

AJ4 Joystick



The AJ4 Joystick from DeltaTech Controls provides the reliability and long life required in demanding environmental conditions such as heavy duty industrial applications.

Building on DeltaTech Controls' industry leading Hall-effect joystick technology, the AJ4 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 offering best durability.

The AJ4 Joystick is designed to accommodate standard and custom designed multifunction grips.



Main Features

- Contactless sensing Hall-effect technology
- Life greater than 6 million cycles
- 2 sensors per axis
- Integrated temperature compensation
- Environmentally sealed
- Potted electronics
- Standard or customized multifunction grips

Custom modifications

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

Electrical Data

Variant

Supply Ratings:

- System Voltage 12V or 24V DC
- Voltage range 9V ... 36V DC
- Maximum current 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

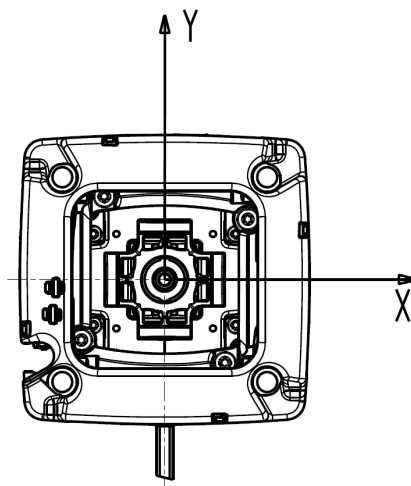
Mechanical Data

Life	> 6 million cycles	
Operating temperature	- 40°C to 85°C	
Storage temperature	- 40°C to 85°C	
Operating torque	1.7 Nm, 2.1 Nm, 2.6 Nm, 3 Nm	
Horizontal maximum load (180mm from pivot point)	980 N	(220 lbs)
Vertical load maximum	1110 N	(250 lbs)
max. Torque (Z-axis)	25 Nm	(18,5 ft lb)
Protection Level	IP 67	
Electronics Protection	Fully potted	
Gate options	square	
Lever deflection X/Y max :	± 21°*	
Center position tolerance	± 2°	
Weight	860g	
Housing	Aluminum	
Boot	EPDM (black)	
Cable	Pigtail 600 mm without connector (24 AWG, 0,25 mm ²)	

* others available on request

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AJ4 with Square Gate



Ordering code		1	2	3	4	5	6	7	8
	Example	AJ4	S17/17	X2.1	Y2.1	-	J19	C2	...
1 Type	AJ4								
2 Square Gate	S12/12 = X:12° Y:12° S17/17 = X:17° Y:17° S17/22 = X:17° Y:22° S20/20 = X:20° Y:20°								
3 X-Axis Operation Torque	X1.7 = 1.7 Nm X2.1 = 2.1 Nm X2.6 = 2.6 Nm X3.0 = 3.0 Nm								
4 Y-Axis Operation Torque	Y1.7 = 1.7 Nm Y2.1 = 2.1 Nm Y2.6 = 2.6 Nm Y3.0 = 3.0 Nm								
5 Overtravel (float)	- = none (available on request)								
6 Output Signals	VO8 = 0.5 ... 4.5V PW2 = PWM 500 Hz ± 80 Hz J19 = J1939 CAO = CANopen								
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 force combination:

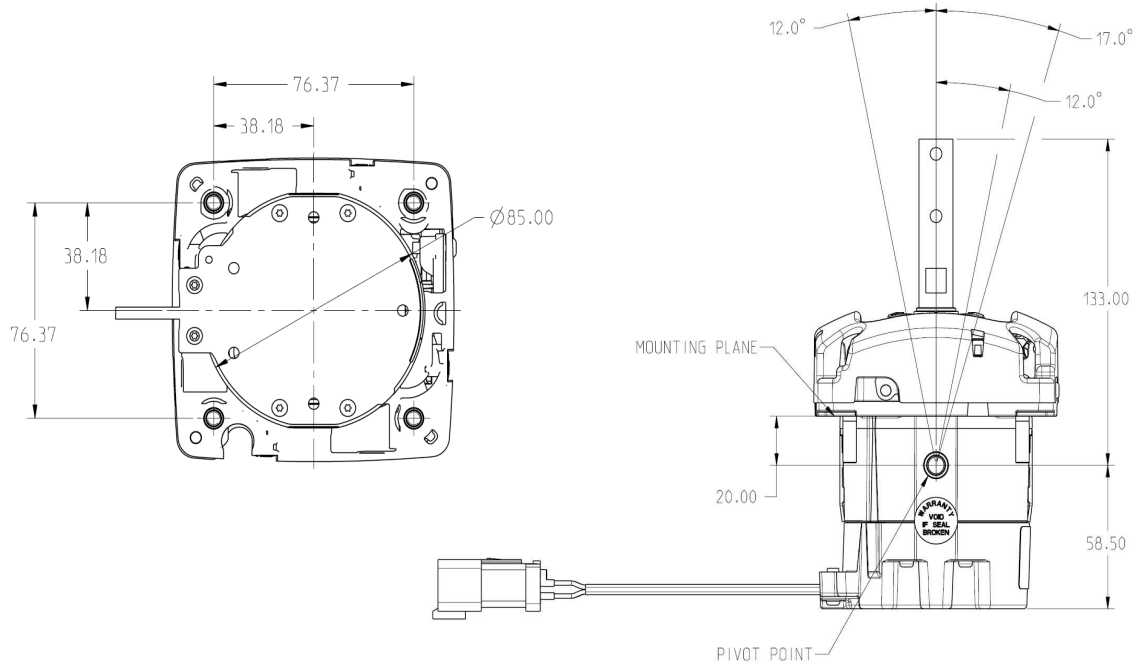
MFG	Operating torque
Ball, S2	1.7 Nm
S1, S3, SK	2.1 Nm, 2.6 Nm, 3.0 Nm
S4, S7	2.6 Nm, 3.0 Nm

Conversion table N in Nm for AJ4 (measured 180mm from pivot point)

Newton (Force)	Newtonmeter (Torque)
4 N	1.7 Nm
8 N	2.1 Nm
12 N	2.6 Nm
16 N	3.0 Nm

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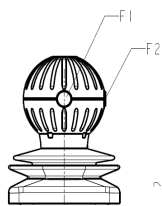
Install dimensions for AJ4 Joystick



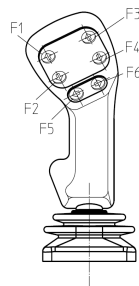
Multifunction grips for AJ4 Joystick

details see MFG datasheet

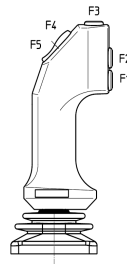
MFG Ball



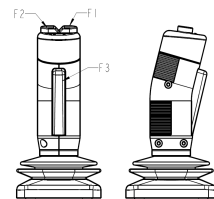
MFG SK



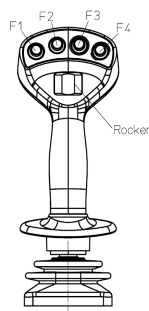
MFG S1



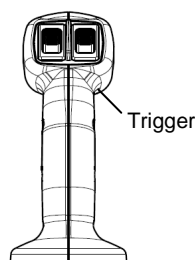
MFG S2



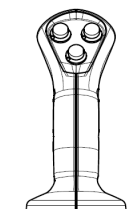
MFG S3



MFG S4



MFG S7



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