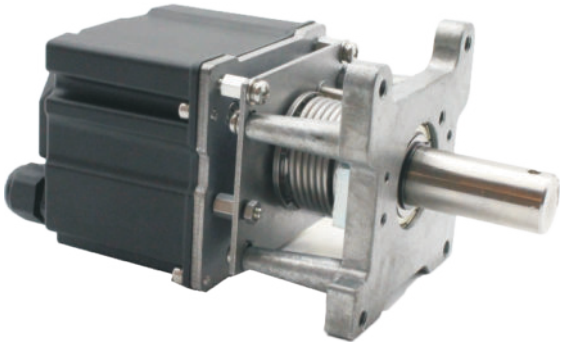
NE11

INDUSTRIAL JOYSTICK

SAEKAI

- Single-axis operation
- Spring return&Friction
- Optional for MICROSWITCH, POTENTIOMETER,ENCODER

The NE11 features a robust metal-cast drive block as standard, ensuring long service life and a high number of switching cycles. It is suitable for demanding control tasks, including deck machinery.



Technical Data

Ambient Temperature:	-20℃ to 60℃
Mechanical Life:	2M
Protection Level:	IP65 Above/ IP00 Below

Selection

Movement

- Z: Spring return
- R: Friction brake

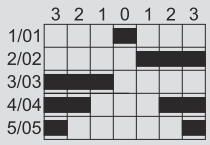
Gate

- 1: 1-Axis↕

Interface

- **Voltage output** DC24V
  V1: -10V~0~+10V
  V2: +10V~0-+10V
  V3: -5V~0~+5V
  V4: +5V~0~+5V
  V5: 0-+10V
  V6: 0-+5V
- **Hall output** DC5V
  HV1:0-2.5-5V
  HV2:0.5-2.5-4.5V
  HV3:1.0-2.5-4.0V
  Hv4: 1.25-2.5-3.75V
- **Potentiometer output** DC36V
  P1: Two directions output
  P2: One directions output
  - 5K • 10K
- **Current output** DC24V
  I1: 4mA-12mA-20mA
  I2: 20mA-4mA-20mA

Contact arrangement



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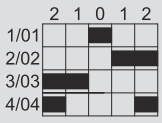


02

01

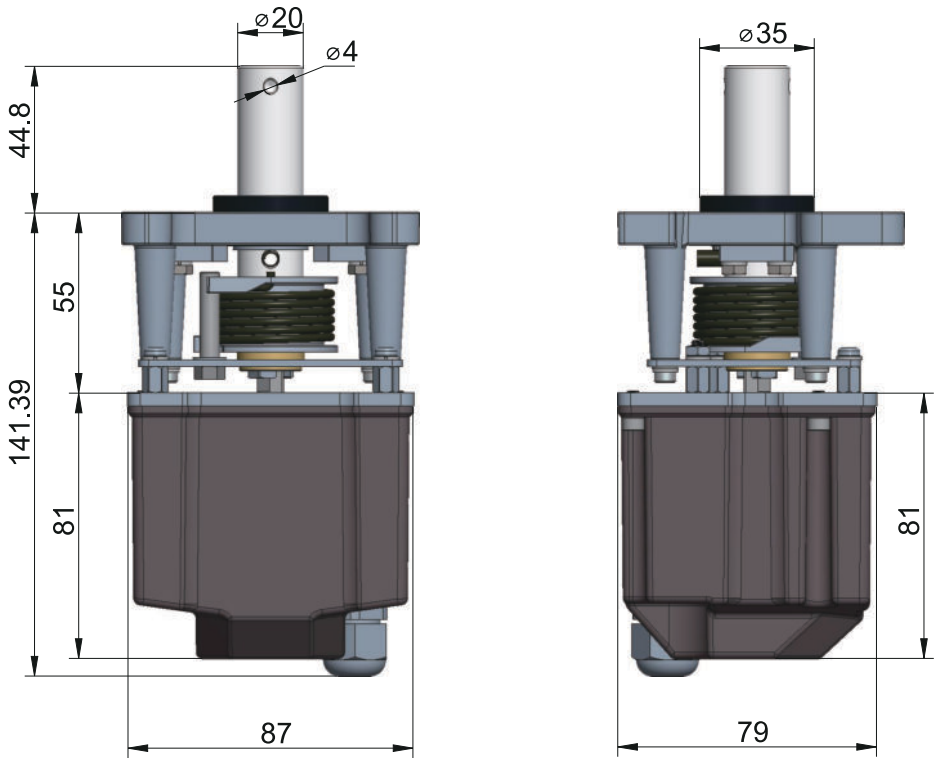
Special

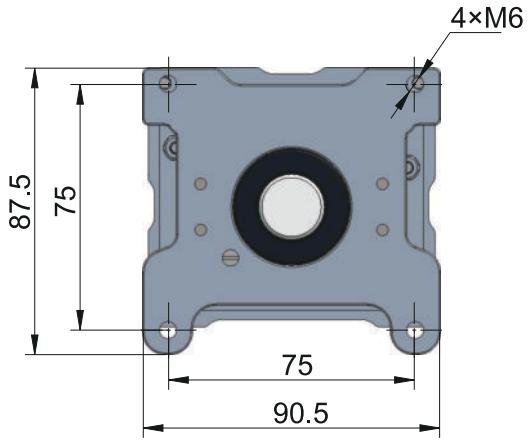
X

Wiring

- A: Terminal interface
- L: Direct outgoing line 30mm
- X: Customize

Dimensions





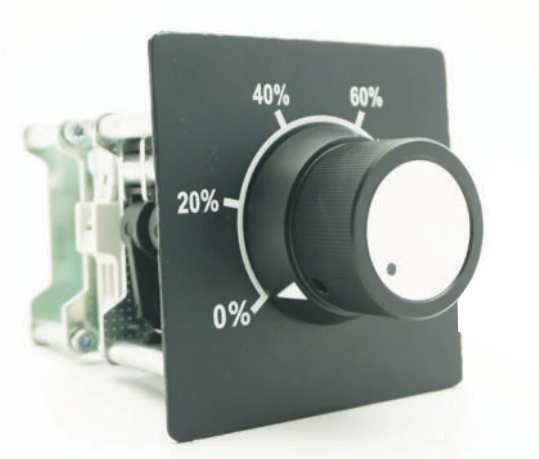
Angle ± 70°

NE00

ROTARY SWITCH

SAEKAI

The NE00 is a robust rotary switch with a stable drive mechanism and customizable handle options. It is widely used in control panels, marine applications, and various control circuits.

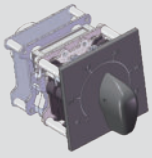


Technical Data

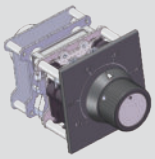
Ambient Temperature:	-40°C to +60°C
Operating Temperature:	-30°C to +60°
Cmechanical Life:	1M
Protection Level:	IP56

Selection

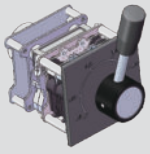
Palm Grips



• A



• B



• C

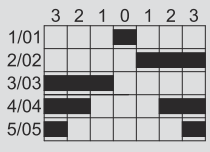
Movement

- Z: Spring return
- R: Friction brake

Interface

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0-+10V
  - V3: -5V~0~+5V
  - V4: +5V~0~+5V
  - V5: 0-+10V
  - V6: 0-+5V
- **Hall output** DC5V
  - HV1:0-2.5-5V
  - HV2:0.5-2.5-4.5V
  - HV3:1.0-2.5-4.0V
  - HV4:1.25-2.5-3.75V
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA

Contact arrangement



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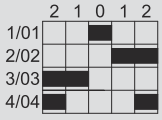


02

01

Special

X

NE23

INDUSTRIAL JOYSTICK

SAEKAI

- Single-axis operation
- Spring return, friction positioning, mechanical interlock
- Lock-in, momentary
- Integrated bus interface
- Options Micro switch, dual-contact element, potentiometer, or absolute encoder

The NE23 joystick, built with a robust metal cast drive block, ensures long service life and high switching cycles. It is well-suited for demanding control tasks and is often used in consoles, construction machinery, municipal vehicles, and deck machinery.

Technical Data

Ambient Temperature:	-20°C to 60°C
Mechanical Life:	2 M
Electrical Output:	Hall sensor, potentiometer, voltage output, current output
Protection Level:	IP65 Above/IP00 Below
Mounting:	Top-down installation

Selection

Palm Grips

- A Fixed handle
- B Zero position mechanical handle

Gate

- 1 Bidirectional ↕
- 2 Unidirectional ↑

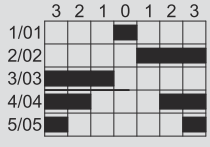
Movement

- Z: Spring return
- ZS: Spring return with self-locking
- R: Friction brake
- RS: Friction brake with self-locking

Interface

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0-+10V
  - V3: -5V~0~+5V
  - V4: +5V~0~+5V
  - V5: 0-+10V
  - V6: 0-+5V
- **Hall output** DC5V
  - HV1:0-2.5-5V
  - HV2:0.5-2.5-4.5V
  - HV3:1.0-2.5-4.0V
  - Hv4: 1.25-2.5-3.75V
- **Potentiometer output** DC36V
  - P1: Two directions output
  - P2: One directions output
  - 5K • 10K
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA

Contact arrangement



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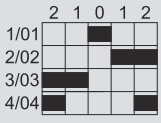

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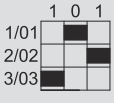


01

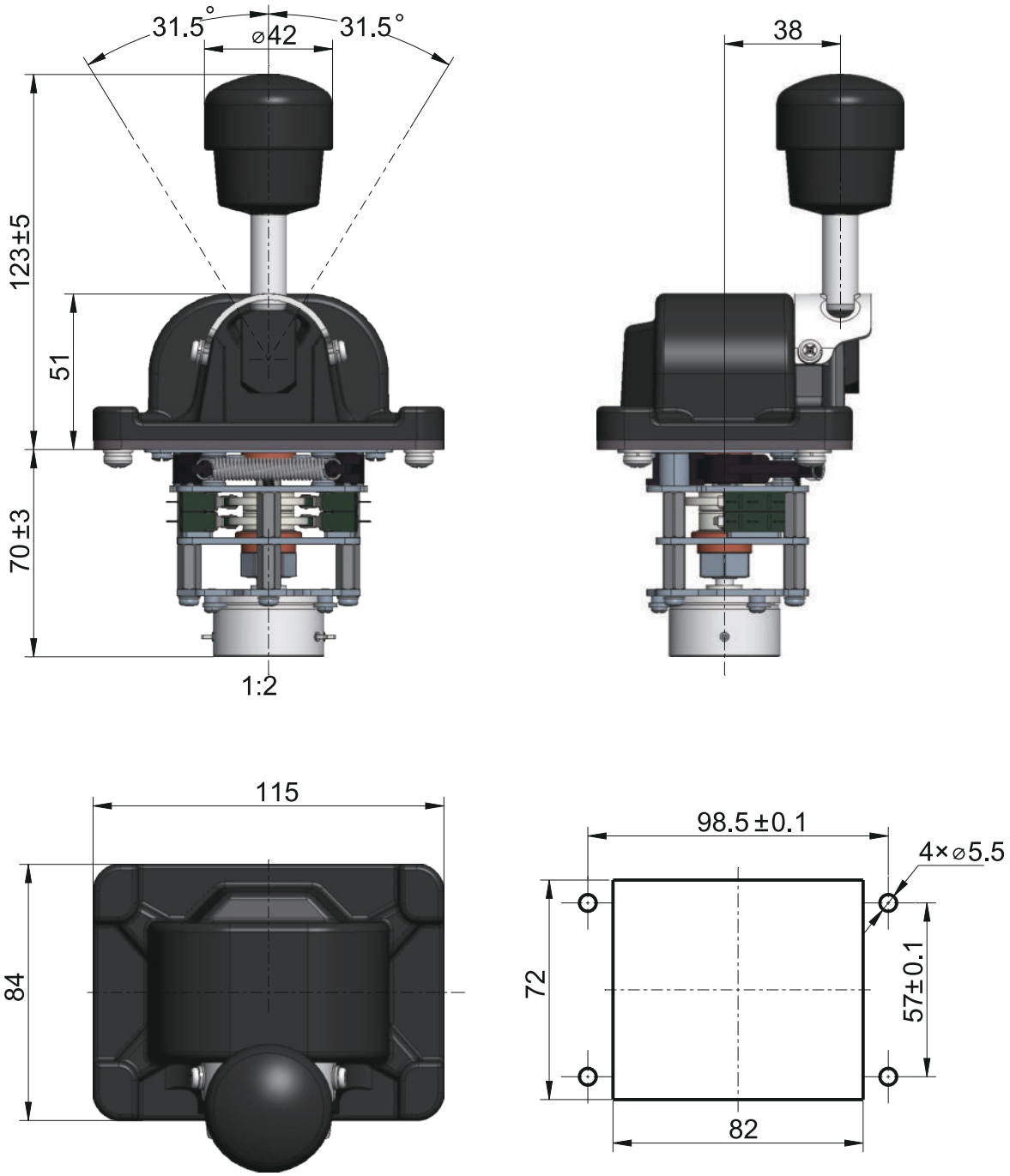
Special

X

Wiring

- A: Terminal interface
- L: Direct outgoing line 30mm
- X: Customize

Dimensions



AT11

INDUSTRIAL JOYSTICK

SAEKAI

The AT11 industrial joystick is used in secondary AC circuits (50Hz/60Hz) with rated voltage up to 380V (440V). It supports motor commutation, speed regulation, braking, and linkage. It can be mounted on console surfaces or portable control boxes and is commonly used in mechanical equipment for ports, shipping, railways, metallurgy, mining, power, construction, and manufacturing.

Technical Data

Operating temperature:	-40℃-85℃
Handle Force:	< 20N
Rated Current:	10A
Mechanical Life:	5 M
Degree of Protection:	up to IP65

Selection

Installation variant	Palm grips	Gate	Axis 1 Movement	Axis 1 No. of contacts	Axis 1 Interface	Axis 2 Movement	Axis 2 No. of contacts	Axis 2 Interface	Mounting	Contact arrangement

- 30 Single axis-30
- 3030 Double axis-3030
- 213 Double axis-2130

See Appendix-Installation of contact group

- S4
- S5
- S7
- SHD8
- SHD8B

See more options in the grip section

- 1: 1-Axis↕
- 2: Cross gate ✢
- 3: All-direction ✲
- 4: Special gate

- Z: Spring return
- R: Friction brake

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10V
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA
- **Potentiometer output**
  - 1K 2K 5K 10K

- Z: Spring return
- R: Friction brake

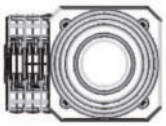
- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10V
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA
- **Potentiometer output**
  - 1K 2K 5K 10K

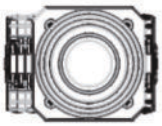
- M1: A-type(58*58)
- M2: B-type(67*67)
- M3: C-type(80*80)
- X:Customize

• See the page 50

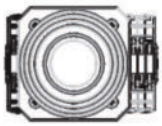
Installation variant



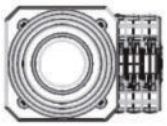
Single axis 30



Single axis 21



Single axis 12



Single axis 03

Type	No. of contacts	Dim.B
01	2	51
02	4	64
03	6	76

Double axis 3030

Double axis 2130

Double axis 2121

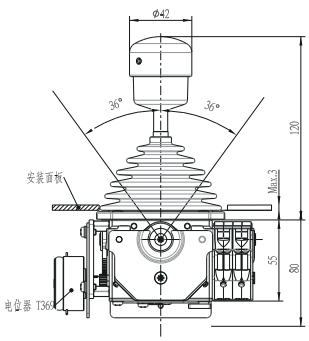
Double axis 1221

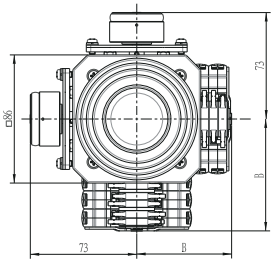
Double axis 1230

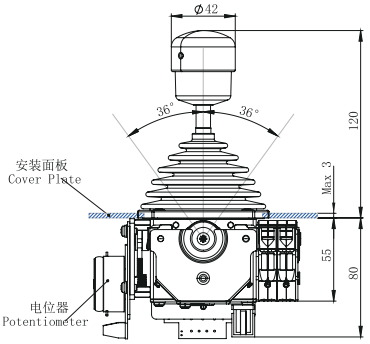
Double axis 0330

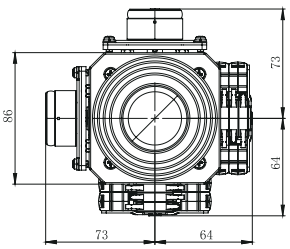
Grip

Dimensions









AT20

INDUSTRIAL JOYSTICK

SAEKAI

The AT20 industrial joystick is primarily designed for AC 50Hz (60Hz) systems with a rated voltage up to 380V (440V). It facilitates various operations in secondary circuits, including motor reversing, speed control, braking, linkage, and pinch control. This joystick can be mounted on the surface of consoles or within portable control boxes. It has found extensive applications across ports, water transport, railways, mining, power generation, construction, and manufacturing sectors

Technical Data

Temperature Range:	-20°C to 60°C
Operating Force:	≤50N
Current:	10A
Mechanical Life:	5M
Protection Level:	IP65

Selection

Installation variant	Palm Grips	Gate	Panel SIZe	Axis1 Movement	Axis1 No. of contacts	Axis1 Interface	Axis2 Movement	Axis2 No. of contacts	Axis2 Interface	Installation dimensions

See the detaies in nextpage

- SG41Z Lift up zero mechanical interock

See more options in the grip section

- 1: 1-Axis
- 2: Cross gate
- 3: All-direction
- 4: Special gate H,C,L and special

- A: Panel size A-type 109 x109
- B: Panel size B type 101x101

- Z: Spring return
- R: Friction brake

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - Hv2: 0.5-2.5-4.5V
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA
- **Potentiometer output**
  - 1K 2K 5K 10K

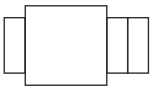
- Z: Spring return
- R: Friction brake

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

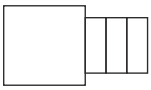
- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - Hv2: 0.5-2.5-4.5V
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA
- **Potentiometer output**
  - 1K 2K 5K 10K

- M1: B-type(67*67)
- X: Customize

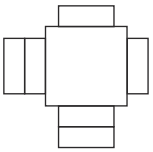
Installation variant



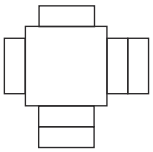
single axis 12



single axis 03



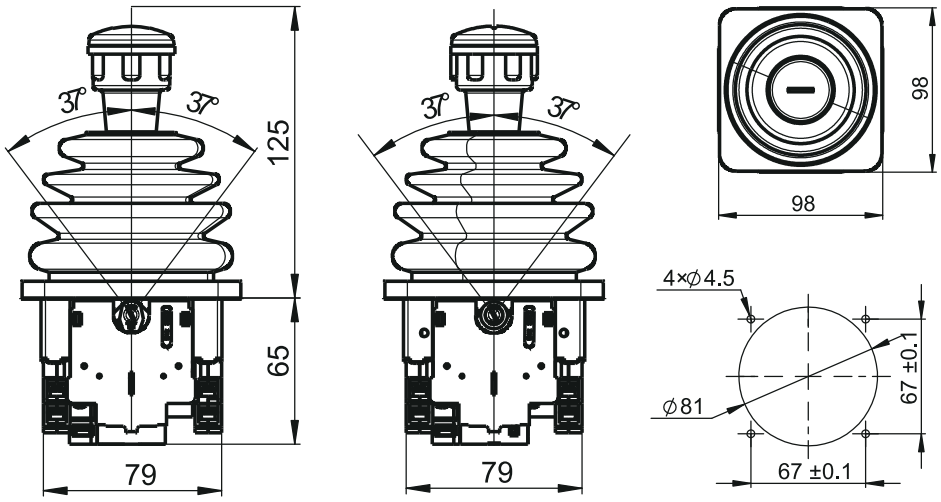
double axis 2121



double axis 1221

Grip

Dimensions



No.of contacts	Dim A	Dim B
2	41	83
4	56	98
6	71	113
8	86	128
10	101	143

AT21

INDUSTRIAL JOYSTICK

SAEKAI

The AT21 industrial joystick, designed for AC 50Hz (60Hz) and up to 380V (440V), controls secondary circuits with functions such as motor reversing, speed control, and braking. It mounts on console surfaces or portable boxes and is used widely in ports, railways, mining, and more.

Technical Data

Temperature Range:	-20°C to 60°C
Operating Force:	≤50N
Current:	10A
Mechanical Life:	5M
Protection Level:	IP65

Selection

Palm Grips	Gate	Axis1			Axis2			Installation dimensions	Installation of contact group	Contact arrangement
		Movement	No. of contacts	Interface	Movement	No. of contacts	Interface			

- SG41Z Lift up zero mechanical interock
- SG6

See more options in the grip section

- 1: 1-Axis
- 2: Cross gate
- 3: All-direction
- 4: Special gate H,C,L and special

- Z: Spring return
- R: Friction brake

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10V
  - V3: -5V~0~+5V
  - V4: +5V~0~+5V
  - V5: 0-+10V
  - V6: 0-+5V
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
  - HV3: 1.0-2.5-4.0V
  - HV4: 1.25-2.5-3.75V
- **Current output** DC24V
  - 11: 4mA-12mA-20mA
  - 12: 20mA-4mA-20mA
- **Potentiometer output**
  - 1K 2K 5K 10K
- **CAN**
  - CAN 2.0 output
  - CAN J1939 output
  - CAN OPEN

- Z: Spring return
- R: Friction brake

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

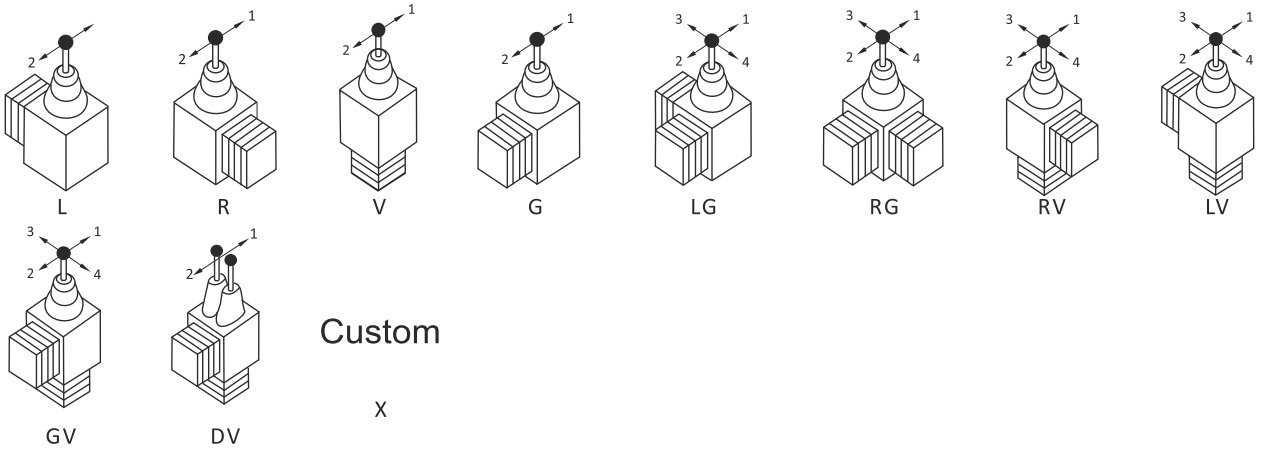
- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10V
  - V3: -5V~0~+5V
  - V4: +5V~0~+5V
  - V5: 0-+10V
  - V6: 0-+5V
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
  - HV3: 1.0-2.5-4.0V
  - HV4: 1.25-2.5-3.75V
- **Current output** DC24V
  - 11: 4mA-12mA-20mA
  - 12: 20mA-4mA-20mA
- **Potentiometer output**
  - 1K 2K 5K 10K
- **CAN**
  - CAN 2.0 output
  - CAN J1939 output
  - CAN OPEN

- M1:B-type(67*67)

- L: Single axis
- R: Single axis
- LG: double axis
- RG: double axis

- See the page 50

Installation variant

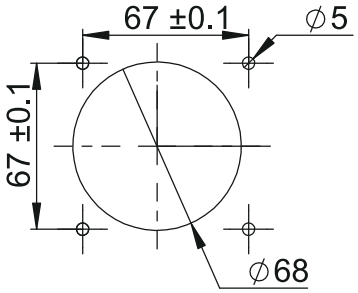


Custom

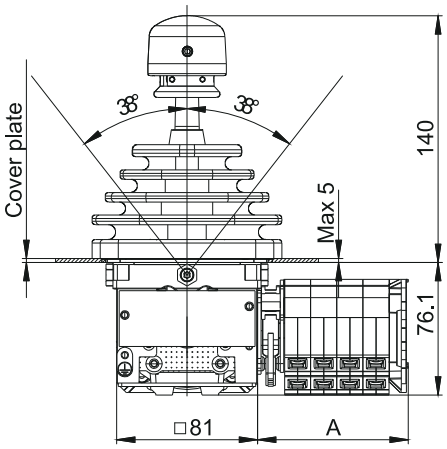
X

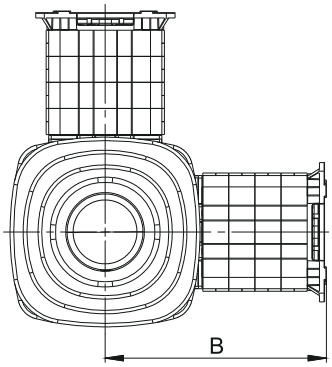
Grip

Dimensions



No.of contacts	Dim A	Dim B
2	41	83
4	56	98
6	71	113
8	86	128
10	101	143


Cover plate
38°
38°
140
Max 5
76.1
□81
A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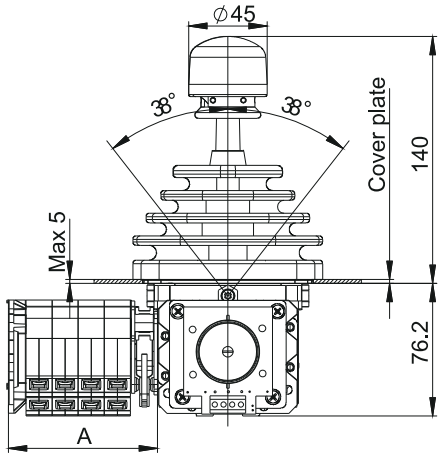
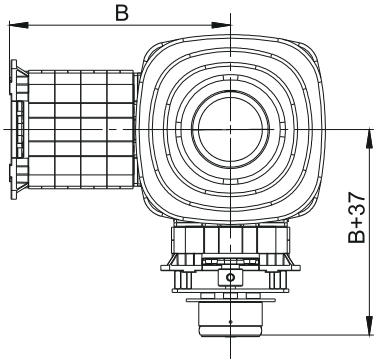
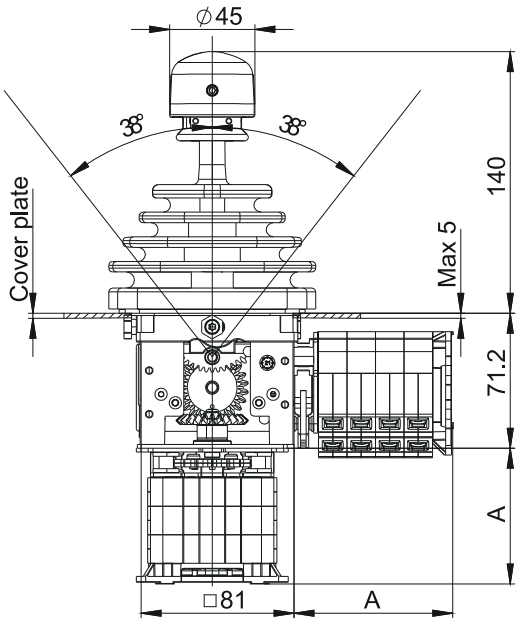

∅45
38°
38°
Cover plate
140
Max 5
76.2
A


B
B+37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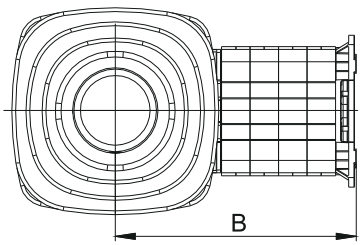
38°
38°
Cover plate
140
Max 5
71.2
A
□81
A


B

AT16

INDUSTRIAL JOYSTICK

SAEKAI

The AT16 industrial joystick is designed for AC circuits up to 380V (440V), enabling motor control, speed regulation, and braking. It can be mounted on consoles or portable control boxes and is widely used in industries like ports, shipping, railways, metallurgy, mining, and construction

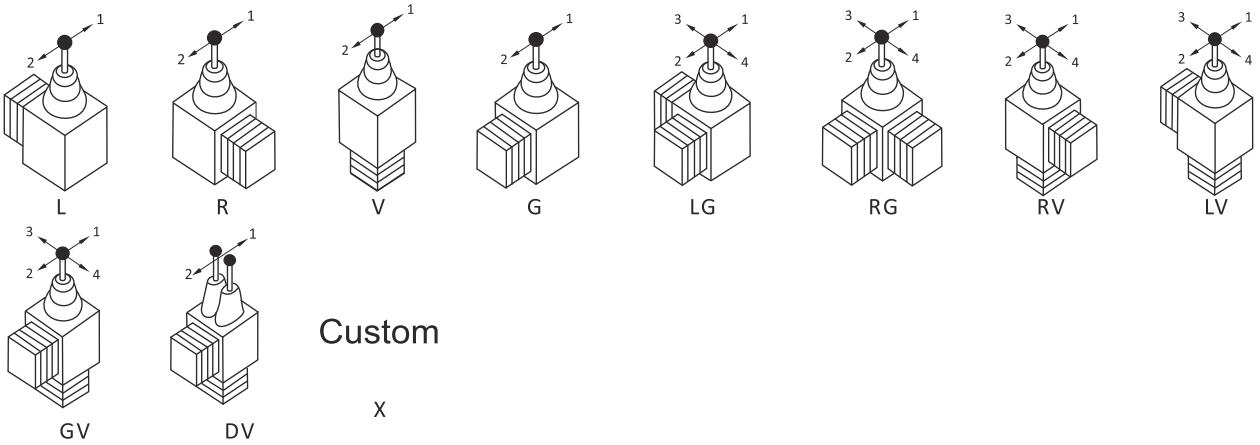
Technical Data

Operating Temp:	-20℃ to 60℃
Handle Force:	<50N
Rated Voltage:	380V/440V
Rated Current:	10A
Mechanical Life:	5 M
Degree of protection:	Up to IP65

Selection

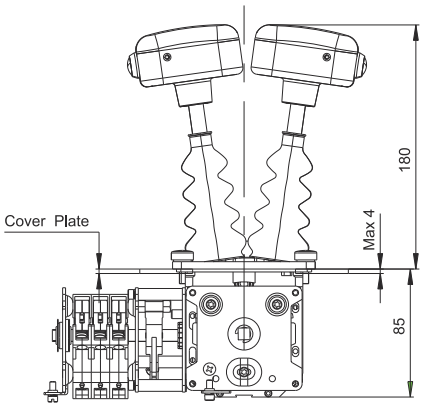
Installation Variant	Palm Grips	Gate	Axis1 Movement	Axis1 No. of contacts	Axis1 Interface	Axis1 Movement	Axis1 No. of contacts	Axis1 Interface	Mounting	Contact arrangement
• See Appendix-Installation of contact group										
• See more options in the grip section										
• 1: 1-Axis↕ • 2: Cross gate ✣ • 3: All-direction ✳ • 4: Special gate										
• Z: Spring return • R: Friction brake										
• 01 2 contacts • 02 4 contacts • 03 6 contacts • 04 8 contacts • 05 10 contacts										
• **Voltage output** DC24V V1: -10V~0~+10V V2: +10V~0~+10V V3: -5V~0~+5V V4: +5V~0~+5V V5: 0-+10V V6: 0-+5V • **Hall output** DC5V HV1: 0-2.5-5V Hv2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V Hv4: 1.25-2.5-3.75V • **Current output** DC24V 11: 4mA-12mA-20mA 12: 20mA-4mA-20mA • **Potentiometer output** 1K 2K 5K 10K • **CAN** CAN 2.0 output CAN J1939 output CAN OPEN									
• Z: Spring return • R: Friction brake										
• 01 2 contacts • 02 4 contacts • 03 6 contacts • 04 8 contacts • 05 10 contacts										
• **Voltage output** DC24V V1: -10V~0~+10V V2: +10V~0~+10V V3: -5V~0~+5V V4: +5V~0~+5V V5: 0-+10V V6: 0-+5V • **Hall output** DC5V HV1: 0-2.5-5V Hv2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V Hv4: 1.25-2.5-3.75V • **Current output** DC24V 11: 4mA-12mA-20mA 12: 20mA-4mA-20mA • **Potentiometer output** 1K 2K 5K 10K • **CAN** CAN 2.0 output CAN J1939 output CAN OPEN									
• M1:B-type(84*84) • 2: M2: A-type(80*80) • X:Customize										
• See the page 50										

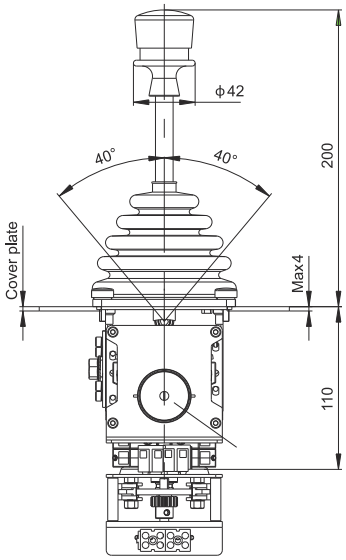
Installation contact group

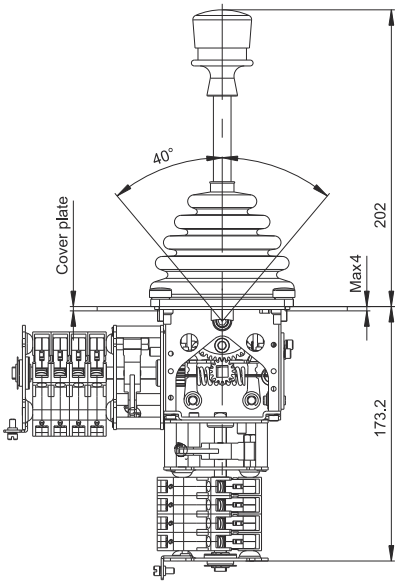


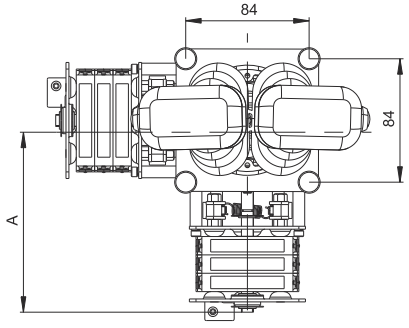
Grip

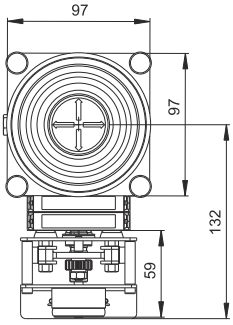
Dimensions

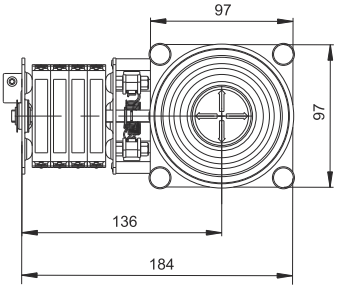


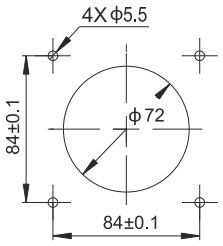




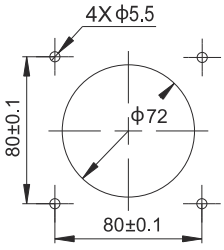




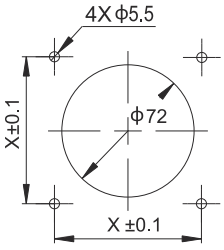




M1



M2



X

Type	No. of contacts	Dim-A	Dim-B
01	2	98	135
02	4	110.5	147.5
03	6	123	160
04	8	135.5	172.5
05	10	148	185
06	12	160.5	197.5

XKB

INDUSTRIAL JOYSTICK

SAEKAI

The XKB Joystick is designed for various secondary circuits with AC 50Hz (60Hz), supporting a rated voltage up to 380V (440V). It enables motor commutation, speed control, braking, and linkage functions. This joystick can be installed on console surfaces or in portable control boxes, making it ideal for both light and heavy lifting equipment and driving applications that require a fixed console.

Technical Data

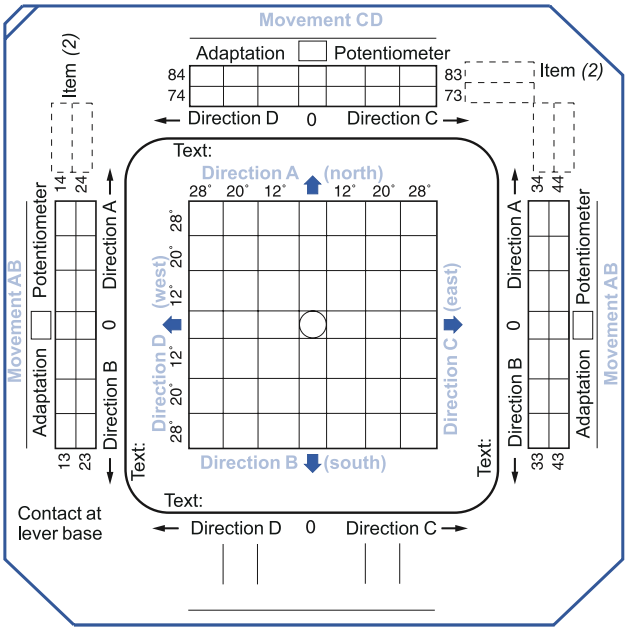
Model		XKB-A	XKB-E
Direction		4Direction, can be linked	•
Amount of movement		2	•
Amount of notches in each direction		3	•
Type of movement	Notched·Hold position/spring return	•	•
	unnotched·spring return	•	•
Operating schemes		Standard CAM assembly	Custom CAM combination
Maximum number of contacts per movement		16	•
Mechanical Life(in millions of operating cycles)		1	•
Control device		Vertical centering	•
Handle	1 Standard	•	•
	2 Mechanical zero interock	•	•
	4 With zero mechanical & electrical interlocks	•	•
	5 Push-down type	•	•
	6 Button with fat or convex head	•	•
	9 Other	•	•
Maximum numper of potentiometers per movement		1 or2 pairs	•

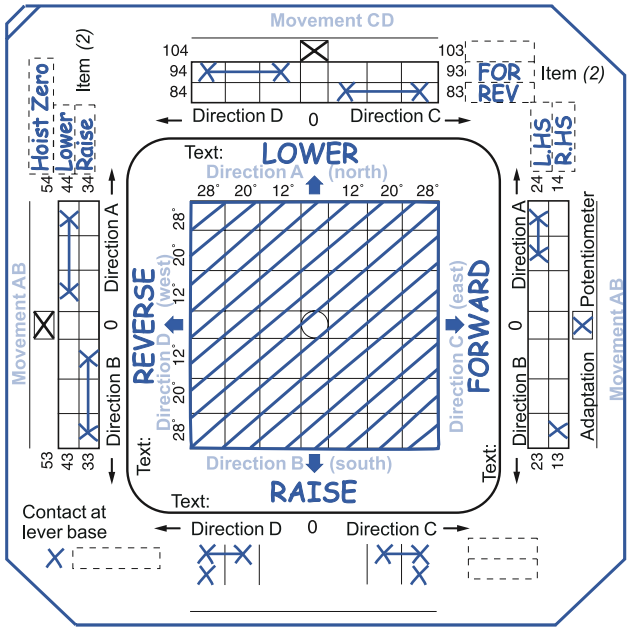
Model	XKB-A: predefined, non modifiable scheme XKB-E: variable composition scheme
Direction	4Direction, can be linked
Control lever	140mm maximum travel in one direction:28°
Amount of notches in each direction	3
Type of lever movement	①Notched positions, hold position: up to 3 gears(12°,20°;28°)in one direction
	②Notched positions, spring retum: up to 3 gears(12°,20°,28°)in one direction
	③Unnotched position, spring return: 28° travel in one direction
Contact	Contact block with 4 contacts + 1 zero position contacts Each type of contact block allows the user to use 1 additional pair of contacts
Contact closing sequence	XKB-A standard scheme . Each movement has 4 pairs of contacts + 1 pair ofzero position contacts: each movement has 2 palrs of direction contacts,2 pairs of functional contacts, and 1 pair of zero position contacts.
	XKB-E customized scheme · Each movement has 4 pairs of contacts + i pair of zero position contacts: each movement mechanism has 4 pairs of contacts and i pair of zero position contacts.
Electrical Life	1 million
handle Grip position	Vertical center
Handle	1 Standard handle:with zero(centre)position contact (closed at zero) 2 With zero mechanical interlocking wizero mechanicalock and the center of the closed contact 4 Push handle: The contact associatedMith it opens when the handle is released 5 Flat button handle: When the button isreleased, the associated contact breaks 6 Raised button handle: When the buttois released,the associated contact opens 9 Round head push-down handle typewhen the button is released, the associated off contact
Maximum number of potentiometers per movement : 2 Pairs	

Grip

handle number	handle type	B
1	Standard handle	137-142mm
2	With zero mechanical interocking electrical interlocks	137-142mm
4	push handle	138-143mm
5	Flat head push-button type	137-142mm
6	Convex head push-button type	141-146mm
9	Round head push-down handle type	141-146mm

Contact Arrangement



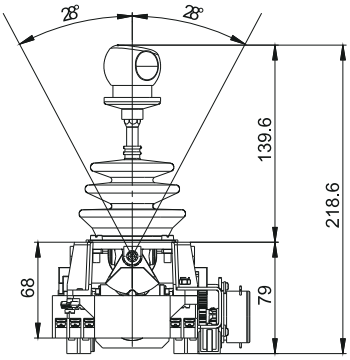


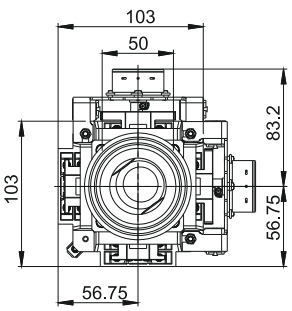
Selection

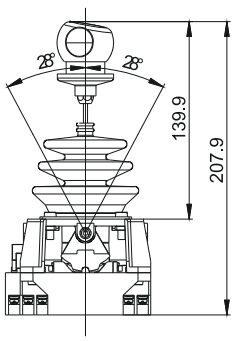
Lever	handle	handle	CD direction		handle	Contact arrangement
			Contacts	lever movenment		
• A:Standard • E:Special						
• 4 contacts 1: screw connection 2: 6.3m clip connection • 4+1 contacts 3: screw connection 4: 6.3m clip connection						
• 1: Standard handle + zero contact (closedat zero) • 2: With zero mechanical interocking electri;al interocks(contact closed at zero2 position) • 4: Push-down handle (contacts open whe handle is released) • 5: Flat head push-button type(contacts open when handle is released) • 6: Convex head push-button type (contacts open when handle is released) • 9: Round head push-down handle type(contacts open when handle is released)						
• 0: No need 0 • 1: Notched positions, hold position • 3: Notched positions, spring return • 2: Unnotched positions, spring return(1)						
• 0: No need • 1: Notched positions, hold position • 3: Notched positions, spring return • 2: Unnotched positions, spring return						
• With frame only(no potentiometer) 4: AB Direction 5: CD Direction 6: AB+CD Direction • With frame+potentiometer 7: AB Direction 8: CD Direction 9: AB+CD Direction • 0: No potentiometer						
• See the page 50						

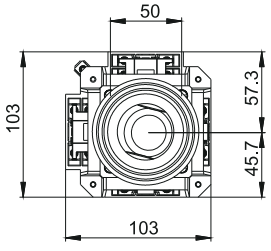
Note:
(1) This type of movement is recommended for the handle when using a potentiometer.
(2) The resistance value of the potentiometer needs to be stated in the order form.

Dimensions

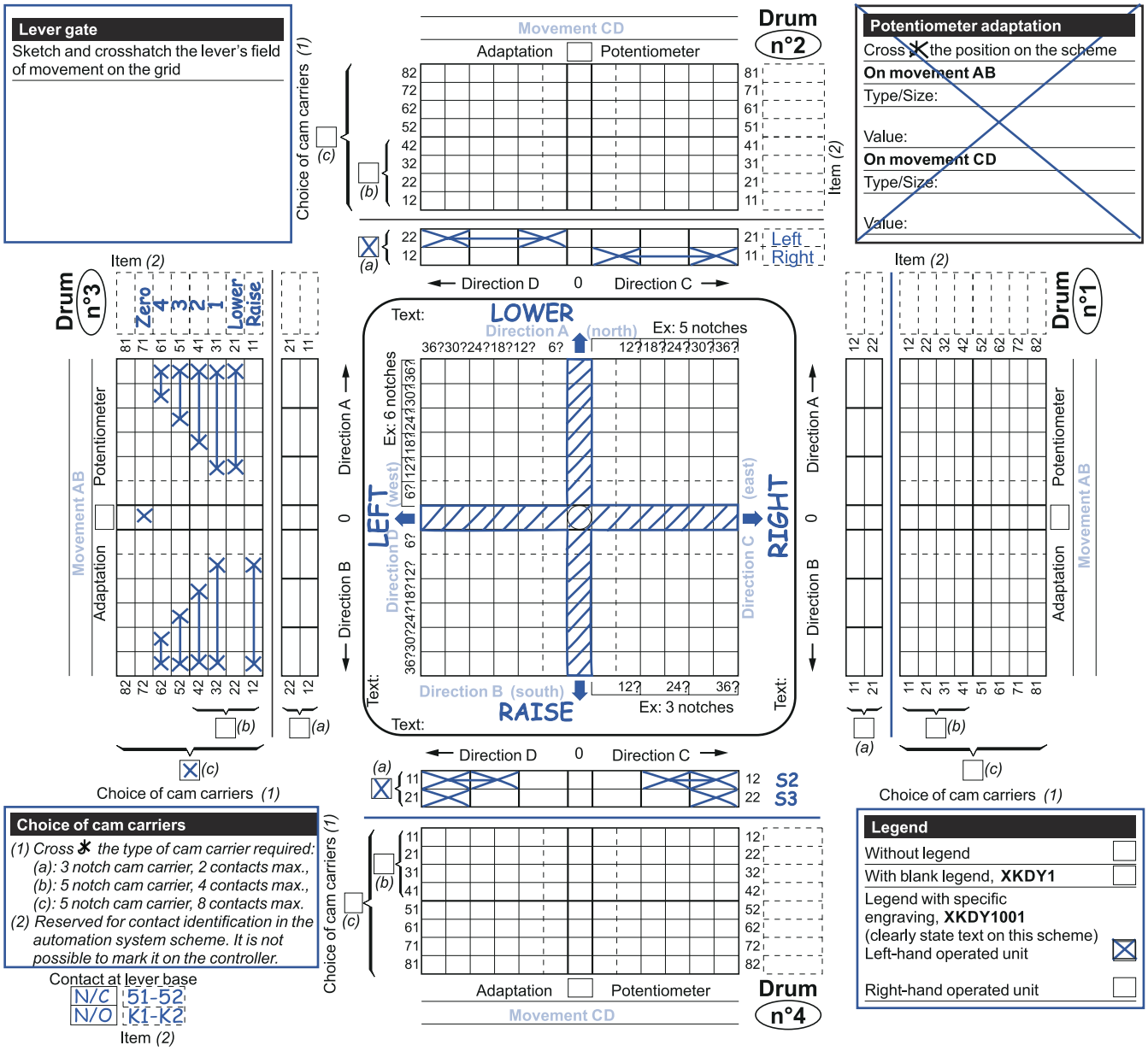








Contact Arrangement



XKD

INDUSTRIAL JOYSTICK

SAEKAI

The XKD Joystick operates in secondary circuits with AC 50Hz (60Hz) at a rated voltage of up to 380V (440V). It facilitates motor commutation, speed regulation, braking, and transfers. The joystick can be mounted on console surfaces or portable control boxes, making it versatile for both light and heavy lifting machinery and driving applications with fixed consoles

Technical Data

Model		XKD
Direction		4Direction, can be linked
Amount of movement		2
Amount of notches in each direction		5
Type of movement	notched·Hold position/spring return	•
	unnotched·spring return	•
Operating schemes		Standard CAM assembly
Maximum number of;ontacts per movement		16
Mechanical Life(in millidns of operating cycles)		3
Control device		Vertical centering
Handle	1 standard	•
	2 Mechanical zero interock	•
	3 With zero mechanical &electrical interocks	•
	4 5 Push-down type	•
	6 7 8 9 Button with flat or convex head	•
	0 Othen	•
Maximum numper of potentiometers per movement		2 pairs

Model	XKDF
Direction	4Direction, can be linked
Control lever	200mm Maximum stroke in one direction 36°C
Maximum Number Of Contacts	
Type of lever movement	①TNotched positions, hold position: maximum 3 gears in one direction
	1.5 notches maximum in each direction,at 12°,18°,24,30°and 36°(6° per notch).only when used with variable composition cam carriers comprising 4 or 8-contact blocks (1 st notch at 6°). 2.3 notches maximum in each direction, at 12°,24°and 36° (12 per notch), only when used with variable composition cam carriers comprising 2-contact blocks.
	②b Notched positions, with spring retum to zero operation 3 or 5 notches maximum in each direction depending on the versions stated above
	③3Unnotched positions, with spring return to zero operation 36° maximum trave lin each direction
Contact	16 contacts maximum per movement .The contact blocks are mounted in pairs on a fixing plate.
Cam schemes	(1) Vanable composition cams, 6° per posiion; 4 or 8-contact cam caiers(2)Vaniable composition cams, 12° per position; 2-contact cam cami
Electrical Life	3
handle Grip position	Vertical centerind
Handle	1 standard
	2 Mechanical zero interock
	3 With zero mechanical& electrical interocks
	4 5 Push-down type
	6 7 8 9 Button with fat or convex head
	0 Other
Maximum number of potentiometers per movement : 2 Pairs	

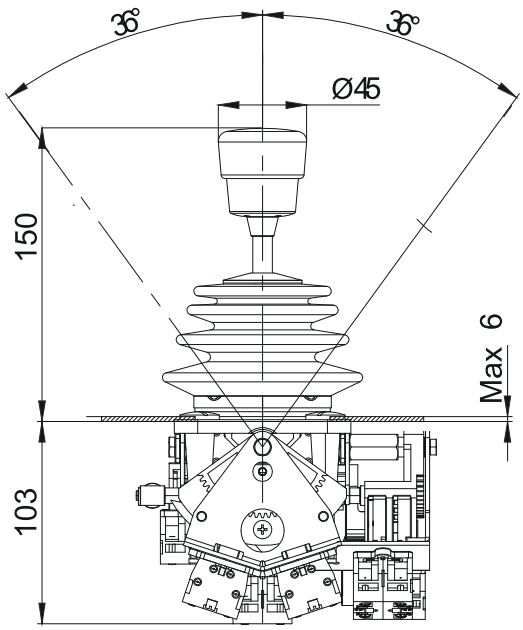
Grip

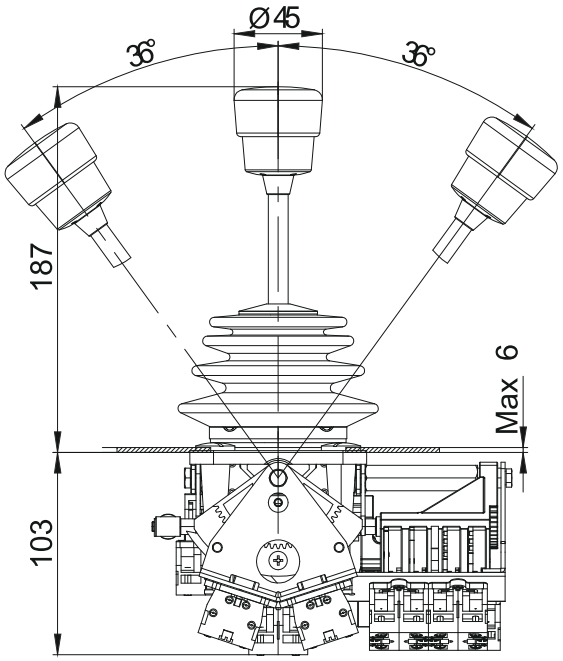
Selection

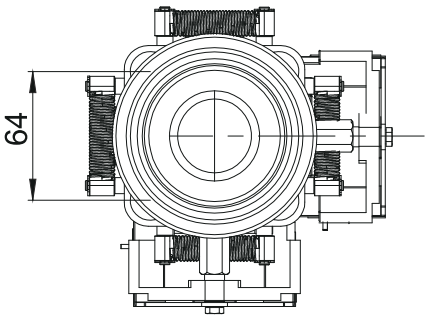
Lever	handle	AB direction			CD direction		
		Contacts	lever movenment	Potentio-meter	Contacts	lever movenment	Potentio-meter
• Standard model, length 200 mm							
• 1:Simple (standard model) 2:With zero (centre) position mechanical interiocking 3:With zero (centre) position mechanical & electrical interlocking (1 C/0 contact) • Dead man's type 4:With N/C + N/O contact 5:With N/O + N/O contact • With built-in projecting 8:With N/C + N/O contact 9:With N/O + N/O contact	• With built-in fush pushbutton 6:With N/C + NiO contact 7:With N/O + N/O contact						
		• 0:block • 1:block • 2:block • 3:block • 8:block • 4:block • 5:block • 6:block • 7:block					
			• 1: Notched positions, with stayput operation 3notches(1) • 2: 5 notches (starting from 12°)or 6 notches (starting from 6°)(2) • 3: Notched positions, with spring return 3notches(1) • 4: 5 notches (starting from 12°)or 6 notches (starting from 6°)(2) • 5: Unnotched positions. with spring return to zero operation (3)			
			• 0:Without adaptation nor potentiometer • 1:With adaptation only(without potentiometer) • 2:With adaptation + potentiometer(4)			
					• 0:block • 1:block • 2:block • 3:block • 8:block • 4:block • 5:block • 6:block • 7:block		
						• 1: Notched positions, with stayput operation 3notches(1) • 2: 5 notches (starting from 12°)or 6 notches (starting from 6°)(2) • 3: Notched positions, with spring return 3notches(1) • 4: 5 notches (starting from 12°)or 6 notches (starting from 6°)(2) • 5: Unnotched positions. with spring return to zero operation (3)	
							• 0:Without adaptation nor potentiometer • 1:With adaptation only(without potentiometer) • 2:With adaptation + potentiometer(4)

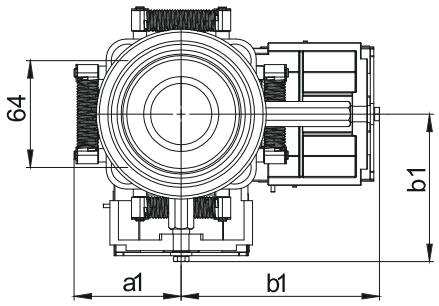
Note:
(1)3 notches: restricted to 2-contatvariable composition cams only
(2)5 notches: by using 1 or 2 variabe composition 4or 8-contact cams, mechanical notch at 12°(6 electrical positions in each direction)
(3)Type of lever movement recornmended when using a potentiometer

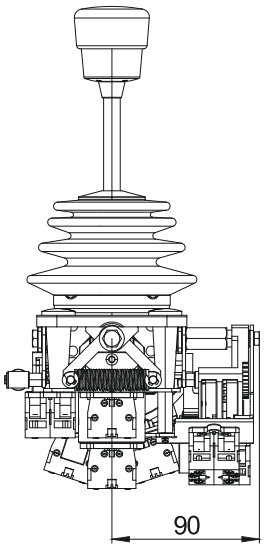
Dimensions











STANDARD
POTENTIOMETER

SAEKAI

Data

Model	XKZ A15
Size description	15
standard	UTE 93265
Install	Body side(Synchronized Type)
Rotation operation	continuous rotation
function	Independent linearity+2%
Mechanical corner	360°

Electrical characteristic

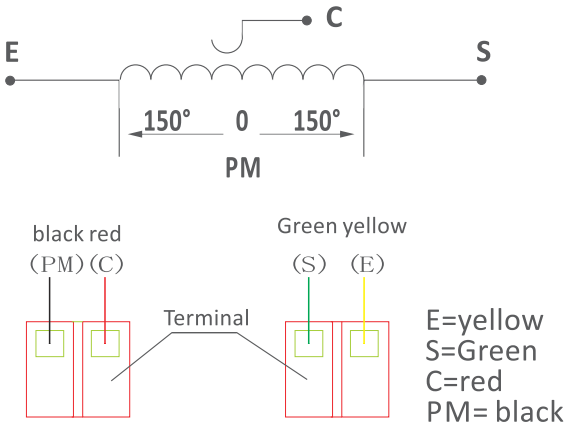
Standard resistance	1KΩ~10KΩ
Midpoint Line	Potentiometer Pin Pinout
Rated power(Pn)	2W/70°
Theoretical electrical corner	156°X2

Environmental characteristics

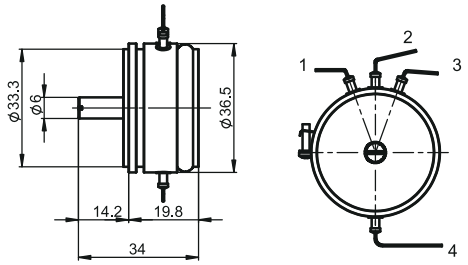
Mechanical Life	5million times
Use environment	-55℃~+125℃
Vibration	15G 2000HZ
Impact	15G 11ms

Resistance	Availability	Size	Model	WeightkG
4700(2x2350)	Standing stock	15	XKZ A15047	0.05
1000(2x500)	short-term	15	XKZA15010	0.05
2000(2x1000)	short-term	15	XKZ A15022	0.05
10000(2x5000)	Standing stock	15	XKZA15100	0.05
other	able to provide	15	XKZA15000(1)	0.05

Wiring diagram



Dimensions



the pinion gear of the adpatation can be connected to thepotentiometer coaxially,the shaft diameter is Φ 6 , and thelength is 14.6

	a	Φ
XKZ A15	20	37

YL01

CONTROLLER

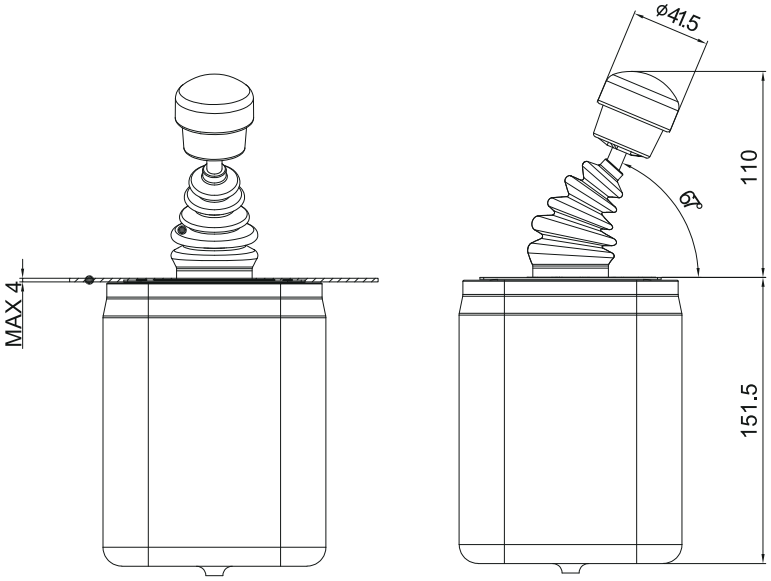
SAEKAI

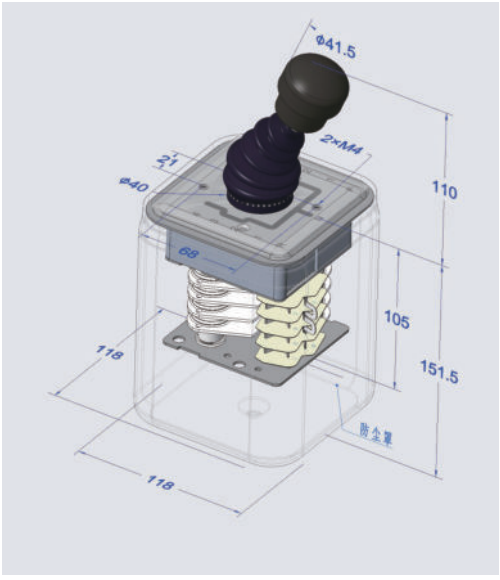
The YL01 controller is a durable switchgear that meets EC/EN 60947-5-1 standards. Its modular construction ensures versatility across applications. This controller is engineered to perform reliably in environments with high exposure to oil, moisture, ozone, and intense ultraviolet radiation. It is ideal for both light and heavy lifting equipment within industrial automation systems and fixed console operations

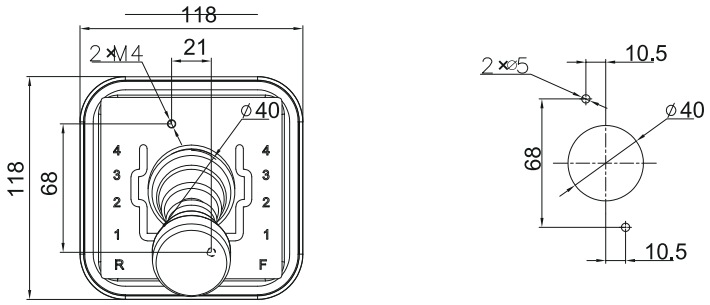
Technical Data

Ambient Temp:	-40°C to 85°C
Operating Temp:	-20°C to 60°C
Operating Force:	≤20N
Mechanical Life:	1M
Power:	AC 2.6A / DC 0.3A
Rated Current:	15A
Rated Voltage:	380V (440V)

Dimensions







AT40

COMPACT LIGHT JOYSTICK

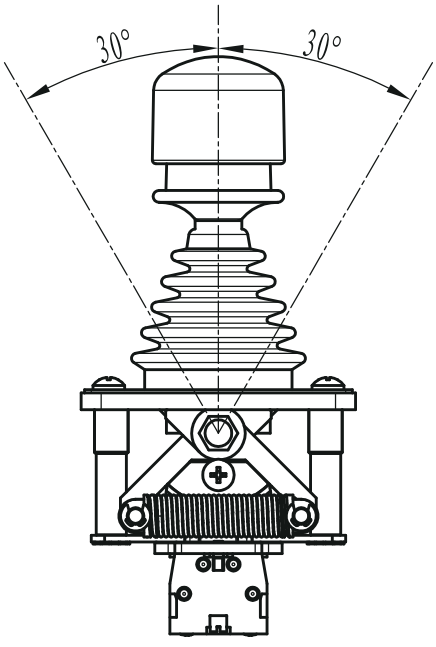
SAEKAI

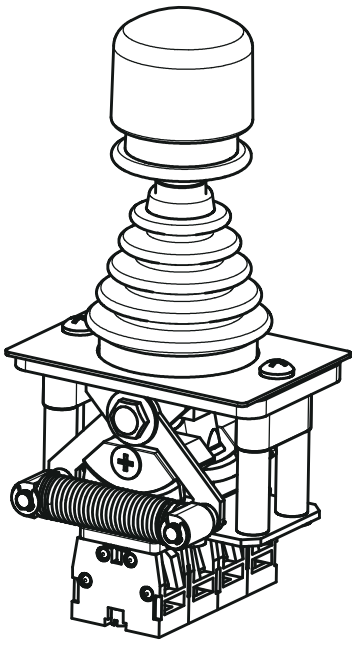
The AT40 joystick features a compact design, light and straightforward structure, enhancing ease of operation. Equipped with a zero position spring return and a self-locking mechanism, it ensures safety and reliability. It boasts a long service life and offers easy wiring, convenient installation, and low maintenance. This product line is primarily used in cranes, construction machinery, and various automated control systems

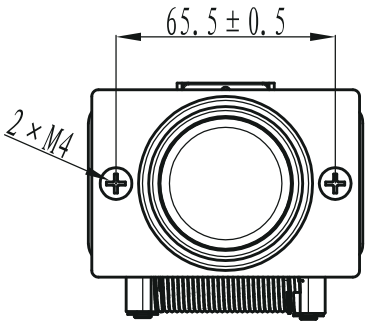
Technical Data

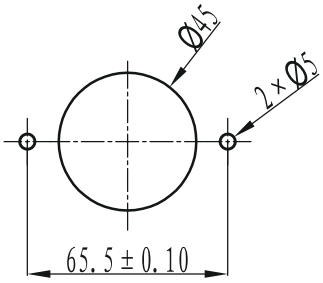
Operating Temperature:	-20°C to 60°C
Handle Operating Force:	≤20N
Mechanical Life:	1M
Power:	AC 2.6A / DC 0.3A
Rated Current:	15A
Rated Voltage:	380V (440V)

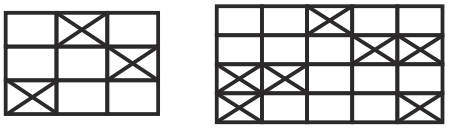
Dimensions











A10 A20

AT31

INDUSTRIAL JOYSTICK

The AT31 joystick is engineered for use in secondary AC circuits (50Hz/60Hz) with rated voltages up to 380V (440V). It facilitates efficient motor control functions such as commutation, speed regulation, and braking, and can be integrated into console surfaces or portable control systems. Its versatility makes it a reliable choice for heavy-duty applications in industries including ports, shipping, railways, metallurgy, mining, and construction.

Technical Data

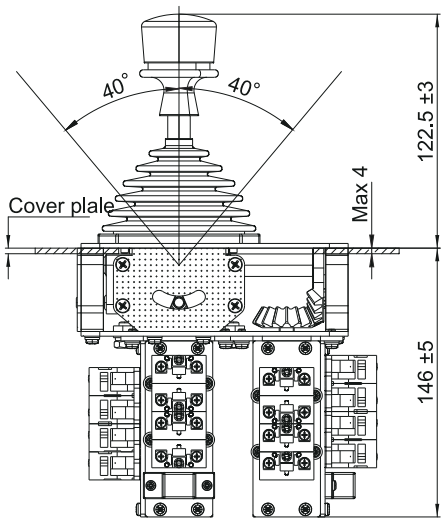
Operating Temp:	-20℃ to 60℃
Handle Force:	<20N
Mechanical Life:	3M
Degree of protection:	Up tp IP65
Rated Current:	10A

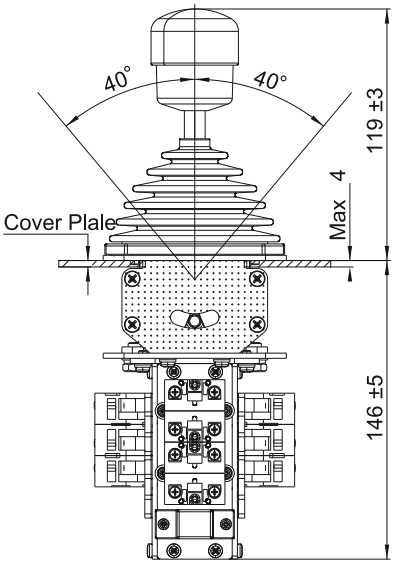
Selection

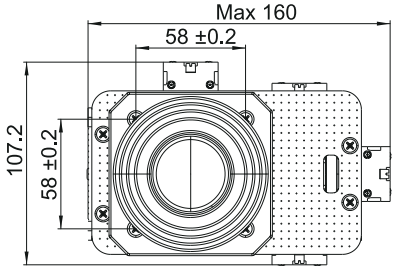
Palm Grips	Gate	Axis1 Movement	Axis1 No. of contacts	Axis1 Interface	Axis2 Movement	Axis2 No. of contacts	Axis2 Interface	Contact arrangement
• S1 • S4 • S5 • S6 • SHD8 • SHD8B See more options in the grip section	• 1: 1-Axis↕ • 2: Cross gate ✢ • 3: All-direction ✲ • 4: Special gate	• Z: Spring return • R: Friction brake	• 01 2 contacts • 02 4 contacts • 03 6 contacts • 04 8 contacts • 05 10 contacts	Potentiometer output • 1K • 2K • 5K • 10K	• Z: Spring return • R: Friction brake	• 01 2 contacts • 02 4 contacts • 03 6 contacts • 04 8 contacts • 05 10 contacts	Potentiometer output • 1K • 2K • 5K • 10K	• See the page 50

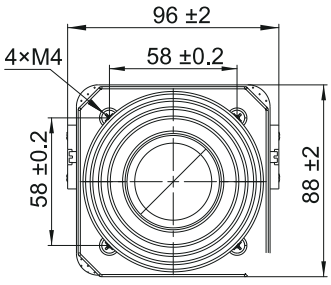
Grip

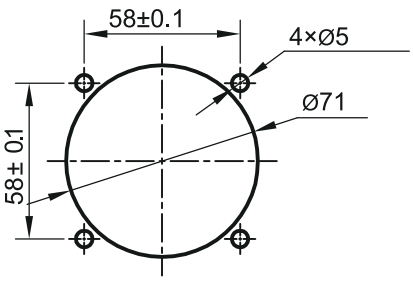
Dimensions









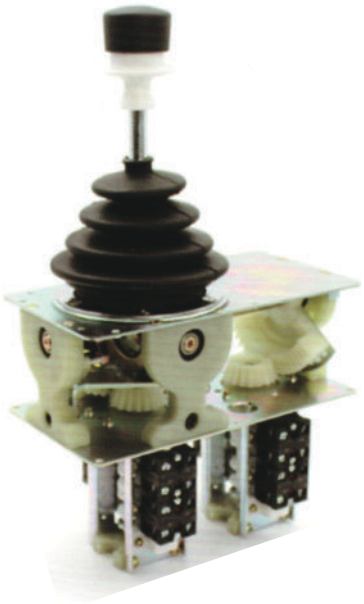


AT30

INDUSTRIAL JOYSTICK

SAEKAI

The AT30 joystick is ideal for motor control, speed adjustment, and braking in AC circuits up to 380V (440V). It can be mounted on consoles or portable control boxes, offering reliable performance in industries such as ports, shipping, railways, metallurgy, mining, power, and construction.



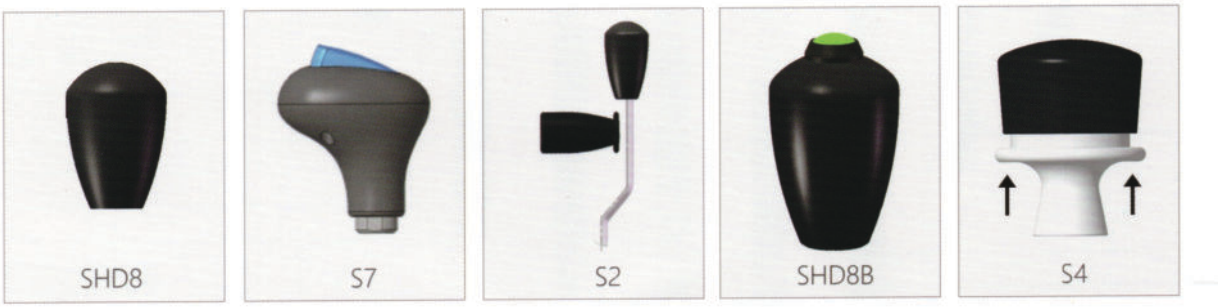
Technical Data

Operating Temp:	-20℃ to 60℃
Handle Force:	<20N
Mechanical Life:	2 M
Rated Current:	10A
Degree of protection:	Up to IP65

Selection

Palm Grips	Gate	Axis1			Axis2			Contact arrangement
		Axis 1	No. of contacts	Interface	Axis 2	No. of contacts	Interface	
• SHD8B • S7 • S2 • SHD8								
	• 1 -Axis ↕ • 2 Cross gate ✢ • 3 All-direction(x, Y-Axis) ✲							
		• Z: Spring return		• R: Friction brake				
			• 01 2 contacts • 02 4 contacts • 03 6 contacts • 04 8 contacts • 05 10 contacts					
				Potentiometer output • 1K • 2K • 5K • 10K				
					• Z Spring return	• R Friction brake		
						• 01 2 contacts • 02 4 contacts • 03 6 contacts • 04 8 contacts • 05 10 contacts		
							Potentiometer output • 1K • 2K • 5K • 10K	
								• See the page 50

Grip



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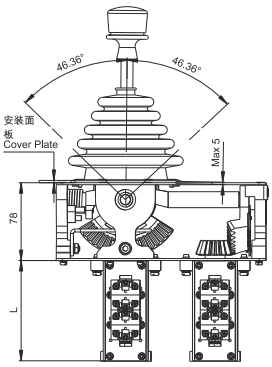
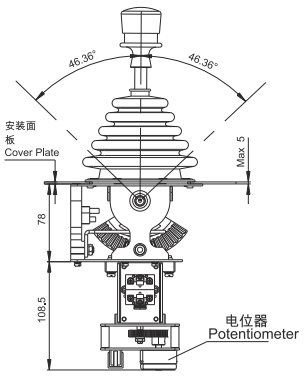
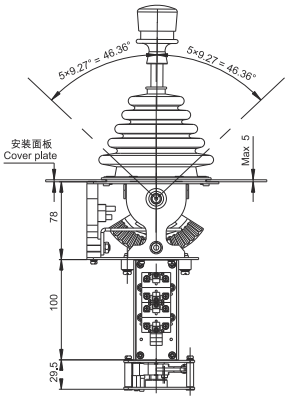
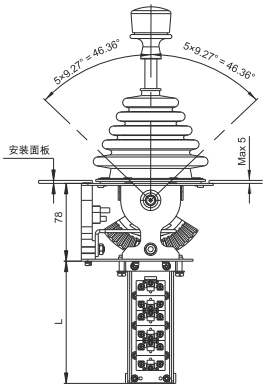
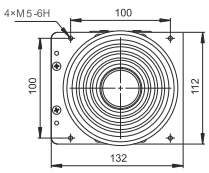
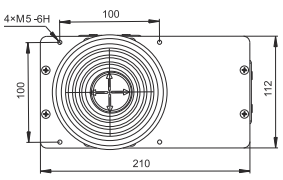


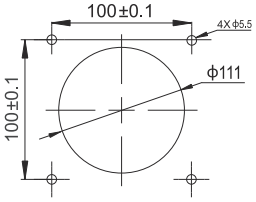












Contacts size table	
Contact group	Size L
2	100
4	100
6	100
8	100
10	121.5
12	121.5

GA1

SAEKAI

INDUSTRIAL JOYSTICK

- **Potentiometer or Hall Sensor**
- **Single or dual axis options**
- **High-strength handle with excellent proportional control and on/off output**
- **Protection rating: IP64 (above panel)**
- **Easy installation, smooth operation, durable, and maintenance-free**

The GA1 joystick is widely used in rotary drilling rigs, aerial fire trucks, crane shield machines, oil hoists, hydraulic proportional control systems, and frequency conversion motor control.

Technical Data

Operating Temperature:	-40℃ to +80℃
Handle Force:	<20N
Mechanical Life:	5M
Operating Torque:	~5N (max 50N)

EMS Interference Resistance: Tested at 100V/m, frequency range 30MHz to 1GHz, with 80% sine wave modulation, meeting EN50082-2 (1995) standards.

ESD Protection Level: 4.8kV for contact discharge, 15kV for air discharge, compliant with IEC61000-4-2 standards.

Selection

Palm Grips	Gate	Axis1			Axis2			Contact arrangement
		Axis 1	No. of contacts	Interface	Axis 2	No. of contacts	Interface	

Palm Grips

- SHD8 SHD8
- S7 Press down mechanical interlock↓
- S2 Grab-type
- SHD SHD8 with button
- 8B
- S4 Lift-up mechanical interlock↑

Gate

- 1 -Axis ↕
- 2 Cross gate ✢
- 3 All-direction(x, Y-Axis) ✳

Axis1 / Axis2

- Z Spring return
- R Friction brake

No. of contacts

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

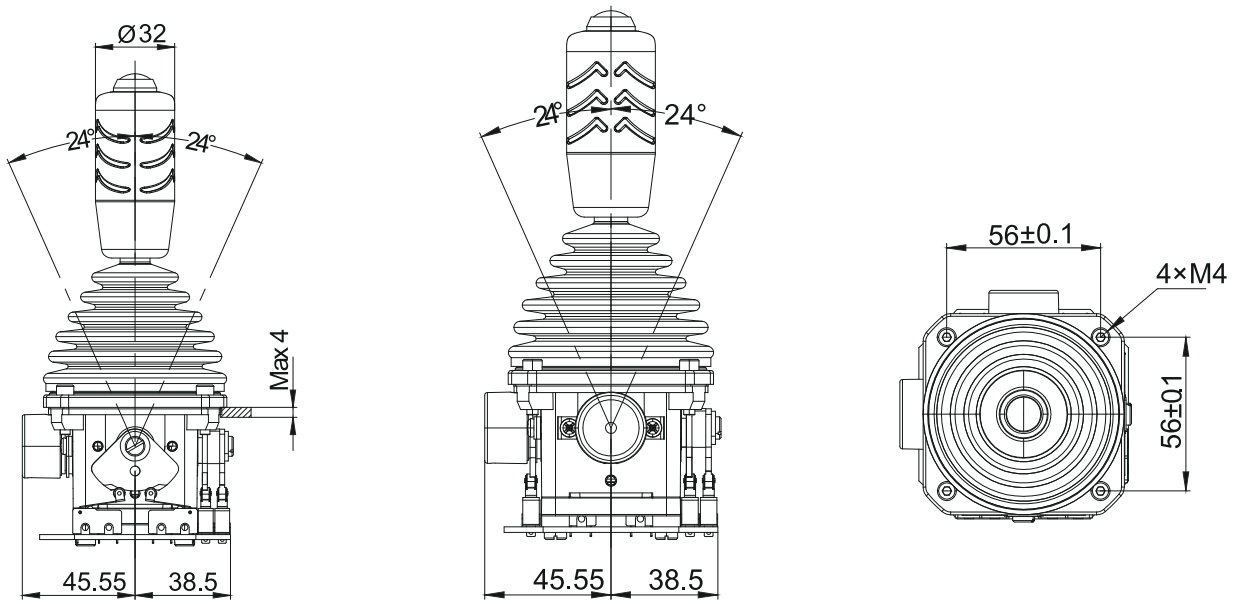
Interface

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10V
  - V3: -5V~0~+5V
  - V4: +5V~0~+5V
  - V5: 0-+10V
  - V6: 0-+5V
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
  - HV3: 1.0-2.5-4.0V
  - HV4: 1.25-2.5-3.75V
- **CAN**
  - CAN 2.0
  - CAN J1939
  - CAN OPEN
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA
- P1: One directions output
  P2: Two directions output

Contact arrangement

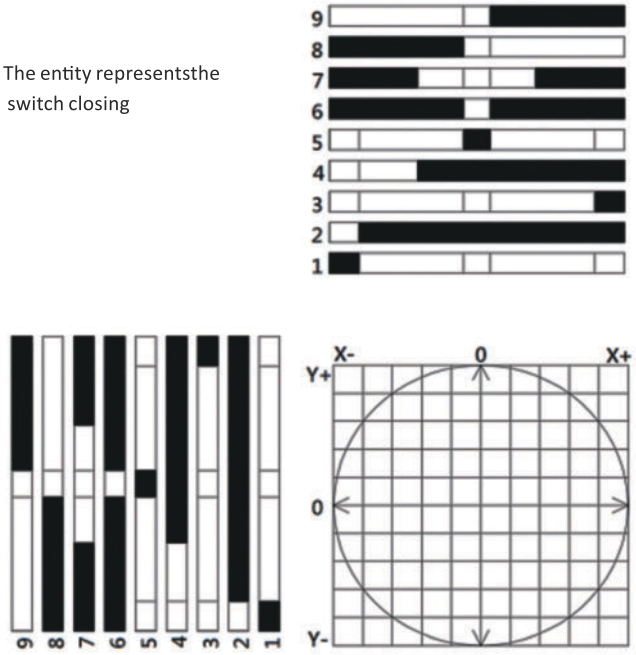
- See the drawing below **for excample 03(589)**

Dimensions



Contact Arrangement

The entity representsthe switch closing



Grip

GA2

INDUSTRIAL JOYSTICK

SAEKAI

- **Potentiometer or Hall Sensor**
- **Single axis options**
- **High-strength handle with excellent proportional control and on/off output**
- **Protection rating: IP64 (above panel)**
- **Easy installation, smooth operation, durable, and maintenance-free**

The GA2 joystick is widely used in rotary drilling rigs, aerial fire trucks, crane shield machines, oil hoists, hydraulic proportional control systems, and frequency conversion motor control.

Technical Data

Operating Temperature:	-40℃ to +80℃
Handle Force:	<20N
Mechanical Life:	5M
Operating Torque:	~5N (max 50N)

EMS Interference Resistance: Tested at 100V/m, frequency range 30MHz to 1GHz, with 80% sine wave modulation, meeting EN50082-2 (1995) standards.

ESD Protection Level: 4.8kV for contact discharge, 15kV for air discharge, compliant with IEC61000-4-2 standards.

Selection

Palm Grips	Gate	Axis1			Contact arrangement
		Axis 1	No. of contacts	Interface	

- SHD8 SHD8
- S7 Press down mechanical interlock↓
- S2 Grab-type
- SHD SHD8 with button
- 8B
- S4 Lift-up mechanical interlock↑

- 1 Bidirectional ↕
- 2 Unidirectional ↑

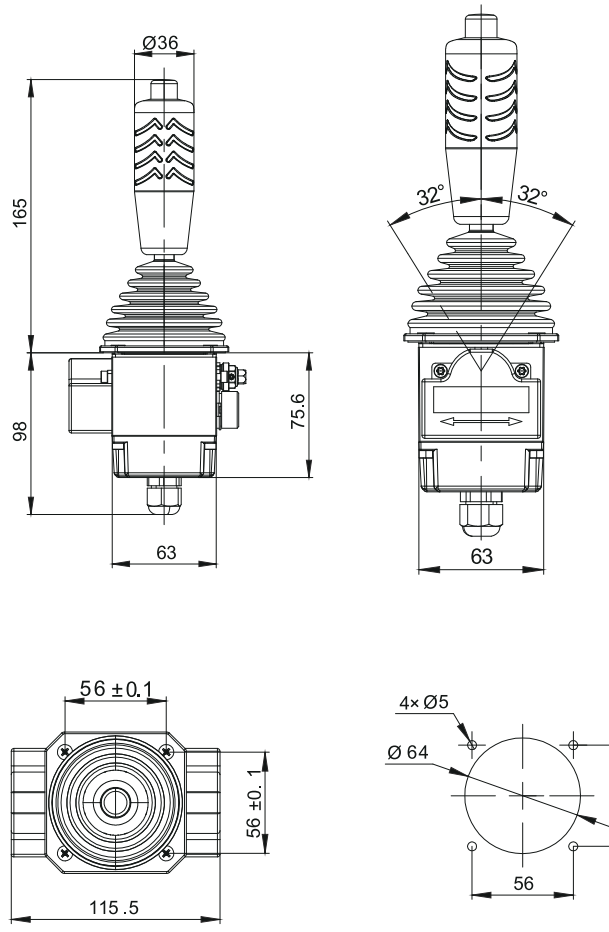
- Z Spring return
- R Friction brake

- 01 2 contacts
- 02 4 contacts
- 03 6 contacts
- 04 8 contacts
- 05 10 contacts

- **Voltage output** DC24V
  - V1: -10V~0~+10V
  - V2: +10V~0~+10V
  - V3: -5V~0~+5V
  - V4: +5V~0~+5V
  - V5: 0-+10V
  - V6: 0-+5V
- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
  - HV3: 1.0-2.5-4.0V
  - HV4: 1.25-2.5-3.75V
- **CAN**
  - CAN 2.0
  - CAN J1939
  - CAN OPEN
- **Current output** DC24V
  - I1: 4mA-12mA-20mA
  - I2: 20mA-4mA-20mA
- P1: One directions output
  P2: Two directions output

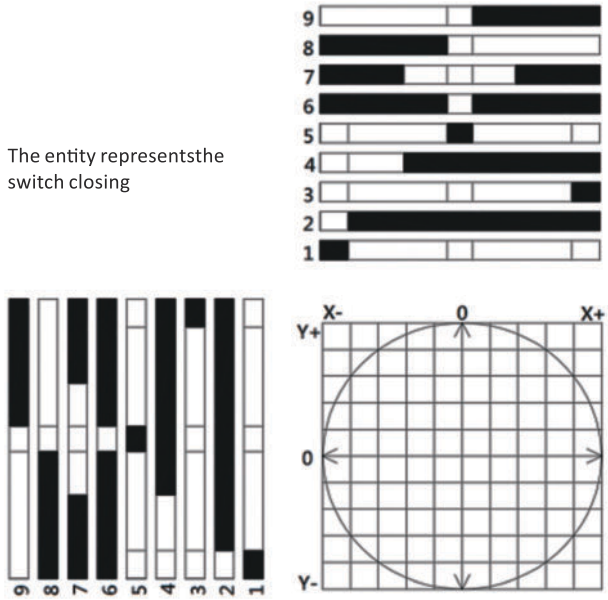
- See the drawing below **For excample 03(589)**

Dimensions



Contact Arrangement

The entity representsthe switch closing



Grip

ZS00

INDUSTRIAL JOYSTICK

SAEKAI

-Ergonomics design
-Three degree movement X,Y,Z
-Wider voltage range
-dual channel control system
-Multiple interface

The **GA4** is a compact, finger-tip joystick mainly used in video control systems, electric wheelchairs, and medical devices. It provides precise, smoothcontrol for reliable performance across these critical applications

Technical Data

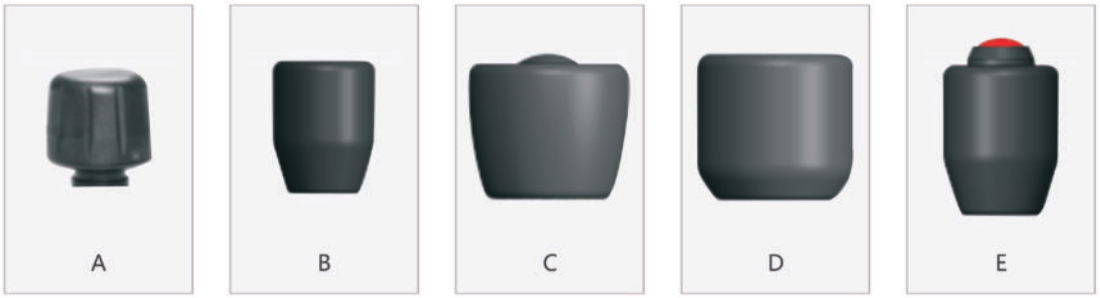
Travel angle:	±40°(Z axis)士20°/士27°(X or Y axis)
Operating force*:	2.3-6N
Mechanical life:	2M(XorY)/1M(Z)
Operating Temp:	-40C~+85°C
Protection Level:	IP65

EMC: EN6100-6-4-2007,30MHZ-1GHZEN6100)-6-2-2019,80MHz-6GHZ
Impact: IEC0068-2-27,50g, 1lms, 3 times/direction impact, in total 6 directions
Vibration: IEC60068-2-64, random vibration,3.6gRMS, 100-200Hz, each axis lasts for one hour

Selection

Palm Grips	Gate	Movement	Interface	Wiring
• A • B • C • D • E	• 1 -Axis ↕ • 2 Cross gate ✣ • 3 All-direction(x, Y-Axis) ✳ • 4 Z-Axis ↻	• T Spring return	• **Dual path** DC5V Dp2: 0.5-2.5-4.5V ⇋ 4.5-2.5-0.5V Dp3: 1.0-2.5-4.0V ⇋ 4.5-2.5-1.0 Dp4: 1.25-2.5-3.75V ⇋ 3.75-2.5-1.25V • **CAN** CAN 2.0 output • **Hall output** DC5V HV2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V HV4: 1.25-2.5-3.75V • **USB**	• A: Terminal interface • L: Direct outgoing line • X: Customize

Grip



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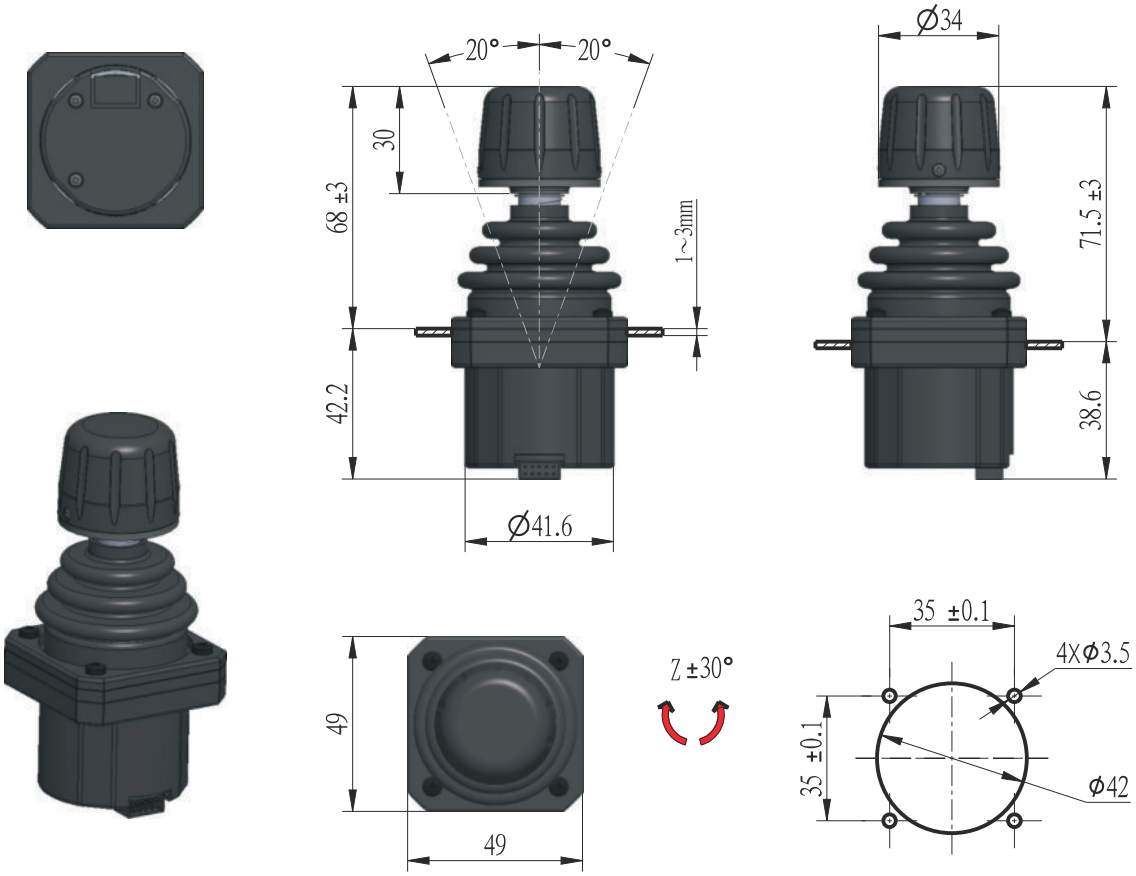


ZS11

INDUSTRIAL JOYSTICK

SAEKAI

Ergonomic handle design for comfortable operation
Multi-axis control with spring return
Durable construction for harsh environments
Contactless Hall technology for high reliabilityandlonglifespan
Electronics with IP67 protection rating

Applications: Aerial work platforms, lifting machinery, electro-hydraulic control, industrial automation

Technical Data

Ambient Temperature:	-40°C to +85°C
Operating Temperature:	-30°C to +70°C
Handle Operating Force:	≤15N
Mechanical Life:	5
MAngle:	±20°

Selection

Palm grips	Gate	Axis 1		Axis 2		Wiring	Contact arrangement
		Movement	Interface	Movement	Interface		

- SHD1
- SHD4B
- SHD8B
- SHD8

See more options in the grip section

- 1 -Axis
- 3 Cross gate
- 2: Y-Axis
- 4: All-direction

- Z: Spring return

- **Voltage output** DC24V
  V1: -10V~0~+10V
  V2: +10V~0~+10V
  V3: -5V~0~+5V
  V4: +5V~0~+5V
- **Hall output** DC5V
  HV1: 0-2.5-5V
  HV2: 0.5-2.5-4.5V
  HV3: 1.0-2.5-4.0V
  HV4: 1.25-2.5-3.75V
- **CAN**
  CAN 2.0
  CAN J1939
  CAN OPEN
- **Current output** DC24V
  I1: 4mA-12mA-20mA
  I2: 20mA-4mA-20mA

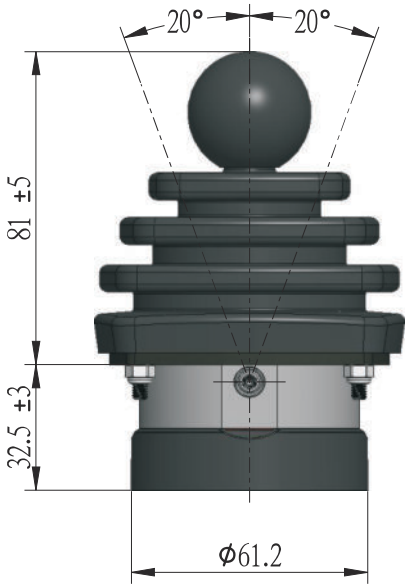
- Spring return

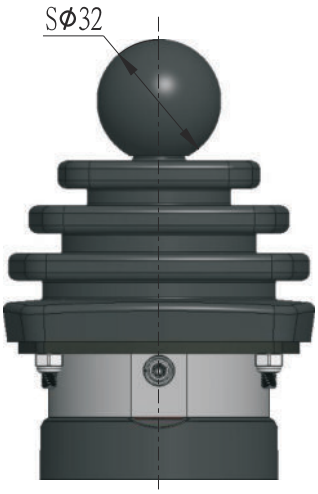
- **Voltage output** DC24V
  V1: -10V~0~+10V
  V2: +10V~0~+10V
  V3: -5V~0~+5V
  V4: +5V~0~+5V
- **Hall output** DC5V
  HV1: 0-2.5-5V
  HV2: 0.5-2.5-4.5V
  HV3: 1.0-2.5-4.0V
  HV4: 1.25-2.5-3.75V
- **CAN**
  CAN 2.0
  CAN J1939
  CAN OPEN
- **Current output** DC24V
  I1: 4mA-12mA-20mA
  I2: 20mA-4mA-20mA

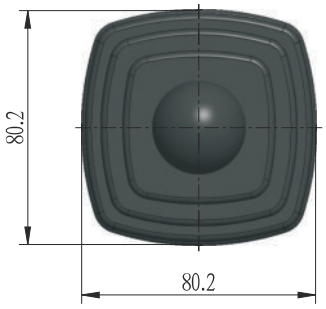
- C: Connector
- L: Direct outgoing line

- K1
- K2
- K3

Dimensions







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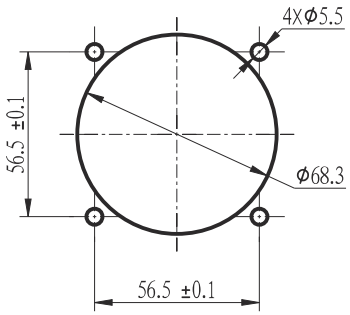


Grip

ZS12

INDUSTRIAL JOYSTICK

SAEKAI

Ergonomic Design: Specifically engineered for use in construction machinery, offering optimal user comfort and efficiency.
Hall Effect Technology: Utilizes contactless sensors for enhanced durability and extended operational life.
Customizable Options: Available with various handle designs and configurable button placements to suit diverse operational needs.
Flexible Output: Supports optional CAN bus output for integration with modern control systems.
Versatile Functionality: Features spring return and is capable of multi-axis operation for comprehensive control.

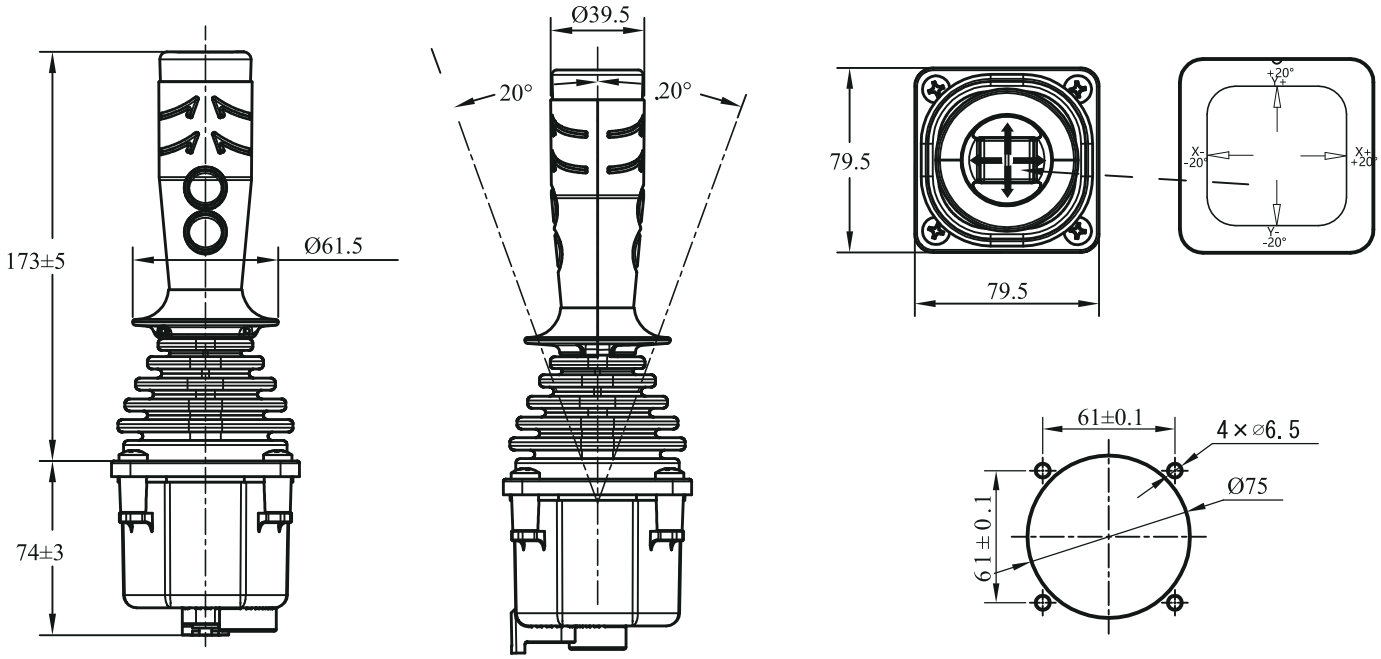
Applications

Ideal for cranes, loaders, forklifts, excavators, access platforms, tractors, harvesters, and other heavy machinery.

Technical Data

Operating Temp :	-30°C to +70°C
Service Life:	3 M
Protection Level:	IP65
Operating Force:	5N
Resistance:	< 200Ω

Dimensions



Selection

Palm grips	Gate	Axis 1 Movement	Axis 1 Interface	Axis 2 Movement	Axis 2 Interface	Mounting	Contact arrangement
• SHD8B Palm Grips with signal buttonSHD8B • SHD8 Palm Grips SHD8 See more options in the grip sectior							
	• 1: X-Axis ↔ • 3: Cross gate ✢	• 2: Y-Axis ↕ • 4: All-direction ✲					
			• Z: Spring return				
			• **Voltage output** DC24V V1: -10V~0~+10V V2: +10V~0~+10V V3: -5V~0~+5V V4: +5V~0~+5V • **Hall output** DC5V HV1: 0-2.5-5V HV2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V HV4: 1.25-2.5-3.75V • **CAN** CAN 2.0 output CAN J1939 output CAN OPEN • **Current output** DC24V I1: 4mA-12mA-20mA I2: 20mA-4mA-20mA				
				• Z: Spring return			
				• **Voltage output** DC24V V1: -10V~0~+10V V2: +10V~0~+10V V3: -5V~0~+5V V4: +5V~0~+5V • **Hall output** DC5V HV1: 0-2.5-5V HV2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V HV4: 1.25-2.5-3.75V • **CAN** CAN 2.0 output CAN J1939 output CAN OPEN • **Current output** DC24V I1: 4mA-12mA-20mA I2: 20mA-4mA-20mA		
						• D: Dechi connector(CAN bus output only) • A: Terminal interface • L: Direct outgoing line	
							• K1:  • K2: 

Grip

ZS30

INDUSTRIAL JOYSTICK

SAEKAI

The joystick boasts an ergonomic design, offering multi-axis, grip-type operation and a robust handle suitable for harsh environments. It utilizes contactless Hall technology, ensuring high reliability, and features long-life electronic components with IP67 protection. Ideal for maritime operations, aerial work platforms, and harvesting equipment, this joystick excels in precise control and durability in demanding industrial settings.

Technical Data

Operating Force:	8N
Service Life:	Up to 1 million cycles
Operating Temp:	-40°C to +70°C
Protection Class:	Up to IP67

EMC Compliance: EN61000-6-4:2007, EN61000-6-2:2019 (Frequency ranges 30MHz-1GHz and 80MHz-6GHz)

Selection

Palm Grips	Gate	Movement	Axis 1 Interface	Axis 2 Interface	Wiring

- KW: safety switch+ rocker switch
- K : safety switch,without rocker switch
- W: without safety switch,rocker switch

See more options in the grip section

- 1 -Axis ↕
- 2 Cross gate ✣
- 3 All-direction(X, Y-Axis) ✳

- Z: Spring return

- **Hall output** DC5V
  HV1:0-2.5-5V
  HV2:0.5-2.5-4.5V
  HV3:1.0-2.5-4.0V
  HV4:1.25-2.5-3.75V
  HV5:1.15-2.5-3.85V

- **Hall output** DC5V
  HV1:0-2.5-5V
  HV2:0.5-2.5-4.5V
  HV3:1.0-2.5-4.0V
  HV4:1.25-2.5-3.75V
  HV5:1.15-2.5-3.85V

- C: Connector
- L: Direct outgoing line

ZS40

INDUSTRIAL JOYSTICK

SAEKAI

Hydraulic-Like Control Response
Hall Sensor with Vibration Feedback
Spring Return or Friction Positioning with Single or Dual Axis Control
Selectable Operation Modes: Linear, Cross, Square, T, or Z-Shaped
Effortless Installation, Flexible Operation, Uniform Response, Durable, and Maintenance-Free
The ZS40 joystick is robust and ideally suited for electro-hydraulic applications. It offers various output options including voltage, current, and switch contacts, and features customizable grip options for diverse operational requirements.

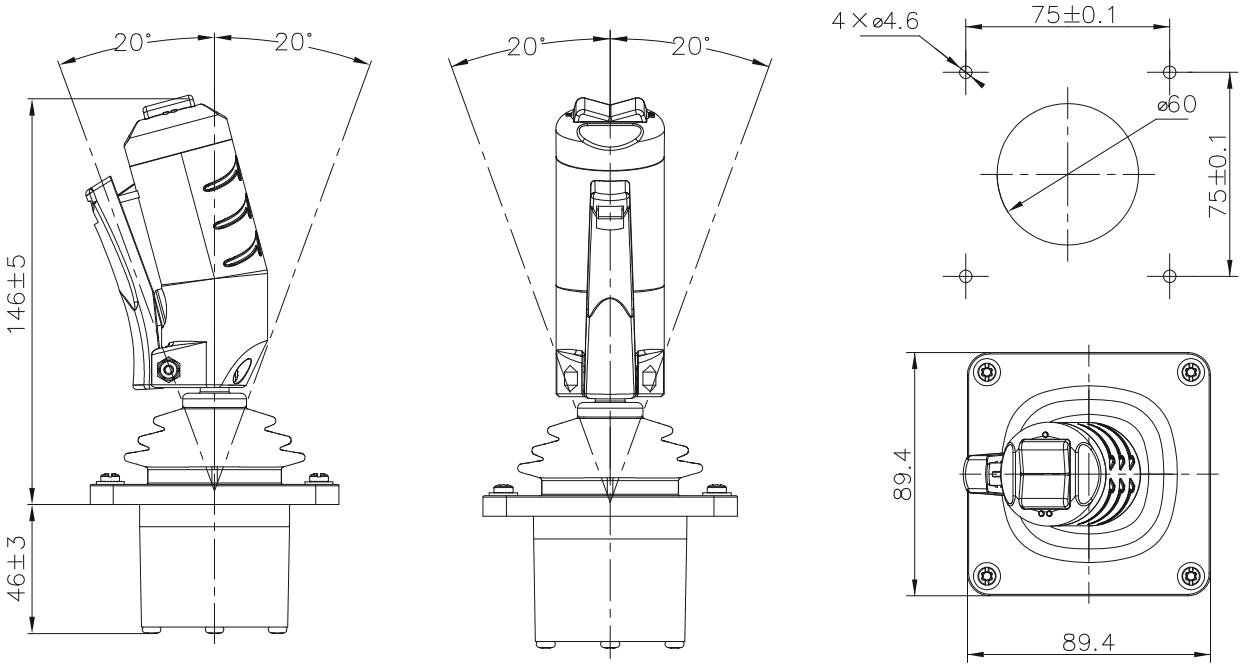
Technical Data

Ambient Temperature Range:	-40°C to 85°C
Mechanical Life:	5M
Protection Class:	IP54
Installation Mode:	Bottom-to-top installation

Selection

Palm Grips	Gate	Axis1 Movement	Axis1 Interface	Axis2 Movement	Axis2 Interface	Switch closed position	Wiring
• SHD1 • SHD4B • SHD8B • SHD8 See more options in the grip section	• 1: 1-Axis • 3: All-direction • 2: Cross gate • 4: Special gate H,C,L and special	• Z: Spring return • R: Friction brake	• **Hall output** DC5V HV1: 0-2.5-5V HV2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V HV4: 1.25-2.5-3.75V • **Current output** DC24V I1: 4mA-12mA-20mA I2: 20mA-4mA-20mA • **Potentiometer output** 1K 2K 5K 10K • **CAN** CAN 2.0 output CAN J1939 output CAN OPEN • **Voltage output** DC24V V1: -10V~0~+10V V2: +10V~0~+10V V3: -5V~0~+5V V4: +5V~0~+5V	• Z: Spring return • R: Friction brake	• **Hall output** DC5V HV1: 0-2.5-5V HV2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V HV4: 1.25-2.5-3.75V • **Current output** DC24V I1: 4mA-12mA-20mA I2: 20mA-4mA-20mA • **Potentiometer output** 1K 2K 5K 10K • **CAN** CAN 2.0 output CAN J1939 output CAN OPEN • **Voltage output** DC24V V1: -10V~0~+10V V2: +10V~0~+10V V3: -5V~0~+5V V4: +5V~0~+5V		
						• K1 • K2 • K3	
							• C: Connector • L: Direct outgoing line

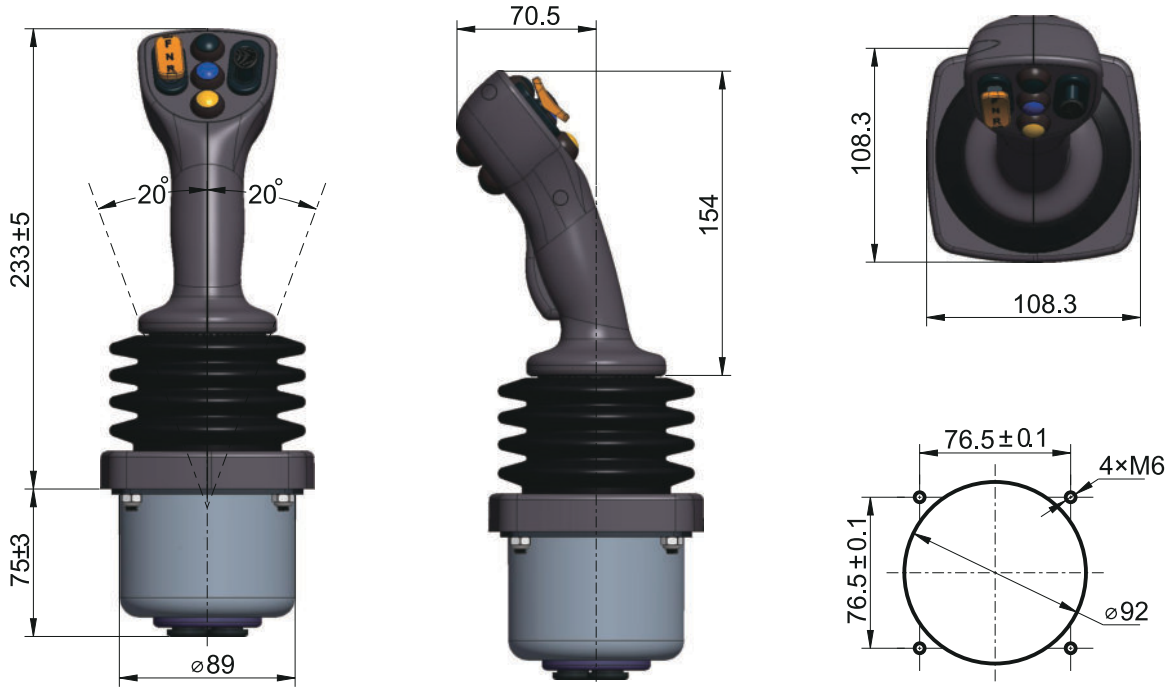
Dimensions



Grip

Grip

Dimensions



AT10

INDUSTRIAL JOYSTICK

SAEKAI

The AT10 joystick features a durable metal cast drive block, ensuring long service life and high switching cycle reliability. It is ideal for demanding control tasks and is commonly used in consoles, construction machinery, municipal vehicles, and work platforms.

Technical Data

Operating Temperature:	-20℃ to 60℃
Mechanical Life:	2M
Protection Level:	IP54
Mounting :	Bottom-Up

Selection

Palm Grips	Gate	Movement	Interface	Switch closed position	Wiring

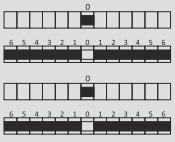
- SHD4
- SHD48
- SHD8B
- SHD8
- SG21 See more options in the grip section

- 1 Bidirectional ↕
- 2 Unidirectional ↑

- Z Spring return
- R Friction brake

- **Hall output** DC5V
  - HV1: 0-2.5-5V
  - HV2: 0.5-2.5-4.5V
  - HV3: 1.0-2.5-4.0V
  - HV4: 1.25-2.5-3.75V
- **Potentiometer output**
  - 1K 2K 5K 10K 20K

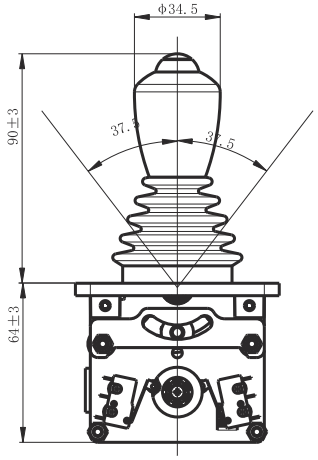
- K1
- K2
- K3

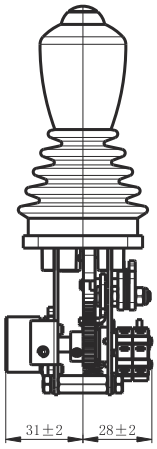


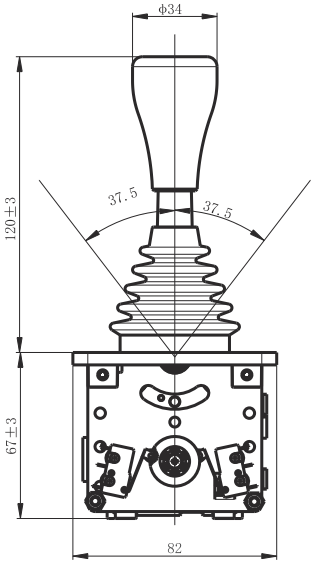
- C: Connector
- L: Direct outgoing line

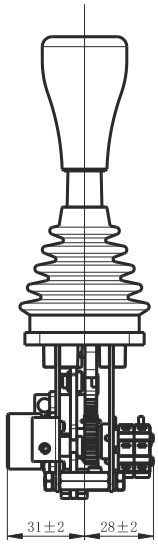
Grip

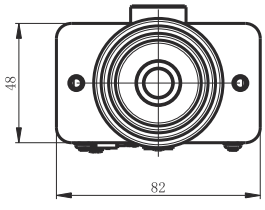
Dimensions

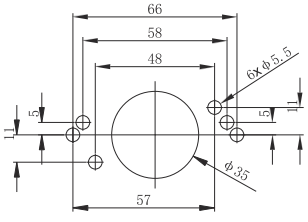


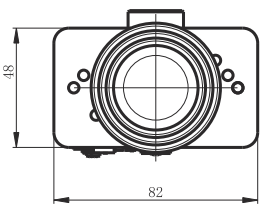


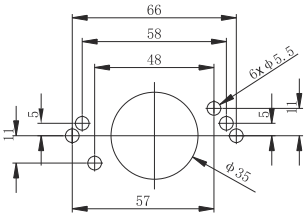












AT12

INDUSTRIAL JOYSTICK

SAEKAI

- Potentiometer or Hall Sensor
- Single-axis with spring return or friction brake options
- Robust build for precise control
- Simple setup, flexible operation, durable and maintenance-free
- Used in rotary drilling rigs, high-altitude fire trucks, crane machines, oil hoists,
- and frequency conversion motor controls.

Technical Data

Ambient Temperature:	-40 to +85°C
Operating Temperature:	-30 to +70°C
Handle Operating Force:	≤20N
Mechanical Life:	5M
Protection Level:	IP65
Angle:	±37.5° or ±75° (single direction)

Selection

Palm Grips	Gate	Movement	Interface	Switch closed position	Wiring

- S5 Lift up zero mechanical interlock S5
- S6 Push-down zero mechanical interlock S6
- SB6 Straight Palm Grips with a button SB6 at the top

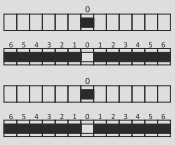
See more options in the grip section

- 1 Bidirectional ↕
- 2 Unidirectional ↑

- Z: Spring retum
- R: Friction brake

- **Voltage output** DC24V
  V1: -10V~0~+10V
  V2: +10V~0-+10V
  V3: -5V~0~+5V
  V4: +5V~0~+5V
  V5: 0-+10V
- **Hall output** DC5V
  HV1:0-2.5-5V
  HV2:0.5-2.5-4.5V
  HV3:1.0-2.5-4.0V
  Hv4: 1.25-2.5-3.75V
- **Potentiometer output** DC36V
  P1: Two directions output
  P2: One directions output
  • 1K • 2K • 5K • 10K • 20K
- **Current output** DC24V
  I1: 4mA-12mA-20mA
  I2: 20mA-4mA-20mA

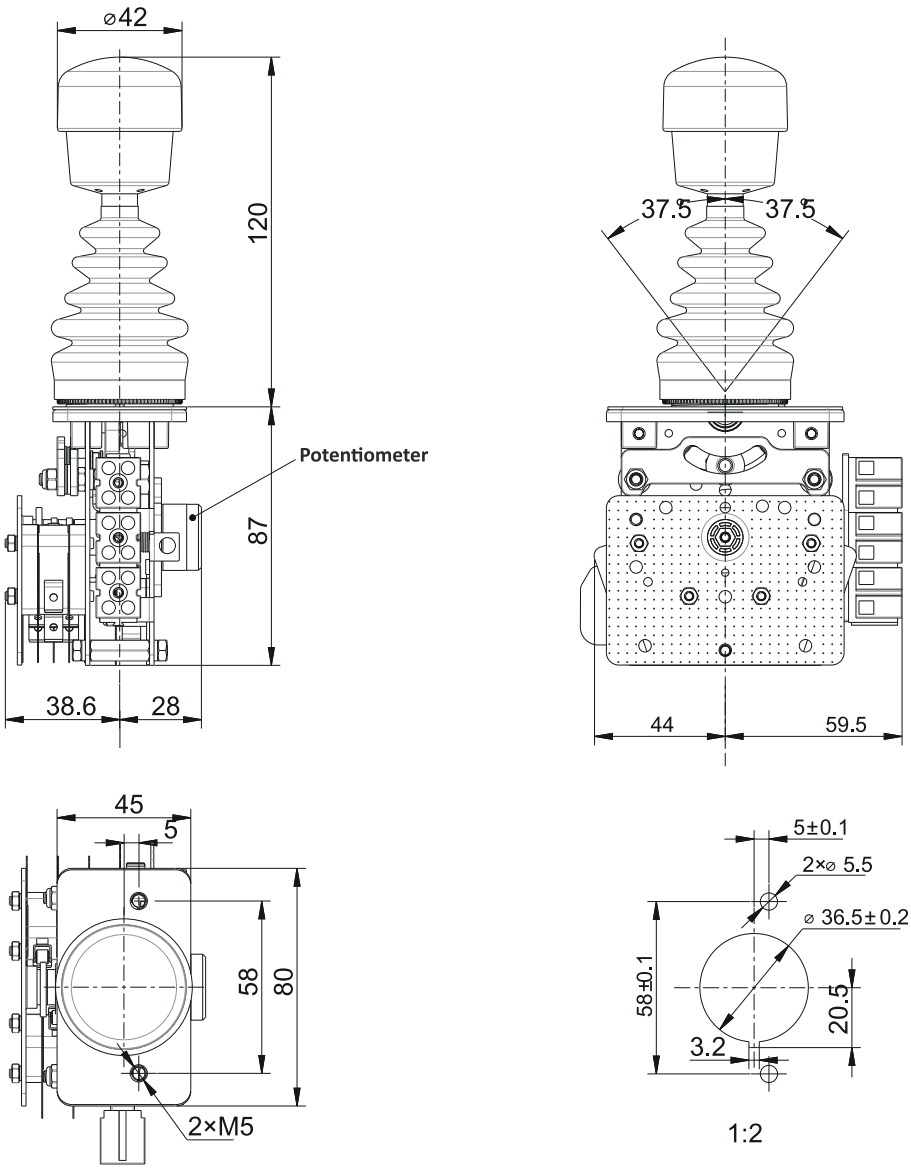
- K1
- K2
- K3



- A: Terminal interface
- L: Direct outgoing line
- X: Customize

Grip

Dimensions



Contact Arrangement

Typ Form

MS11
303 A01

MS12
303
202 A02

MS13
303
202
404 A03

MS14
303
202
404
606 A04

MS21
303
505 A05

MS22
303
505
202 A06

MS212
303
505
202
404 A07

MS222
3 2 1 0 1 2 3
303
505
707
909 A08

MS23
3 2 1 0 1 2 3
303
505
202
404 A09

MS213
3 2 1 0 1 2 3
303
505
202
20 020
404
40 040 A10

Typ Form

MS24
4 3 2 1 0 1 2 3 4
303
505
202
404
606 A11

MS214
4 3 2 1 0 1 2 3 4
303
505
202
20 020
404
40 040
606
60 060 A12

MS224
4 3 2 1 0 1 2 3 4
303
505
202
404 A13

MS25
5 4 3 2 1 0 1 2 3 4 5
303
505
202
404
606
808 A14

MS26
6 5 4 3 2 1 0 1 2 3 4 5 6
303
505
202
404
606
808
10 010 A15

MS0
1 0 1
101 A98

Zero contact NC

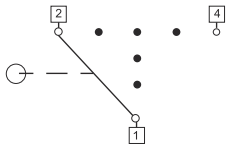
0
101 A...0

Zero contact NO

10 010 A...1

Potentiometer MSP
M
A
S
E

Micro change over contact for control handle with dead man's button signal button push button



contact 5 05=direction1/4/5/8
contact 3 03=direction 2/3/6/7

Deflection directions designated DIN 15025

WK01

FINGERTIP SWITCH

SAEKAI

WK01 is often used in heavy machinery, marine, robotics, or areas requiring precise movement control.

Technical Data

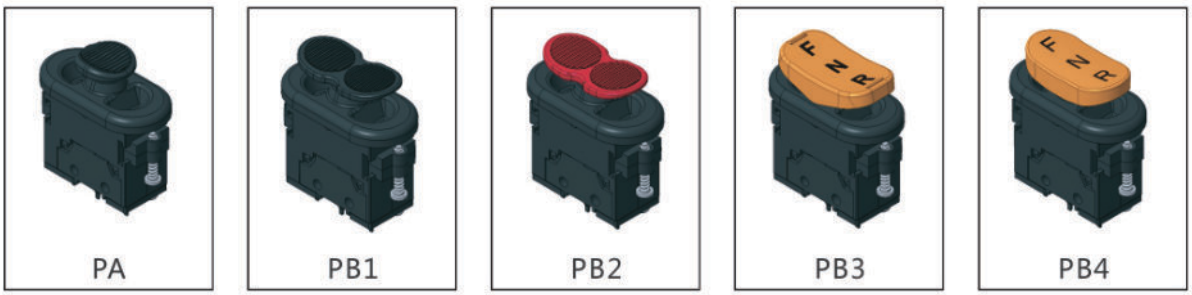
Protection Level:	IP67
Power Supply:	DC 30V
Current Rating:	2A
Service Life:	2M
Operating Temperature Range:	-40°C to +85°C

Dimensions

Selection

Palm Grips	Movement	Gate	Interface	Wiring
• PA • PB1 • PB2 • PB3 • PB4				
	• Z: Spring return • R: Friction brake			
		• 1: 1-Axis↕		
			• SED →ON-OFF-ON	
				• A: Terminal interface • L: Direct outgoing line 30mm • X: Customize

Grip



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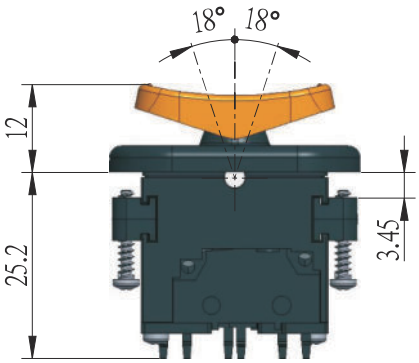
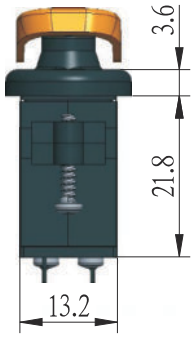
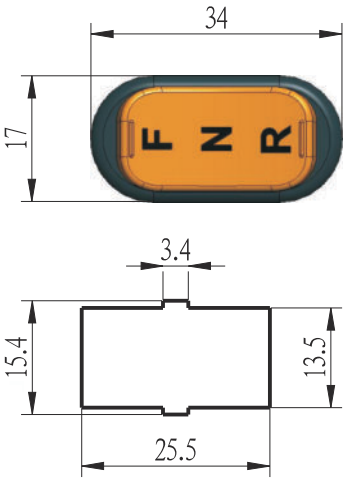
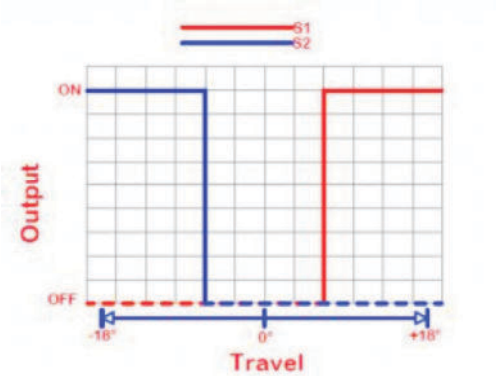
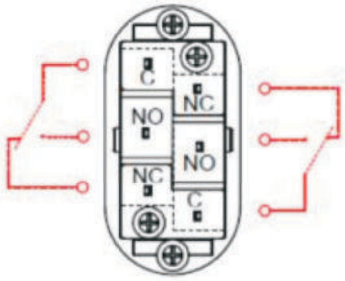
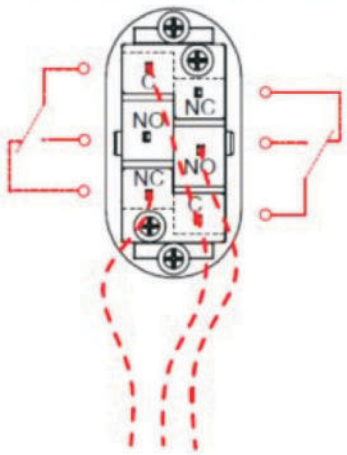












WK02

FINGERTIP SWITCH

SAEKAI

The WK02 is a high-performance fingertip switch designed for critical applications across various sectors, including broadcast equipment, security systems, automation technology, healthcare devices, and optical instruments. It combines durability with precision, employing a Hall sensor for reliable operation in demanding environments.

Technical Data

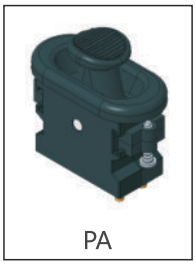
Basic unit:	Single-axis
operating Angle:	±24°
Power Supply:	5V DC, 12mA
Mechanical Life:	5M
Operating Temp:	-40°C to +70°C
Movement:	spring return; option for 3-position detent

Dimensions

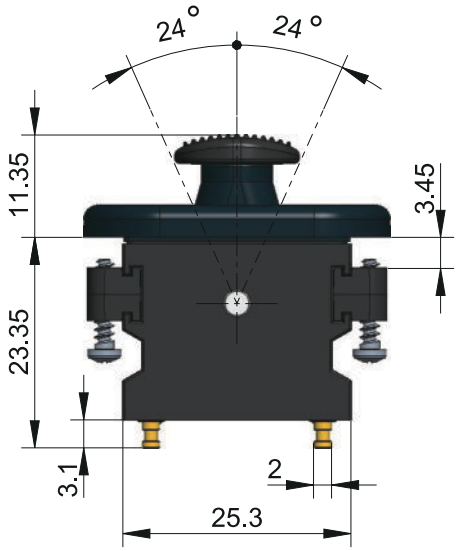
Selection

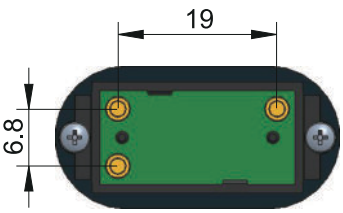
Palm Grips	Movement	Gate	Interface	Wiring
• PA				
	• Z: Spring return			
		• 1: 1-Axis		
			• **Hall output** DC5V Hv2: 0.5-2.5-4.5V HV3: 1.0-2.5-4.0V Hv4: 1.25-2.5-3.75V • **DP** Dp2: 0.5-2.5-4.5V 4.5-2.5-0.5V DP3: 1.0-2.5-4.0V 4.0-2.5-1.0V DP4: 1.25-2.5-3.75V 3.75-2.5-1.25V	
				• A: Terminal interface • L: Direct outgoing line 250mm • X: Customize

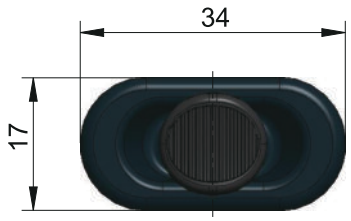
Grip

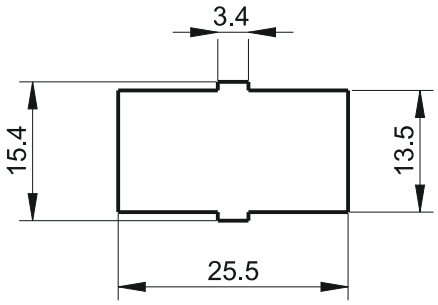


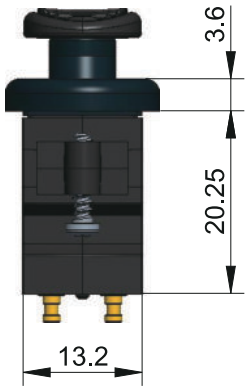
Dimensions

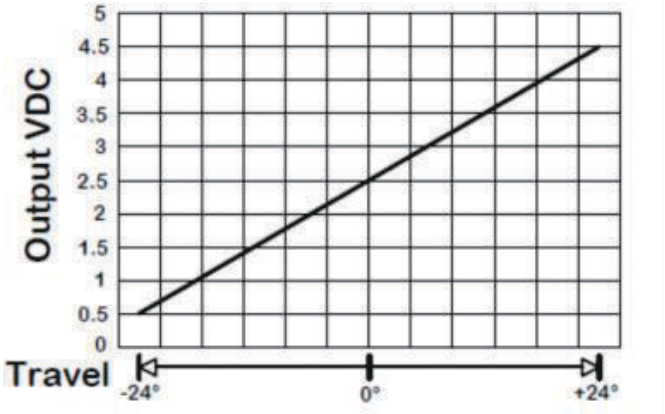












WK03

FINGER WHEEL

SAEKAI

Heavy-duty design for critical applicationsSuitable for CCTV, robotics, medical, and optical devicesSingle-axis with Hall sensorThree-color LED (white, green, red)Signal output: 0.5-2.5V-4.5V Durable and reliable

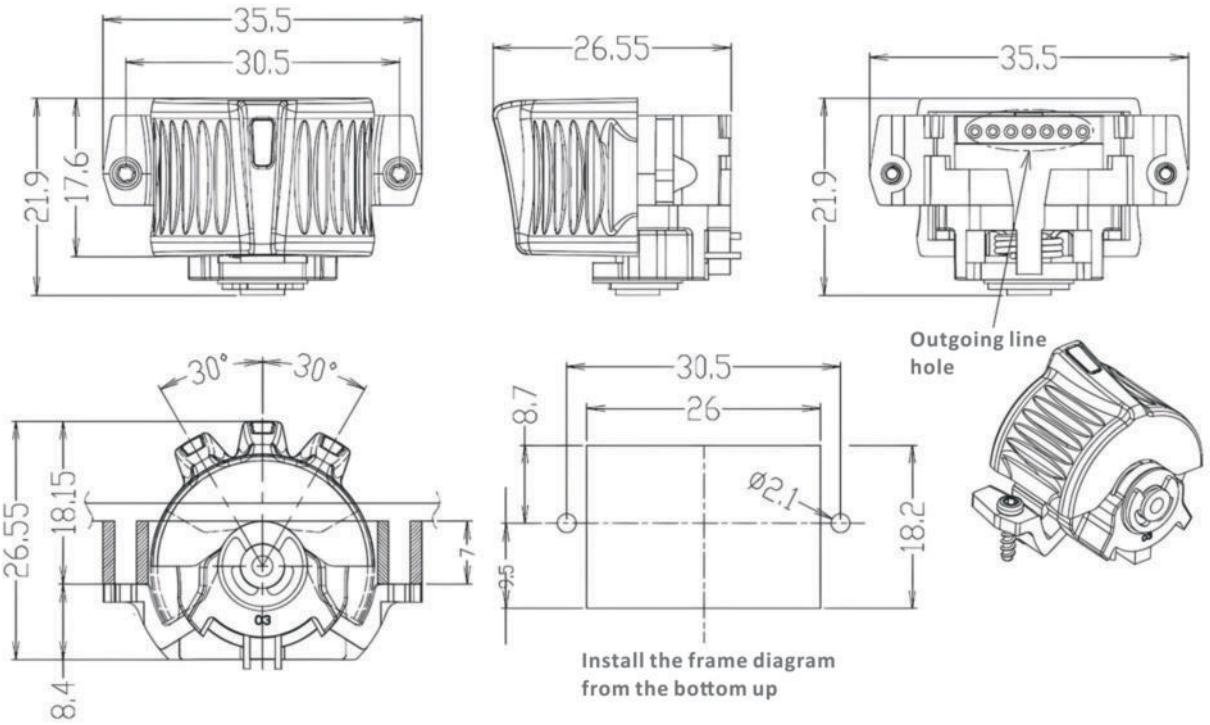
Fingertip Switch

Movement:	Spring-return
Operating Angle:	±30°
Power Supply:	12mA/DC5V
Lifetime:	1M
Operating Temperature:	-40°C to +70°C

Selection

Peak	Color	Movement	Interface	LED	Power
• 1: Slanted • 2: Flat					
• B: Black • R: Red					
• RO: Spring return • R3: 3 position detent					
• 30: 0.3-1.67-3.0 V • 40: 1.0-2.50-4.0 V • 45: 0.5-2.50-4.5 V					
• W: LED White • B: LED Blue					• 5V

Dimensions



WK04

FINGERTIP SWITCH

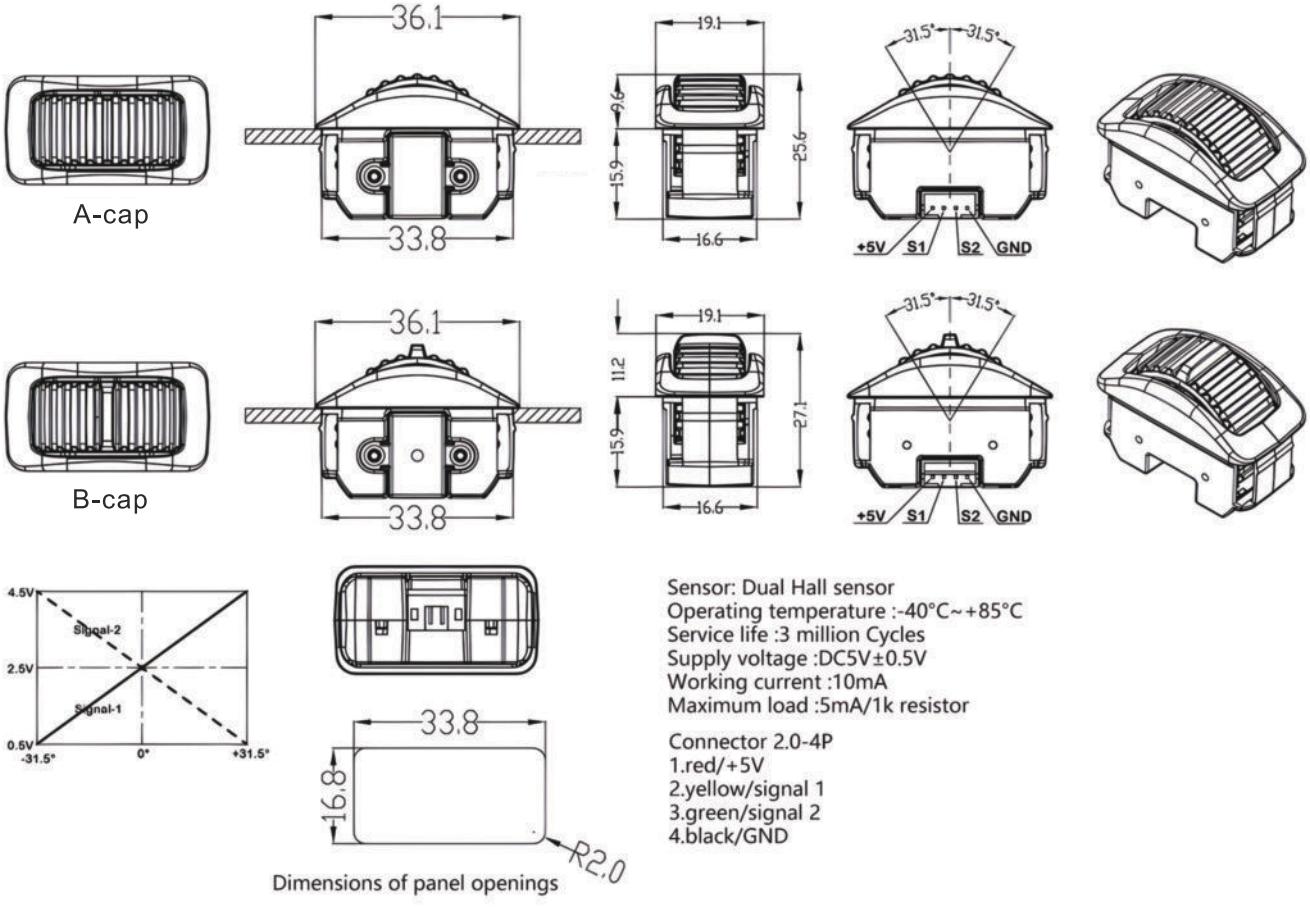
SAEKAI

- Designed for Electro-hydraulic applications
- Hall sensor
- Robust service life
- Options for actuators, light, and colors

Technical Data

Operating Angle:	±31.5°
Signal Output:	0.5–2.5–4.5V
Operating Temp:	-40°C to +85°C
Mechanism:	Spring return
Power Supply:	DC 5V/9mA
Mechanical Life:	3M
Protection Class:	IP65

Dimensions



Dimensions of panel openings

Sensor: Dual Hall sensor
Operating temperature :-40°C~+85°C
Service life :3 million Cycles
Supply voltage :DC5V±0.5V
Working current :10mA
Maximum load :5mA/1k resistor

Connector 2.0-4P
1.red/+5V
2.yellow/signal 1
3.green/signal 2
4.black/GND

WK05

FINGERTIP JOYSTICK

SAEKAI

- Compact Design: Ideal for control panels and armrests.
- Reliability: Uses non-contact Hall effect sensors for enhanced durability.
- IP67 Protection: Resistant to dust and water, suitable for harsh environments.
- Custom Configurations: Options for spring return, detents, and variable resistance.
- Custom Colors: Handles available in various colors to fit design preferences.

Applications

- Industrial Controllers: Suitable for a range of industrial remote controls.
- Control Panels: Integrates seamlessly into various control systems.
- Armrests: Perfect for machinery and equipment armrests.

Selection

Hardware	Movement	colour	symbol	Connection

Hardware

- 0: Analog
- 1: Semi-redundant
- 2: Redundant

Movement

- ZB Spring return ↕
- ZU Spring return ↑
- DL Dual-end locking with spring return
- OL One-end locking with spring return
- F Friction brake without detent
- FD Friction brake with middle detent
- R3 3 posistion detent
- R5 5 position detent
- R4 4 postion detent with dual-end locking
- FR3 3 posistion detent with friction brake
- FR5 5 posistion detent with friction brake

colour

- 1: Red RAL3001
- 2: Green RAL6010
- 3: Yellow RAL1023
- 4: Blak RAL9005
- 5: Blue RAL5005
- 6: Orange RAL2010
- 7: Gray..RAL7043
- 8: White

symbol

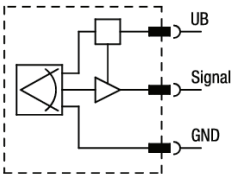
- N: No symbol
- S: Special design

Connection

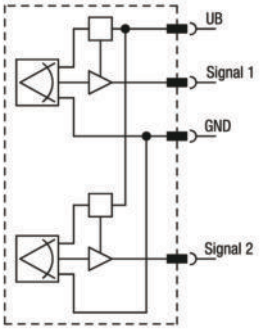
- 00: 250MM Standard Cable
- 01: Deutsch DTM connector

Dimensions

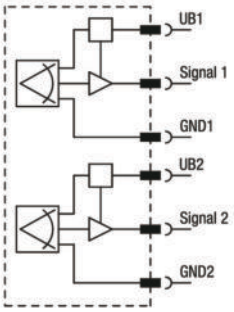
Analogue

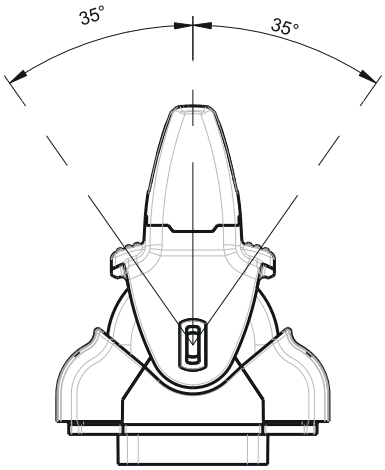


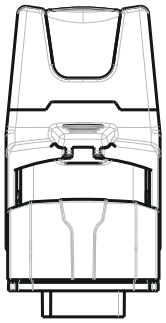
Analogue semi-redundant

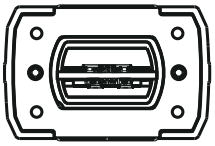


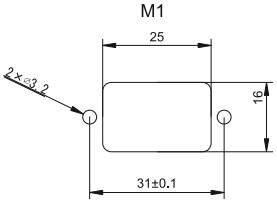
Analogue redundant

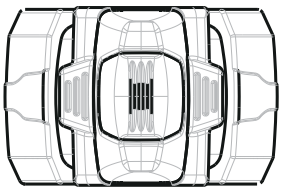


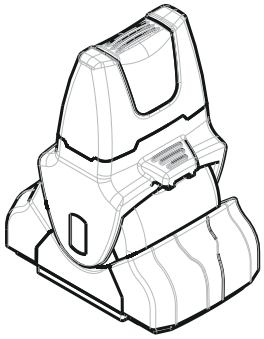


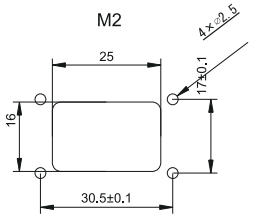












EOS
CONTROL CONSOLE

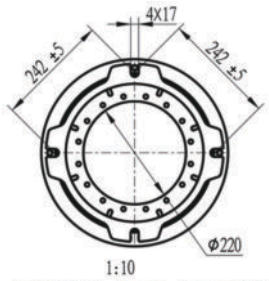
SAEKAI

The EOS crane console is specifically designed for AC 50Hz (60Hz) control circuits, supporting a rated voltage up to 380V (440V). It efficiently manages th start, speed regulation, commutation, and braking of motors used in crane machinery and other similar electric control systems.

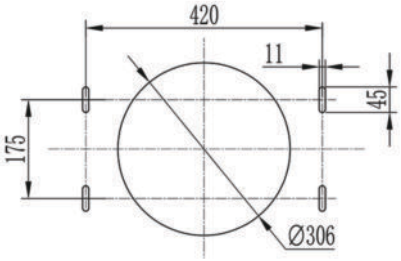
Control Box

The control box, crafted from steel plate, features a hinged cover with a standard locking mechanism for easy access and maintenance. The arrangement of the joystick, indicators, and controls is custom-configured to meet the client's specifications.

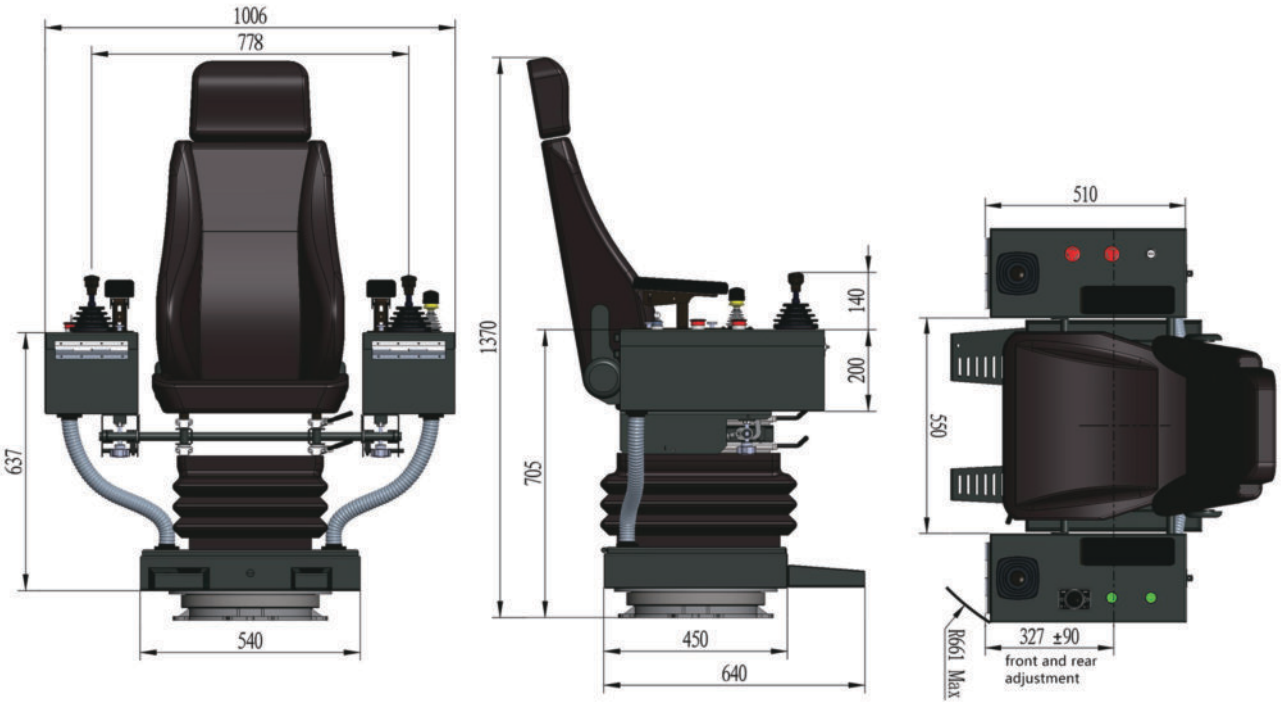
Dimensions



rotating base mounting



fixed base mounting



EOS-U

CONTROL CONSOLE

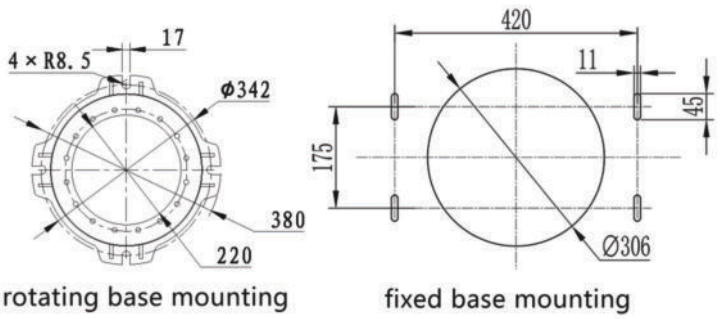
SAEKAI

The EOS-U crane console is engineered for AC 50Hz (60Hz) control circuits, accommodating a rated voltage of up to 380V (440V). It facilitates the control of motor start, speed regulation, commutation, and braking in crane machinery and related electrical control systems.

Control Box

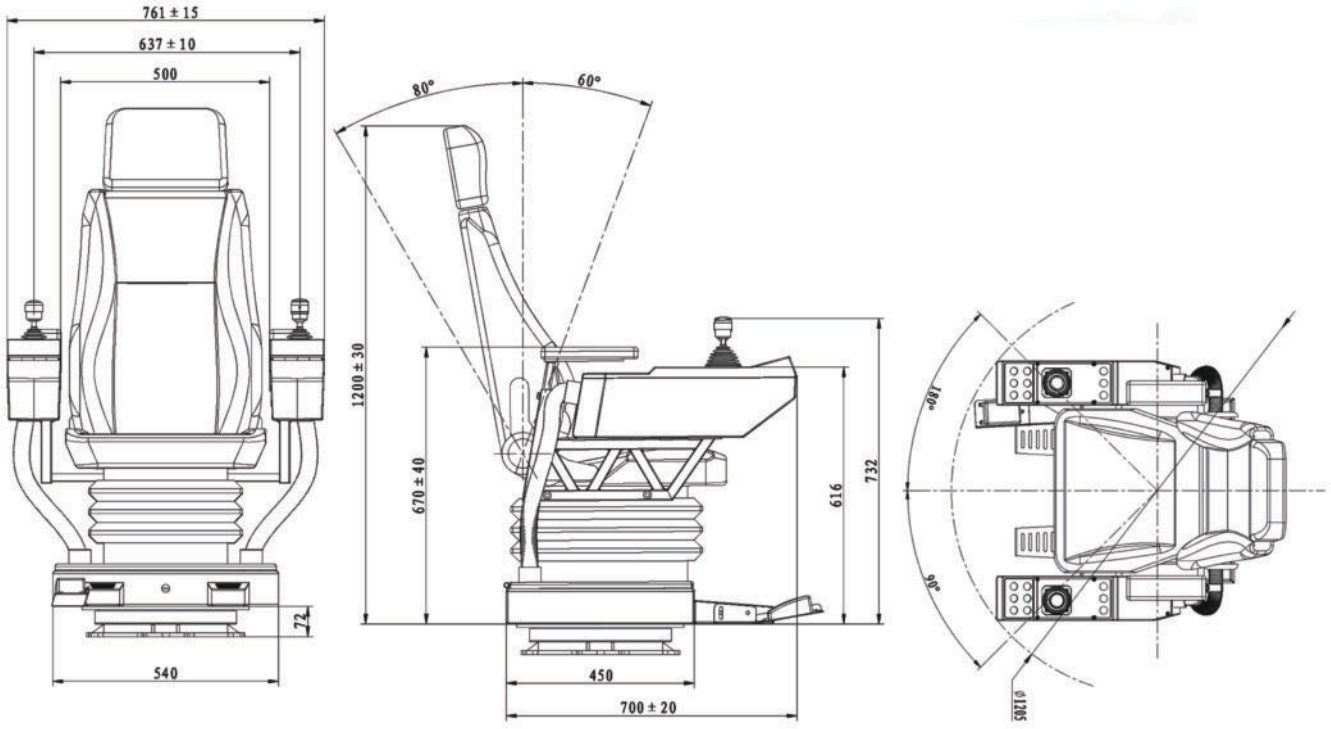
Constructed from steel plate, the control box features a hinged cover equipped with a standard locking function for simplified inspection and maintenance. The configuration of the joystick, indicators, and control elements is tailored to meet the specific requirements of the client.

Dimensions



rotating base mounting

fixed base mounting



TIA

CONTROL CONSOLE

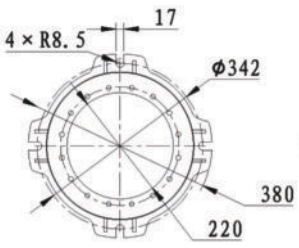
SAEKAI

The TIA crane console is specifically designed for AC 50Hz (60Hz) control circuits with a maximum voltage capacity of 380V (440V). This console expertly manages the start, speed regulation, commutation, and braking of motors in crane machinery and associated electric control systems.

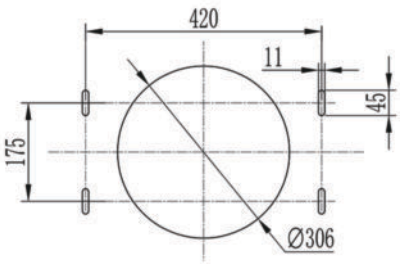
Control Box

The control box is crafted from robust steel plate and includes a hinged cover with a standard locking mechanism, enhancing ease of maintenance and routine checks. It's custom-configured to accommodate the joystick, indicators, and controls, precisely aligned with the client's specifications.

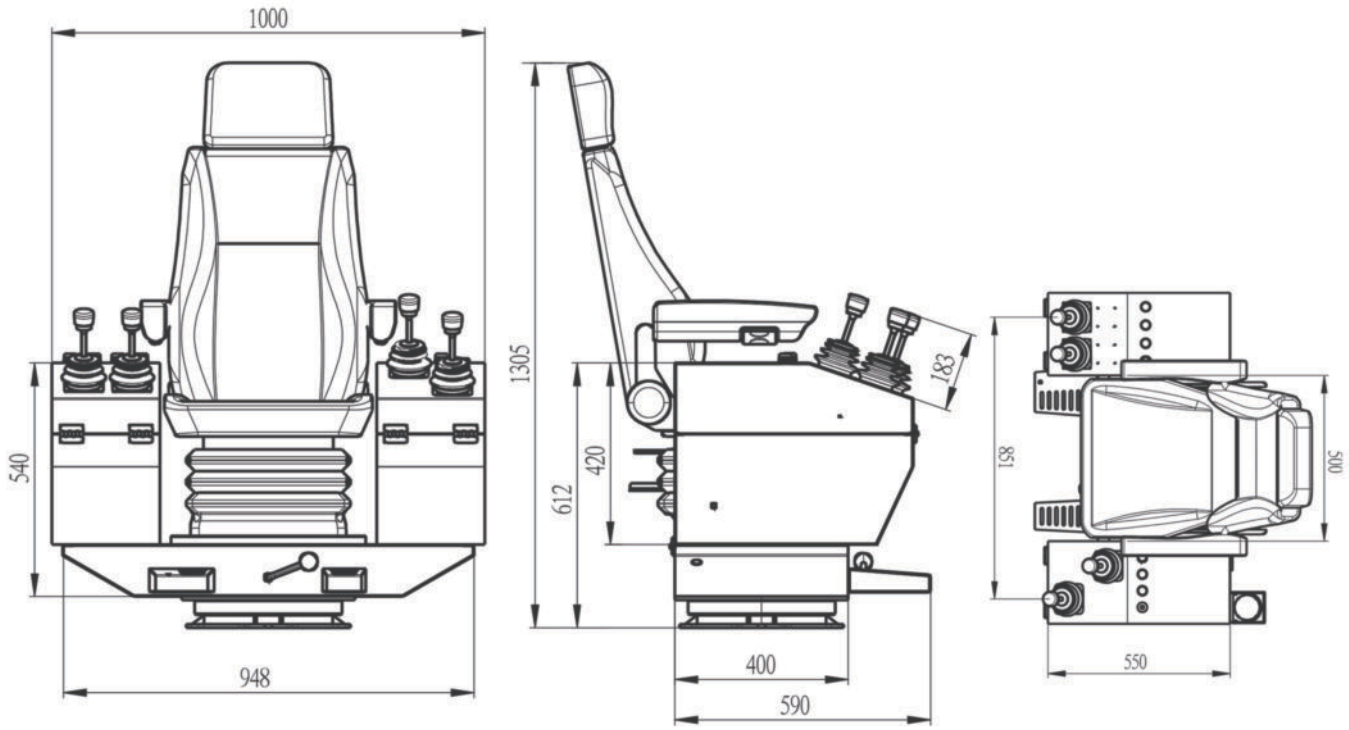
Dimensions



rotating base mounting



fixed base mounting



TIA-X

CONTROL CONSOLE

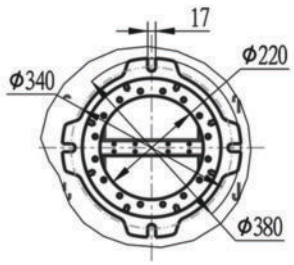
SAEKAI

The TIA-X crane console is expertly engineered for AC 50Hz (60Hz) control circuits and supports voltages up to 380V (440V). This console is designed to manage the start, speed regulation, commutation, and braking of motors used in crane machinery and comparable electrical control systems.

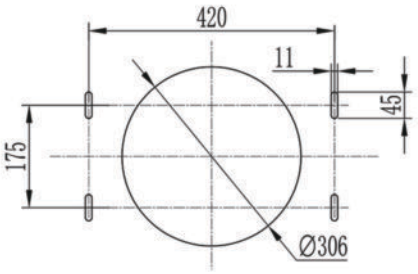
Control Box

Constructed from durable steel plate, the control box features a hinged cover with a standard locking mechanism to facilitate easy access for maintenance. The arrangement of the joystick, indicators, and controls is tailored to meet the client's specific requirements.

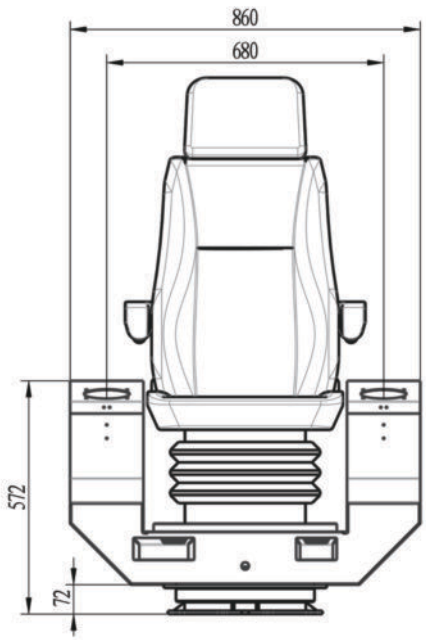
Dimensions

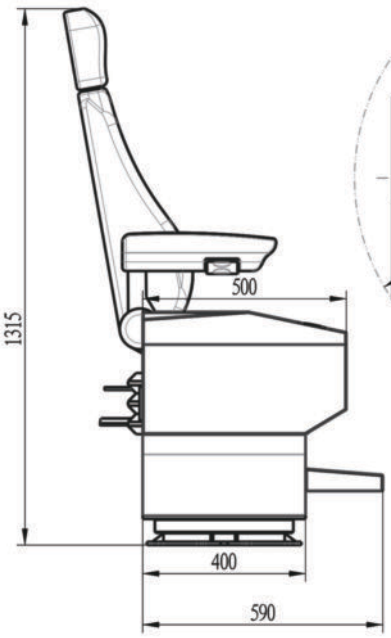


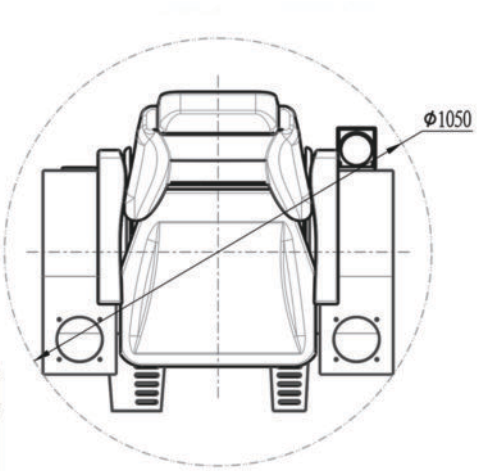
rotating base mounting



fixed base mounting







NE40

MARINE DECK CONTROLLER

The NE40 Control Pedestal is designed to house control and monitoring devices.Pre-wired for quick and easy installation on the sea deck, it features a seawater-resistant aluminum housing.Primed with a textured RAL 7032 pebble-grey coating.

Technical Data

Operation temperature	-40°C to +85°C
Degree of protection	IP66

Dimensions