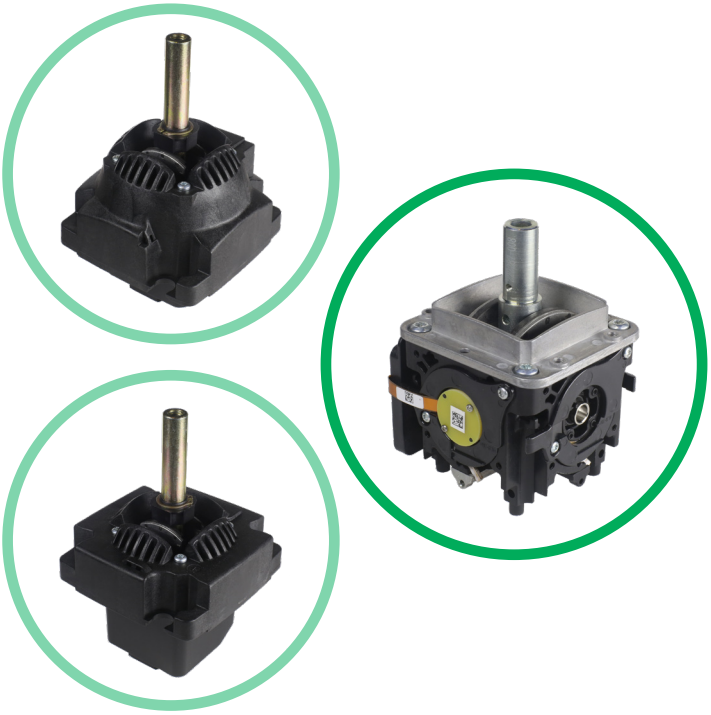
AJN
Joystick

Introduction

The AJN Joystick from Sensata Technologies provides the reliability and long life required in demanding environmental conditions such as heavy duty industrial applications. Building on Sensata's industry leading Hall-effect joystick technology, the AJN joystick combines flexibility with high mechanical strength. This strength and the unique sensing design make the joystick ideal for rigorous use in rugged, harsh environments offering6 best durability. The AJN Joystick is designed to accommodate standard and custom designed multifunction grips.



Main Features

- Contactless sensing Hall-effect technology
- Redundant Sensors
- Life greater than 10 million cycles (without detent option)
- 2 sensors per axis
- Integrated temperature compensation
- Environmentally sealed electronics
- Potted electronics
- Standard or customized multifunction grips
- Designed for armrest and enclosure applications (AJ45)

Custom Modifications

- Output characteristics
- Operating force
- Lever deflection angle
- Gate pattern
- Tactile and Latching Detents
- Multifunction grips

SPECIFICATIONS

Electrical

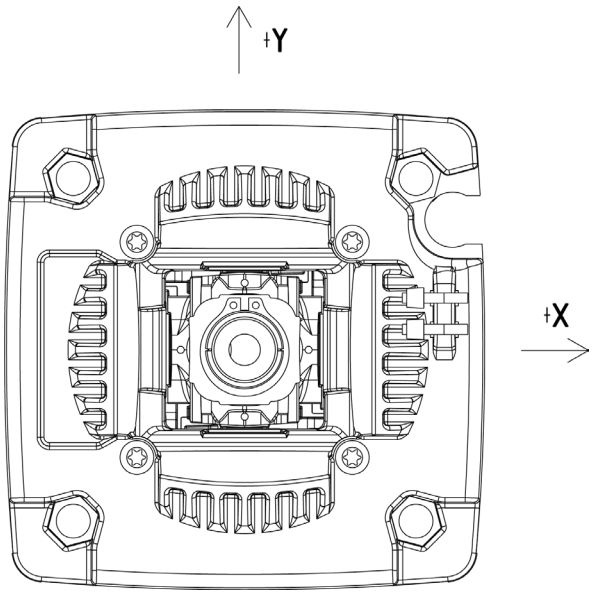
	Variant	
Supply Ratings **- System Voltage** **- Voltage Range** **- Maximum Current**		 12V or 24V dc 9V … 32V dc 75 mA at 24V dc
PWM Output	PW2	500 Hz ± 80 Hz
CAN Bus Output	J19	SAE J1939
Other electrical Characteristics	EMI	100 V/m Redundant Sensors

Mechanical

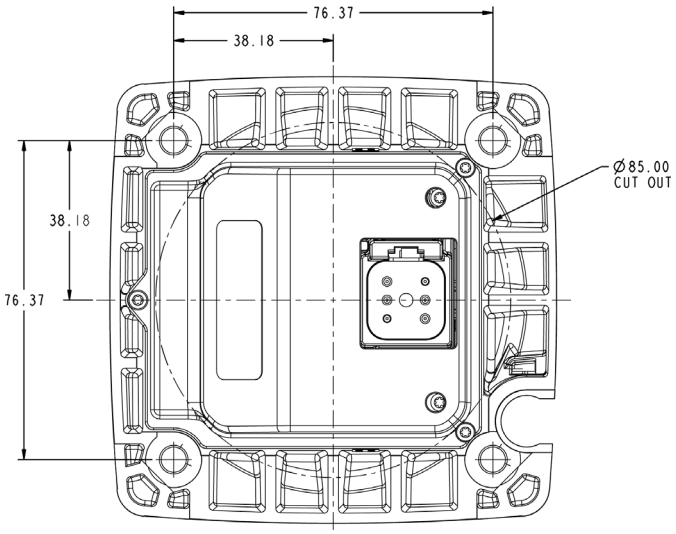
Life **Detent Life**	> 10 million cycles 3 million cycles
Operating temperature **Storage temperature**	- 40°C to 85°C - 50°C to 90°C
Horizontal maximum load (165mm from pivot point)	1000 N (250lbs)
Vertical load maximum	1110 N (250lbs)
Max Torque (Z-axis)	25 Nm (18,5 ft lb)
Protection Level	IP 67
Electronics Protection	Fully potted
Lever deflection X/Y max	± 23°/±25° (A)
Center null zone	± 1.5°
Weight	<860g
Housing	Plastic
Boot	EPDM (black)
Vehicle Connection	Molded in DT04-6P

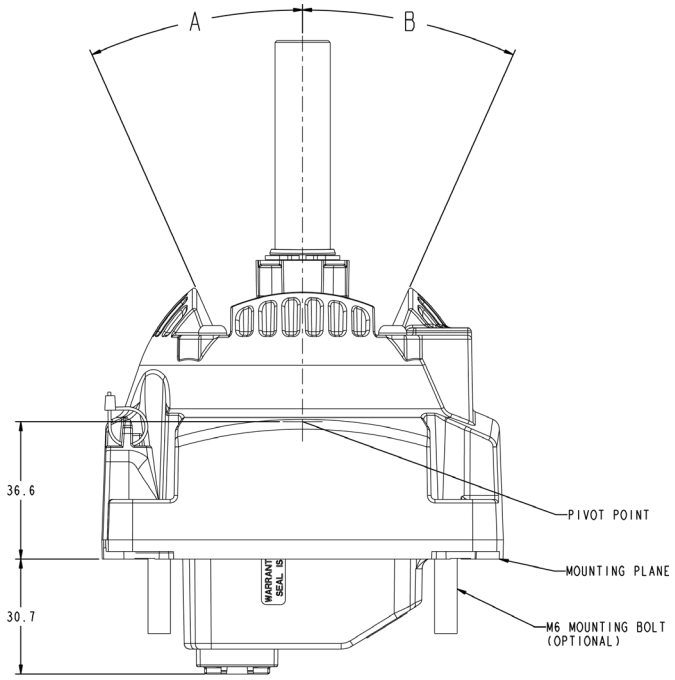
DIMENSIONS

AJ42 & AJ44
with Square Gate (X and Y can be Swapped)



Install Dimensions
(for AJ42 and AJ44 Joysticks)





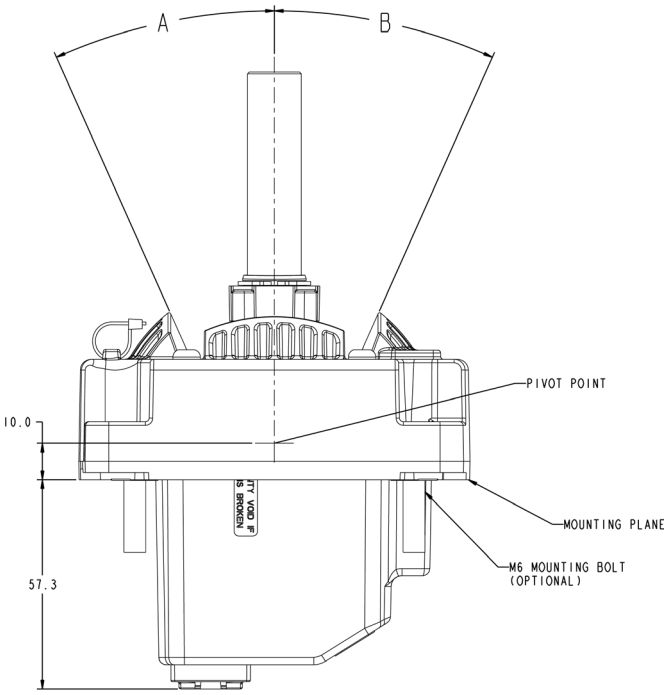
AJ42 VARIANT

AJ42 VARIANT

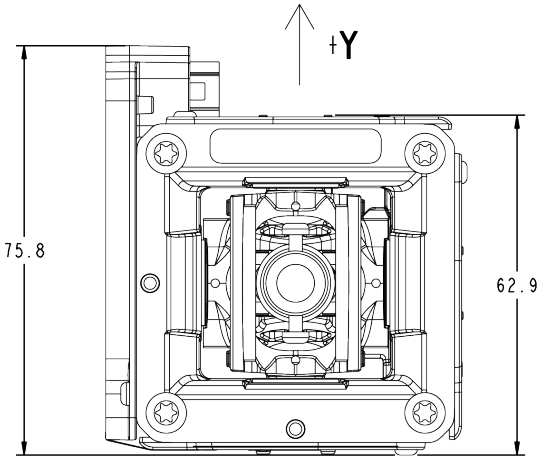
AJ42 TOP GATE OPTIONS				
GATE OPTION	**ANGLE X, A**	**ANGLE X, B**	**ANGLE Y, A**	**ANGLE Y, B**
-001	23°	23°	25°	25°
-002	20°	20°	20°	20°
-003	0°	0°	20°	20°
THESE ARE STANDARD OPTIONS. CUSTOM ANGLES POSSIBLE.				

AJ44 VARIANT

AJ44 TOP GATE OPTIONS				
GATE OPTION	**ANGLE X, A**	**ANGLE X, B**	**ANGLE Y, A**	**ANGLE Y, B**
1-001	23°	23°	25°	25°
1-002	16°	16°	16°	16°
1-003	20°	20°	20°	20°
1-004	0°	0°	20°	20°
4-001	14°	14°	17°	17°
4-002	17°	17°	17°	17°
THESE ARE STANDARD OPTIONS. CUSTOM ANGLES POSSIBLE.				



AJ44 VARIANT



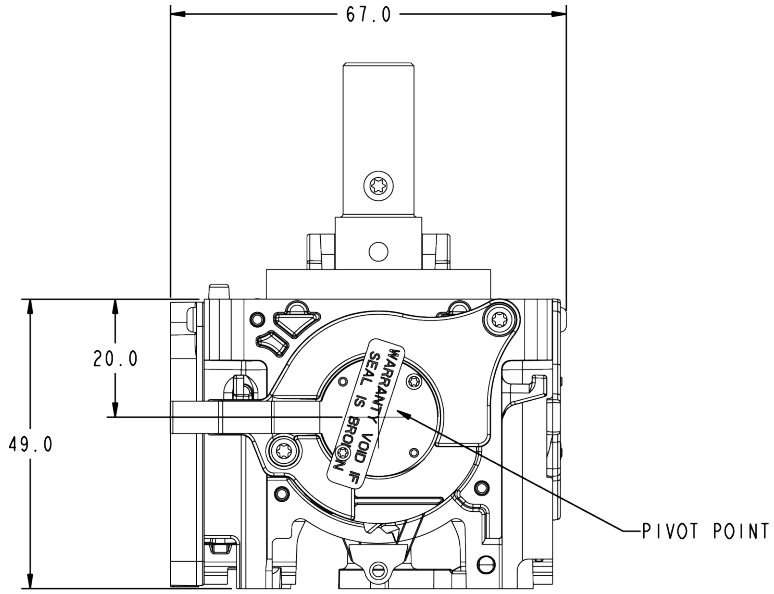
AJ45 VARIANT

AJ45

No gate shown. Gate can be configured based on application.
(X and Y can be Swapped)

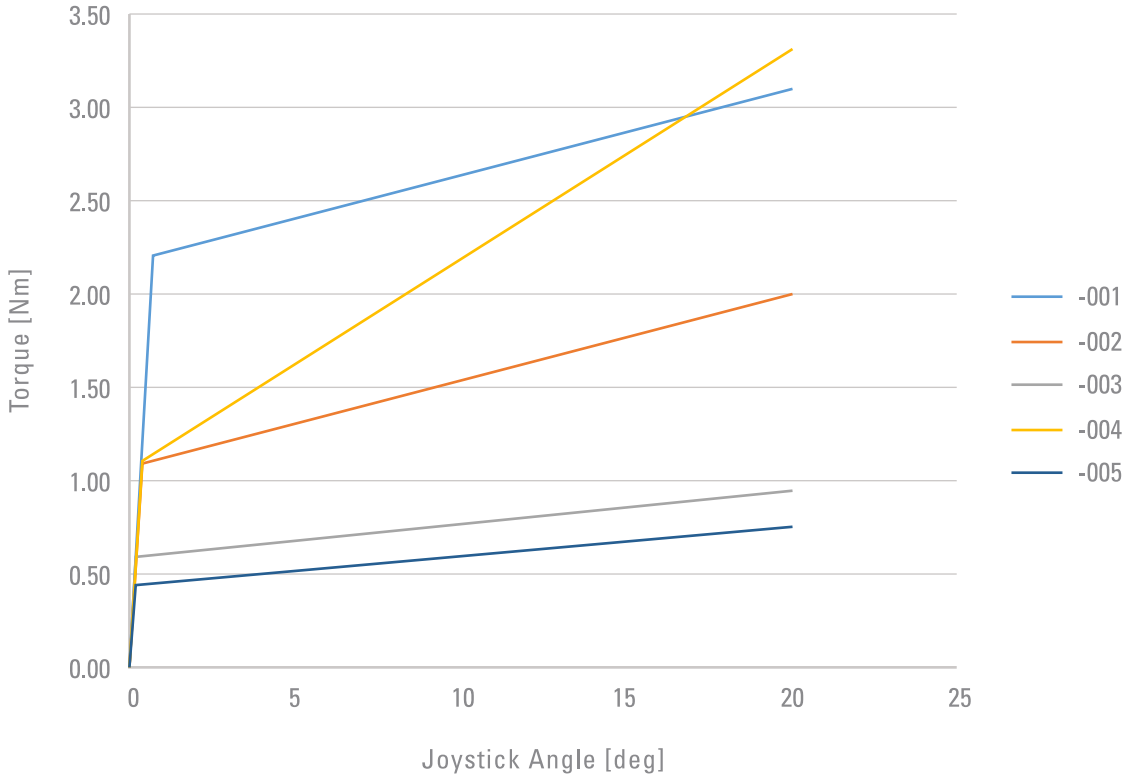
Special Notes

- AJ45 Gates can be configured to meet most travel angles and patterns
- Mounting patterned determined by the gate required
- Maximum travel is 23° in the X-axis and 25° in the Y-axis
- Used in Armrest and Enclosure applications
- Accepts most shaft and handle types
- Boot design dependent on handle selected



AJ45 VARIANT

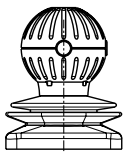
AJN
(Spring Torque Curves)



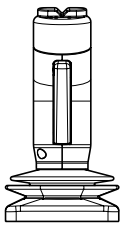
MULTIFUNCTION GRIPS

for details see MFG datasheet

MFG Ball



MFG S2



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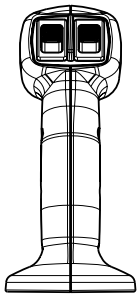
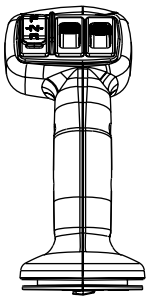
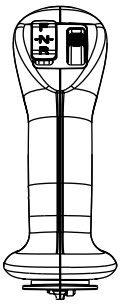


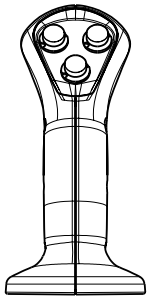
MFG S4E



MFG S6



MFG S7



ORDERING OPTIONS

This information is to assist the user in identifying what he is looking for in the joystick base. There are many options available for AJN and specific details on these options will need to come from the Sensata EOC "Electronic Operator Control" team directly. While this information does not fully define a joystick base, it will go a long way to helping the EOC team define the best option for the user.

Top Gate Type

Selecting the top gate will require knowing what mounting method that is desired. The options are mounting from the top side and mounting from the underside.
AJ42: Top mount only. Standard travel angles listed.
AJ44: Top mount only. Standard travel angles listed.
AJ45: Top mount or bottom mount. Very customizable.

Pivot Point

In relation to mounting plane: Knowing the height of the grip required by the customer can help with this selection
AJ42: Pivot is 36.6mm above mounting plain.
AJ44: Pivot is 10.0mm above mounting plain.
AJ45: Depends on mounting method.

Shaft Type

Handle dependent. Very customizable

Spring Force

Four springs are used for AJN products. Combining spring forces to get a slightly lower or higher force is an option. Standard spring torques listed.

Detent

Information can be requested for specific activation angles and detent type.

Output Options

AJ42: CAN, PWM
AJ44: CAN, PWM
AJ45: CAN, Analog

Input Options

AJ42: 12V, 24V
AJ44: 12V, 24V
AJ45: 5V, 12V

Grip to Base Communication

AJ42: Typically around shaft wire routing but some thru shaft wire options are possible.
AJ44: Typically around shaft wire routing but some thru shaft wire options are possible.
AJ45: Typically around shaft wire routing but some thru shaft wire options are possible.

GENERAL NOTES

[A] ***less is available on request***

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