

**Vert-X 31E - 8 ... 35V / Inkremental Push-Pull/HTL****31E5aD36176899****Technical datas**

|                                   |                          |
|-----------------------------------|--------------------------|
| Mechanical version                | Magnetic actuator type 5 |
| Mounting hole                     | Through-hole ø4.4 mm     |
| Sensor principle                  | MH-S                     |
| Electrical angle                  | Electrical angle 360°    |
| Power supply voltage              | 24 VDC                   |
| Output signal                     | Incremental              |
| Output characteristics / output d | Push-pull/HTL (A,B)      |
| Electrical connection             | Round cable, 4-pole      |
| Length of cable                   | Special length           |

**Electrical Datas**

|                                                       |       |                     |
|-------------------------------------------------------|-------|---------------------|
| Measuring range                                       | °     | 0...360             |
| Indep. linearity (without misalignment)               | %     | ±0.5                |
| Indep. linearity (with permitted misalignment @ 360°) | %     | ±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    | 24                  |
| Max. capacitive load at output                        | nF    | 1                   |
| Max. latency                                          | µs    | 10                  |
| Max. current at output                                | mA    | 30                  |
| 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)                   | mm²   | 0.35 (AWG22)        |
| Cross section of single wires (A;B;Z)                 | mm²   | 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   | ±4 / ±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   | ±1      |
| 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      |

**Features**

- High protection rating IP68
- Compact dimensions
- Non-contacting measuring method
- Very long life
- High measurement accuracy
- Can be used in harsh environments (humidity, dampness, dust, vibrations, etc.)
- Full resolution and accuracy at programmed electrical angle
- Magnetic loss detection (with safety flag)

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

kV

1

## Options

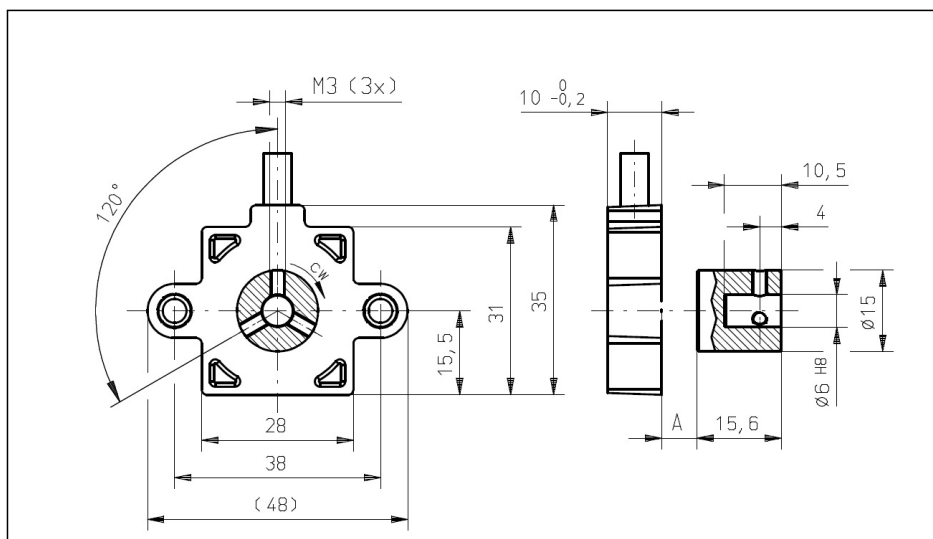
Custom cable

Custom magnetic actuator

Custom output driver

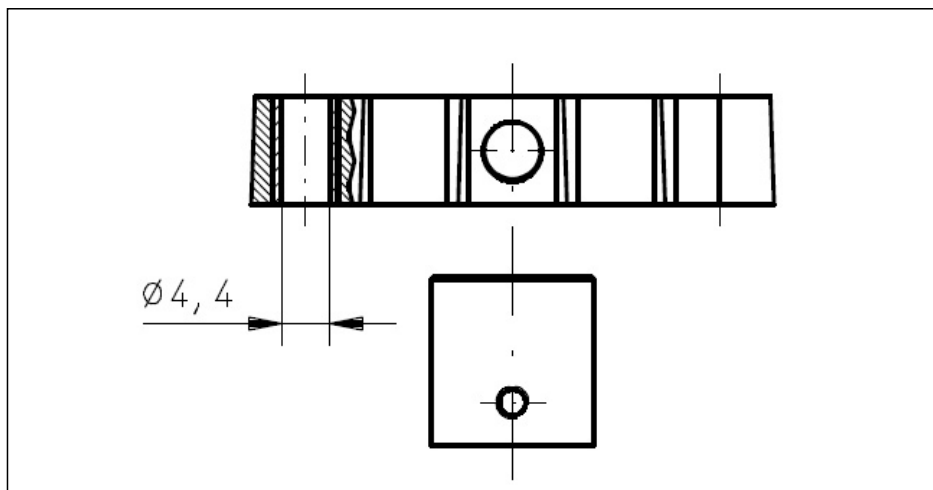
Custom resolution (1-1024 ppr)

Higher speed on request



## Operating range/Air gap (A) Standard

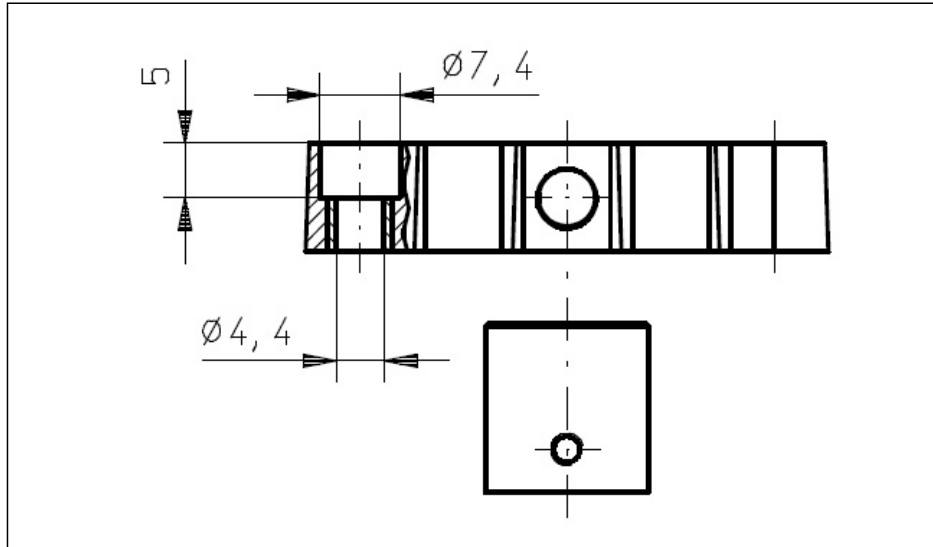
- 0.8 ... 6.2mm



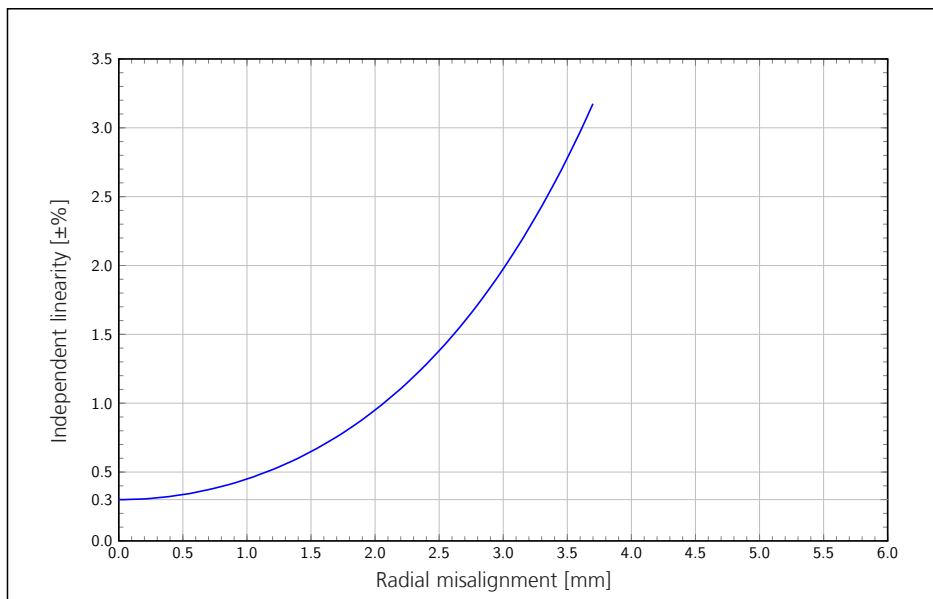
## Vert-X 31E5a

# Vert-X 31E - 8 ... 35V / Inkremental Push-Pull/HTL

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Vert-X 31E5b



Indep. linearity with radial misalignment (@360°)