

MKF-JS09-V2

Industrial Thumb Joystick, Hall effect, 1 or 2 axis, Panel Mounted



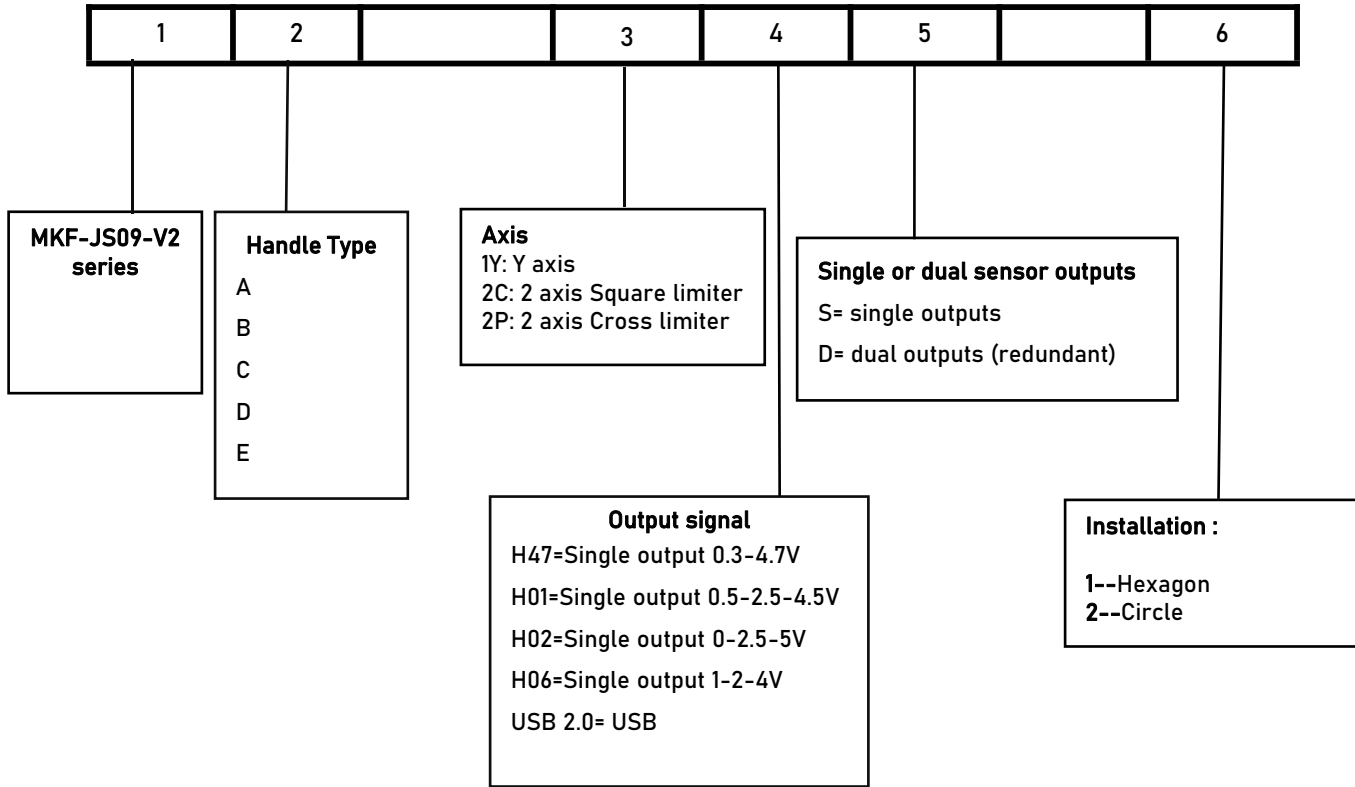
DESCRIPTION

MKF-JS09-V2 thumbstick is a proportional one or two axes joystick in a miniature package. Featuring non-contacting Hall effect technology for long life performance, this series thumbstick is available with multiple linear output options including single and dual (redundant) outputs. It is similar in size and operation to “gamepad” controls, but in a rugged industrial package. Typical applications include pendant and remote controls as well as joystick handle and armrest integration.

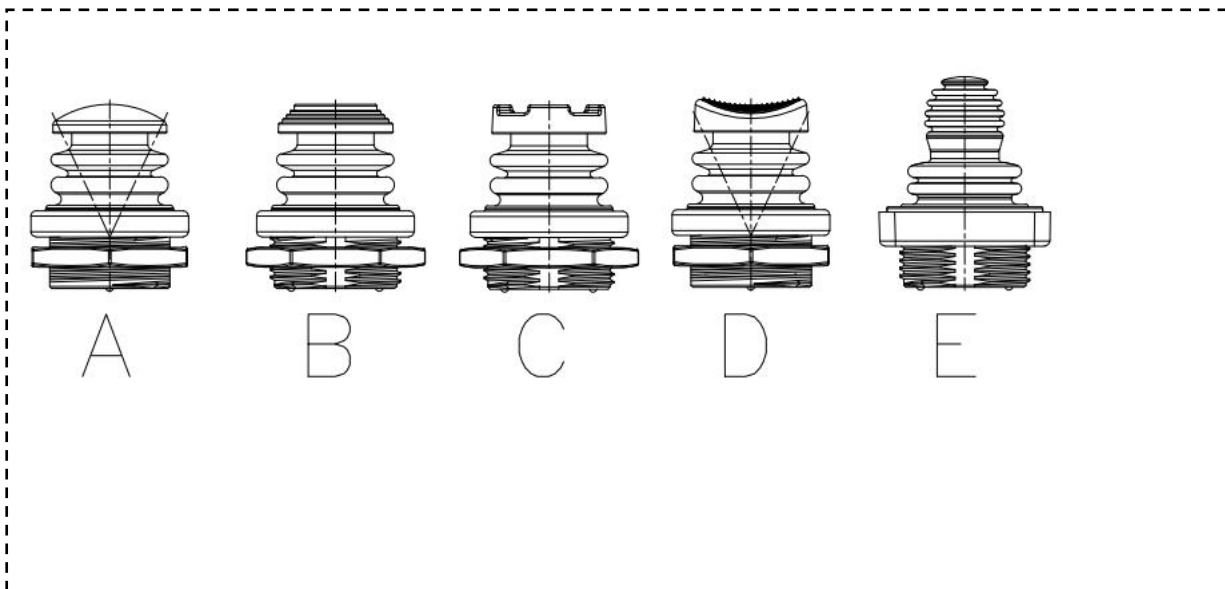
SPECIFICATION

Button	0
Operation Range	Circle, Straight, Cross
Operation Angle	XY axis $\pm 25^\circ$
Power Supply	DC5V
Outputs	Analogue voltage 0.5V-2.5V-4.5V
Life Span	5 million operating cycles
Material	engineering plastics
Degree of protection	IP67
Operation Temperature	-40°C to +70°C

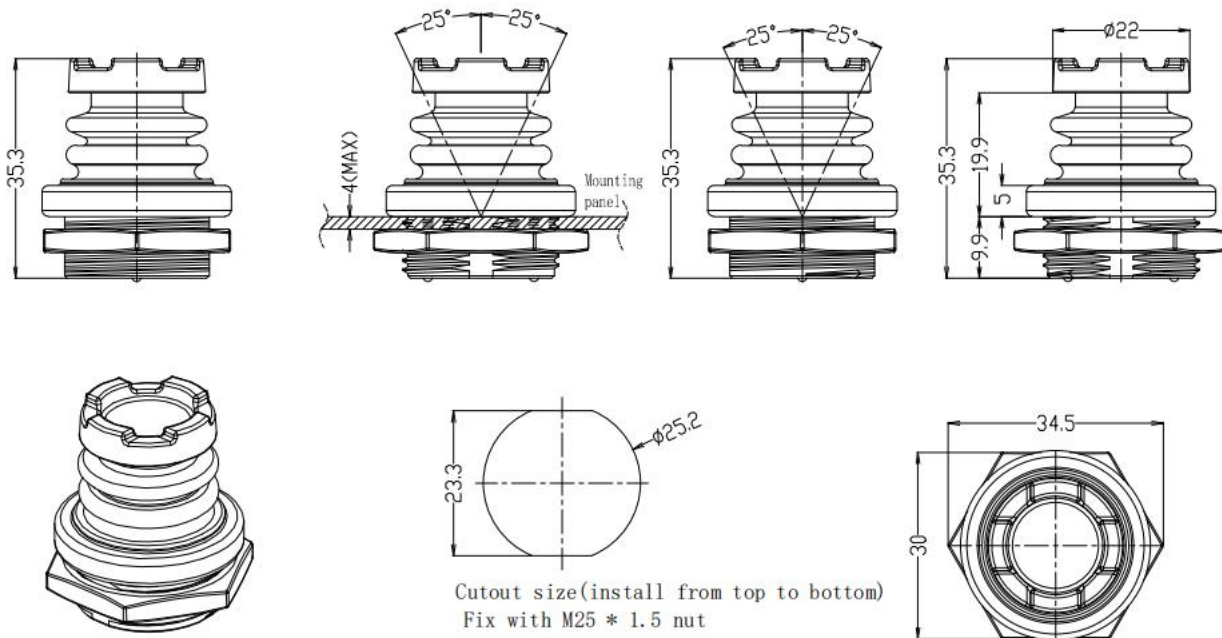
PRODUCT CONFIGURATION



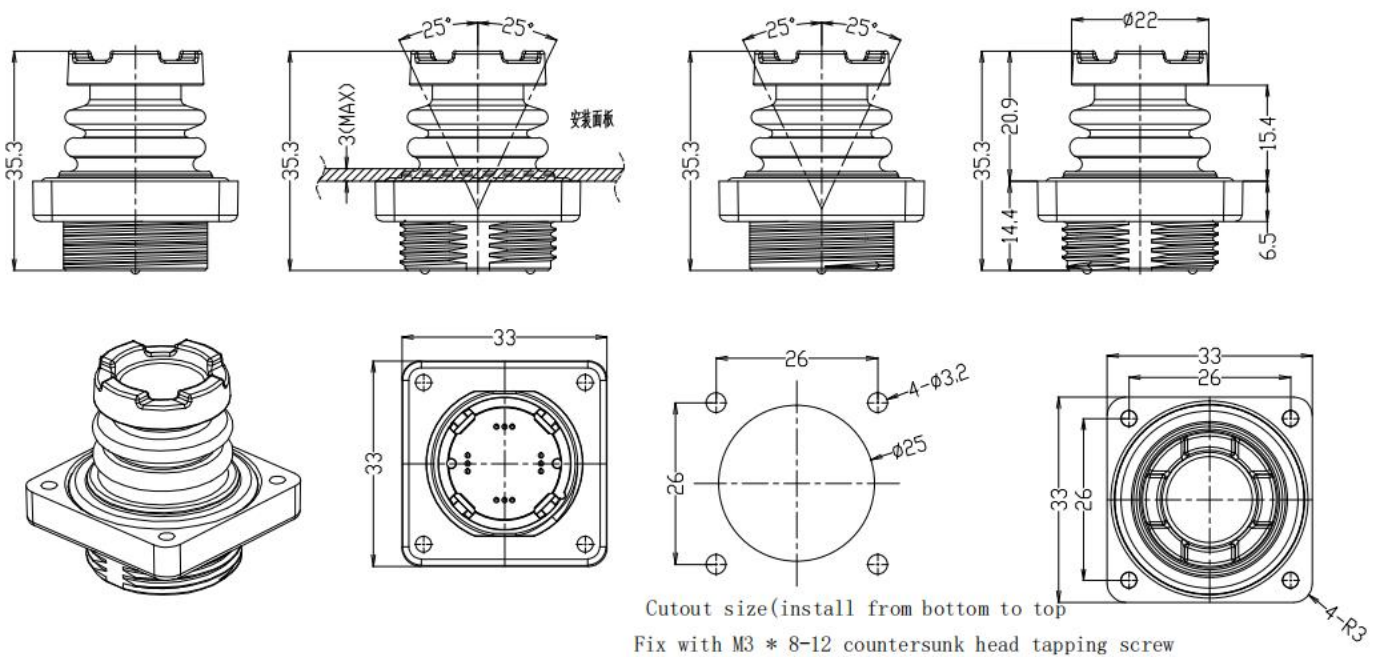
HANDLE TYPE



MECHANICAL DRAWING---INSTALLATION 1 Hexagon



MECHANICAL DRAWING---INSTALLATION 2 CIRCLE



MECHANICAL (FOR X, Y AXES)

Operating Force	3.1N±0.5N (0.70lbf±0.11lbf)
Maximum Vertical Load	200N (45lbf)
Maximum Horizontal Load	150N (33.7lbf)*
Mechanical Angle of Movement	±25° (50° total)
Life Cycles	>1 million
Mass/weight	18.25g ± 3.0g (0.64oz±0.11oz)
Lever Action (Centering)	Spring Centering

ENVIRONMENTAL

Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Sealing	IP68, IP69K**
EMC Immunity Level	EN61000-4-3 sink cup decorative ring
EMC Emissions Level	EN61000-6-3:
ESD	EN61000-4-2

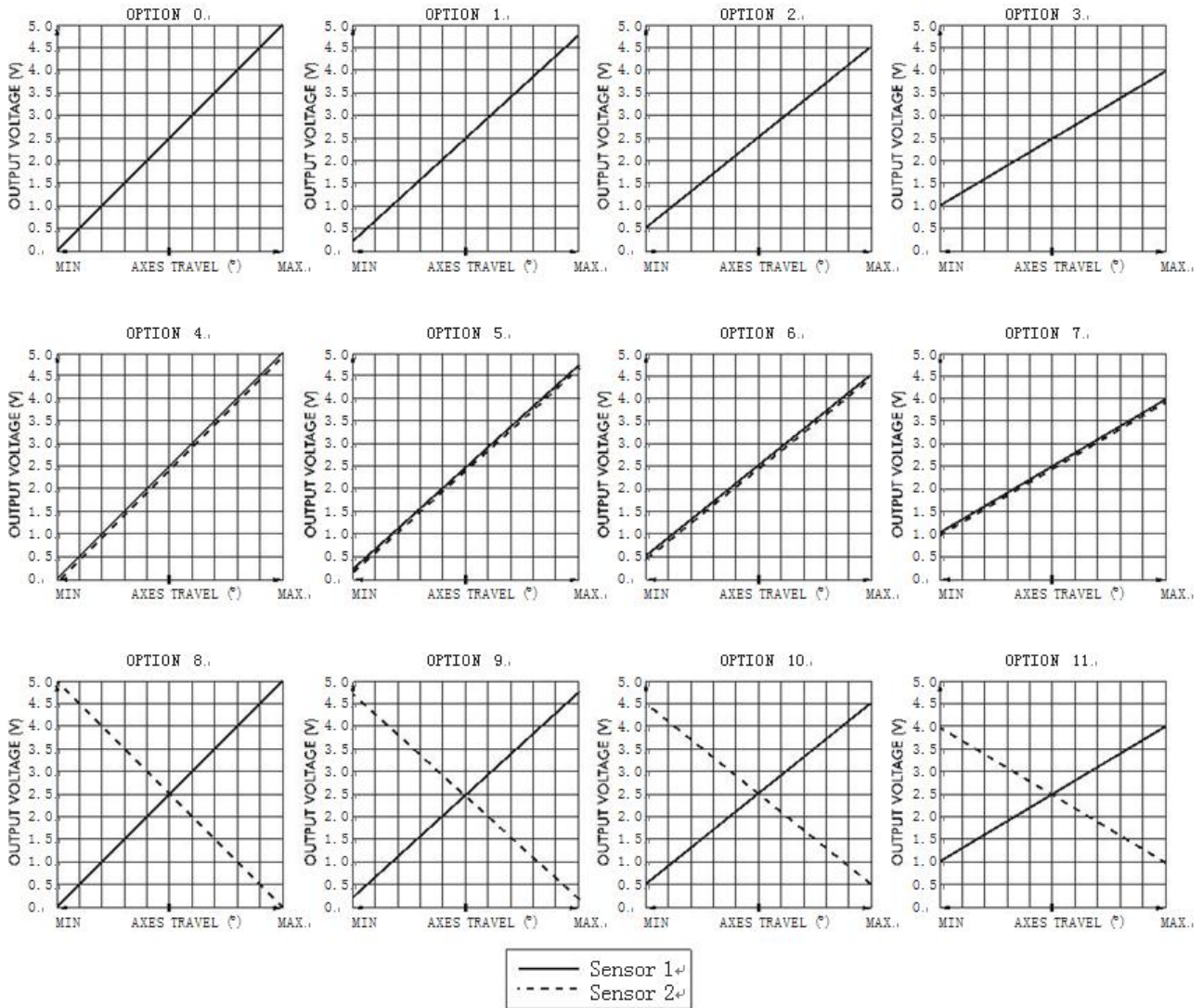
ELECTRICAL SENSOR

Resolution	1.22mV
Supply Voltage Range	5.00V±0.01V
Reverse Polarity Max	-10V
Over voltage Max	20V
Output Impedance	2Ω
Return to Center Voltage Tolerance	±250mV
Error Signal	1.0%

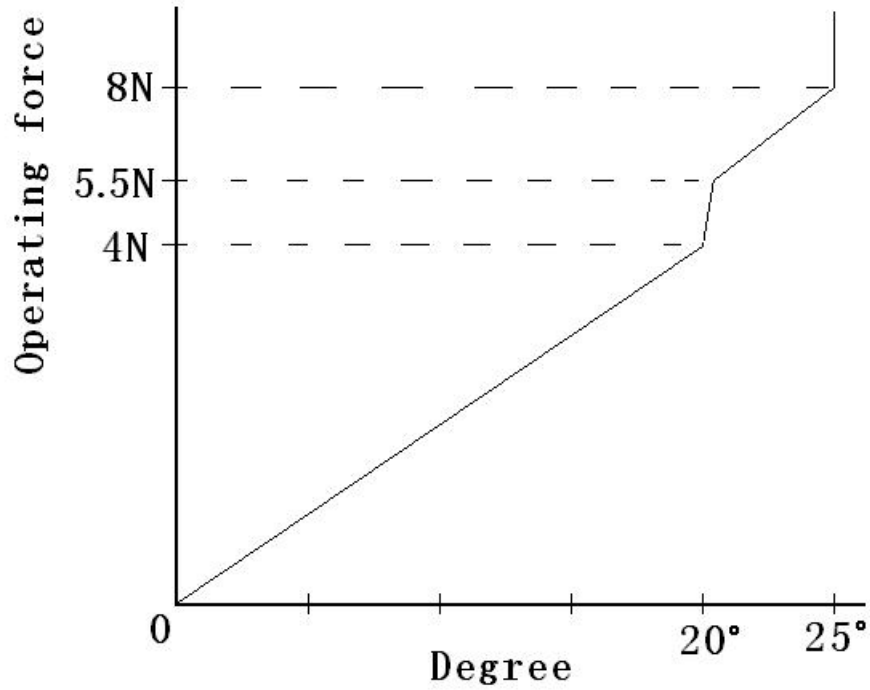
- ✧ Force applied to the top of the cap at full displacement.
 - ✧ All options are IP68 and IP69K rated, however Drop-in mounting does not prevent panel ingress.
- Note: The company reserves the right to change specifications without notice.

Analog signal output:

LINEAR OUTPUT OPTION S⁺

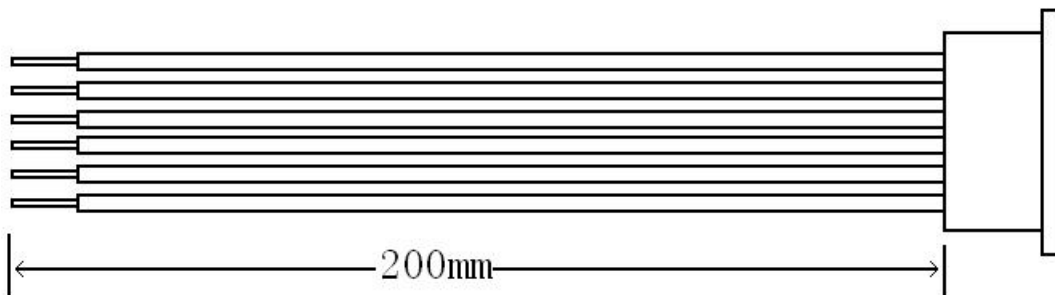


Operating force and angle drawing



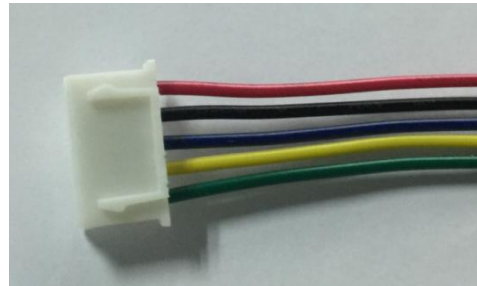
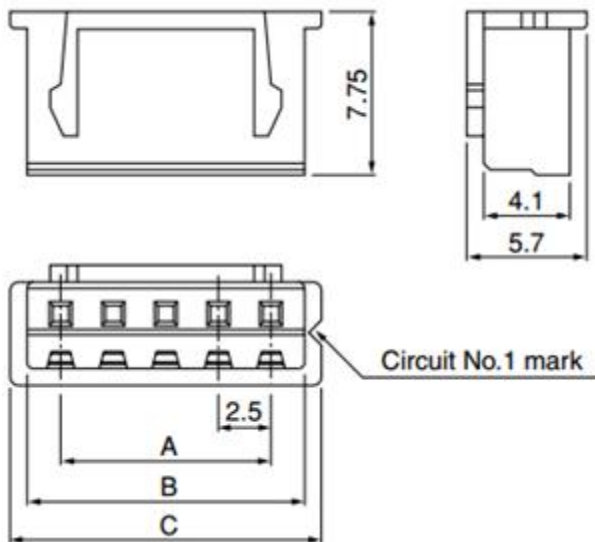
Connector-- Dual (redundant) output :Analog Voltage

- | | |
|-----------|------------|
| 1. Red | +5V |
| 2. Black | GND |
| 3. Yellow | X Signal 1 |
| 4. Green | Y Signal 1 |
| 5. Blue | X Signal 2 |
| 6. Brown | Y Signal 2 |



Connector: Single output

Model No:XHP-5

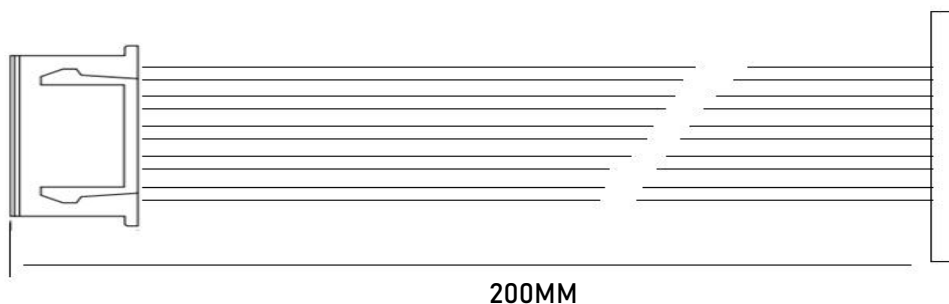


A=10.0 B=13.2 C=14.8 Q'ty/bag=1000

Analog Voltage

- | | | |
|----|---------|----------|
| 1. | Red | +5V |
| 2. | Black B | GND |
| 3. | Blue | NC |
| 4. | Yellow | X Signal |
| 5. | Green | Y Signal |

Connector: USB output



USB interface (Single output)

- | | | |
|----|---------|-----|
| 1. | Red | V+ |
| 2. | Black B | GND |
| 3. | Blue | D- |
| 4. | Yellow | D+ |
| 5. | Green | NC |



MKF-JS09-V2 joystick USB communication protocol

- Protocol: USB2.0 HID
- Identifying name: 3D Joystick Keyboard
- The same mode as the gamepad

1. Data format sent by USB keyboard (5 bytes HEX):

The USB keyboard sends the angle parameters of the keyboard's 3-axis joystick and the state value of the keyboard

byte1	byte2	byte3	byte4	byte5
XXL	XXH	YYL	YYH	BB

XXXX: X-axis data, 0X1000-0XF000, (BYTE2 data high, BYTE1 data low)

0X1000-0X7FFF Left

0X8000 Stop

0X8001-0XF000 Right

YYYY: Y-axis data, 0X1000-0XF000, (BYTE4 data high, BYTE3 data low)

0X1000-0X7FFF Up

0X8000 Stop

0X8001-0XF000 Down

BB: Button (No button 0x00)

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
0	0	0	0	0	0	0	按钮 1

USB data setting parameter method.

The factory has been set, the user does not need to set

1. USB set center point command (send command via USB)

f5 00 00 00 00 01 55 56

2. Set the low-order byte of the USB PID (send commands through USB)

Format: **f5 0A Pid 00 00 00 CH**

CH checksum: the low-order byte of the sum of 2-6bytes except the header F5

eg:

PID=0061 F5 0A 61 00 00 00 00 6b (default)

PID=0062 F5 0A 62 00 00 00 00 6c

PID=0063 F5 0A 63 00 00 00 00 6d