

Multi-Axis Controller V24



GESSMANN®

The Multi-Axis Controller V24 is designed as a driving joystick for construction and agricultural machinery. It has a parking position which can be inserted in the zero position. The V24 is characterized by its extremely rugged design. Long life and high reliability is ensured by the latest contactless hall-technology. Through its various interfaces and many possibilities of combination with our numerous ball grips the V24 is very flexible.

Technical data

Mechanical life V24	20 million operating cycles
Supply voltage	See interface
Operation temperature	-40°C to +85°C
Degree of protection	Up to IP67
Functional safety	PLd compatible (EN ISO 13849, complies SIL2 to DIN EN IEC 61508)



		V24	P1	Example T	-R	-B10	-E...	-S...	-X
Basic unit									
V24.1	Multi-Axis Controller, 1-axis								
V24L	Multi-Axis Controller, 1-axis with parking position left								
V24R	Multi-Axis Controller, 1-axis parking position right								
Gate									
P1	T-gate main axis axial (included in basic unit!)								
P2	T-gate main axis right outside								
P3	T-gate main axis left outside								
PX	Special gate								
Grip / Palm Grip									
	Knob (included in basic unit!)								
T	Dead man								
H	Signal button								
D	Push button								
B...	Palm Grip B... (see page Palm Grip 163)								
Main axis									
R	Friction brake adjustable (included in basic unit!)								
Degree of protection									
B10	Joystick-main board sealed (IP67)								
B11	Joystick-main board sealed (IP67) and grip function sealed, grip with drain hole								
For a schematic description of the protection class (see page 128)									
Interface (description see on the following pages)									
E1xx	Voltage output								
E2xx	Current output								
E3xx	CAN-interface								
E4xx	CAN Safety interface								
E9xx	Other outputs								
Plug connectors									
S...	Standard plug connectors (see page 127)								
Special model									
X	Special / customer specified								

Combination possibilities with our grips

B1  p. 211	B2  p. 209	B3  p. 206	B5  p. 204	B6  p. 202	B7 B8  p. 200	B9  p. 198	B10  p. 196	B14 B15  p. 194
 p. 192	 p. 190	 p. 188	 p. 186	 p. 183	 p. 181	 p. 179	 p. 177	 p. 175
 p. 173	 p. 171	 p. 169	 p. 167	 p. 165	 p. 163			

Voltage output (not stabilized)

Supply voltage	4,75-5,25 V DC		
Mounting depth A	60 mm		
Wiring	1. cable 14 x 0,25 mm ² 500 mm long without plug connector 2. cable 14 x 0,25 mm ² (optional for grip function) 500 mm long without plug connector Optional with plug connector (<i>standard plug connectors see page 127</i>)	S	
0,5...2,5...4,5 V redundant		1 axis	E103 1
		2 axis	2
		Output options	
		Characteristic:	
		Inverse dual	1
		Dual	2
		Inverse dual with dead zone +/- 3° (standard)	3
		Dual with dead zone +/- 3°	4

Voltage output

Supply voltage	9-32 V DC (*11,5-32)		
Current carrying capacity	Direction signal 150 mA Zero position signal 500 mA		
Mounting depth A	60 mm		
Option	Input for capacitive sensor		
Wiring	1. cable 14 x 0,25 mm ² 500 mm long without plug connector 2. cable 14 x 0,25 mm ² (optional for grip function) 500 mm long without plug connector Optional with plug connector (<i>standard plug connectors see page 127</i>)	S	
0,5...2,5...4,5 V redundant + 2 direction signals + 1 zero position signal (galvanically isolated) per axis		1 axis	E112 1
		2 axis	2
		3 axis*	3
		4 axis*	4
		5 axis*	5
		6 axis*	6
0...5...10 V redundant + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32 V DC		1 axis	E132 1
		2 axis	2

Technical details may vary based on configuration or application! Technical data subject to change without notice!

	3 axis*	3	
	4 axis*	4	
	5 axis*	5	
	6 axis*	6	
10...0...10 V + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32 V DC, sensor redundant with error monitoring and error signal			
	1 axis	E136	1
	2 axis		2
	3 axis*		3
	4 axis*		4
	5 axis*		5
	6 axis*		6
Output options			
Characteristic:			
	Inverse dual *1		1
	Dual *1		2
	Inverse dual with dead zone +/- 3° *1 (standard)		3
	Dual with dead zone +/- 3° *1		4
*1 Not combinable with output E136X + E138X			
	Single *2		5
	Single with dead zone *2 (standard)		6
*2 Not combinable with output E112X and E132X			
*Axis for grip functions, interface can vary depending upon actuation element!			
Voltage output with other value on request!			

Current output			
Supply voltage	9-32 V DC		
Current carrying capacity	Direction signal 150 mA		
	Zero position signal 500 mA		
Mounting depth A	60 mm		
Option	Input for capacitive sensor		
Wiring	1. cable 14 x 0,25 mm ² 500 mm long without plug connector		
	2. cable 14 x 0,25 mm ² (optional for grip function) 500 mm long without plug connector		
	Optional with plug connector (<i>standard plug connectors see page 127</i>)		
0...10...20 mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal			
	1 axis	E206	1
	2 axis		2
	3 axis*		3
	4 axis*		4
	5 axis*		5
	6 axis*		6
20...0...20 mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal			
	1 axis	E208	1
	2 axis		2
	3 axis*		3
	4 axis*		4
	5 axis*		5
	6 axis*		6

4...12...20 mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal			
	1 axis		E214 1
	2 axis		2
	3 axis*		3
	4 axis*		4
	5 axis*		5
	6 axis*		6
20...4...20 mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring and error signal			
	1 axis		E216 1
	2 axis		2
	3 axis*		3
	4 axis*		4
	5 axis*		5
	6 axis*		6
Output options			
	Single		5
	Single with dead zone +/- 3° (standard)		6
*Axis for grip functions, interface can vary depending upon actuation element! Current output with other value on request!			

CAN			
Supply voltage	9-36 V DC		
Idle current consumption	120 mA		
Mounting depth A	60 mm		
Protocol	CANopen CiA DS 301 or SAE J 1939 (based on)		
Baud rate	125 kBit/s to 1 Mbit/s		
Wiring	CAN (IN) cable 300 mm with plug connector M12 (male)		
	CAN (OUT) cable 300 mm with plug connector M12 (female)		
	External in-/outputs cable 300 mm long without plug connector		
	Optional with plug connector (standard plug connectors see page 127)		S
CAN			E325 1
- 7 analog joystick axis			
- 16 digital joystick functions (of which 2 inputs can be used for the cap. sensor)			
*With the use of external inputs, the joystickfunctions are reduced by 7 pieces!			
- Output for vibrator control			
With additional external in-/outputs			
- 8 external LED-outputs, 1 switching output (potentialfree, 100 mA), 8 external digital inputs			2
- 16 external LED-outputs, 1 switching output (potentialfree, 100 mA), 8 external digital inputs			3
(Control of intelligent RGB LEDs possible on request)			
With additional digital outputs for the main-axis			
- 2 direction signals + 1 zero position signal (potential-free) per axis			3
Additional analog outputs on request!			

CAN Safety

Supply voltage	9-36 V DC
Idle current consumption	120 mA
Mounting depth A	60 mm
Protocol	CANopen Safety EN50325-5 or J1939-76
Baud rate	125 kBit/s to 1 Mbit/s
Wiring	CAN (IN) cable 300 mm with plug connector M12 (male) CAN (OUT) cable 300 mm with plug connector M12 (female) External in-/outputs cable 300 mm long without plug connector
Optional with plug connector (<i>standard plug connectors see page 127</i>)	

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CAN Safety

- 7 analog joystick axis
- 16 digital joystick functions (of which 2 inputs can be used for the cap. sensor)
- *With the use of external inputs, the joystick functions are reduced by 8 pieces!*
- Output for vibrator control

E425 1

With additional external in-/outputs

- 8 external LED-outputs, 1 switching output (potentialfree, 100 mA), 8 external digital inputs
 - 16 external LED-outputs, 1 switching output (potentialfree, 100 mA), 8 external digital inputs
- (Control of intelligent RGB LEDs possible on request)

2

3

With additional digital outputs for the main-axis

- 2 direction signals + 1 zero position signal (potential-free) per axis

3

Additional analog outputs on request!

Other outputs

Voltage output for PVG32	0,25...0,5...0,75Us, power supply 9-32 V DC
Mounting depth A	60 mm
Option	Input for capacitive sensor
Wiring:	1. cable 14 x 0,25 mm ² 300 mm long without plug connector 2. cable 14 x 0,25 mm ² 300 mm long without plug connector (optional for grip function)
Optional with plug connector (<i>standard plug connectors see page 127</i>)	

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1 axis	E907 1
2 axis	2
3 axis	3
4 axis	4
5 axis	5
6 axis	6

Main-axis with additional direction signals and zero direction signals (potential-free) per main-axis

3

Attachments

Z01 Mating connector (CAN) M12 (male insert) with 2 m cable	20201140
Z02 Mating connector (CAN) M12 (female contact) with 2 m cable	20202298

