

AJ3 Joystick



The AJ3 Joystick from DeltaTech Controls provides the reliability required in demanding environmental conditions such as heavy duty industrial applications.

The high mechanical strength of the shaft and the unique sensing design make the joystick ideal for rigorous use in rugged, harsh environments.

The AJ3 Joystick is designed to accommodate standard and custom designed multifunction grips.

The AJ3 Joystick is available separately or combined with various multifunction grips.



Main Features

- Contactless sensing – Hall effect
- Life greater than 5 million cycles
- 2 sensors per axis
- Integrated temperature compensation
- Standard or customized multifunction grips

Custom modifications

- Output characteristics
- Operating force
- Lever deflection angle
- Gate pattern
- Over travel function
- Multifunction grips

Electrical Data	Variant	
Supply Ratings:		
- System Voltage		12V or 24V dc
- Voltage range		8V ... 16V or 8V ... 30V
- Maximum current		180 mA at 24V dc
- max. output voltage		Vsupply – 2.5V dc
Voltage Output (maximum output current 5 mA)	VO1	0V ... (Vsupply - 2.5V dc)
	VO2	0 ... 5V dc
	VO8	0.5 ... 4.5V dc
	VO9	25% Vsupply ... 75% Vsupply
PWM Output	PW2	500 Hz ± 80 Hz
CAN Bus Output	CA1...	CAN 2.0A (11 bit identifier)
	CA2...	CAN 2.0B (29 bit identifier)
	J19	SAE J1939
Output Center position (signal)	C2	Inactive 0V / active 5V **
	C3	Inactive 0V / active Vsupply**
Other electrical Characteristics	EMI	100 V/m

Mechanical Data	
Life	> 5 million cycles
Operating temperature	- 40°C to 85°C
Operating torque (measured 140 mm from pivot point)	0.56 Nm, 1.2 Nm, 1.7 Nm, 2.2 Nm
Horizontal load maximum	100 Nm
Vertical load maximum	1000 N
max. Torque (Z-axis)	20 Nm
Protection Level	IP 65***
Gate options	square, cross, single axis *
Lever deflection X/Y	± 20°*
Center position tolerance	± 2° + 0.5°
Weight	450g
Housing	Aluminum
Boot	EPDM (black)
Cable	Pigtail 600 mm without connector (24 AWG, 0,25 mm²)

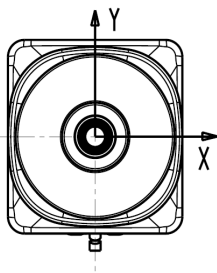
* others available on request

** active, if the lever is in the center position

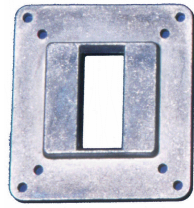
inactive, if the lever is outside of the center position

*** above gate with boot

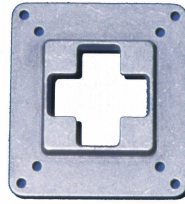
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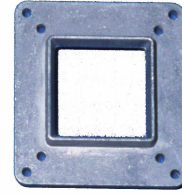
Gates



Y-single axis



cross



square



Ordering code		1	2	3	4	5	6	7	8
	Example	AJ3	S	X1.7	Y1.7	-	VO8	C2	...
1 Type	AJ3								
2 Gate	S = Square C = Cross X = X-axis single Y = Y-axis single								
3 X-Axis Operation Torque	X0.56 = 0.56 Nm X1.2 = 1.2 Nm X1.7 = 1.7 Nm X2.2 = 2.2 Nm								
4 Y-Axis Operation Torque	Y0.56 = 0.56 Nm Y1.2 = 1.2 Nm Y1.7 = 1.7 Nm Y2.2 = 2.2 Nm								
5 Overtravel (float)	- = none (available on request)								
6 Output Signals	VO1 = 0 ... (Vsupply - 2.5V) VO2 = 0 ... 5V VO8 = 0.5 ... 4.5V VO9 = 25% Vsupply ... 75% Vsupply PW2 = PWM 500 Hz ± 80 Hz CA1 = CAN 2.0A CA2 = CAN 2.0B J19 = SAE J1939 based								
7 Output Center Position (signal) only for Voltage Output	C2 = inactive 0V / active 5V C3 = inactive 0V / active Vsupply								
8 Grip	- = no grip ... = see MFG datasheet for grip order code								

Vsupply = voltage supply (Ubat)

MFG = multifunction grip

Recommended MFG operating torque combination:

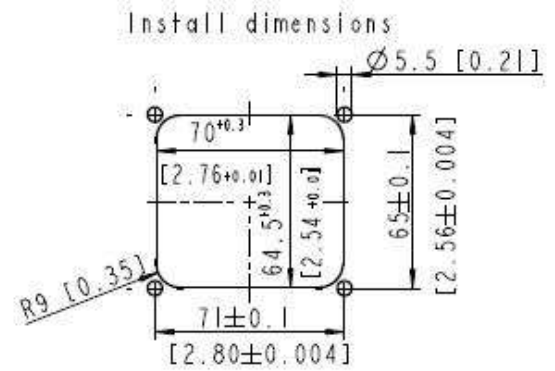
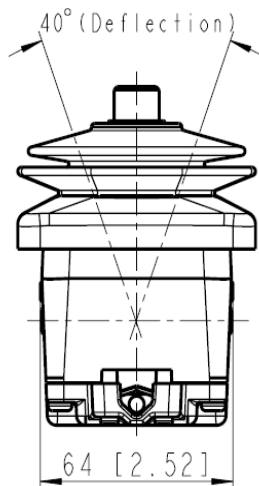
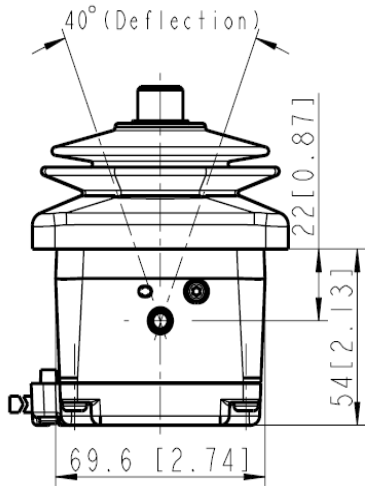
MFG	Operating torque
Ball	0.56 Nm, 1.2 Nm
S2	1.2 Nm, 1.7 Nm
S1, S3, SK, S4, S7	1.7 Nm, 2.2 Nm

Conversion table N in Nm for AJ3 (measured 140mm from pivot point)

Newton	Newtonmeter
4 N	0.56 Nm
8 N	1.2 Nm
12 N	1.7 Nm
16 N	2.2 Nm

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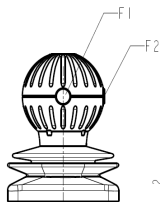
Install dimensions for AJ3 Joystick



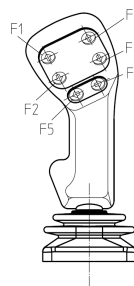
Multifunction grips for AJ3 Joystick

details see MFG datasheet

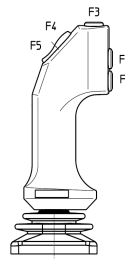
MFG Ball



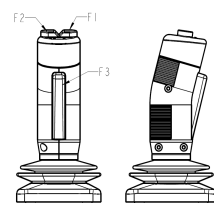
MFG SK



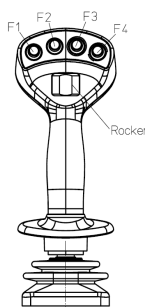
MFG S1



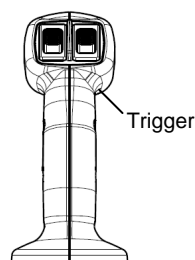
MFG S2



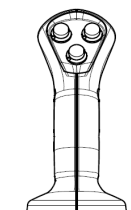
MFG S3



MFG S4



MFG S7



AJ3 Joystick



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