20°C
Ball Rotation	Continuous and reversible – any direction
Ball Speed	200 RPM maximum
Housing Material	ABS in cream
Transducers	Photo-optical encoders with LED's
Mounting Position	Horizontal to 30° (non-sealed versions)
Sealing Qualified @	25°C static

Electrical

Standard Output Connector	JST 2mm PH 10 way right-angled header
Mating Connector	JST 10 way CR, KR or KRD type connector
Resolution (Quadrature)	241 pulses per ball revolution
Resolution (Protocol)	482/241 ppr - switch selectable (other options available upon request)
External Switch Inputs	3 switch support - Left, Middle, Right
Supply Voltage	5 V DC +/- 5%
Supply Current	Quadrature format 10ma typical Protocol format 20ma typical
Optional Backlight	+5 V DC, 100ma

Environmental

Operating Temperature	0°C to +70°C
Storage Temperature	-25°C to + 85 °C
Humidity	30% min, 95% max, non-condensing
Vibration	5 G, 2-5Khz any plane
Shock	100Gs - duration 11ms
Lifetime	>10 million ball revolutions - non-sealed

Electrical Connections

Please refer to the option 'B' in the Product Ordering Code table.

	0	4	5
Pin Number	Quadrature Output	PS/2 Output	USB Output
1	X1	-	-
2	X2	-	-
3	Y1	-	-
4	Y2	-	-
5	-	-	-
6	-	-	-
7	VCC (+5 V DC)	VCC (+5 V DC)	VCC (+5 V DC)
8	-	Data	D-
9	-	Clock	D+
10	GND	GND	GND

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Configuration Options

Orientation drawings viewed from the top.

ORIENTATION SETTINGS					
Applies to USB only	Orientation 1	On	On	Off	Off
	Orientation 2	On	Off	On	Off

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USB SWITCH SETTINGS			
Switch	Function	Off	On
1	Orientation 1 setting	See diagram	See diagram
2	Orientation 2 setting	See diagram	See diagram
3	VX3 – Virtual 3 axis function	Feature enabled	Feature disabled
4	Smart Button - button lock	Feature enabled	Feature disabled

PS/2 DIP SWITCH SETTINGS			
Switch	Function	Off	On
1	Orientation 1 setting	See diagram	See diagram
2	N/A	N/A	N/A
3	VX3 – Virtual 3 axis function	Feature disabled	Feature enabled
4	Double tracking rate	Feature disabled	Feature enabled

EXTERNAL SWITCHES CONNECTION	
Pin No.	Function
1	Left Switch
2	Middle Switch
3	Right Switch
4	GND

OPTIONAL BACKLIGHT POWER	
Pin No.	Function
1	+5 V DC
2	GND

Please note: Switch settings only apply to protocol output versions.