

Vert-X 31E - 10.8 ... 35V / 0.1 - 10V / Single**31E5a736112499****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 CCW
Electrical connection	Round cable, 3-pole
Length of cable	Special length

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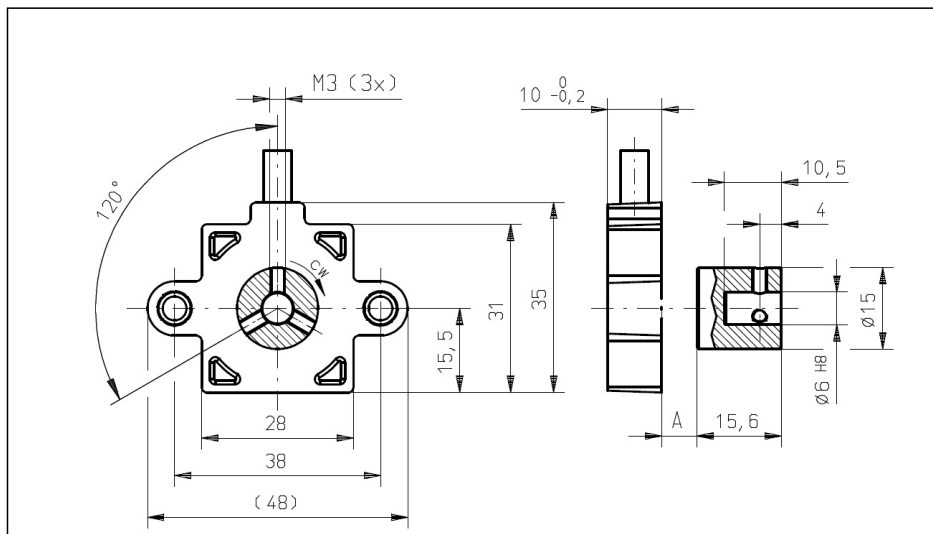
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EN 61000-4-5, Surge (lines to ground)	kV	±1
EN 61000-4-6, Immision HF conducted (0.15–80 MHz)	Vernf	10
EN 61000-4-8, Immision magnetic field (50 Hz)	A/m	300
Insulation resistance (500 VDC, 1 bar, 2s)	GOhm	20
Dielectric strength (VAC, 50 Hz, 1 min,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

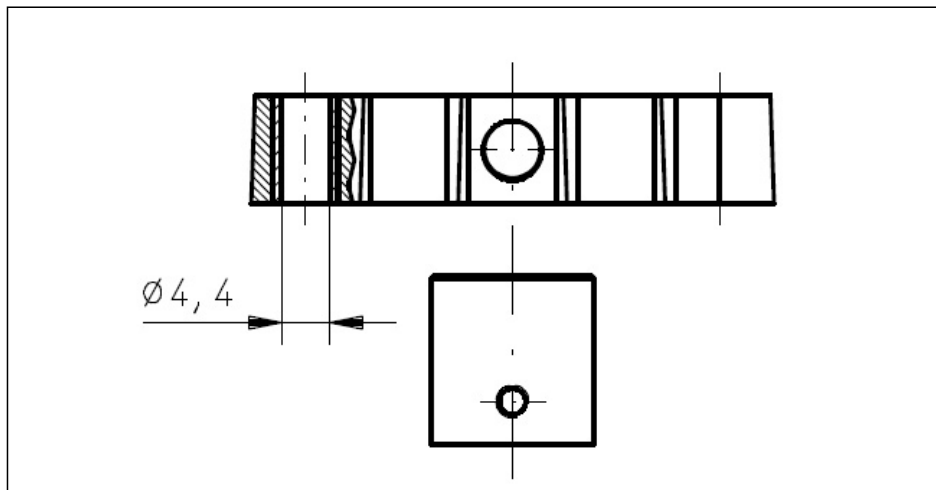
- 0 ... 10.0mm

Features Safety Flag

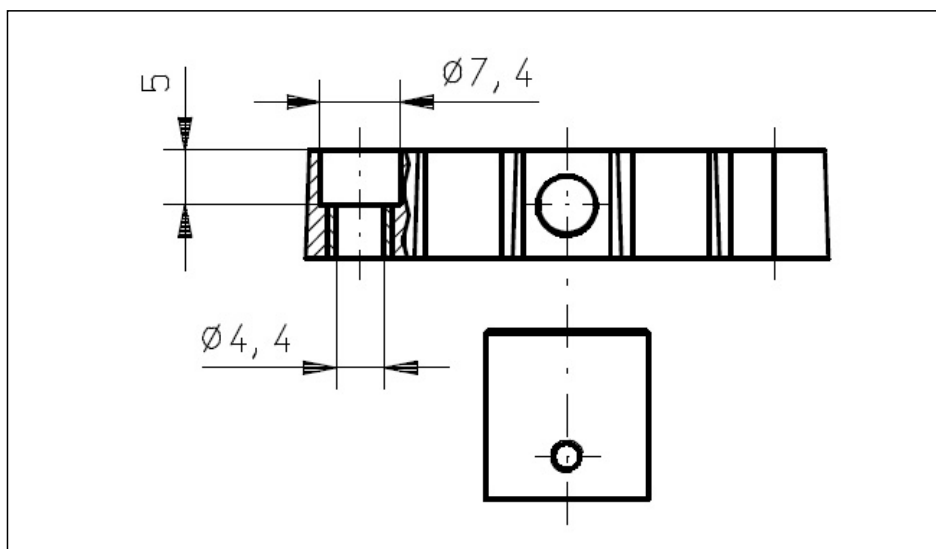
- Detection of magnetic loss
- System shut-down in case of magnetic actuator out of valid operating range
- Recommended for safety relevant applications

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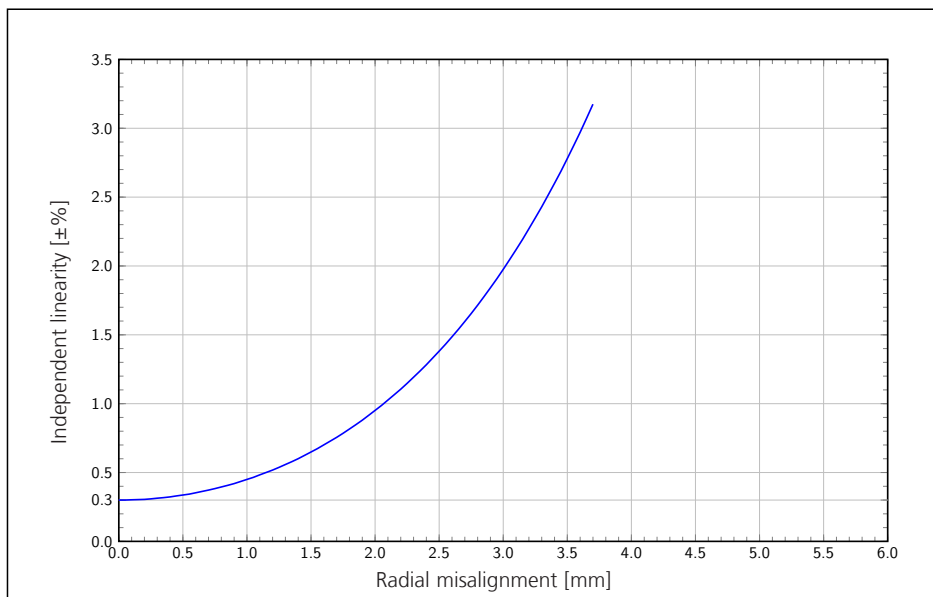
Vert-X 31E5a



Vert-X 31E5b

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

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Indep. linearity with radial misalignment (@360°)