

# Multi-Axis Controller

## V85 / VV85



The V85/VV85 is a robust joystick commonly used in electro-hydraulic applications. Long life and high reliability is ensured by the latest contactless hall-technology. With many outputs and grip options the V85/VV85 series is flexible and customisable.

### Technical data

|                       |  |
|-----------------------|--|
| Mechanical life V85   | 10 million operating cycles                                      |
| Mechanical life VV85  | 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) |



|   |   | VV85 | S8 | P | Example<br>T | -Z80 | +R11 | -B | -E... | -S... | -X |
|---|---|------|----|---|--------------|------|------|----|-------|-------|----|
| <b>Basic unit</b>                             |   |      |    |   |              |      |      |    |       |       |    |
| V85.1   | Multi-Axis Controller, 1-axis           |      |    |   |              |      |      |    |       |       |    |
| V85   | Multi-Axis Controller, 2-axis           |      |    |   |              |      |      |    |       |       |    |
| Reinforced version                            |   |      |    |   |              |      |      |    |       |       |    |
| VV85.1  | 1-axis                                  |      |    |   |              |      |      |    |       |       |    |
| VV85  | 2-axis                                  |      |    |   |              |      |      |    |       |       |    |
| <b>Control-handle extended</b>                |   |      |    |   |              |      |      |    |       |       |    |
|   | Standard 160 mm*                        |      |    |   |              |      |      |    |       |       |    |
| S5  | -20 mm                                  |      |    |   |              |      |      |    |       |       |    |
| S8  | +20 mm                                  |      |    |   |              |      |      |    |       |       |    |
| *Only available in combination with a handle! |   |      |    |   |              |      |      |    |       |       |    |
| <b>Gate</b>                                   |   |      |    |   |              |      |      |    |       |       |    |
| P   | Cross gate                              |      |    |   |              |      |      |    |       |       |    |
| P X   | Special gate                            |      |    |   |              |      |      |    |       |       |    |
| <b>Grip / Palm Grip</b>                       |   |      |    |   |              |      |      |    |       |       |    |
|   | Knob (included in basic unit!)          |      |    |   |              |      |      |    |       |       |    |
| M   | Knob with mechanical zero interlock     |      |    |   |              |      |      |    |       |       |    |
| T   | Dead man                                |      |    |   |              |      |      |    |       |       |    |
| H   | Signal button                           |      |    |   |              |      |      |    |       |       |    |
| D   | Push button                             |      |    |   |              |      |      |    |       |       |    |
| B...  | Palm Grip B... (see page Palm Grip 161) |      |    |   |              |      |      |    |       |       |    |

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

VV85 S8 P T -Z80 +R11 -B -E... -S... -X

### Axis 1 / Axis 2 (not applied for V/VV85.1)

|    |  |
|----|--|
| Z  | Spring return  |
| R  | Friction brake*                                      |
|    | Latching:*   |
| 11 | 1-0-1 (zero detent)                                  |
| 22 | 2-0-2  |
| 33 | 3-0-3  |
| 44 | 4-0-4  |
| 08 | End-position latching SR2 or SR4                     |
| 19 | 1-0-1 + end-position latching SR2 or SR4             |
| 80 | End-position latching SR1 or SR3                     |
| 91 | 1-0-1 + end-position latching SR1 or SR3             |
| 88 | End-position latching SR1 + SR2 or SR3 + SR4         |
| 99 | 1-0-1 + end-position latching SR1 + SR2 or SR3 + SR4 |

\*Maximum deflection angle +/- 25°!

### Degree of protection

|     |  |
|-----|--|
| B   | Cover housing (included in basic unit!)  |
| 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 126)

### Interface (description see on the following pages)

|      |                          |
|------|--------------------------|
| E0xx | Switching output         |
| E1xx | Voltage output           |
| E2xx | Current output           |
| E3xx | CAN-interface            |
| E4xx | CANopen Safety interface |
| E5xx | Profibus DP-interface    |
| E6xx | Profinet                 |
| E7xx | PROFIsafe                |
| E8xx | PWM - Output             |
| E9xx | Other outputs            |

### Plug connectors

|      |   |
|------|---|
| S... | Standard plug connectors (see page 125) |
|------|---|

### Special model

|   |                              |
|---|------------------------------|
| X | Special / customer specified |
|---|------------------------------|

### Combination possibilities with our grips



### Digital output

|   |  |        |
|---|--|--------|
| Supply voltage  | 9-32 V DC  |        |
| Current carrying capacity   | Direction signal 150 mA  |        |
|   | Zero position signal 500 mA  |        |
| Mounting depth A  | 72 mm (reduced mounting depth on request!)   |        |
| Wiring  | 1. cable 14 x 0,25 mm <sup>2</sup> 500 mm long without plug connector                              |        |
|   | 2. cable 14 x 0,25 mm <sup>2</sup> (optional for grip function) 500 mm long without plug connector |        |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                      |        |
| 2 Direction signals + 1 zero position signal (galvanically isolated) per axis |  |        |
|   | 1 axis   | E001 1 |
|   | 2 axis   | 2      |

### Voltage output (Not stabilized)

|  |  |        |
|--|--|--------|
| Supply voltage   | 4,75-5,25 V DC   |        |
| Current carrying capacity                                  | Direction signal 8 mA  |        |
| Mounting depth A   | 72 mm (reduced mounting depth on request!)   |        |
| Wiring   | 1. cable 14 x 0,25 mm <sup>2</sup> 500 mm long without plug connector                              |        |
|  | 2. cable 14 x 0,25 mm <sup>2</sup> (optional for grip function) 500 mm long without plug connector |        |
|  | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                      |        |
| 0,5...2,5...4,5 V redundant + 2 direction signals per axis |  |        |
|  | 1 axis   | E104 1 |
|  | 2 axis   | 2      |
|  | <b>Output options</b>  |        |
|  | 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  | 72 mm (reduced mounting depth on request!)   |  |        |   |
| Option  | Input for capacitive sensor  |  |        |   |
| Wiring  | 1. cable 14 x 0,25 mm <sup>2</sup> 500 mm long without plug connector                              |  |        |   |
|   | 2. cable 14 x 0,25 mm <sup>2</sup> (optional for grip function) 500 mm long without plug connector |  |        |   |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</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      |   |
| 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      |   |
|   | 3 axis*  |  | 3      |   |
|   | 4 axis*  |  | 4      |   |
| 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      |   |
| +10...0...-10 V + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, supply voltage 11,5 - 32 V DC, redundant sensor with error monitoring                |  |  |        |   |
|   | 1 axis   |  | E138 1 |   |
|   | 2 axis   |  | 2      |   |
|   | 3 axis*  |  | 3      |   |
|   | 4 axis*  |  | 4      |   |
| <b>Output options</b>   |  |  |        |   |
| Characteristic:   |  |  |        |   |
|   | Inverse dual * <sup>1</sup>  |  | 1      |   |
|   | Dual * <sup>1</sup>  |  | 2      |   |
|   | Inverse dual with dead zone +/- 3° * <sup>1</sup> (standard)                                       |  | 3      |   |
|   | Dual with dead zone +/- 3° * <sup>1</sup>  |  | 4      |   |
| * <sup>1</sup> Not combinable with output E136X + E138X   |  |  |        |   |
|   | Single * <sup>2</sup>  |  | 5      |   |
|   | Single with dead zone * <sup>2</sup> (standard)  |  | 6      |   |
| * <sup>2</sup> Not combinable with output E112X and E132X   |  |  |        |   |
| Digital output signals:   |  |  |        |   |
| Output signals standard:  |  |  |        |   |
|   | Direction signals and zero position signals 1,5A 24V DC  |  | 1      |   |

\*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  | 72 mm (reduced mounting depth on request!)   |
| Option  | Input for capacitive sensor  |
| Wiring  | 1. cable 14 x 0,25 mm <sup>2</sup> 500 mm long without plug connector                              |
|   | 2. cable 14 x 0,25 mm <sup>2</sup> (optional for grip function) 500 mm long without plug connector |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                      |
| S   |  |
| 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  |
| 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  |
| 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  |
| 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  |
| +20...0...-20 mA + 2 direction signals + 1 zero position signal (galvanically isolated) per axis, sensor redundant with error monitoring                |  |
|   | 1 axis E226 1  |
|   | 2 axis 2   |
|   | 3 axis* 3  |
|   | 4 axis* 4  |
| <b>Output options</b>   |  |
|   | Single 5   |
|   | Single with dead zone +/- 3° (standard) 6  |
| Digital output signals:   |  |
| Output signals standard:  |  |
|   | Direction signals and zero position signals 1,5A 24 V DC 1   |
| *Axis for grip functions, interface can vary depending upon actuation element!  |  |
| Current output with other value on request!   |  |

| CAN   |  |        |
|---|--|--------|
| Supply voltage  | 9-32 V DC  |        |
| Idle current consumption  | 120 mA (24 V DC)   |        |
| Current carrying capacity   | Direction signal 100 mA  |        |
|   | Zero position signal 100 mA (potential-free)   |        |
|   | External digital output for LEDs 5 mA - 30 mA (dependent on the number of LEDs)                  |        |
|   | Digital switching output (potential-free) 100 mA   |        |
| Mounting depth A  | E3091: 72 mm   |        |
|   | E3091X: 85 mm  |        |
|   | E3101X - E3103X: 85 mm   |        |
|   | E3104X - E3105X: 105 mm  |        |
|   | (Reduced mounting depth on request!)   |        |
| Protocol  | CANopen CiA DS 301 or SAE J1939 (based on)   |        |
| Baud rate   | 20 kBit/s to 1 Mbit/s (standard 250 kBit/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                                    |        |
|   | External in-/outputs cable 300 mm long without plug connector (additionally from 32 in-/outputs) |        |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                    | S      |
| <b>CAN expansion stage 1</b>  |  | E309 1 |
| - 7 analog joystick axis  |  |        |
| - 16 digital joystick functions   |  |        |
| - Input for capacitive sensor   |  |        |
| With additional external in-/outputs  |  |        |
| - 8 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 8 external digital inputs    |  | 2      |
| - 16 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 16* external digital inputs |  | 3      |
| *External LED-outputs can be used for LEDs in the grip  |  |        |
| *With the use of capacitive sensor, the external digital inputs are reduced by one input!                               |  |        |
| <b>CAN expansion stage 2</b>  |  | E310 1 |
| - 10 analog joystick axis   |  |        |
| - 16 digital joystick functions   |  |        |
| - 2 inputs for capacitive sensors   |  |        |
| With additional external in-/outputs  |  |        |
| - 8 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 8 external digital inputs    |  | 2      |
| - 16 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 16 external digital inputs  |  | 3      |
| - 24 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 24 external digital inputs  |  | 4      |
| - 32 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 32* external digital inputs |  | 5      |
| *External LED-outputs can be used for LEDs in the grip!   |  |        |
| *With the use of two capacitive sensors, the external digital inputs are reduced by one input!                          |  |        |
| Main-axis with additional digital-/analog outputs separately wired (not via CAN)  |  |        |
| - 2 direction signals + 1 zero position signal (potential-free) per main-axis   |  | 3      |
| Additional analog outputs on request!   |  |        |

| CANopen Safety  |  |        |   |
|---|--|--------|---|
| Supply voltage  | 9-32 V DC  |        |   |
| Idle current consumption  | 120 mA (24 V DC)   |        |   |
| Current carrying capacity   | Direction signal 100 mA  |        |   |
|   | Zero position signal 100 mA (potential-free)   |        |   |
|   | External digital output for LEDs 5 mA - 30 mA (dependent on the number of LEDs)                  |        |   |
|   | Digital switching output (potential-free) 100 mA   |        |   |
| Mounting depth A  | E4091: 72 mm   |        |   |
|   | E4091X: 85 mm  |        |   |
|   | E4101X - E4103X: 85 mm   |        |   |
|   | E4104X - E4105X: 105 mm  |        |   |
|   | (Reduced mounting depth on request!)   |        |   |
| Protocol  | CANopen Safety EN50325-5   |        |   |
| Baud rate   | 20 kBit/s to 1 MBit/s (Standard 250 kBit/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                                    |        |   |
|   | External in-/outputs cable 300 mm long without plug connector (additionally from 32 in-/outputs) |        |   |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                    |        | S |
| <b>CANopen Safety expansion stage 1</b>   |  | E409 1 |   |
| - 7 analog joystick axis  |  |        |   |
| - 16 digital joystick functions   |  |        |   |
| - Input for capacitive sensor   |  |        |   |
| With additional external in-/outputs  |  |        |   |
| - 8 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 8 external digital inputs    |  | 2      |   |
| - 16 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 16* external digital inputs |  | 3      |   |
| <i>*External LED-outputs can be used for LEDs in the grip!</i>  |  |        |   |
| <i>*With the use of capacitive sensor, the external digital inputs are reduced by one input!</i>                        |  |        |   |
| <b>CANopen Safety expansion stage 2</b>   |  | E410 1 |   |
| - 10 analog joystick axis   |  |        |   |
| - 16 digital joystick functions   |  |        |   |
| - 2 inputs for capacitive sensors   |  |        |   |
| With additional external in-/outputs  |  |        |   |
| - 8 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 8 external digital inputs    |  | 2      |   |
| - 16 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 16 external digital inputs  |  | 3      |   |
| - 24 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 24 external digital inputs  |  | 4      |   |
| - 32 external LED-outputs (dimnable optional), 1 switching output (potential-free, 100 mA), 32* external digital inputs |  | 5      |   |
| <i>*External LED-outputs can be used for LEDs in the grip!</i>  |  |        |   |
| <i>*With the use of two capacitive sensors, the external digital inputs are reduced by one input!</i>                   |  |        |   |
| Main-axis with additional digital outputs separately wired (Not via CAN)  |  |        |   |
| - 2 direction signals + 1 zero position signal (potential-free) per main-axis   |  |        | 3 |
| <i>Additional analog outputs on request!</i>  |  |        |   |

| Profibus DP   |   |        |   |
|---|---|--------|---|
| Supply voltage  | 18-30 V DC  |        |   |
| Baud rate   | To 12 MBit/s  |        |   |
| Output value  | 0...128...255   |        |   |
| Mounting depth A  | 105 mm (reduced mounting depth on request!)   |        |   |
| Wiring  | Profibus, cable 100 mm with plug connector D-Sub 9  |        |   |
|   | Supply voltage (applicable contact wiring) cable 12 x 0,25 mm <sup>2</sup> 300 mm long without plug connector |        |   |
|   | External in-/outputs, cable 300 mm long without plug connector  |        |   |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                                 |        | S |
| <b>Profibus DP</b>  |   | E501 1 |   |
| - 4 analog joystick axis  |   |        |   |
| - 16 digital joystick functions   |   |        |   |
| - Input for capacitive sensor   |   |        |   |
| With additional external in-/outputs  |   |        |   |
| - 8 external LED-outputs, 8 external digital inputs                                 |   | 2      |   |
| - 16 external LED-outputs, 16 external digital inputs                               |   | 3      |   |
| *External LED-outputs can be used for LEDs in the grip!                             |   |        |   |
| Main-axis with additional contact equipment separately wired (Not via profibus)     |   |        |   |
| - 2 direction contacts + 1 zero position contact (not potential-free) per main-axis |   |        | 1 |
| - 1 zero position contact (potential-free) per main-axis                            |   |        | 2 |

| Profinet  |  |        |   |
|---|--|--------|---|
| Supply voltage  | 18-30 V DC   |        |   |
| Baud rate   | To 100 MBit/s  |        |   |
| Output value  | 0...512...1023   |        |   |
| Mounting depth A  | 85 mm (reduced mounting depth on request!)   |        |   |
| Wiring  | Profinet (1), cable 300 mm with M12 plug connector (female)  |        |   |
|   | Profinet (2), cable 300 mm with M12 plug connector (female)  |        |   |
|   | Supply voltage (if applicable contact wiring) cable 12 x 0,25 mm <sup>2</sup> 300 mm long without plug connector |        |   |
|   | External in-/outputs, cable 300 mm long without plug connector   |        |   |
|   | Optional with plug connector ( <i>standard plug connectors see page 125</i> )                                    |        | S |
| <b>Profinet</b>   |  | E603 1 |   |
| - 6 analog joystick axis  |  |        |   |
| - 24 digital joystick functions   |  |        |   |
| - Input for capacitive sensor   |  |        |   |
| With with additional external in-/outputs                                   |  |        |   |
| - 8 external LED-outputs, 8 external digital inputs                         |  | 2      |   |
| - 16 external LED-outputs, 16 external digital inputs                       |  | 3      |   |
| *External LED-outputs can be used for LEDs in the grip!                     |  |        |   |
| Main-axis with additional signals separately wired (not via profinet)       |  |        |   |
| - 2 direction signals + zero position signal (potential-free) per main-axis |  |        | 3 |



| PROFIsafe   |  |        |        |   |
|---|--|--------|--------|---|
| Supply voltage  | 18-30 V DC   |        |        |   |
| Baud rate   | To 100 MBit/s  |        |        |   |
| Output value  | 0...512...1023   |        |        |   |
| Mounting depth A  | 85 mm (reduced mounting depth on request!)   |        |        |   |
| Wiring  | Profinet (IN), cable 300 mm with M12 plug connector (female)   |        |        |   |
|   | Profinet (OUT), cable 300 mm with M12 plug connector (female)  |        |        |   |
|   | Supply voltage (if applicable contact wiring) cable 12 x 0,25 mm <sup>2</sup> 300 mm long without plug connector |        |        |   |
|   | External in-/outputs, cable 300 mm long without plug connector   |        |        |   |
| Optional with plug connector ( <i>standard plug connectors see page 125</i> ) |  |        |        | S |
| <b>PROFIsafe</b>  |  |        | E703 1 |   |
| - 6 analog joystick axis  |  |        |        |   |
| - 24 digital joystick functions   |  |        |        |   |
| - Input for capacitive sensor   |  |        |        |   |
| With additional external in-/outputs  |  |        |        |   |
| - 8 external LED-outputs, 8 external digital inputs                           |  |        | 2      |   |
| - 16 external LED-outputs, 16 external digital inputs                         |  |        | 3      |   |
| <i>*External LED-outputs can be used for LEDs in the grip!</i>                |  |        |        |   |
| Main-axis with additional signals separately wired (not via profinet safe)    |  |        |        |   |
| - 2 direction signals + zero position signal (potential-free) per main-axis   |  |        |        | 3 |
| PWM Outputs   |  |        |        |   |
| Supply Voltage  | 9-32V DC   |        |        |   |
| Valve control current   | max. 3 A   |        |        |   |
| PWM-frequency   | 1225 Hz  |        |        |   |
| Dither frequency  | 1...250 Hz adjustable  |        |        |   |
| Mounting depth A  | 100 mm (reduced mounting depth on request!)  |        |        |   |
| Other features  | Creep speed per axis   |        |        |   |
|   | 5 configurable switching outputs 2A  |        |        |   |
|   | LED outputs for status indication  |        |        |   |
|   | Input for redundant deadman  |        |        |   |
| Wiring:   | Built-in socket Phoenix 2-pole (power supply)  |        |        |   |
|   | Cable 1 (PWM) 12 x 1mm <sup>2</sup> 300 mm long without plug   |        |        |   |
|   | Cable 2 (switching output) 12 x 1mm <sup>2</sup> 300 mm long without plug  |        |        |   |
|   | Cable 3 (creep speed / dead man) 14 x 0,25 mm <sup>2</sup> 300 mm long without plug                              |        |        |   |
| Optional with plug connector ( <i>standard plug connectors see page 125</i> ) |  |        |        | S |
| PWM Output 0-3 A for 2 proportional valve magnets per axis                    |  | 1 axis | E801 1 |   |
|   |  | 2 axis | 2      |   |
|   |  | 3 axis | 3      |   |
|   |  | 4 axis | 4      |   |

### Other outputs

Voltage output for PVG32 0,25...0,5...0,75Us, power supply 9-32 V DC

Mounting depth A 72 mm (reduced mounting depth on request!)

Option Input for capacitive sensor

Wiring: 1. cable 14 x 0,25 mm<sup>2</sup> 300 mm long without plug connector  
 2. cable 14 x 0,25 mm<sup>2</sup> 300 mm long without plug connector (optional for grip function)  
 Optional with plug connector (*standard plug connectors see page 125*)

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

S

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

3

8 Bit Gray-Code with direction signals per main-axis, supply voltage 9-36 V DC

Mounting depth A 85 mm

Wiring: 1. cable 37 x 0,14 mm<sup>2</sup> 300 mm long without plug connector (axis 1+2)  
 2. cable 37 x 0,14 mm<sup>2</sup> 300 mm long without plug connector (optional for axis 3+4)  
 Optional with plug connector (*standard plug connectors see page 125*)

|        |        |
|--------|--------|
| 1 axis | E903 1 |
| 2 axis | 2      |
| 3 axis | 3      |
| 4 axis | 4      |

S

8 Bit binary-Code with direction signals per main-axis, supply voltage 9-36 V DC

Mounting depth A 85 mm

Wiring: 1. cable 37 x 0,14 mm<sup>2</sup> 300 mm long without plug connector (axis 1+2)  
 2. cable 37 x 0,14 mm<sup>2</sup> 300 mm long without plug connector (optional for axis 3+4)  
 Optional with plug connector (*standard plug connectors see page 125*)

|        |        |
|--------|--------|
| 1 axis | E904 1 |
| 2 axis | 2      |
| 3 axis | 3      |
| 4 axis | 4      |

S

### Attachments

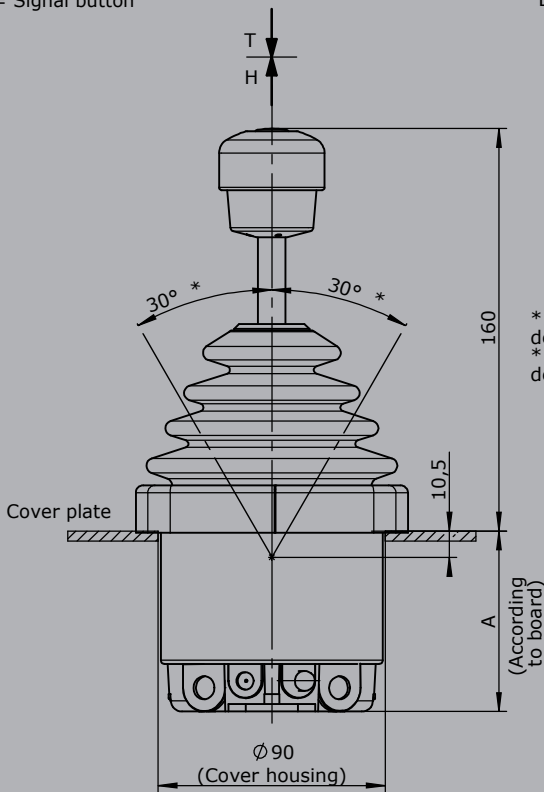
|     |  |            |
|-----|--|------------|
| Z01 | Mating connector (CAN) M12 (male insert) with 2 m cable      | 20201140   |
| Z02 | Mating connector (CAN) M12 (female contact) with 2 m cable   | 20202298   |
| Z03 | Mating connector (Profibus) straight                         | 22201440   |
| Z04 | Mating connector (Profibus) 90° angled                       | 22201741   |
| Z05 | Mating connector (Profinet) M12 (male insert) with 2 m cable | 5300000222 |

T = Dead man's button  
H = Signal button

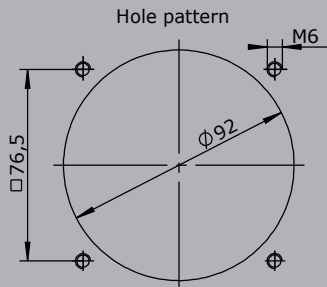
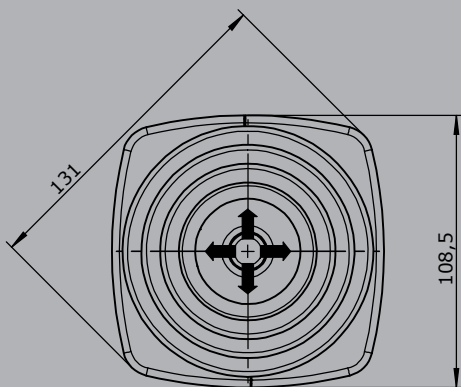
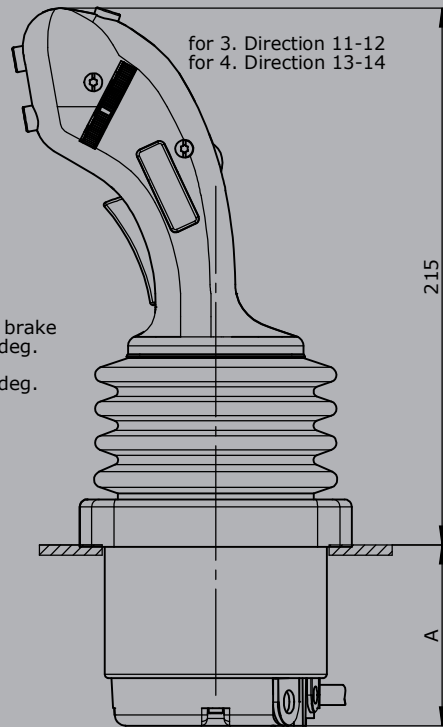
Knob solid  
D= Push button

Palm grip B3

for 3. Direction 11-12  
for 4. Direction 13-14



\* Type with friction brake  
deflection max. 25 deg.  
\* Type with detent  
deflection max. 25 deg.



Palm grip B25

