



CJW CAN bus joystick

- Contactless single or double axis joysticks
- CAN bus models
- The contactless technology guarantees long life and precise comfortable control
- Robust mechanical design; specifically tailored to off-highway operating machines
- Handles with additional proportional axis

Working conditions

Electrical specifications

CJW

Supply voltage		from 8 to 32 V
Current consumption	without grip	max. 100 mA @ 32 V
Output CAN protocols		CANopen Safety, SAE J1939, CANopen, CAN 2.0A and 2.0B, ISOBUS (AUX-N compliant)

Mechanical specifications

Lever angle	operation	$\pm 20^\circ$ both axis
	tolerance	± 1
Lever force (X,Y axis)	stroke end	$6 \pm 1\text{N}$ (fully actuated 190 mm - 7.48 in above flange)
	Operating life	on each axis (full stroke cycles)
Weight	without grip	$> 10^6$
		0.50 Kg (1.10 lb)

Environmental specifications

Working temperature		from -40°C to $+85^\circ\text{C}$ (from -40°F to 185°F)
Storage temperature		from -40°C to $+85^\circ\text{C}$ (from -40°F to 185°F)
Weather protection	above fixing plan	IP65
EMC compatibility		100 V/m - ISO13766, ISO14982

"Dead man" switch features

Contact type		NA
Current rating (24 VDC)		200 mA resistive load
Mechanical life (nr. of operations)		10^6
Electric life (nr. of operations)		3×10^4
Operating force		3.4 N
Weather protection		IP67

Test specifications

Mechanical vibration	random	from 5 to 500 Hz, $5,4 \times 10^4$ to $0,56\text{ g}^2/\text{Hz}$, 100 h each axis
	sinusoidal	40 m/s^2 from 10 to 2000 Hz
	bumps	100 applications - $400\text{ m/s}^2 \times 6\text{ ms}$
Humidity	96%	240 h
Thermal shock		100 cycles, from -40°C to 85°C and back, $50^\circ\text{C}/\text{min}$ (100 cycles, from -40°F to 212°F and back, $122^\circ\text{F}/\text{min}$)
Salt spray	exposure	100 h

Control components

CJW CAN bus joystick

Configurations

	Code	183530011
	Protocol	CANopen
	Description	CJW2010A-PZTM0200BQ-0R-8R2-WN140-ZN140/A8F12
	Plate	2 ARW* type proportional rollers (W-Z)
Front zone	"dead man" switch (P0), 1 push-button with spring return (P8)	

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	Code	183530057
	Protocol	SAE J1939
	Description	CJW2010A-PZTM0200BQ-0R-8R2-WN140-ZN140/A8F12
	Plate	2 ARW* type proportional rollers (W-Z)
Front zone	"dead man" switch (P0), 1 push-button with spring return (P8)	

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	Code	183530058	
	Protocol	CANopen Safety	
	Description	CJW2010A-PZTM0200BQ-0R-8R2-WN140-ZN140/A8F12	
	Plate	2 ARW* type proportional rollers (W-Z)	
Front zone	"dead man" switch (P0), 1 push-button with spring return (P8)		

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	Code	183530044
	Protocol	SAE J1939
	Description	CJW2034A-AMHQ0703AQ-0R3(A)-4RB(A)-5RB(A)-6RB(A)-7RB(A)-8RB(A)-9RB(A)-ALV-BLY-CLR/F1F05150(TC)
	Plate	3 LED (L1-L2-L3), 1M type pushbutton with detent (P0)
Front zone	4M type pushbutton with spring return (P6-P7-P8-P9)	
Lateral zone	2M type pushbutton with spring return (P4-P5)	

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	Code	183530012
	Protocol	CANopen
	Description	CJW2010A-PZTA2101BQ-0R-1R2-2R2-URL-ZN140/A8F12-<JOYSTICK SX>
	Plate	1 ARW* type proportional roller (Z), 2 T* type push-buttons with spring return (P1-P2), 1 LED (LU); left configuration
Front zone	"dead man" switch (P0)	

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	Code	183530013
	Protocol	CANopen
	Description	CJW2010A-PZTA2101CQ-0R-4R2-5R2-URL-WN140/A8F12-<JOYSTICK DX>
	Plate	1 ARW* type proportional roller (W), 2 T* type push-buttons with spring return (P1-P2), 1 LED (LU); right configuration
Front zone	"dead man" switch (P0)	

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	Code	183530045
	Protocol	SAE J1939
	Description	CJW2034A-AMHQ0402AQ-0R3(A)-6N5(K)-7RB(A)-8N5(K)-ALV-CLR/D2F08035(TC)
	Plate	2 LED (L1-L3) 1M type push-button with detent (P0)
Front zone	2M type push-button (P6-P8), 1K type push-button with spring return (P9)	

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	Code	183530043	
	Protocol	ISO BUS	
	Description	CJW2044A-AMHM1003AQ-0R3(A)-1RB(A)-2RB(A)-3RB(A)-4RB(A)-5RB(A)-6RB(A)-7RB(A)-8RB(A)-9RB(A)-ALV-BLY-CLR/A3M09030(TC)	
	Plate	3 LED (L1-L2-L3), 1M type push-button with detent (P0)	
Front zone	4M type push-button with spring return (P6-P7-P8-P9)		
Lateral zone	5M type push-button with spring return (P1-P2-P3-P4-P5)		

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NOTE (*): for component features see page 19

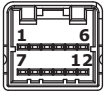
Dimensions and features

For configuration see page 14.

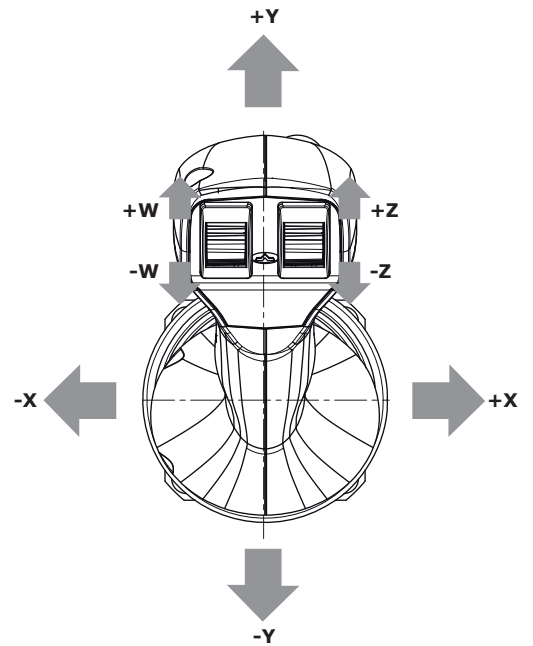
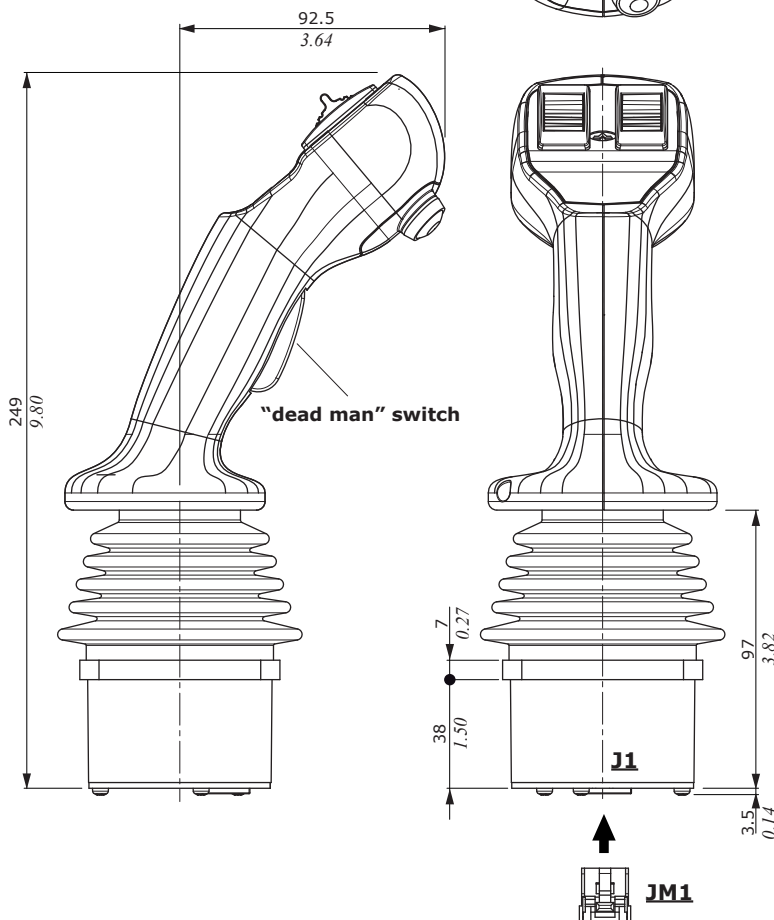
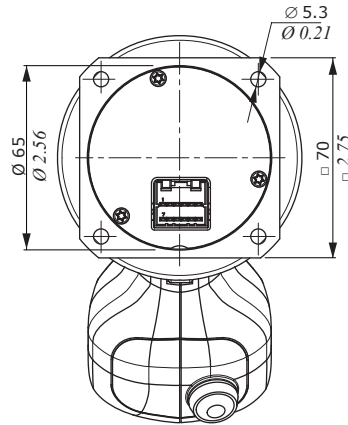
Multi-lock 040 series

Tyco connector

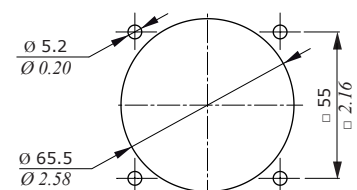
(tin plated contacts)



1	not conn.	7	not conn.
2	not conn.	8	not conn.
3	CAN_L	9	not conn.
4	CAN_H	10	not conn.
5	VJ-	11	VJ+
6	not conn.	12	not conn.



Panel cut out



Mating connector

Name	Type
JM1	Multilock series 040 Tyco

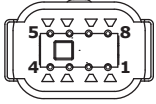
Control components

CJW CAN bus joystick

Dimensions and features

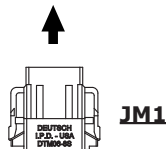
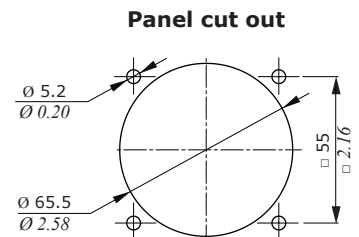
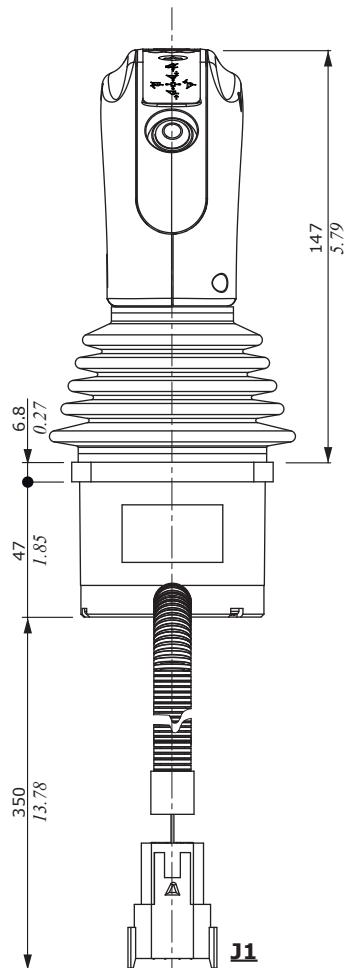
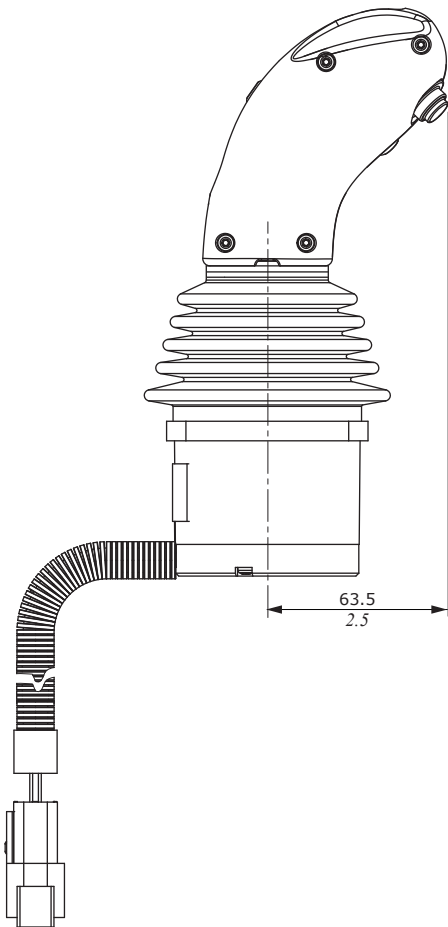
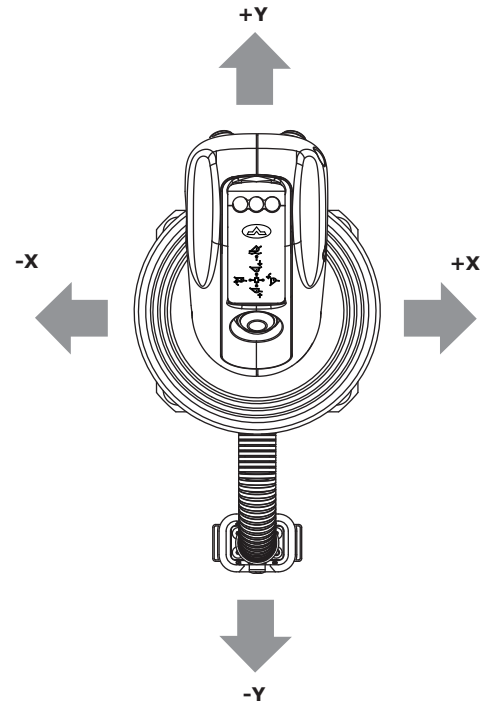
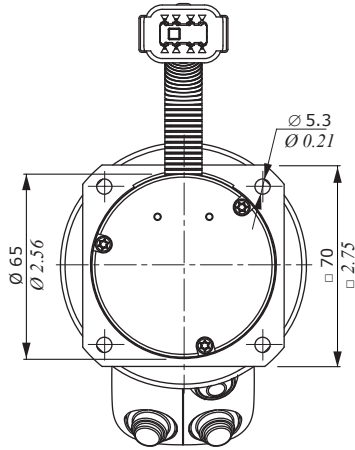
For configuration see page 14.

DTM04-8P
Deutsch connector
(nichel plated contacts)



J1 connector PIN-OUT

Pin	Function	Pin	Function
1	VJ+	5	Push-button P8
2	CAN_L	6	Push-button P6
3	CAN_H	7	VJ+
4	VJ-	8	plugged

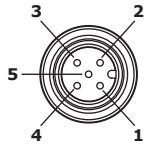


Mating connector	
Name	Type
JM1	DTM06-8S Deutsch

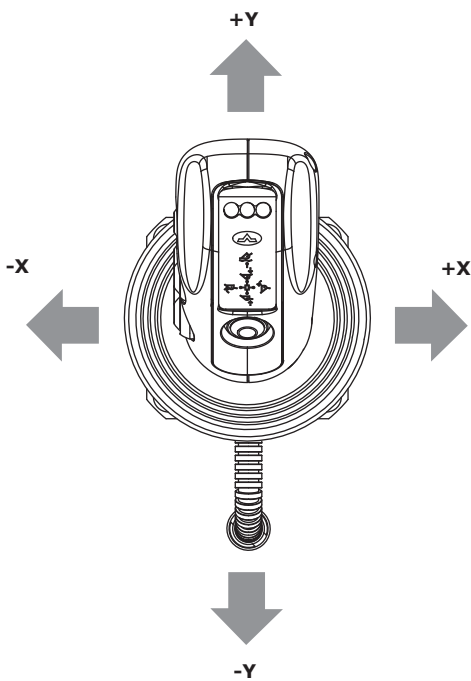
Dimensions and features

For configuration see page 14.

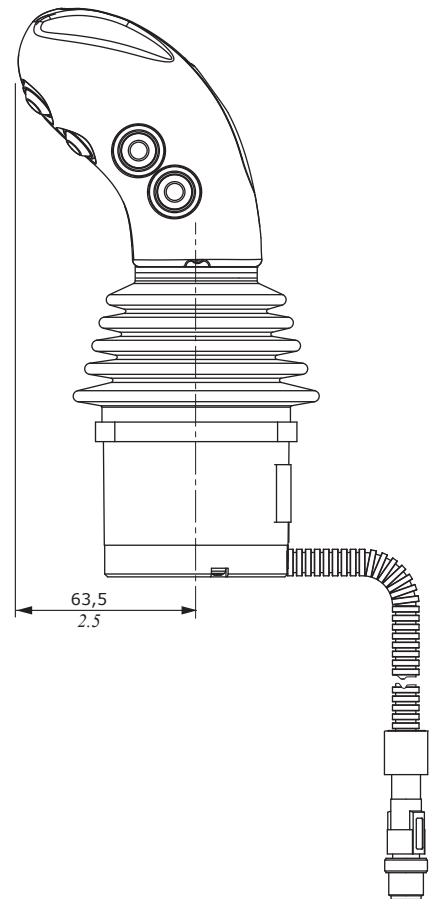
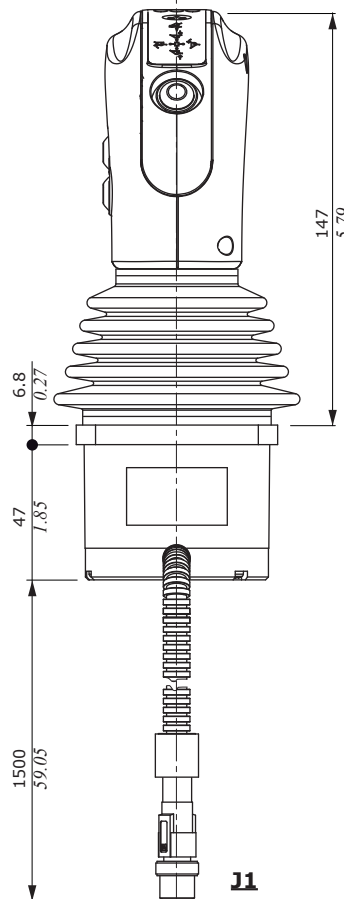
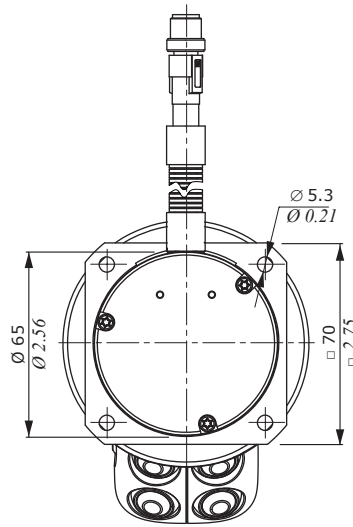
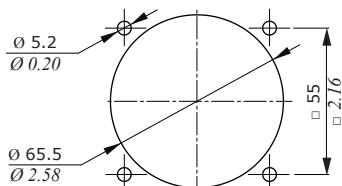
M12-5P male connector



1	CAN_H
2	CAN_L
3	VJ+
4	VJ-
5	VK+



Panel cut out



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JM1

Mating connector

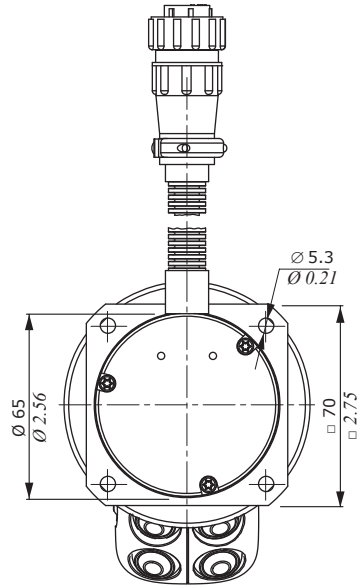
Name	Type
JM1	5 poles - M12 female

Control components

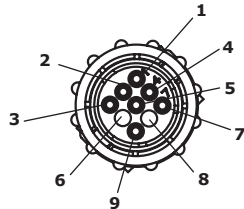
CJW CAN bus joystick

Dimensions and features

The CJW ISOBUS joystick is compatible with the auxiliary New AUX-N inputs, release 1.0, and with the Universal Terminal UT, release 2.0. For configuration see page 14.

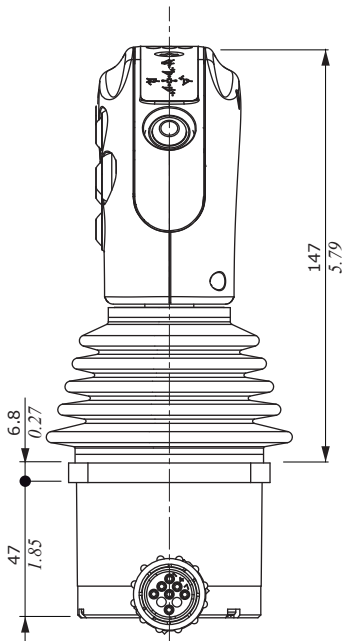
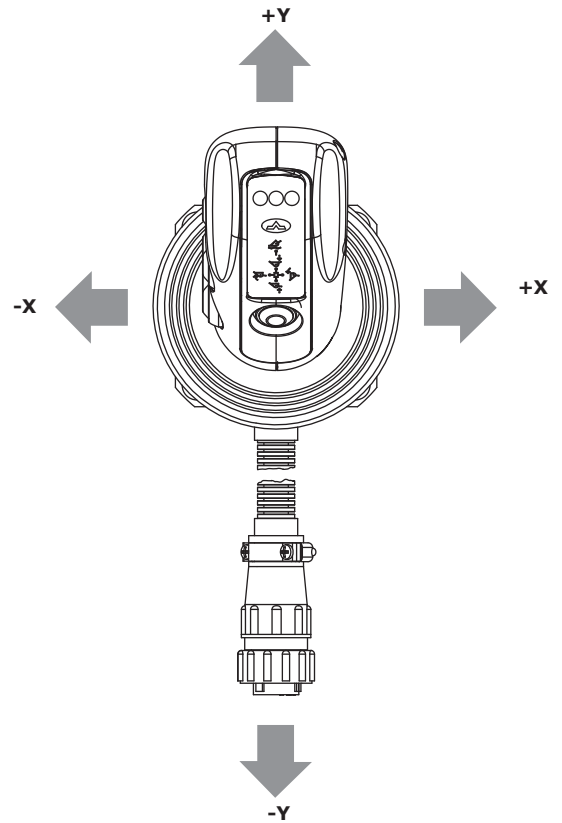


**CPC-9P
AMP MPF connector**
(selective gold plated contacts)

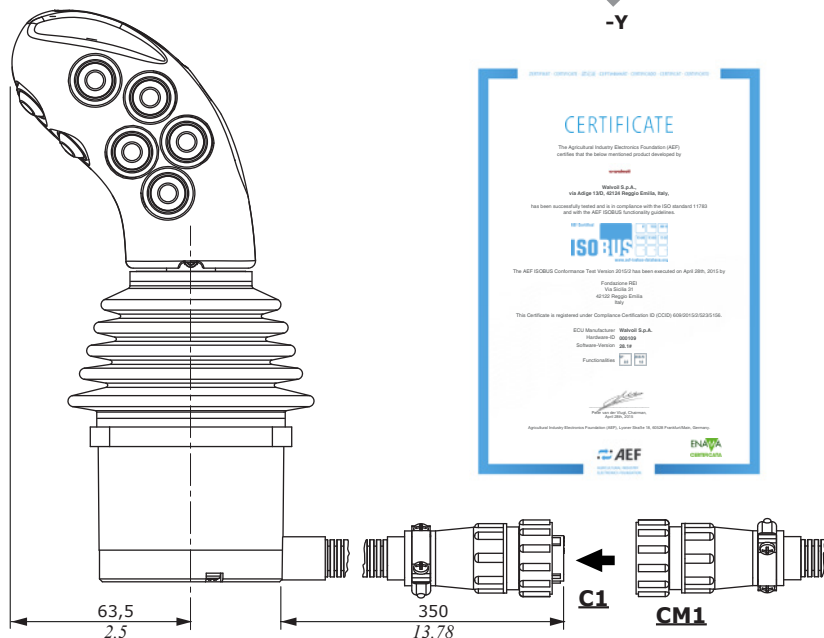
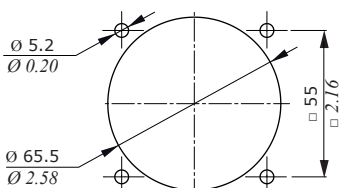


C1 connector PIN-OUT

Pin	Function	Pin	Function
1	VJ+	6	not conn.
2	CAN_L	7	VJ+
3	CAN_L	8	not conn.
4	CAN_H	9	VJ-
5	CAN_H		



Panel cut out



Mating connector	
Name	Type
CM1	AMP CPC - 9 FPM

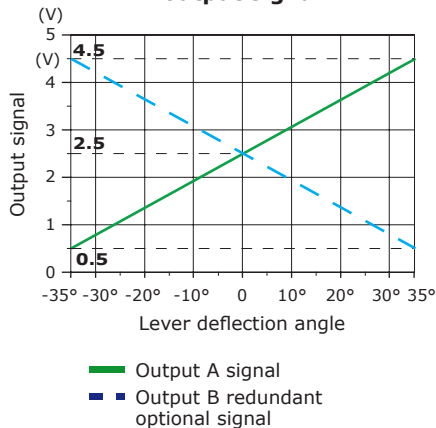
Electric device features

ARW type proportional roller

Supply voltage	from 8 to 32 VDC
Max. current consumption	< 24 mA
Max. output current	1 mA
Output signal (range)	0,5 - 4,5 V
Output signal (central position)	2,5V
Signal tolerance (central position and stroke end)	±100 mV
Minimum load	10 KΩ
Actuator deflection angle	± 35° (±1°)
Mechanical life (nr. of operations)	10 ⁶
Operating force	2 N
Mechanical vibration	IEC 68-2
Mechanical shock	EN 60068-2-29 (pulse 400m/s ² x 6 ms, 100 times)
Weather protection	IP67-IPX9K
EMC compatibility	ISO 13766 ISO 14982



Proportional roller output signal



T type ON/OFF push-button

Execution	spring return
Contact type	normally open
Current rating	200 mA resistive load @ 12 VDC
Mechanical life (nr. of operations)	10 ⁶
Electric life (nr. of operations)	20x10 ⁴
Weather protection	IP67 with handle mounting



M type ON/OFF push-button

Execution	spring return, with detent
Contact type	normally open
Current rating	200 mA @ 12 VDC resistive load
Mechanical life (nr. of operations)	10 ⁶
Electric life (nr. of operations)	5x10 ⁵
Mechanical life (nr. of operations)	IP67 with handle mounting
Electric life (nr. of operations)	10 mA



K type ON/OFF push-button

Execution	spring return
Contact type	normally open
Current rating	5 A resistive load @ 12 VDC
Mechanical life (nr. of operations)	10 ⁵
Electric life (nr. of operations)	25x10 ³
Weather protection	IP64

