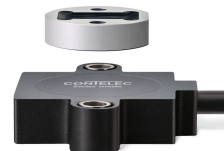


**Vert-X 31E - 8 ... 35V / Inkremental Open collector****31E8bD36177602****Technical datas**

|                                   |                                                                         |
|-----------------------------------|-------------------------------------------------------------------------|
| Mechanical version                | Magnetic actuator type 8                                                |
| Mounting hole                     | Through-hole $\varnothing 4.4$ mm with counterbore $\varnothing 7.4$ mm |
| Sensor principle                  | MH-S                                                                    |
| Electrical angle                  | Electrical angle 360°                                                   |
| Power supply voltage              | 24 VDC                                                                  |
| Output signal                     | Incremental                                                             |
| Output characteristics / output d | Open collector (A,B,Z)                                                  |
| Electrical connection             | Round cable, 6-pole                                                     |
| Length of cable                   | 1.0 m (cable)                                                           |

**Features**

- High protection rating IP68
- Compact dimensions
- Very quick, non-contacting measuring method
- Very long life
- Can be used in harsh environments (humidity, dampness, dust, vibrations, etc.)
- Several possible resolutions
- Low temperature coefficient of output signal

**Electrical Datas**

|                                                       |                 |                     |
|-------------------------------------------------------|-----------------|---------------------|
| Measuring range                                       | °               | 0...360             |
| Indep. linearity (without misalignment)               | %               | $\pm 0.5$           |
| Indep. linearity (with permitted misalignment @ 360°) | %               | $\pm 1$             |
| Max. hysteresis                                       | °               | 0.5                 |
| Resolution                                            | bit             | 256 (1-1024)        |
| Max. repeatability                                    | °               | 0.1                 |
| Max. temperature coefficient of output signal         | ppm/K           | 50                  |
| MTTFd / MTBF                                          |                 | upon request        |
| Power supply voltage                                  | VDC             | 8 ... 35            |
| Current consumption without load (typ.)               | mA              | 20                  |
| Max. latency                                          | $\mu$ s         | 10                  |
| Max. current at output                                | mA              | 30                  |
| Max. voltage at output                                | VDC             | 35                  |
| Reverse polarity protection of power supply           |                 | yes                 |
| Electrical connection (A;B)                           |                 | Round cable, 4-pole |
| Electrical connection (A;B;Z)                         |                 | Round cable, 6-pole |
| Cross section of single wires (A;B)                   | mm <sup>2</sup> | 0.35 (AWG22)        |
| Cross section of single wires (A;B;Z)                 | mm <sup>2</sup> | 0.25 (AWG24)        |
| Redundancy possible                                   |                 | no                  |

**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   | $\pm 4 / \pm 8$ |
| EN 61000-4-3, Immision HF radiated (80–1000 MHz/1.4–2.7 GHz) | V/m  | 30              |
| EN 61000-4-4, Burst (on all lines)                           | kV   | $\pm 1$         |
| EN 61000-4-5, Surge (lines to ground)                        | kV   | $\pm 1$         |
| 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              |

**Vert-X 31E - 8 ... 35V / Inkremental Open collector**

31E8bD36177602



Dielectric strength (VAC, 50 Hz, 1 min, 1 bar)

kV

1

**Options**

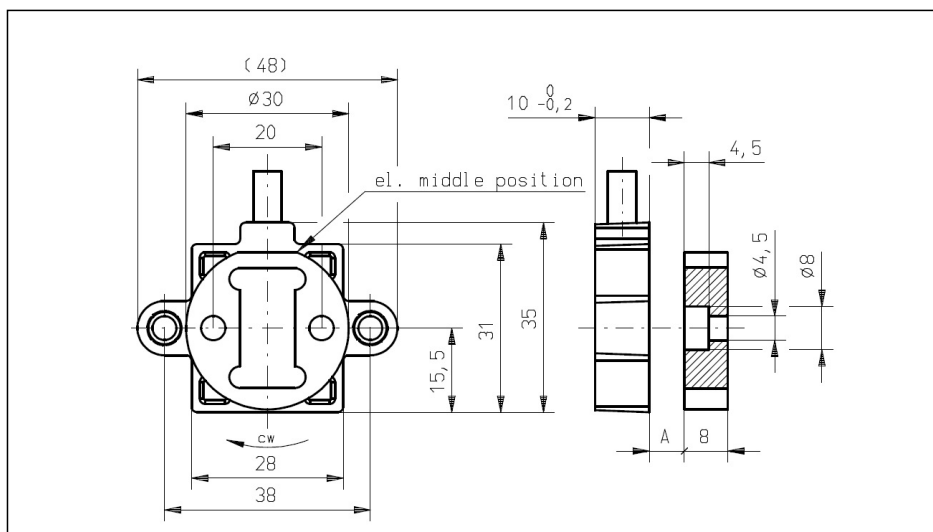
Custom cable

Custom magnetic actuator

Custom output driver

Custom resolution (1-1024 ppr)

Higher speed on request

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

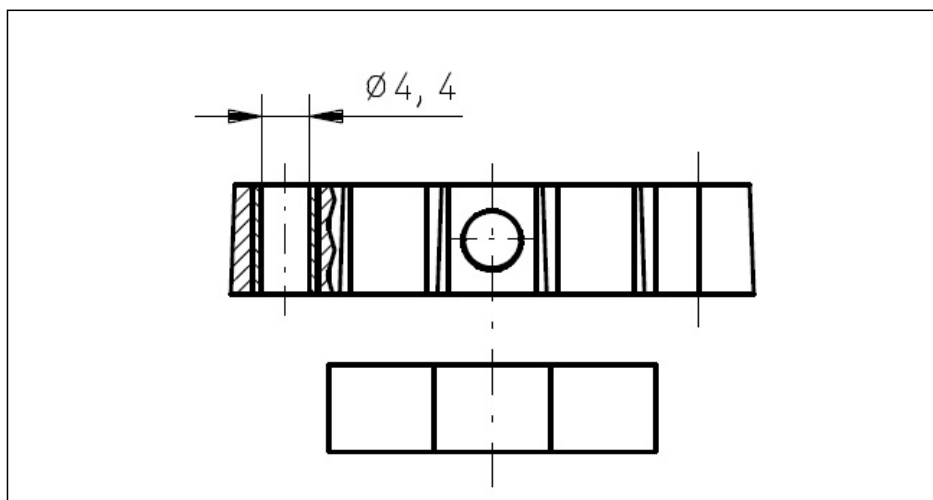
- 3.7 ... 12.8mm => Single
- 3.2 ... 12.3mm => Redundant

**Extended without Safety  
Flag (Optional)**

- 3.7 ... 18.7mm => Single
- 3.2 ... 18.2mm => Redundant

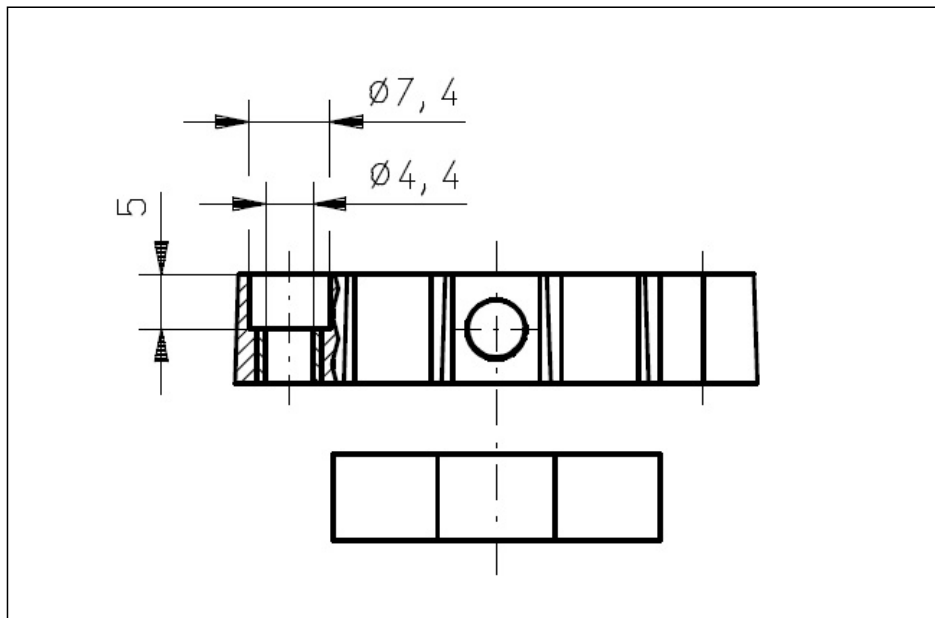
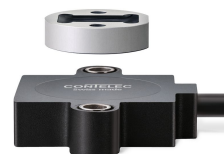
**Features Safety Flag**

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

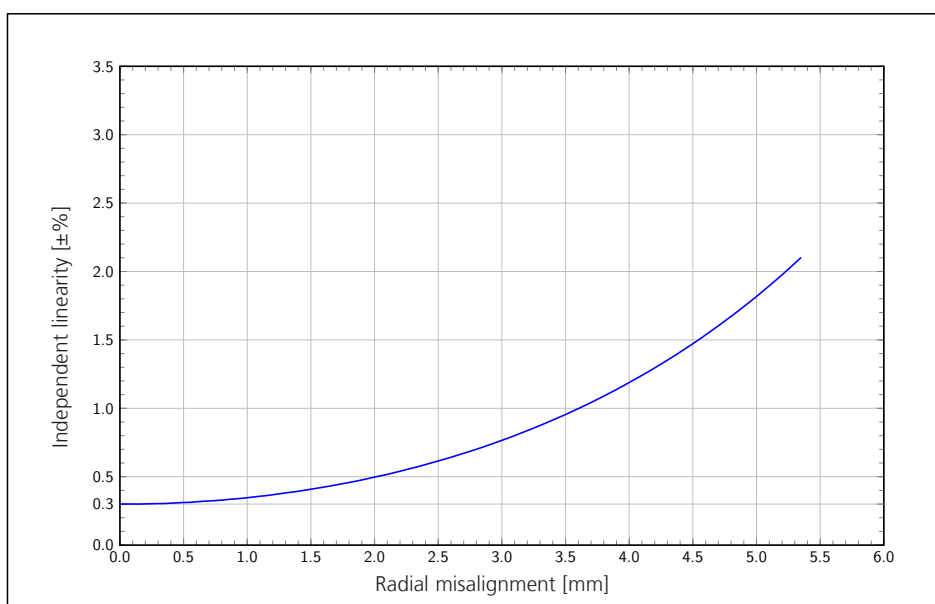
**Vert-X 31E8a**

# Vert-X 31E - 8 ... 35V / Inkremental Open collector

31E8bD36177602



Vert-X 31E8b



Indep. linearity with radial misalignment (@360°)