

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:		
- Voltage range		8V ... 30V
- Maximum current		180 mA at 24V dc
- max. output voltage		Vsupply – 2.5V dc
Voltage Output	VO1	0V ... (Vsupply - 2.5V dc)
(maximum output current 5 mA)	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)

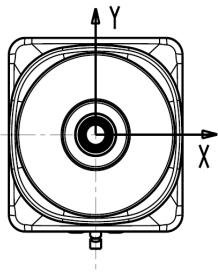
* others available on request

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

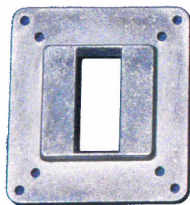
inactive, if the lever is outside of the center position

*** above gate with boot

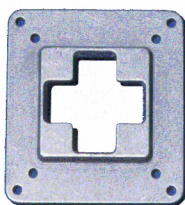
AJ3 Joystick



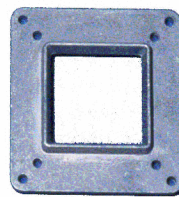
Gates



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:

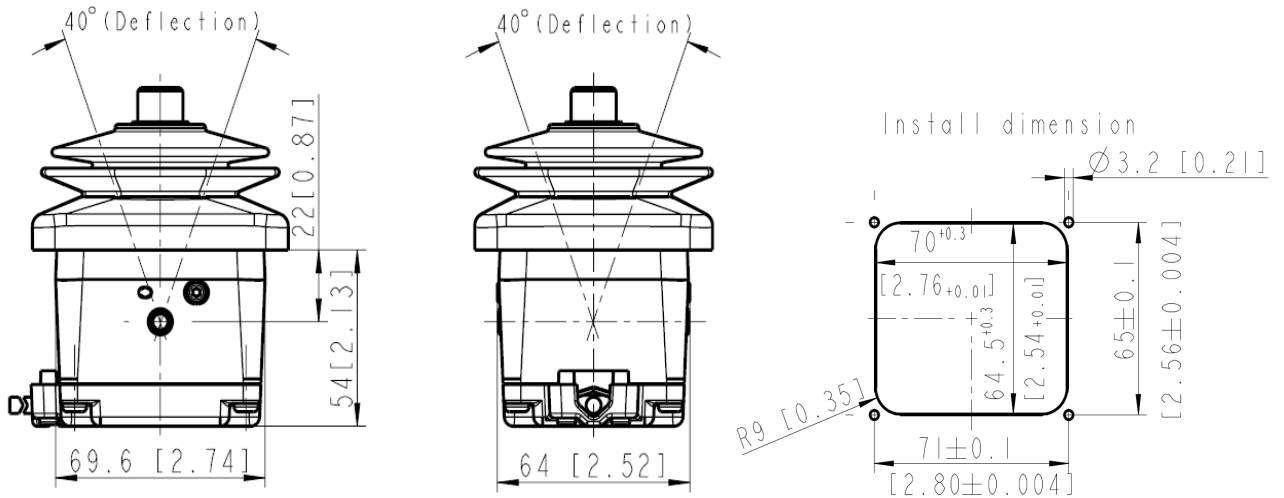
MFG	Operating torque
Ball	0.56 Nm, 1.2 Nm
S2	1.2 Nm, 1.7 Nm
S1, S3, SK, S4, S7	1.7 Nm, 2.2 Nm

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

AJ3 Joystick

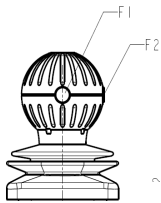
Install dimensions for AJ3 Joystick



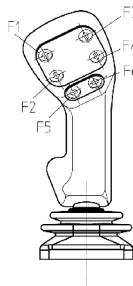
Multifunction grips for AJ3 Joystick

details see MFG datasheet

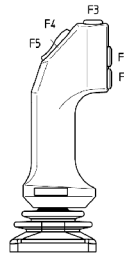
MFG Ball



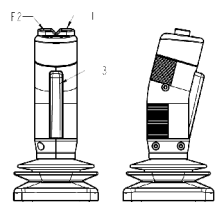
MFG SK



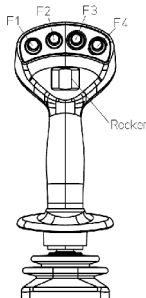
MFG S1



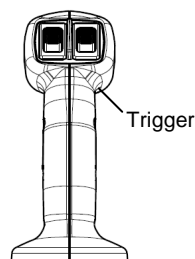
MFG S2



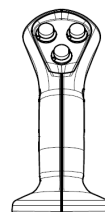
MFG S3



MFG S4



MFG S7



DeltaTech Controls – A CoActive Technologies Company - **worldwide Facilities**

With sales offices and manufacturing facilities located worldwide, please visit our website at www.deltatechcontrols.com for a complete listing and to find the office nearest to you.

France

2 Boulevard Michaël Faraday
Arlington Square, Bâtiment B
Serris – F 77716 Marne-La Vallée Cedex 4
France
phone: + 33 160 24 51 51
fax: + 33 3 84 69 08 97
Mail: sales.dtc.europe@coactive-tech.com

Germany

Holzhauser Strasse 26-32
D-13509 Berlin
Germany
phone: + 49 30 43 999 0
fax: + 49 30 43 999 203
Mail: sales.dtc.europe@coactive-tech.com

USA

5288 Valley Industrial Blvd. S
Shakopee, MN 55379
USA
phone: + 1 952 403 7400
fax: + 1 952 233 9707
Mail: sales.dtc.americas@coactive-tech.com

Japan

9F, Ariake Frontier Building B
3-1-25 Ariake, Koto-ku, Tokyo 135-0063
Japan
phone: + 81 3 5530 9365
fax: + 81 3 5530 8737
Mail: sales.dtc.asia@coactive-tech.com

China

Rm.2209
4 Gongti Donglu Chaoyang District,
Beijing, P.R.China 100027
phone: + 86 10 65007958 / 65007962 Ext.21
fax: + 86 10 65007958 / 65007962 Ext.17
Mail: sales.dtc.asia@coactive-tech.com

Korea

903Ho 106 Dong, Kolon Apt
Guun-Dong, KwonSeon-Gu,
SuWon-Si, KyeongGi-Do
Korea 441-340
phone: + 82 31 891 1141
fax: + 82 31 302 1141
Mail: sales.dtc.asia@coactive-tech.com

No information and data contained in this publication shall be construed to create any liability on the part of DeltaTech Controls GmbH. Any new issue of this publication shall automatically invalidate and supersede any and all previous issues. Dimensions are subject to change without prior notice.

All Copyrights belong to DeltaTech Controls GmbH and CoActive Technologies.
All other trademarks or registered trademarks are property of their respective owners.
All data subject to change without notice. ©2010