Multi-axis controller
V25

GESSMANN Industrial Controllers

The multi-axis controller V25 is available in either single-axis or multi-axis options and is a robust controller used commonly in electro-hydraulic applications.
With many output options including voltage, amperage and switching contacts and many handle options the V25 series is hugly customisable.
The V25 is resistant to oil, maritime conditions e.g. offshore / vessels, UV radiation typically from the sun.

Technical data

Mechanical life V25	8 million operating cycles
Supply voltage	See interface
Operation temperature	-40°C to +60°C
Storage temperature	-50°C to +80°C
Degree of protection	IP54 (optional IP67)
Functional safety	PLd (EN ISO 13849) possible

Example

V25	S8	P	T	- Z	- B	- E...	- S...	- X

Basic unit

V25.1	1-axis
V25	2-axis

Control-handle long

	Standard 100mm
S8	+20mm

**Only available in combination with grip!*

Gate

P	Cross gate

Grip / palm grip

	Knob *(included in basic unit!)*
M	Mechanical zero interlock
T	Knob with dead man
H	Knob with signal button
D	Knob with push button KDA/70
B ...	Palm grip B... *(see page palm grip 147)*

Spring return *(includet in basic unit!)*

Z	Spring return

Cover housing *(description see page 187)*

B	Cover housing

Interface *(description see on the following page)*

E0xx	Switching output
E1xx	Voltage output
E2xx	Current output
E3xx	CAN-interface
E4xx	CANOpen Safety interface

Plug connectors

S..	Standard plug connectors *(see page 129)*

Special model

X	Special / customer specified

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

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Combination possibilities with our handles

Digital output			
Supply voltage	9-32V DC		
Current carrying capacity	Direction signal 150mA		
	Zero position signal 500mA		
Mounting depth A	60mm		
Wiring	1. cable 14x0,25mm² 500mm long without plug connector		
	2. cable 14x0,25mm² (for axis 3-4 or grip function) 500mm long without plug connector		
	Optional with plug connector *(standard plug connectors see page 129)*		S
2 Direction signals + 1 zero position signal (galvanically isolated) per axis			
	1 axis	E001 1	
	2 axis	2	

Voltage output (not stabilized)			
Supply voltage	4,75-5,25V DC		
Current carrying capacity	Direction signal 8mA		
Mounting depth A	60mm		
Wiring	1. cable 14x0,25mm² 500mm long without plug connector		
	2. cable 14x0,25mm² (for axis 3-4 or grip function) 500mm long without plug connector		
	Optional with plug connector *(standard plug connectors see page 129)*		S
0,5...2,5...4,5V redundant + 2 direction signals per axis			
	1 axis	E104 1	
	2 axis	2	
	Output options		
	Characteristic:		
	Inverse dual	1	
	Dual	2	
	Inverse Dual with dead zone +/- 3°	3	
	Dual with dead zone +/- 3°	4	

Voltage output				
Supply voltage	9-32V DC (*11,5-32)			
Current carrying capacity	Direction signal 150mA			
	Zero position signal 500mA			
Mounting depth A	60mm			
Wiring	1. cable 14x0,25mm² 500mm long without plug connector			
	2. cable 14x0,25mm² (for axis 3-4 or grip function) 500mm long without plug connector			
	Optional with plug connector *(standard plug connectors see page 129)*			S
0,5...2,5...4,5V 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		
0...5...10V redundant + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32V DC				
	1 axis	E132 1		
	2 axis	2		
	3 axis*	3		
	4 axis*	4		
10...0...10V + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32V DC, sensor redundant with error monitoring and error signal				
	1 axis	E136 1		
	2 axis	2		
	3 axis*	3		
	4 axis*	4		
	Output options			
	Characteristic:			
	Inverse dual *¹		1	
	Dual *¹		2	
	Inverse dual with dead zone +/- 3° *¹		3	
	Dual with dead zone +/- 3° *¹		4	
	¹ not combinable with output E136X			
	Single *²		5	
	Single with dead zone *²		6	
	² not combinable with output E112X and E132X			
	Digital output signals:			
	Output signals standard:			0
	Direction signals and zero position signals 1,5A 24VDC			1

**Axis for handle functions, interface can vary depending upon actuation element!*

Voltage output with other value on request!

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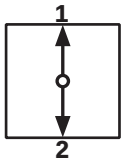
Current output					
Supply voltage	9-32V DC				
Current carrying capacity	Direction signal 150mA				
	Zero position signal 500mA				
Mounting depth A	60mm				
Wiring	1. cable 14x0,25mm² 500mm long without plug connector				
	2. cable 14x0,25mm² (for axis 3-4 or grip function) 500mm long without plug connector				
	Optional with plug connector *(standard plug connectors see page 129)*				S
0...10...20mA + 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		
20...0...20mA + 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		
4...12...20mA + 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		
20...4...20mA + 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		
	Output options				
	Single			5	
	Single with dead zone +/- 3°			6	
	Digital output signals:				
	Output signals standard:				0
	Direction signals and zero position signals 1,5A 24VDC				1

**Axis for handle functions, interface can vary depending upon actuation element!*

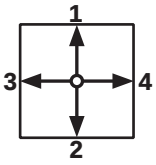
Current output with other value on request!

Identification of the installation variants with switching directions:

V25.1



V25



CAN		
Supply voltage	9-32V DC	
Idle current consumption	120mA (24VDC)	
Current carrying capacity	Direction signal 100mA	
	Zero position signal 100mA	
	External digital output for LEDs 5mA - 30mA (dependent on the number of LEDs)	
	Digital switching output (potential-free) 100mA	
Mounting depth A	60mm (Expansion stage 1)	
	75mm (Expansion stage 2)	
	95mm (Expansion stage 3)	
Protocol	CANOpen CiA DS 301 or SAE J1939	
Baud rate	20kBit/s to 1Mbit/s (standard 250kBit/s)	
Output value	255...0...255	
Wiring	CAN (IN) cable 300mm with plug connector M12 (male)	
	CAN (OUT) cable 300mm with plug connector M12 (female)	
	External in-/outputs cable 300mm long without plug connector	
	External in-/outputs cable 300mm long without plug connector (additional from 32 in-/outputs)	
	Optional with plug connector *(standard plug connectors see page 129)*	S
CAN V25 expansion stage 1		E304 1
- 4 analog joystick axis		
- 15 digital joystick functions		
- Input for capacitive sensor		
Main-axis with additional digital outputs separately wired (not via CAN)		
- 2 direction signals per main axis		1
CAN V25 expansion stage 2		E305 1
- 7 analog joystick axis		
- 15 digital joystick functions		
- 2 inputs for capacitive sensors		
With additional external in-/outputs		
- 8 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 8 external digital inputs		2
- 16 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 16 external digital inputs		3
External LED-outputs can be used in the grip for LEDs		

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CAN V25 expansion stage 3	E306 1	
- 10 analog joystick axis		
- 15 digital joystick functions		
- 2 inputs for capacitive sensors		
With additional external in-/outputs		
- 8 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 8 external digital inputs	2	
- 16 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 16 external digital inputs	3	
- 24 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 24 external digital inputs	4	
- 32 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 32 external digital inputs	5	
External LED-outputs can be used in the grip for LEDs		
Main-axis with additional digital outputs separately wired (not via CAN)		
- 2 direction signals + 1 zero position signal (potential-free) per axis		3
With additional analog outputs on request!		

CANopen safety		
Supply voltage	9-32V DC	
Idle current consumption	120mA (24V DC)	
Current carrying capacity	Direction signal 100mA	
	Zero position signal 100mA (potential-free)	
	External digital output for LEDs 5mA - 30mA (dependent on the number of LEDs)	
	Digital switching output (potential-free) 100mA	
Baud rate	20kBit/s to 1MBit/s (standard 250kBit/s)	
Output value	255...0...255	
Mounting depth	60mm (Expansion stage 1)	
	75mm (Expansion stage 2)	
	95mm (Expansion stage 3)	
Protocol	CANopen Safety CIA 304	
Wiring	CAN (IN) cable 300mm with plug connector M12 (male)	
	CAN (OUT) cable 300mm with plug connector M12 (female)	
	External in-/outputs cable 300mm long without plug connector	
	External in-/outputs cable 300mm long without plug connector (additional from 32 in-/outputs)	
	Optional with plug connector *(standard plug connectors see page 129)*	S
CANopen Safety expansion stage 1	E404 1	
- 4 analog joystick axis		
- 15 digital joystick functions		
- Input for capacitive sensor		
Main-axis with additional digital outputs separately wired (not via CAN)		
- 2 direction signals per main axis		1
CANopen safety expansion stage 2	E405 1	
- 7 analog joystick axis		
- 15 digital joystick functions		
- 2 inputs for capacitive sensors		
With additional external in-/outputs		
- 8 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 8 external digital inputs	2	
- 16 external LED-outputs (dimmable), 1 switching output (potential-free, 100mA), 16 external digital inputs	3	
External LED-outputs can be used in the grip for LEDs		

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CANopen safety expansion stage 3	E406 1	
- 10 analog joystick axis		
- 15 digital joystick functions		
- 2 inputs for capacitive sensor		
With additional external in-/outputs		
- 8 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 8 external digital inputs	2	
- 16 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 16 external digital inputs	3	
- 24 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 24 external digital inputs	4	
- 32 external LED-outputs (dimmable), 2 switching outputs (potential-free, 100mA), 32 external digital inputs	5	
External LED-outputs can be used in the grip for LEDs		
Main-axis with additional digital outputs separately wired (not via CAN)		
- 2 direction signals + 1 zero position signal (potential-free) per axis		3
With additional analog outputs on request!		

Attachments		
Z01 Mating connector M12 male insert with 2m cable	20201140	
Z02 Mating connector M12 female insert with 2m cable	20202298	

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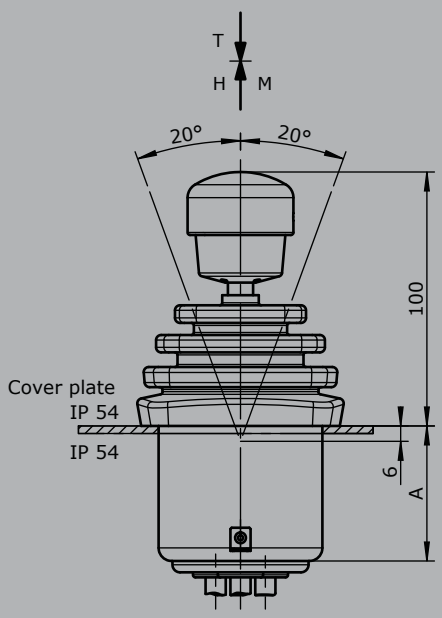
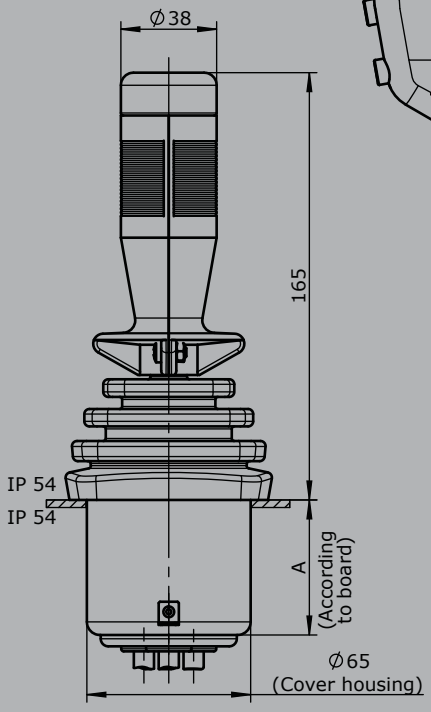
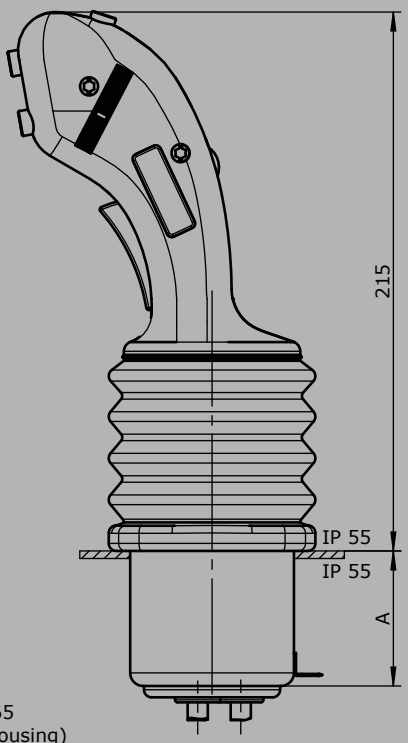
T = Dead man's button
H = Signal button
M = Latch for mechanical zero interlock

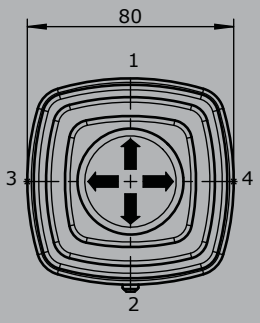


Palm grip B1

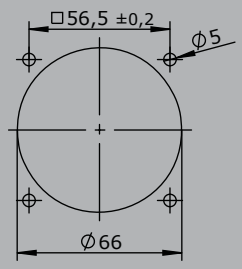


Palm grip B3

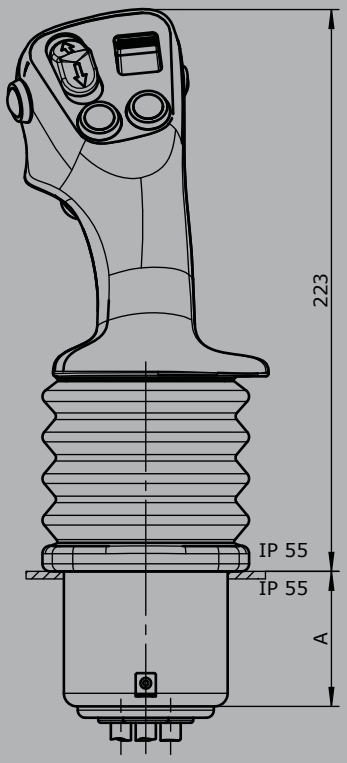




Hole pattern



Palm grip B25



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