

JCQ-SQ MULTI-AXIS JOYSTICK CONTROLLER



INTRODUCTION

JCQ-SQ series industrial multi-axis joystick controller is mainly used in hydraulic proportional control, variable frequency motor control, remote control or electro-hydraulic applications such as Crane, Forklift, Aerial work platforms, Hoist, Civil engineering, Rotary table (drilling rig), trucks, Mobile hydraulics, Shield tunneling machine, Marine, Construction machinery, Cabin vehicles, Military vehicles, Military robotics, Precision machine tools, Material handling equipment, etc.

FEATURES

- Potentiometer sensor
- Single axis, dual axis or 3 axis control
- Available with various shape multi-function grips
- Mechanical spring-return to center or Friction-hold operation
- Excellent analog proportional control output or switch signal output
- Easy to install, flexible operation, uniform texture & maintenance-free
- CE approved, RoHS 2011/65/EU, Annex II, including (EU) 2015/863 compliant.



TECHNICAL INFORMATION

ELECTRICAL PARAMETER	
POTENTIOMETER	
POWER SUPPLY VOLTAGE	DC24V
POWER SUPPLY CURRENT	<20mA
RESOLUTION RATIO	INFINITE
RESISTANCE (10%)	5K Ω and 10K Ω
ELECTRICAL ANGLE	$\pm 30^\circ$
RESISTANCE ELEMENT	CONDUCTIVE PLASTIC
POTENTIOMETER MAX. LOAD VOLTAGE	32VDC
MAXIMUM POWER CONSUMPTION (25°C)	0.25W

MECHANICAL PARAMETER	
MECHANICAL ANGLE	Potentiometer: $\pm 30^\circ$
OPERATING TORQUE	5N (50N max)
MECHANICAL LIFE	5 million
MECHANICAL ERROR	$\pm 0.5^\circ$

ENVIRONMENT PARAMETER	
STORAGE TEMPERATURE	-50°C...+80°C
OPERATING TEMPERATURE	-40°C...+80°C
PROTECTION GRADE	IP64
VIBRATION	Amplitude $\pm 3g$, Frequency: 10Hz-200Hz
IMPACT	20g, 6ms, Semi-sinusoidal
ESD ANTI-INTERFERENCE RANK	Rank 4, 8KV contact discharge, 15KV air discharge, meet IEC61000-4-2 standard



NO.	ITEM	CONTENT		
1	SERIAL NUMBER	JCQ-SQ series multi-axis joystick controller		
2	OPERATION MODE	M - Friction hold T - Spring return to center MS - Friction hold & Self-lock		
3	LIMITER PLATE	1. Y axis 2. Y/X axis cross direction 3. Y/X axis full direction		
4	ELECTRICAL OUTPUT FORM	POTENTIOMETER TYPE	P1: Simple 1 direction output (potentiometer without dead zone)	
			P2: Simple 2 directions output (potentiometer with dead zone)	
		POTENTIOMETER OUTPUT	V1: DC24, +5V...0...+5V	I1: 4 wire 20mA...4mA...20mA
			V2: DC24, +10V...0...+10V	
			V3: DC24, 0...2.5V...+5V	
			V4: DC24, 0...5V...10V	
			V5: DC24, -5V...0...+5V	
V6: DC24, -10V...0...+10V				
5	POTENTIOMETER TYPE	5K & 10K		
6	QUANTITY OF SWITCH SIGNAL	01, 02 or 03 (the quantity of directional switch signal in each axis)		
7	HANDLE/GRIP TYPE	HS1, HSA1, HSB1, HS2, HS2A Refer to Table 1-2. PAGE NO.4		
8	SWITCH SIGNAL CLOSED POSITION	Refer to table 1-1 Directional switch closed position PAGE NO.3		
9	MODEL CODE	Refer to Table 1.3 , (PAGE 07,08)		
10	MOUNTING DIMENSIONS	M1 : 56×56, central hole 63, M2 : 85×85, central hole 63, M3 : 130×110, central hole 63, M4 : 85×85, central hole 80×80		

ORDER FORMATE

JCQ-SQ — T — 2 — P1V (5K) — 02 — 56789 — HS1 HS2 — 5 — M1

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

SERIAL NUMBER ————

OPERATION MODE ————

LIMITER PLATE ————

ELECTRICAL ————

OUTPUT FORM ————

POTENTIOMETER ————

TYPE ————

MOUNTING DIMENSION ————

MODEL CODE ————

HANDLE/GRIP TYPE ————

SWITCH SIGNAL OF CLOSED POSITION ————

QUANTITY OF SWITCH SIGNAL ————

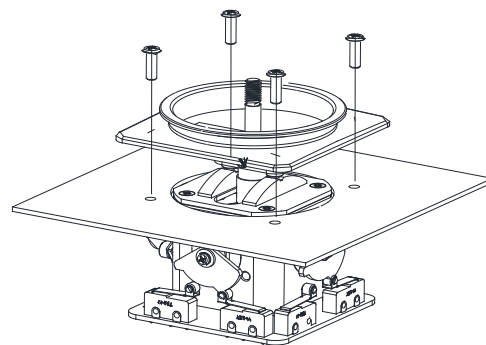
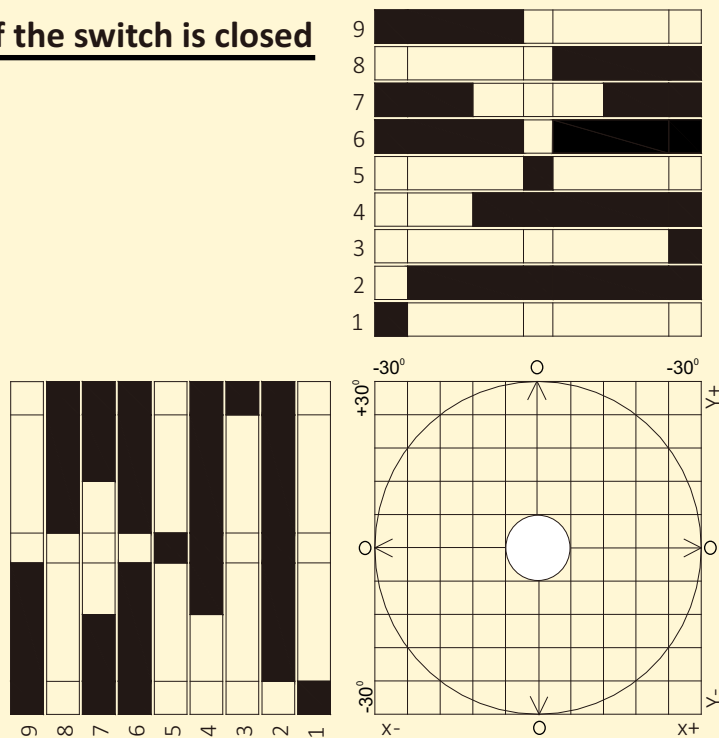


TABLE 1-1 DIRECTIONAL SWITCH SIGNAL CLOSED POSITION

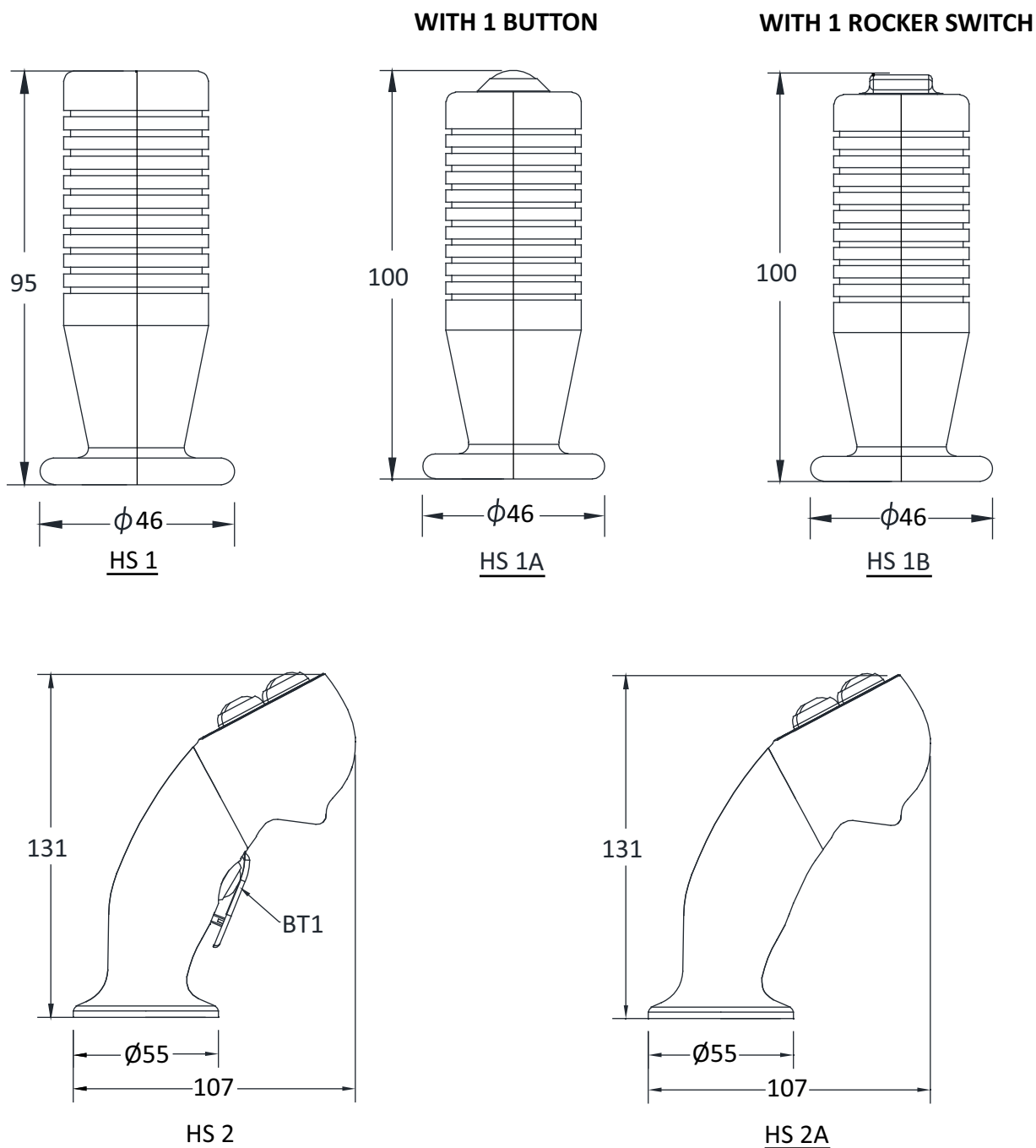
Entity on behalf of the switch is closed



ANALOG OUTPUT REFER TO THE FOLLOWING FIGURE

ELECTRICAL OUTPUT FORM	POTENTIOMETER TYPE	P1: Simple 2 directions output (potentiometer with dead zone)	
	POTENTIOMETER OUTPUT	P2: Simple 1 direction output (potentiometer without dead zone)	
		VOLTAGE OUTPUT	CURRENT OUTPUT
		V1: DC24, +5V...0...+5V	I1: 4 wire 20mA...4mA...20mA
		V2: DC24, +10V...0...+10V	
		V3: DC24, 0...2.5V...+5V	
		V4: DC24, 0...5V...10V	
		V5: DC24, -5V...0...+5V	
		V6: DC24, -10V...0...+10V	

TABLE 1-2 HANDLE GRIP STYLE



JCQ-SQ MULTI-AXIS JOYSTICK CONTROLLER



HANDLE HS1



HS1 handle is ergonomically designed to provide a high degree of comfort, highly integrated, the handle can be installed with one rocker switch (SOR) or deadman trigger.

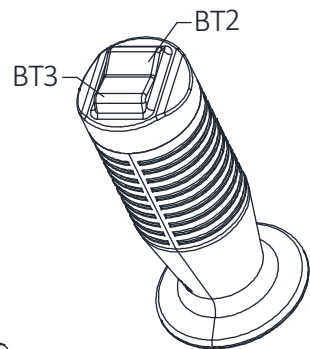
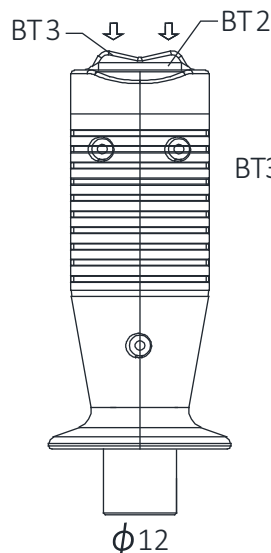
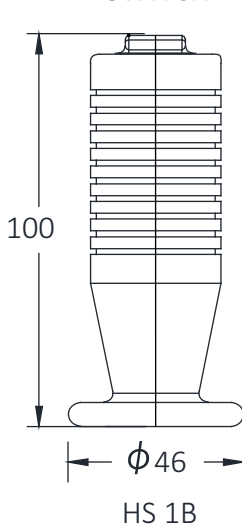
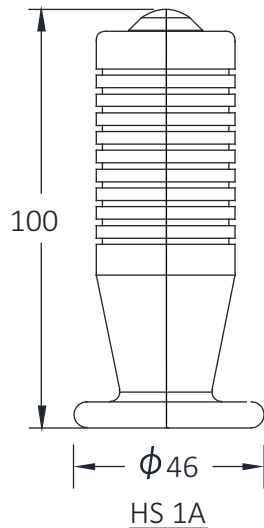
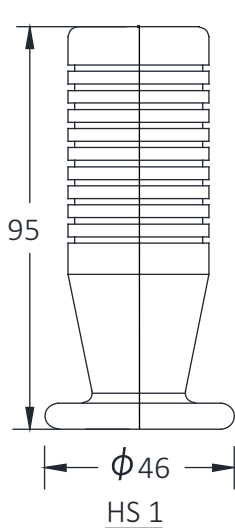
We also can customize special technical parameters to meet your requirements.

HS1 handle use (PA66 + SGF30), to achieve excellent high temperature performance and can be installed in **JCQ-SQ** series joysticks to achieve multi-axis control.

MODEL	HS1,HS1A,HS1B
MATERIAL	PA66 + SGF30
OPERATION TEMPERATURE	-40-85 °C
STORAGE TEMPERATURE	-40-85 °C
PROTECTION GRADE	IP64/65

WITH 1 BUTTON

WITH 1 ROCKER SWITCH



HS 1 - SOR

handle model

3 positions momentary rocker switch (BT2 and BT3) REFER TO PG NO 9

JCQ-SQ MULTI-AXIS JOYSTICK CONTROLLER



HS2 HANDLE

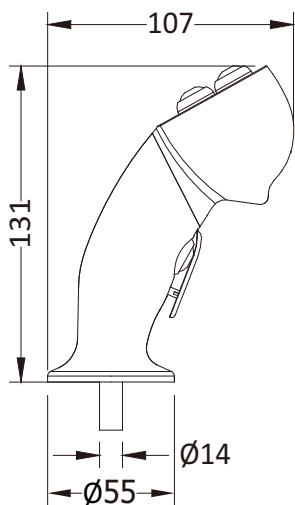


HS2 handle is ergonomically designed to provide a high degree of comfort, highly integrated, the handle can be installed with a variety of accessories: self-resetting (momentary) push button, self-locking pushbutton, analog thumb wheel controller (SOW100) or rocker switch (sor).

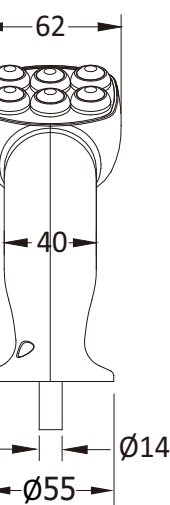
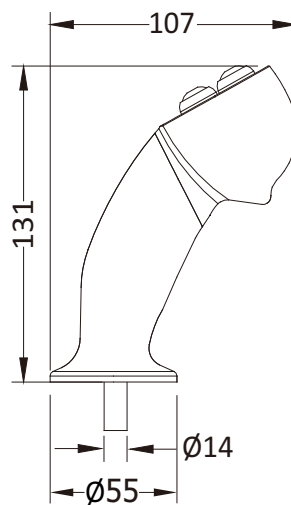
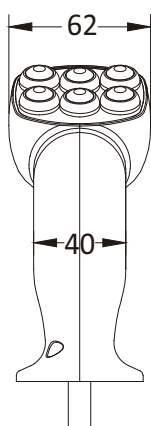
We also can customize special technical parameters to meet your requirements.

HS2 handle use PA6 + SGF30, to achieve excellent high temperature performance. It designed for multiple openings of cables as well as off-centre from bottom side of handle.

MODEL	HS2, HS2A
MATERIAL	PA6 + SGF30
OPERATION TEMPERATURE	-40-85 °C
STORAGE TEMPERATURE	-40-85 °C
PROTECTION GRADE	IP64/65



HS2



HS2A

MODEL TYPE	STYLE	DESCRIPTION
HS2		with Deadman trigger
HS2A		without Deadman trigger

TABLE 1-3 HANDLE HS 2 BUTTON PANEL

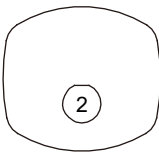
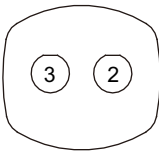
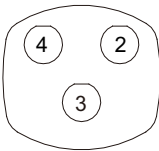
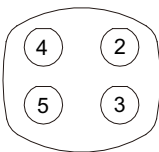
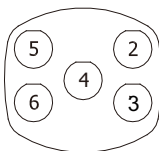
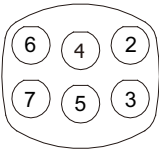
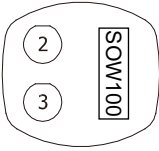
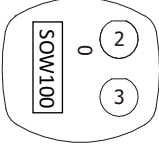
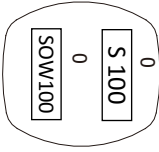
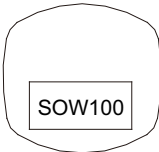
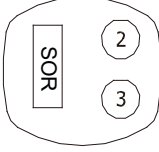
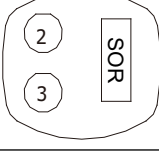
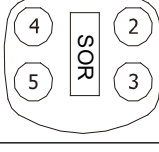
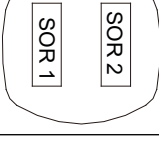
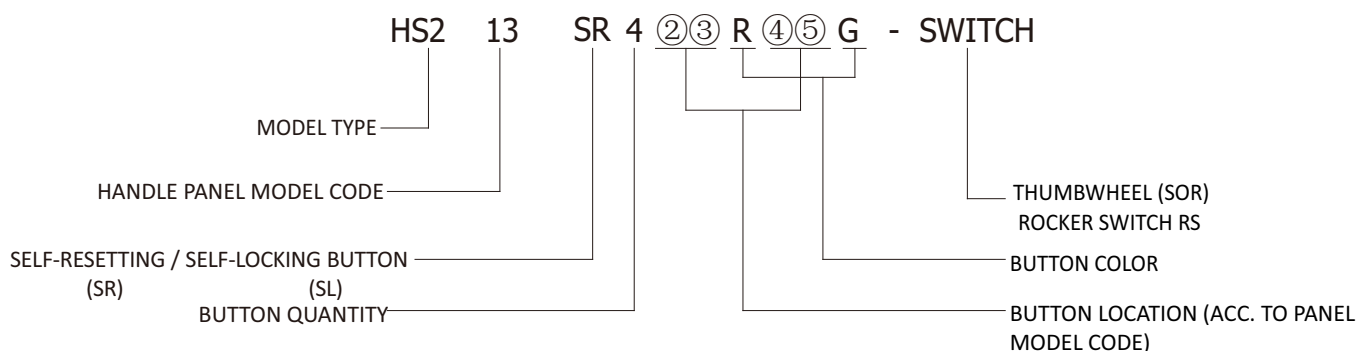
MODEL CODE	STYLE	DESCRIPTION (ALL FUNCTIONS SELECTION FOR HS2 BUTTON PANELS)
1		install 1 self-resetting button (SR) / self-locking button (SL)
2		install 2 self-resetting button (SR) / self-locking button (SL)
3		install 3 self-resetting button (SR) / self-locking button (SL)
4		install 4 self-resetting button (SR) / self-locking button (SL)
5		install 5 self-resetting button (SR) / self-locking button (SL)
6		install 6 self-resetting button (SR) / self-locking button (SL)
7		install 2 self-resetting button (SR) / self-locking button (SL) and 1 proportional thumbwheel (SOW100) or rocker switch (SOR)
8		install 2 self-resetting button (SR) / self-locking button (SL) and 1 proportional thumbwheel (SOW100) or rocker switch (SOR)
9		2 proportional thumbwheel controller (SOW100) or rocker switch (SOR)

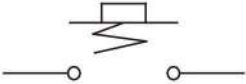
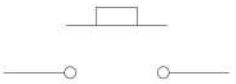
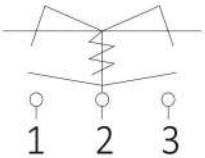
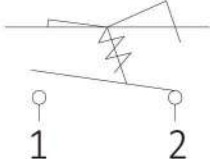
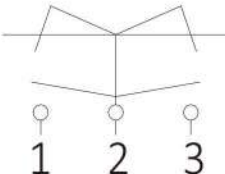
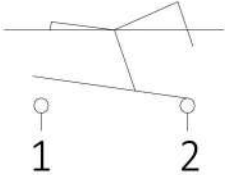
TABLE 1-3 HANDLE HS2 BUTTON PANEL

MODEL SELECTION	STYLE	DESCRIPTION (ALL FUNCTIONS SELECTION REFER TO THE TABLE 1-2)
10		1 proportional thumbwheel controller (SOW100) or rocker switch (SOR)
11		install 2 Self-resetting button (SR) / Self-locking button (SL) and 1 proportional thumbwheel (SOW100) or rocker switch (SOR)
12		install 2 Self-resetting button (SR) / Self-locking button (SL), and 1 proportional thumbwheel (SOW100) or rocker switch (SOR)
13		install 4 Self-resetting button (SR) / Self-locking button (SL), and 1 proportional thumbwheel (SOW100) or rocker switch (SOR)
14		2 proportional thumbwheel controller (SOW100) or rocker switch (SOR)



BUTTON SELECTION REFER TO TABLE 1-2

TABLE 1-2 ACCESSORIES

NO.	TYPE	DESCRIPTION	PARAMETER	REMARK
1	SR	Self-resetting button 	24V 2A	BUTTON COLOR: Red - R Green - G Yellow - Y
2	SL	Self-locking button 	24V 2A	BUTTON COLOR: Red - R Green - G Yellow - Y
3	SOR1		3 pins 250VAC 3A	
4	SOR2		2 pins 250VAC 3A	
5	SOR3		3 pins 250VAC 3A	
6	SOR4		2 pins 250VAC 3A	
7	SOR5	3 position with one side with self-resetting, another side self-locking	3 pins 250VAC 3A	
8	SOW100	Thumbwheel Controller	INPUT 5V DC	Remark: Please keep far away from the magnetic object

JCQ-SQ MULTI-AXIS JOYSTICK CONTROLLER



PRODUCT INSTALLATION

