



## PJS600

Joystick

**VOLBUFF**

SENSORS

VOLBUFF ELECTRONIC | [www.volbuff.com](http://www.volbuff.com)

ADDR: Building 5,#118,Lane 2129,South Lianhua Rd.,Minhang District, Shanghai, 210011, China.

TEL: 021-54293326

EMAIL: [sales06@volbuff.com](mailto:sales06@volbuff.com)

## 1 Product Description

The PJS600 has an optional Hall-effect sensor that provides an analog signal linearly proportional to the movement of the rod, can be configured with a variety of switch combinations, and can also be configured with a CAN output for digital communication with mechanical vehicles or equipment.

The joystick has a wide range of applications and is suitable for use in forklifts, industrial machinery, wireless remote controls, off-road vehicles, cranes, loading and unloading trucks, tower crane platform control, towed aircraft, harvesters, harvesters, harvesters and other mechanical equipment. Ideal for use in workplaces with harsh environmental conditions, such as construction machinery working at height.

The PJS600 joystick is designed with high reliability in mind. Resistant to extreme temperatures, vibrations, shocks, and the effects of EMI/RFI typical of mobile operating environments.

Its main features are as follows:

- Support for a variety of handle styles (various switch panel combinations) enriches the functionality of the joystick controller
- Each axis has two Hall-effect sensors or long-lasting potentiometer sensors
- Ergonomic design
- single output: CAN
- Protection level: IP66
- Can resist EMI/RFI level 150V/m
- Mid -road self -reset

## 2 Technical Specifications:

### Electrical parameters

Rated voltage	9-36VDC
Maximum operating wear	<150mA
Resolution	12bit
Output	J1939,CAN 2.0B
baud rate	250Kbps(125Kbps,500Kbps optional)

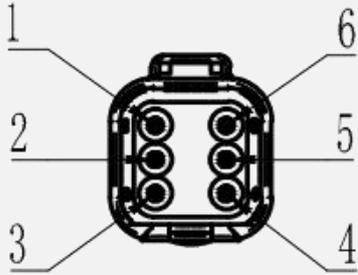
### Mechanical parameters

Mechanical angle	±18°
Mechanical life of the base	Single axis with friction lock=1 million operating cycles Single-or dual-shaft spring return=2 million operating cycles
Joystick maximum capacity	1000N
Maximum torque	15N.m

### Environmental parameters

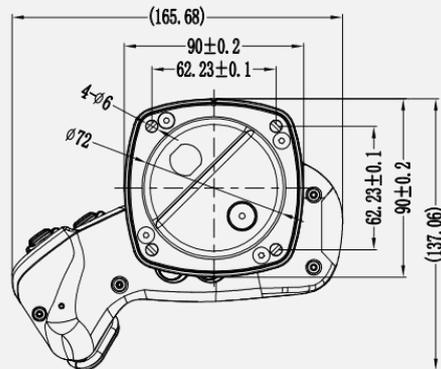
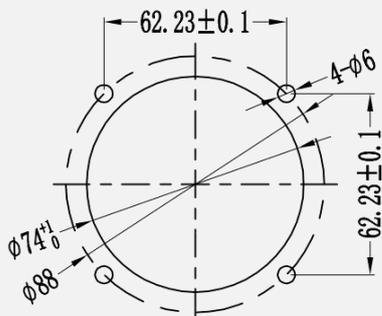
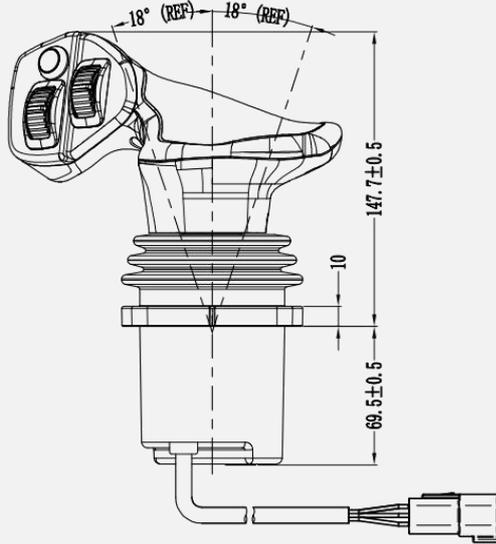
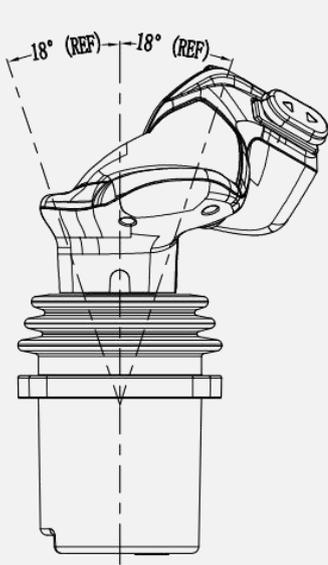
Operating temperature	-40℃~85℃
EMI/RFI level	150V/m
Vibration	Each direction in the 6 directions is 25G,10ms,500 impact IEC 60068-2-29 Test Method EB
Shock	Each direction in the 6 directions is 50g,11ms,and 3 impact IEC 60068-2-29 Test Method EA
Protection level	IP66

### 3 Interface definition



PIN	Function
1	Ground
2	Power
3	CAN high
4	CAN low
5	CAN shield
6	NC

### 4 Installation dimensions



## 5 CAN packet definition

Byte3								Byte2								Byte1								Byte0							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
MSB ----- LSB 10bits y-axis position signal								2bits Y axis front position status		2bits Y A shaft negative position status		2bits Y -axis middle position status		MSB ----- LSB 10bits x axis position signal								2bits x axis right is positive position status		2bits x axis left negative position status on the left		2bits x axis middle position status					
Y output (10 bits in total, value from median 0 to maximum position 1000, exceeding 1022 indicator errors)								00: Not in front 01: In front of 10: Error 11: Not available		00: Not in the back position 01: In the back of 10: Error 11: Not available		00: Not in the median 01: In the median 10: Error 11: Not available		X output (10 bits in total, value from median 0 to maximum position 1000, exceeding 1022 indicator errors)								00: Not in the right 01: In the right place 10: Error 11: Unusable		00: Not in the left 01: Left 10: Error 11: Not available		00: Not in the median 01: In the median 10: Error 11: Not available					
Byte7								Byte6								Byte5								Byte4							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
0	0	1	1	1	1	1	1	0	0	0	0	Press the number 1 button				0	0	0	0	0	0	0	0	FF							
Unused				Unused				Unused		Unused		00: Button No. 1 does not work 01: Button No. 1 is pressed 10: Error 11: Not available		Unused		Unused		Unused													

Byte3								Byte2								Byte1								Byte0							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
MSB ----- LSB 10bits right roller position signal								2bits Right Roller is in front of the position in front of the position		2bits Right roll Roller and negative position status		2bits right roller middle position status		MSB ----- LSB 10bits Left Roller Wheel Location Signal								2bits Left Roller front position status		2bits left roller behind the negative position status		2bits left roller middle position status					
Right roller output (10 bits in total, value from median 0 to maximum position 1000, exceeding 1022 indicator errors)								00: Not in front 01: In front of 10: Error 11: Not available		00: Not in the back position 01: In the back of 10: Error 11: Not available		00: Not in the median 01: In the median 10: Error 11: Not available		The left roller output (a total of 10 bits in total, the value from the median 0 to the maximum position 1000, exceeding 1022 indicator errors)								00: Not in front 01: In front of 10: Error 11: Not available		00: Not in the back position 01: In the back of 10: Error 11: Not available		00: Not in the median 01: In the median 10: Error 11: Not available					
Byte7								Byte6								Byte5								Byte4							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unused																															

Start location (Byte/Bit)	Length (Bits)	Parameter name
0/0	2	The middle state of the joystick x axis
0/2	2	The left to the negative position status of the joystick X-axis
0/4	2	The handle x axis right to the positive position
0/6 to 1/0-7	10	The handle X-axis position (LSB,MSB (0-7))
2/0	2	The middle position of the handle Y axis
2/2	2	The handle Y axis rear to the negative position status
2/4	2	The front position of the handle Y axis
2/6 to 3/0-7	10	The handle Y axis position (LSB,MSB (0-7))
4/0-7	8	Unused
5/0	2	Unwilling roller
5/2	2	Unused
5/4	2	Rolling wheels upward action status
5/6	2	Roller moves downward movement status
6/0	2	No. 1 key state
6/2-5	4	Shift switch status
6/6	2	No. 2 key state
7/0-7	2	Unused

Start location (Byte/Bit)	Length (Bits)	Parameter name
0/0	2	The middle position of the left roller shaft of the handle
0/2	2	The negative position status behind the left roller shaft of the handle
0/4	2	Posterior position in front of the left rolling shaft of the handle
0/6 到 1/0-7	10	Handle left roller axis position
2/0	2	The middle position of the right roller shaft of the handle
2/2	2	The negative position status behind the right roller shaft
2/4	2	Positive position in front of the right roller shaft
2/6 到 3/0-7	10	Roller roller axis position
4/0-7	8	Unused
5/0-7	2	Unused
6/0-7	2	Unused
7/0-7	2	Unused

## 6 Precautions for use

(1) The power supply of this product uses an independent power supply, and it is recommended not to be connected in parallel with other loads. The power supply is not allowed to have serious safety hazards or instability during use, otherwise it will cause the product to fail!



(2) When using this product, please strictly follow the specified wiring under the specified power supply voltage, Prevent short circuits caused by misoperation and damage to power supplies and sensors.

(3) Do not disassemble the sensor without permission, so as not to cause the sensor to not work normally.

(4) This sensor is a precision device, please handle it with care during use.

