



C9 Series

FEATURES

- Fingertip-operated, spring return
- Non-contacting hall effect technology, high reliability, long life time
- Optional Z axis output, and two tactile switches at most
- Supply voltage 5Vdc or 9-32Vdc
- Different output voltage ranges and operating guide feel can be selected
- Various types of handles option
- Optional external RS232 or USB module output



APPLICATIONS

- Video surveillance control
- Medical machinery control panel
- CNC machining equipment operation panel
- Industrial robot operation control panel
- Industrial remote control

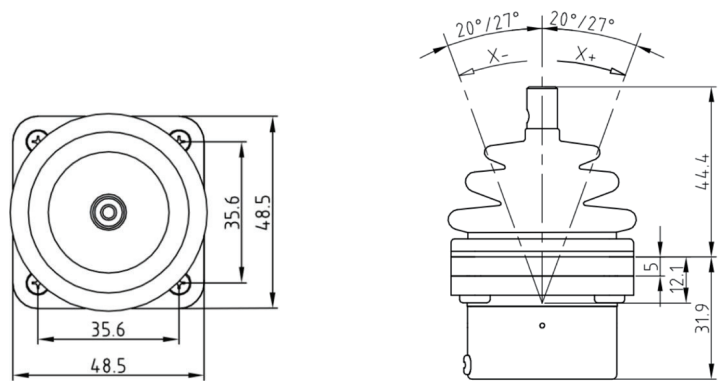
SPECIFICATIONS

Mechanical data	
Travel angle	±40°(Z axis) ±20°/±27°(X or Y axis)
Operating force ¹	2.3-6N
Mechanical life	2 million cycles (X or Y axis); 1 million cycles (Z axis)
Product weight	Appr. 160g
Electrical data	
Supply voltage (Vs)	5.0±0.5Vdc or 9~32Vdc
Power current consumption	<11mA (per channel)
Center voltage	2.5V±2%Vs
Maximum linearity tolerance	±3%
Maximum overload voltage	20Vdc
Maximum reverse voltage	-10Vdc
Load resistance	10KΩ
Environmental data	
Operating temperature	-40°C~+85°C
Storage temperature	-40°C~+85°C
Protection class	IP ratings may vary from model to model, for more information, please consult our sales staff
EMC	EN IEC 6100-6-4-2019, 30MHz-1GHz EN IEC 6100-6-2-2019, 80MHz-6GHz
Impact	IEC60068-2-27, 50g, 11ms, 3 times/ direction impact, in total 6 directions

SPECIFICATIONS (CONTINUED)

Vibration	IEC60068-2-64, random vibration, 3.6gRMS, 100-200Hz, each axis lasts for one hour
¹ The measuring point is 90mm from the pivot center	

OUTLINE DIMENSIONS (UNIT:mm)



ZA0 handle



ZA1 handle



ZL0 handle



ZL1 handle



ZL3 handle



ZL4 handle



ZL5 handle



ZL6 handle

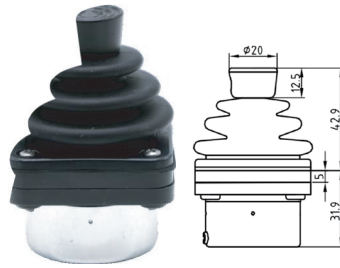


ZL7 handle

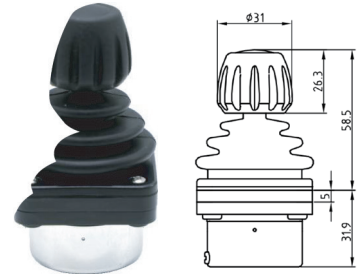
OUTLINE DIMENSIONS (UNIT:mm) (CONTINUED)



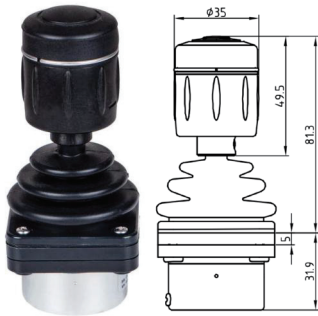
ZL8 handle



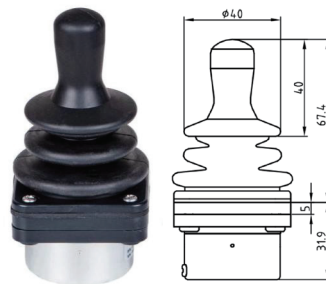
ZL9 handle



ZL10 handle



ZG handle



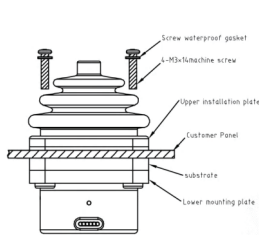
MF handle



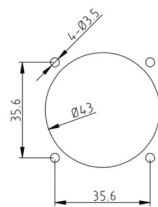
B2 handle

MECHANICAL INSTALLATIONS

Note: The thickness of the panel is $\leq 4\text{mm}$

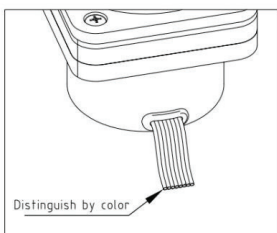


Mounting diagram

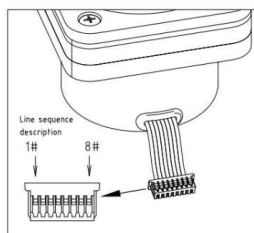


Panel cut-out dimensions

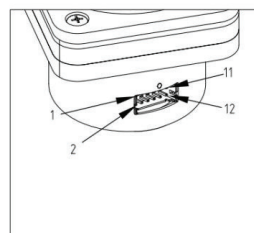
ELECTRICAL CONNECTIONS



Qualify directly



8-pin connector outgoing



12-pin connector outgoing
line (redundant type)

ORDER GUIDE

For instance:

Customer Requirements: C9 series joystick dual -axis operation in arbitrary guidance direction, spring return, without $\pm 20^\circ$ (X, Y-axis), supply voltage 5Vdc, 10%~50%~90%Vs ratiometer output, ZG handle, with 1 tact button switch, with Z axis analog output, cable wiring

Product Selection: C9-2AC-G1-H11-ZG1-L

C9		Multi-axis Joystick	
		Code	Operating mode
		1AX	Single axis operation, aligned X axis, spring return
		1AY	Single axis operation, aligned Y axis, spring return
		2AC	Dual-axis operation in arbitrary direction, spring return, without guidance
		2AP	Dual-axis crossing operation, spring return
		2AS	Dual-axis operation in arbitrary direction, spring return, with cross guidance
		Code	Travel angle
		G1	$\pm 20^\circ$ (X, Y axis)
		G2	$\pm 27^\circ$ (X, Y axis)
		Code	Micro switch
		H11	Supply voltage 5Vdc, 10%~50%~90%Vs ratiometer output
		H13	Supply voltage 5Vdc, 20%~50%~80%Vs ratiometer output
		H14	Supply voltage 5Vdc, 25%~50%~75%Vs ratiometer output
		H21	Supply voltage 5Vdc, 10%~50%~90%Vs and 90%~50%~10%Vs redundant ratiometer output
		H23	Supply voltage 5Vdc, 20%~50%~80%Vs and 80%~50%~20%Vs redundant ratiometer output
		H24	Supply voltage 5Vdc, 25%~50%~75%Vs and 75%~50%~25%Vs redundant ratiometer output
		L11	Supply voltage 3.3Vdc, 10%~50%~90%Vs output
		W11	Supply voltage 9~32Vdc, 0.5~2.5~4.5V output
		W13	Supply voltage 9~32Vdc, 1~2.5~4V output
		W14	Supply voltage 9~32Vdc, 1.25~2.5~3.75V output
		W21	Supply voltage 9~32Vdc, 0.5~2.5~4.5V and 4.5~2.5~0.5V redundant output
		W23	Supply voltage 9~32Vdc, 1~2.5~4V and 4~2.5~1V redundant output
		W24	Supply voltage 9~32Vdc, 1.25~2.5~3.75V and 3.75~2.5~1.25V redundant output
		RS232*	RS232 serial interface output
		USB*	USB interface output
		<i>Note: The options * should be configured with external module</i>	
C9	2AC	G1	H11

ORDER GUIDE (CONTINUED)

C9 (Continued)		Multi-axis Joystick	
		Code	Handle options
		ZG0	ZG handle, without button switch, without analog output
		ZG1	ZG handle, with 1 tact button switch, with Z axis analog output
		ZG2	ZG handle, with 2 tact button switches, with Z axis analog output
		ZG3	ZG handle, without button switch, with Z axis analog output
		ZG4	ZG handle, with 1 tact button switch, without Z axis analog output
		ZG5	ZG handle, with 2 tact button switches, without Z axis analog output
		ZH	ZH handle, with 1 tact button switch, with Z axis analog output
		ZH2	ZH handle, with 2 tact button switches, with Z axis analog output
		ZL0	ZL handle, without button
		ZL1	ZL handle, with 1 button
		ZL2	ZL handle, with 2 buttons (developing)
		ZL3	ZL handle (length 25mm, diameter 20mm)
		ZL4	ZL long handle (length 35mm, diameter 20mm)
		ZL5	ZL handle, with thread groove (length 25mm, diameter 20mm)
		ZL6	ZL handle, with thread groove (length 20mm, diameter 18mm)
		ZL7	ZL handle, with thread groove on end face (length 22mm, diameter 20mm)
		ZL8	ZL handle, with thread groove on end face (length 32mm, diameter 20mm)
		ZL9	ZL handle, with thread groove on end face (length 12.5mm, diameter 20mm)
		ZL10	ZL handle, with anti-skid slot on side face (length 26.3mm, diameter 31mm)
		ZA0	ZA handle, without button switch
		ZA1	ZA handle, with 1 button
		MF	MF handle
		B2	B2 handle
<i>Note: Please refer to the product outline size drawing for the above button type.</i>			
		Code	Wiring
		L	Cable wiring (UL1061, AWG28#, 7 cores*0.1 length 210mm)
		C	8-pin connector wiring (connector not integrated into the handle base; 210mm leads extend from the base, with the connector installed at the end of the leads; connector model: HX12500-8Y)
		CL	12-pin connector wiring (The connector is integrated into the handle base mount, with no leads extended from the base; connector model: HX20016-12Y)
C9	ZG1	L	Complete Type Specification

The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification.

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