

# Multi-axis Controller

V1



The V1 is a robust joystick commonly used in electro-hydraulic applications. The modular design enables the switching device to be used universally. Long life and high reliability is ensured by the latest contactless hall-technology.

## Technical data

|                       |                                                                  |
|-----------------------|------------------------------------------------------------------|
| Mechanical life V1    | 6 million operating cycles                                       |
| Supply voltage        | See interface                                                    |
| Operation temperature | -40°C to +85°C                                                   |
| Degree of protection  | up to IP65                                                       |
| Functional safety     | PLd compatible (EN ISO 13849, complies SIL2 to DIN EN IEC 61508) |

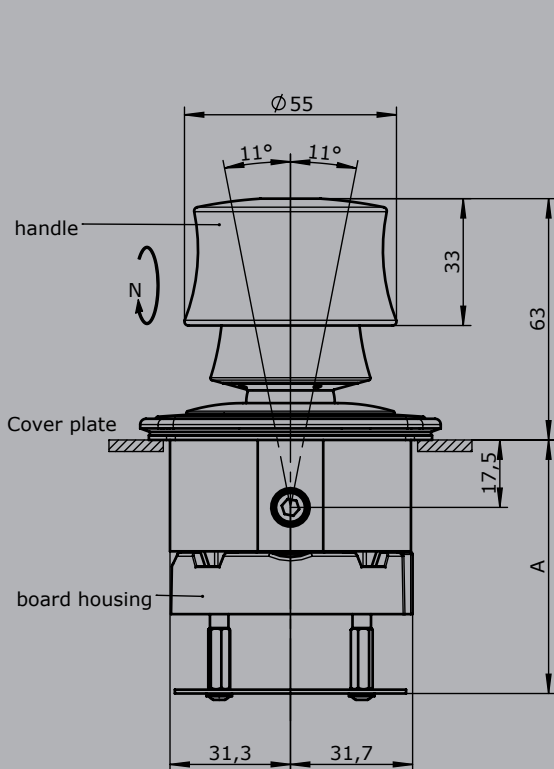


|                                                           | V1                                                 | P | H11 | H13 | H15 | H17 | - Z | + Z | - B | - E... | - S... | - X |
|-----------------------------------------------------------|----------------------------------------------------|---|-----|-----|-----|-----|-----|-----|-----|--------|--------|-----|
| <b>Basic unit</b>                                         |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| V1.1                                                      | 1-axis                                             |   |     |     |     |     |     |     |     |        |        |     |
| V1                                                        | 2-axis                                             |   |     |     |     |     |     |     |     |        |        |     |
| <b>Gate</b>                                               |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| P                                                         | Cross gate                                         |   |     |     |     |     |     |     |     |        |        |     |
| PX                                                        | Special gate                                       |   |     |     |     |     |     |     |     |        |        |     |
| <b>Grip / Grip functions</b>                              |                                                    |   |     |     |     |     |     |     |     |        |        |     |
|                                                           | Grip (included in basic unit!)                     |   |     |     |     |     |     |     |     |        |        |     |
| H11                                                       | Additional axis 1 / Grip up - down                 |   |     |     |     |     |     |     |     |        |        |     |
| H13                                                       | Additional axis 2 / Grip rotate left - right       |   |     |     |     |     |     |     |     |        |        |     |
| H15                                                       | Additional axis 3 / Grip tilt forwards - backwards |   |     |     |     |     |     |     |     |        |        |     |
| H17                                                       | Additional axis 4 / Grip tilt left - right         |   |     |     |     |     |     |     |     |        |        |     |
| <b>Axis 1</b>                                             |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| Z                                                         | Spring return                                      |   |     |     |     |     |     |     |     |        |        |     |
| R                                                         | Friction brake                                     |   |     |     |     |     |     |     |     |        |        |     |
| <b>Axis 2 (not applicable to V1.1)</b>                    |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| Z                                                         | Spring return                                      |   |     |     |     |     |     |     |     |        |        |     |
| R                                                         | Friction brake                                     |   |     |     |     |     |     |     |     |        |        |     |
| <b>Cover housing</b>                                      |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| B                                                         | Cover housing (included in basic unit!)            |   |     |     |     |     |     |     |     |        |        |     |
| <b>Interface (description see on the following pages)</b> |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| E1xx                                                      | Voltage output                                     |   |     |     |     |     |     |     |     |        |        |     |
| More interfaces on request!                               |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| <b>Plug connectors</b>                                    |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| S...                                                      | Standard plug connectors (see page 149)            |   |     |     |     |     |     |     |     |        |        |     |
| <b>Special model</b>                                      |                                                    |   |     |     |     |     |     |     |     |        |        |     |
| X                                                         | Special / customer specified                       |   |     |     |     |     |     |     |     |        |        |     |

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

| Voltage output (not stabilized)             |                                                                               |                                               |        |
|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------|--------|
| Supply voltage                              | 4,75-5,25V DC                                                                 |                                               |        |
| Current carrying capacity                   | Direction signal 8 mA                                                         |                                               |        |
| Mounting depth A                            | 85 mm                                                                         |                                               |        |
| Wiring                                      | 1. cable 14 x 0,25 mm² 500 mm long without plug connector                     |                                               |        |
|                                             | Optional with plug connector ( <i>standard plug connectors see page 149</i> ) |                                               |        |
| 0,5...2,5...4,5V redundant signals per axis |                                                                               |                                               |        |
|                                             |                                                                               | 1 axis                                        | E103 1 |
|                                             |                                                                               | 2 axis                                        | 2      |
|                                             |                                                                               | 3 axis*                                       | 3      |
|                                             |                                                                               | 4 axis*                                       | 4      |
|                                             |                                                                               | 5 axis*                                       | 5      |
|                                             |                                                                               | 6 axis*                                       | 6      |
| Output options                              |                                                                               |                                               |        |
| Characteristic:                             |                                                                               |                                               |        |
|                                             |                                                                               | Inverse dual                                  | 1      |
|                                             |                                                                               | Dual                                          | 2      |
|                                             |                                                                               | Inverse dual with dead zone +/- 3° (standard) | 3      |
|                                             |                                                                               | Dual with dead zone +/- 3°                    | 4      |
| More outputs on request!                    |                                                                               |                                               |        |

1



rotation angle D  
+20° -20°

angle of inclination N  
15° 15° 15° 15°

lift and sink H/S  
+4  
-4

