

Vert-X 05E - 5V / 10...90% Ub

Application

- Access control systems
- Forklift

Features

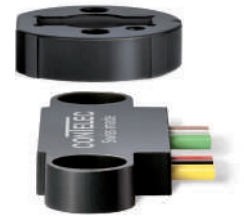
- High protection class IP68
- Flat design (5mm)
- Measuring system only 6mm from the edge. This enables the use with rotation centers close to a wall
- Select CW or CCW by Flip-assembly
- Non-contacting measuring method
- Very long life
- High accuracy of measurement
- Applications under adverse ambient conditions possible (humidity, dampness, dust, vibrations etc.)
- Full resolution and accuracy at programmed electrical angle
- Detection of magnetic loss (with safety flag)

Sensor principle		MH-C
Electrical data		
Measuring range	°	0 ... 360
Indep. linearity (typ.)	% of meas. 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 the output signal	ppm/K	50
MTTFd / MTBF	years	668 / 668
Power supply voltage	VDC	5 (±10%)
Current consumption without load (typ.) fast mode	mA	(14)
Current consumption without load (typ.) slow mode	mA	9
Min. ohmic load at output	kOhm	10
Max. capacitive load at output	nF	100
Reverse polarity protection of power supply		yes
Electrical connection		Wires (3x)
Cross section of single wires	mm ²	0.5 (AWG20)
Redundancy feasible		yes
Electrical connection redundant		Wires (6x)
Cross section of single wires redundant	mm ²	0.5 (AWG20)
Mechanical data		
Mechanical range	°	360 (continuous)
Protection class		IP68
Min. life	movements	no limitation
Operating & storage temperature	°C	-40 ... +125
EN 60068-2-6 Vibration (Amax = 0.75mm, f = 5...2000Hz)	g	20
EN 60068-2-27 Shock	g	50
Standards		
EN 55022 class B, Emission radiated (30...230MHz)	dB(µV/m)	max. 30
EN 55022 class B, Emission radiated (230...1000MHz)	dB(µV/m)	max. 37
EN 55022 class B, Emission conducted (0.15...0.5MHz)	dB(µV)	max. 56 ... 46
EN 55022 class B, Emission conducted (0.5...5MHz)	dB(µV)	max. 46
EN 55022 class B, Emission conducted (5...30MHz)	dB(µV)	max. 50
EN 61000-4-2, ESD (contact discharge / air discharge)	kV	±4 / ±8
EN 61000-4-3, Immision HF radiated (80...1000MHz/1.4...2.7GHz)	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...80MHz)	Vemk	10
EN 61000-4-8, Immision magnetic field (50Hz)	A/m	300
EN 60393-1 Insulation resistance (500VDC, 1bar, 2s)	GOhm	20
EN 60393-1 Dielectric strength (VAC, 50Hz, 1min, 1bar)	kV	1

Errors and omissions excepted. Subject to change without notice. State: 11.07.16

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Vert-X 05E - 5V / 10...90% Ub
Ordering code

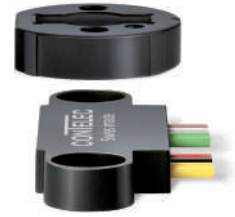
Output characteristics		Electrical connection	
Positive gradient CW	Standard 1	1	Optional Wires 6pole
Positive gradient CCW	Optional 2	2	Standard Wires 3pole
Redundant, positive gradient CW	Optional 3	3	Optional Wires 4pole
Redundant, positive gradient CCW	Optional 4	9	Optional Special wires
Redundant, crossed signal curves	Optional 5		
Output signal		Length of wires	
10% ... 90% Ub	Standard 2	02	Standard 20cm
x% ... y% Ub (within 5 ... 95%)	Optional 3	05	Optional 50cm
		99	Optional Special length
Power supply voltage			
5VDC	Standard 2		
Vert-X 0 5 E 6 7 3 6 2 2 1 2 0 2			
		Electrical angle	
		36	Standard Electrical angle 360°
		xx	Optional 03 to 35 ; Declaration in 10° steps
		99	Optional Special angle
		Sensor principle	
		7	MH-C
		Mechanical version	
05E6	Standard	Magnetic actuator type 6	
05E9	Optional	Special magnetic actuator	

	MH-C
Custom magnetic actuator	X
Custom modification of the housing	X
Custom wires	X
Interface x% ... y% Ub (within 5% ... 95% Ub)	X
Sample rate in fast mode	X
Special electrical angle within 30° to 360° (ex factory)	X
Extended operating range, axial (without safety flag)	X

Options (on request)

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Vert-X 05E6 xxx xxx 1xx
 Vert-X 05E6 xxx xxx 2xx
 Vert-X 05E6 xxx xxx 3xx

Accessories (incl.)

- None

**Operating range/Air gap (A)
 Standard with safety flag**

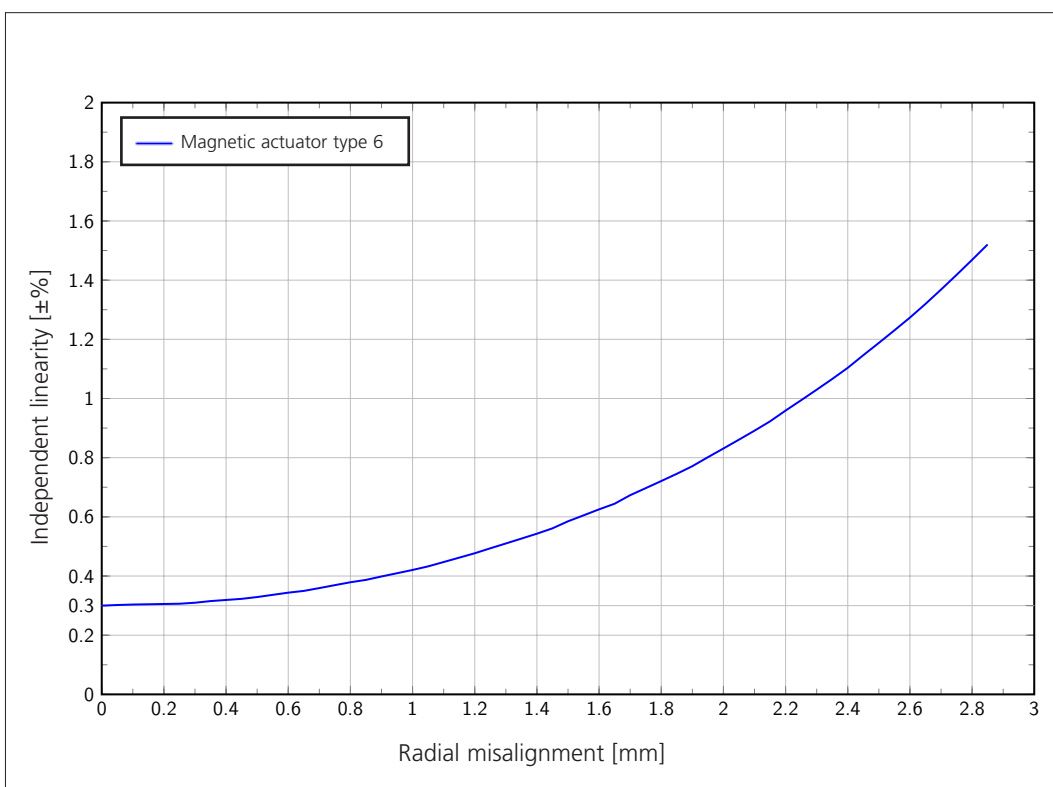
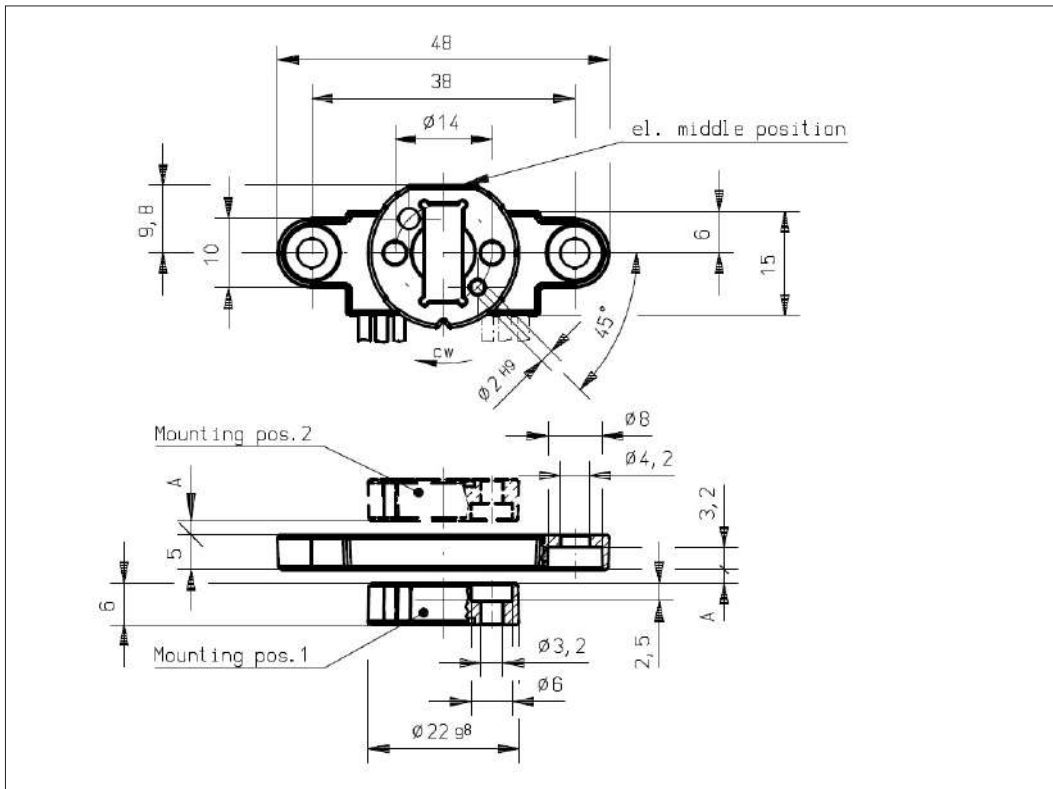
Single	0 ... 5.5mm
Redundant	0 ... 5.0mm

**Extended without safety flag
 (Optional)**

Single	0 ... 8.9mm
Redundant	0 ... 8.4mm

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 05E

Indep. linearity with radial misalignment (@360°)

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