

**Vert-X 31E - 10.8 ... 35V / 0.1 - 10V / Single****31E5a736111902****Technical datas**

|                        |                              |
|------------------------|------------------------------|
| Mechanical version     | Magnetic actuator type 5     |
| Mounting hole          | Through-hole ø4.4 mm         |
| Sensor principle       | MH-C                         |
| Electrical angle       | Electrical angle 360°        |
| Power supply voltage   | 24 VDC                       |
| Output signal          | 0.1–10 V                     |
| Output characteristics | Single, positive gradient CW |
| Electrical connection  | Special cable                |
| Length of cable        | 1.0 m (cable)                |

**MH-C features**

- Resolution 12 bit
- Lower price than MH-C2

**Electrical Datas**

|                                                                |                      |              |
|----------------------------------------------------------------|----------------------|--------------|
| Measuring range                                                | °                    | 0...360      |
| Indep. linearity (typ.)                                        | % of measuring range | ±0.3         |
| Max. hysteresis                                                | °                    | 0.1          |
| Resolution                                                     | bit                  | 12           |
| Max. repeatability                                             | °                    | 0.1          |
| Sample rate fast mode                                          | kHz                  | (5)          |
| Sample rate slow mode                                          | kHz                  | 1.66         |
| System propagation delay fast mode                             | µs                   | (800)        |
| System propagation delay slow mode                             | µs                   | 4600         |
| Max. temperature coefficient of output signal                  | ppm/K                | 100          |
| MTTFd / MTBF                                                   |                      | upon request |
| Power supply voltage                                           | VDC                  | 10.8...35    |
| Current consumption without load (typ.) fast mode, per channel | mA                   | (19)         |
| Current consumption without load (typ.) slow mode, per channel | mA                   | 14           |
| Min. ohmic load at output                                      | kOhm                 | 10           |
| Max. capacitive load at output                                 | nF                   | 100          |
| Reverse polarity protection of power supply                    |                      | yes          |
| Electrical connection                                          |                      | -            |
| Cross section of single wires                                  | mm²                  | 0.56 (AWG20) |
| Redundancy possible                                            |                      | no           |
| Cross section of single wires redundant                        | mm²                  | -            |

**Mechanical Datas**

|                                                          |           |                  |
|----------------------------------------------------------|-----------|------------------|
| Mechanical range                                         | °         | 360 (continuous) |
| Protection rating                                        |           | IP68             |
| Min. life                                                | movements | no limitation    |
| Operating & storage temperature                          | °C        | -40...+85        |
| EN 60068-2-6, vibration (Amax = 0.75 mm, f = 5–2,000 Hz) | g         | 50               |
| EN 60068-2-27, shock                                     | g         | 200              |

**Standards**

|                                                               |     |         |
|---------------------------------------------------------------|-----|---------|
| EN 55011, Emission (Cl. B)                                    |     |         |
| EN 61000-4-2, ESD (contact discharge / air discharge)         | kV  | ±4 / ±8 |
| EN 61000-4-3, Immersion HF radiated (80–1000 MHz/1.4–2.7 GHz) | V/m | 30      |
| EN 61000-4-4, Burst (on all lines)                            | kV  | ±1      |

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|                                                   |      |     |
|---------------------------------------------------|------|-----|
| EN 61000-4-5, Surge (lines to ground)             | kV   | ±1  |
| EN 61000-4-6, Immision HF conducted (0.15–80 MHz) | Vemf | 10  |
| EN 61000-4-8, Immision magnetic field (50 Hz)     | A/m  | 300 |
| Insulation resistance (500 VDC, 1 bar, 2s)        | GOhm | 20  |
| Dielectric strength (VAC, 50 Hz, 1 min, 1 bar)    | kV   | 1   |

## Options

Custom modification of housing

Custom cable

Custom magnetic actuator

Sample rate in fast mode

Switch functions TTL (max. 2)

Special characteristic curve

Special electrical angle between 30 and 360° (ex factory)

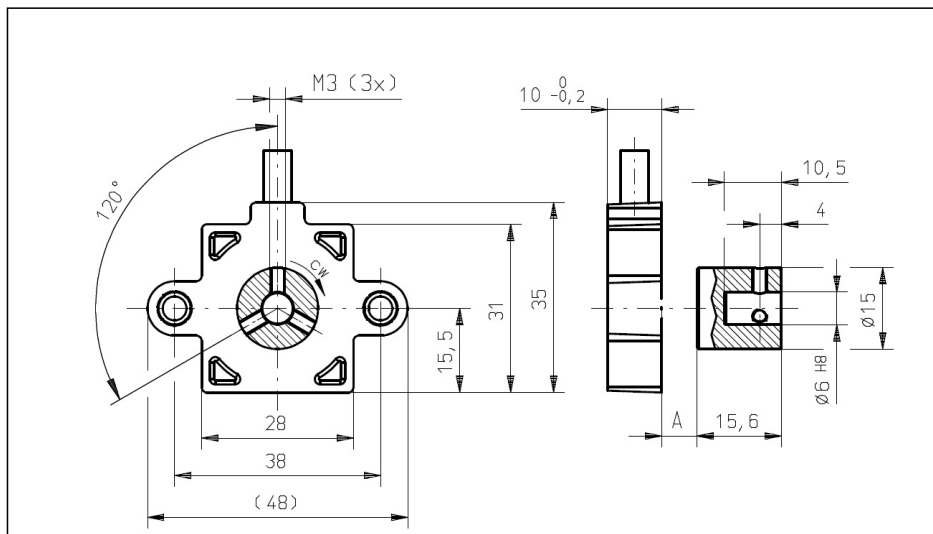
Electrical angle programmable (software)

Start and end point settable (additional wires)

Direction of rotation CW/CCW settable/programmable (additional wires or software)

Index point settable/programmable (additional wires or software)

Extended operating range, axial (without safety flag)



## Operating range/Air gap (A) Standard with Safety Flag

- 0.8 ... 6.2mm

## Extended without Safety Flag (Optional)

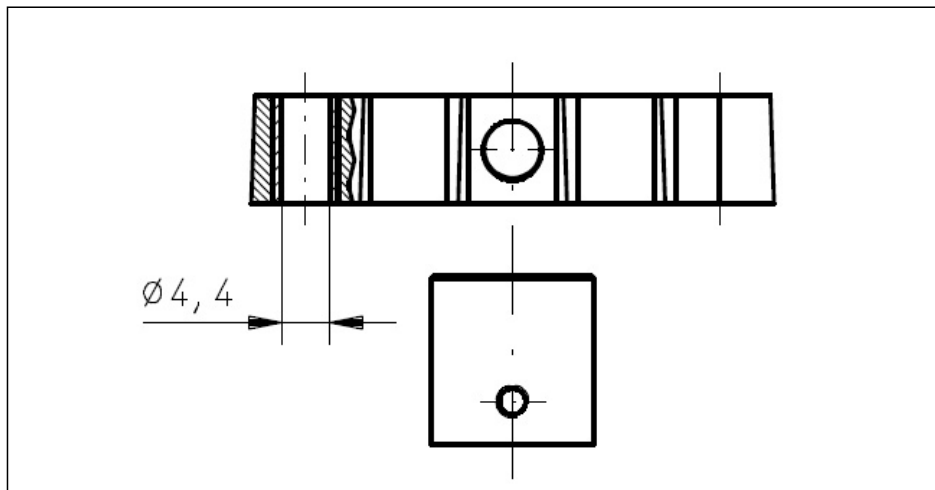
- 0 ... 10.0mm

## Features Safety Flag

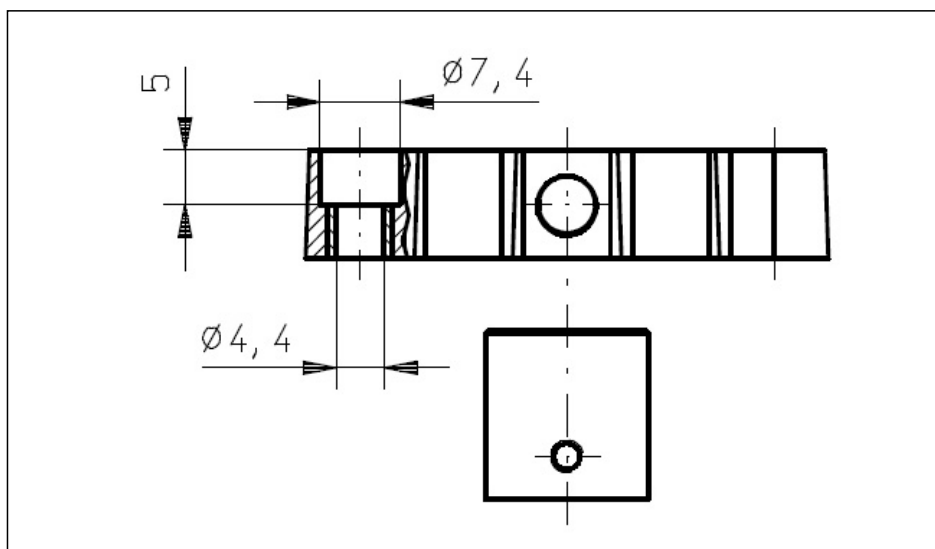
- Detection of magnetic loss
- System shut-down in case of magnetic actuator out of valid operating range
- Recommended for safety relevant applications

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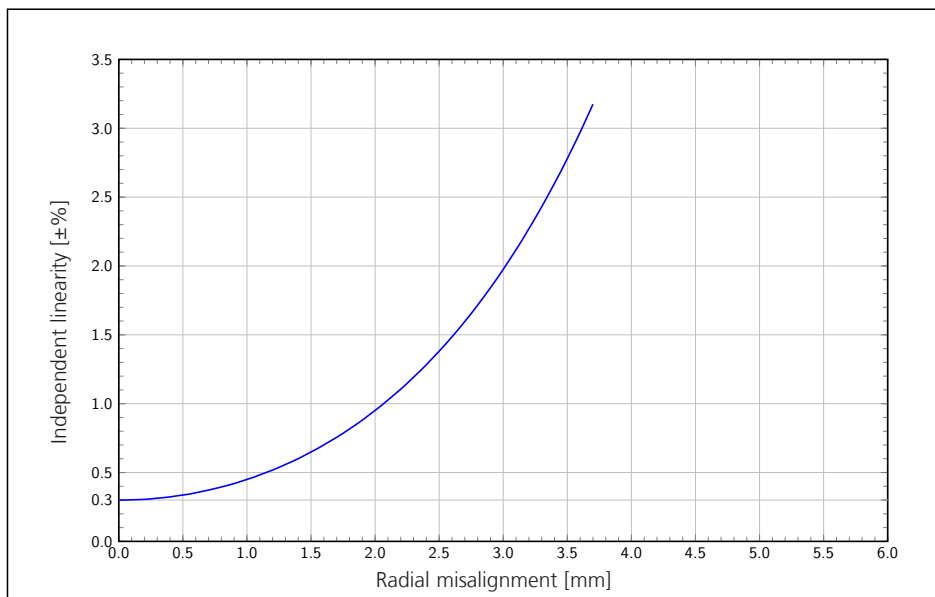
Vert-X 31E5a



Vert-X 31E5b

# Vert-X 31E - 10.8 ... 35V / 0.1 - 10V / Single

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Indep. linearity with radial misalignment (@360°)