

Vert-X 31E - 8 ... 35V / Inkremental Differenziell RS-422**31E5aD99174102****Technical datas**

Mechanical version	Magnetic actuator type 5
Mounting hole	Through-hole ø4.4 mm
Sensor principle	MH-S
Electrical angle	Special angle
Power supply voltage	24 VDC
Output signal	Incremental
Output characteristics / output d	Differential RS-422 (A,A',B,B')
Electrical connection	Round cable, 10-pole
Length of cable	1.0 m (cable)

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	20
Max. latency	µs	10
Reverse polarity protection of power supply		yes
Electrical connection (A;A';B;B')		Round cable, 6-pole
Electrical connection (A;A';B;B';Z;Z')		Round cable, 10-pole
Cross section of single wires (A;A';B;B')	mm ²	0.25 (AWG24)
Cross section of single wires (A;A';B;B';Z;Z')	mm ²	0.09 (AWG28)
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
Dielectric strength (VAC, 50 Hz, 1 min, 1 bar)	kV	1

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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Options

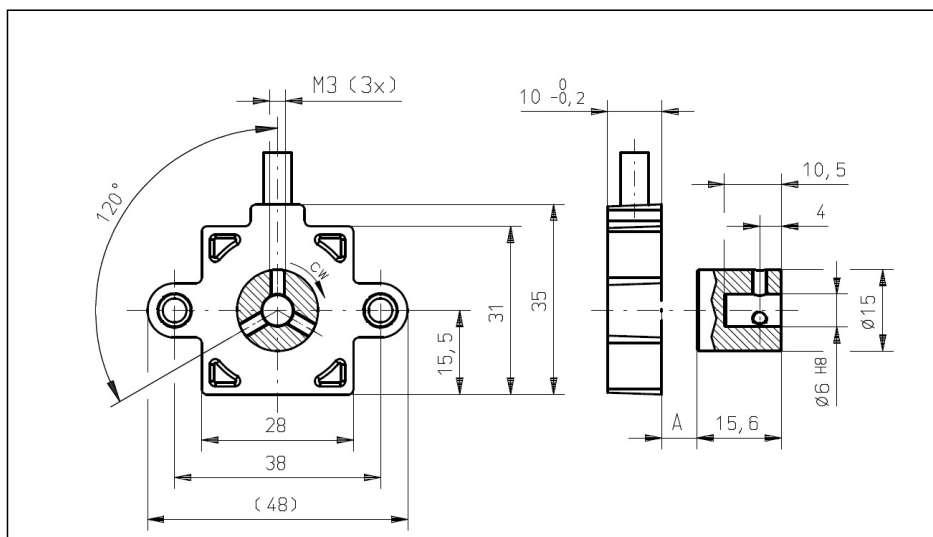
Custom cable

Custom magnetic actuator

Custom output driver

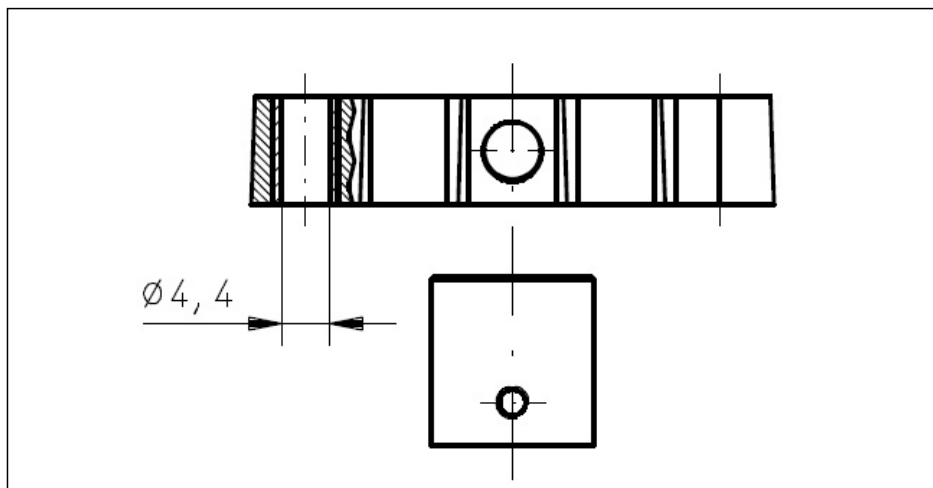
Custom resolution (1-1024 ppr)

Higher speed on request



Operating range/Air gap (A) Standard

- 0.8 ... 6.2mm



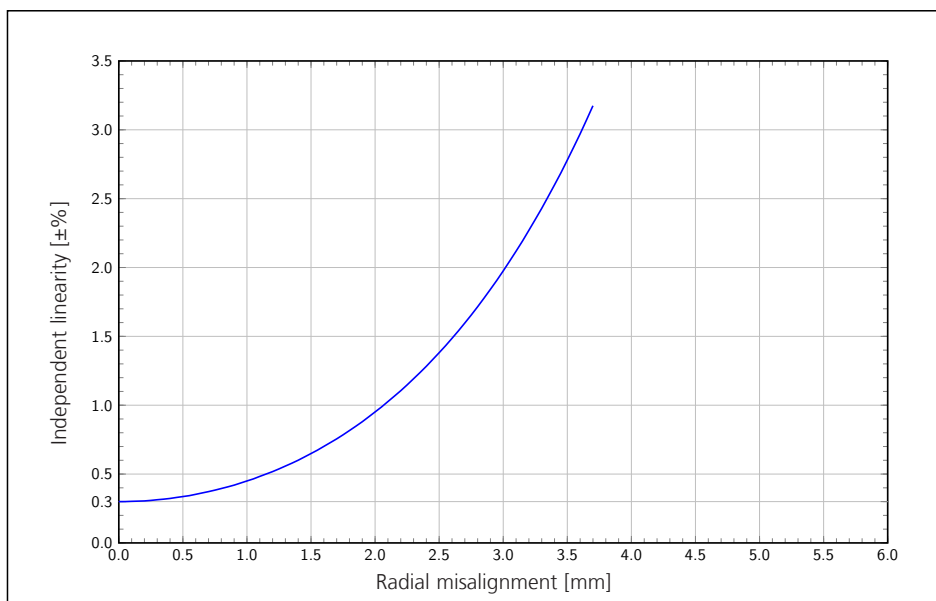
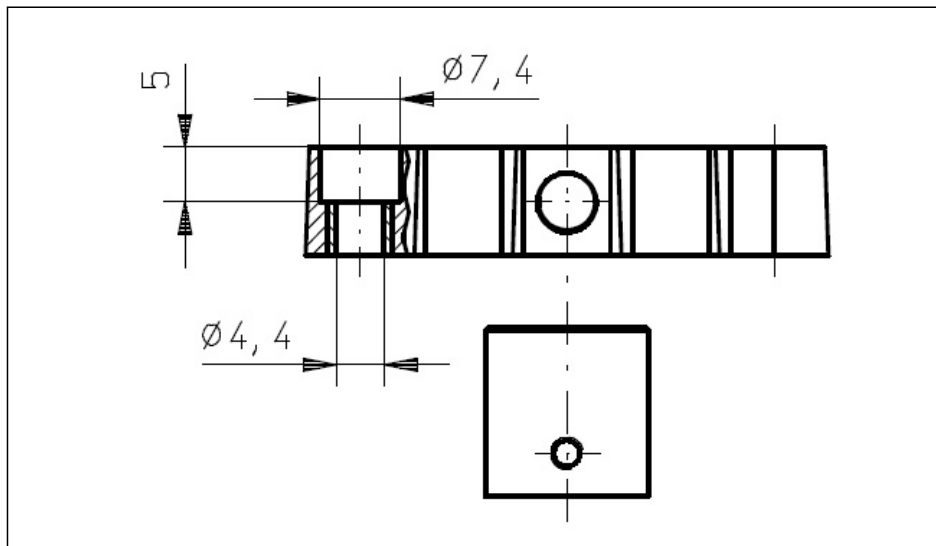
Vert-X 31E5a

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Vert-X 31E5b



Indep. linearity with radial misalignment (@360°)