


## Vert-X 32E - 24V / CANopen, single

### Applications

- Forklifter
- Platformer
- Agricultural machine

### Features

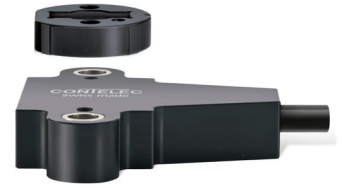
- CiA approved  CiA201003-301V402/20-0116
- Non-contacting measuring method
- Very long life
- High accuracy of measurement
- Applications under adverse ambient conditions possible (humidity, dampness, oil dust, vibrations etc.)
- Detection of magnetic loss (with safety flag)
- Full redundancy possible (see separate data sheet)

<b>Sensor principle</b>		<b>MH-C2</b>
<b>Electrical data</b>		
Measuring range	°	0 ... 360
Indep. linearity (typ.)	% of meas. range	±0.3
Max. hysteresis	°	0.1
Resolution	bit	16
Max. repeatability	°	0.1
Sample rate	kHz	0.5
Max. temperature coefficient of the output signal	ppm/K	25
MTTFd / MTBF	years	135 / 135
Power supply voltage	VDC	8 ... 35
Current consumption without bus load (typ.)	mA	30
Reverse polarity protection of power supply		yes
Electrical connection		Round cable
Cross section of single wires	mm <sup>2</sup>	0.34 (AWG 22)
Bus interface		ISO/DIS 11898-2
CANopen communication according to CiA		Standard DS-301 Rev. 4.02
Device profile		DS-406, Rev. 3.1, Encoder class C2
Default Node-ID		16 (programmable 1 ... 127)
Default bitrate	kBit/s	125
<b>Mechanical data</b>		
Mechanical range	°	360 (continuous)
Protection class		IP68
Min. life	movements	no limitation
Operating & storage temperature	°C	-40 ... +85
EN 60068-2-6 Vibration (Amax = 0.75mm, f = 5...2000Hz)	g	20
EN 60068-2-27 Shock	g	50
<b>Standards</b>		
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	100
EN 61000-4-4, Burst (on all lines)	kV	±3
EN 61000-4-5, Surge (lines to ground)	kV	±1
EN 61000-4-6, Immision HF conducted (0.15...80MHz)	Vemk	12
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
CANopen conformance certified by CiA	Certificate-#:	CiA201003-301V402/20-0116

Errors and omissions excepted. Subject to change without notice. / State: 04.10.16

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## Vert-X 32E - 24V / CANopen, single

### Ordering code

										<b>CAN characteristics</b>											
										CAN-High-In ; CAN-High-Out ; CAN-Low-In ; CAN-Low-Out		Optional	3								
										CAN-High ; CAN-Low ; R <sub>CAN</sub>		Optional	4								
										CAN-High ; CAN-Low		Standard	5								
										Special version		Optional	9								
										<b>Output signal</b>											
										CANopen Encoder Profile 406 (C2)		Standard	3								
										<b>Power supply voltage</b>											
										24VDC		Standard	1								
<b>Vert-X</b>	<b>3</b>	<b>2</b>	<b>E</b>	<b>6</b>	<b>b</b>	<b>8</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>0</b>	<b>2</b>							
										<b>Electrical angle</b>											
										36		Standard		Electrical angle 360°							
										<b>Sensor principle</b>											
										8		MH-C2									
										<b>Mounting hole</b>											
										b		Standard		Through-hole ø 4.4mm with counterbore ø 8mm / label side							
										d		Optional		Through-hole ø 4.4mm with counterbore ø 8mm / magnetic actuator side							
										<b>Mechanical version</b>											
										32E5		Optional		Magnetic actuator type 5							
										32E6		Standard		Magnetic actuator type 6							
										32E7		Optional		Magnetic actuator type 7							
										32E8		Optional		Magnetic actuator type 8							
										32E9		Optional		Special magnetic actuator							

	MH-C2
Custom magnetic actuator	X
Custom modification of the housing	X
Custom cable	X
CAN integrated bus termination resistor (120Ω) / R <sub>CAN</sub>	X
Custom bitrate (10 ; 20 ; 50 ; 100 ; 250 ; 500 ; 800 ; 1000 kBit/s)	X
Full redundancy possible (see separate data sheet)	X
Extended operating range, axial (without safety flag)	X

### Options (on request)

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### Vert-X 32E5

#### Accessories (incl.)

None

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

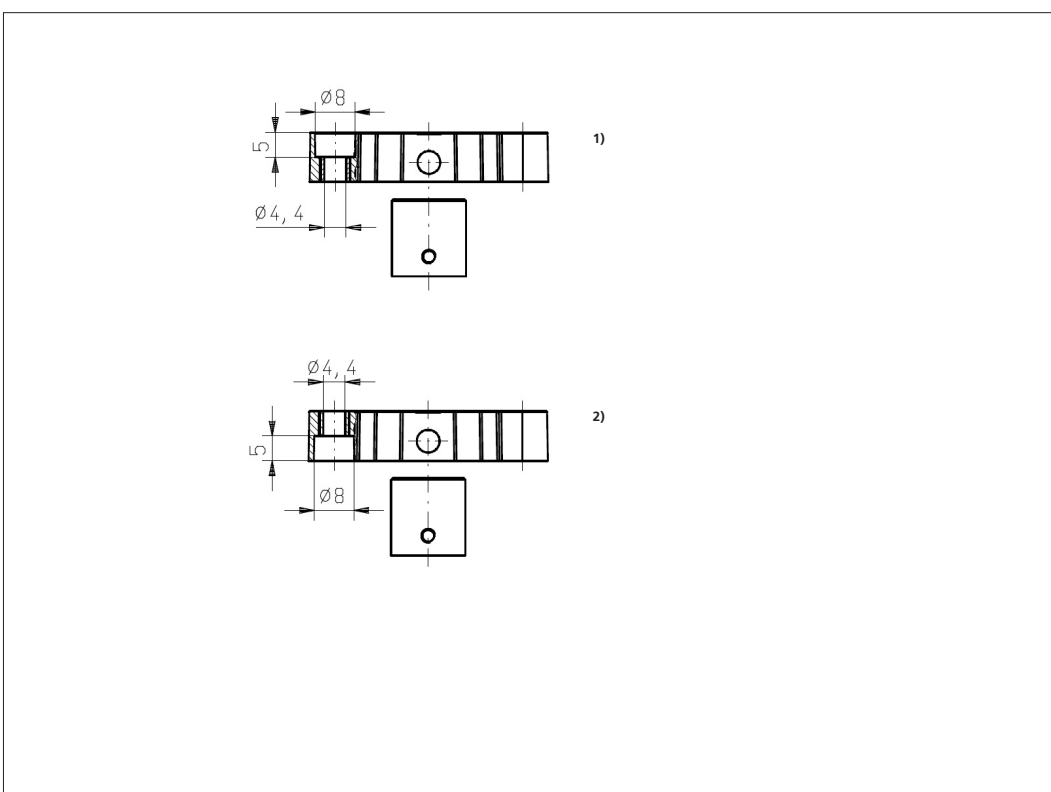
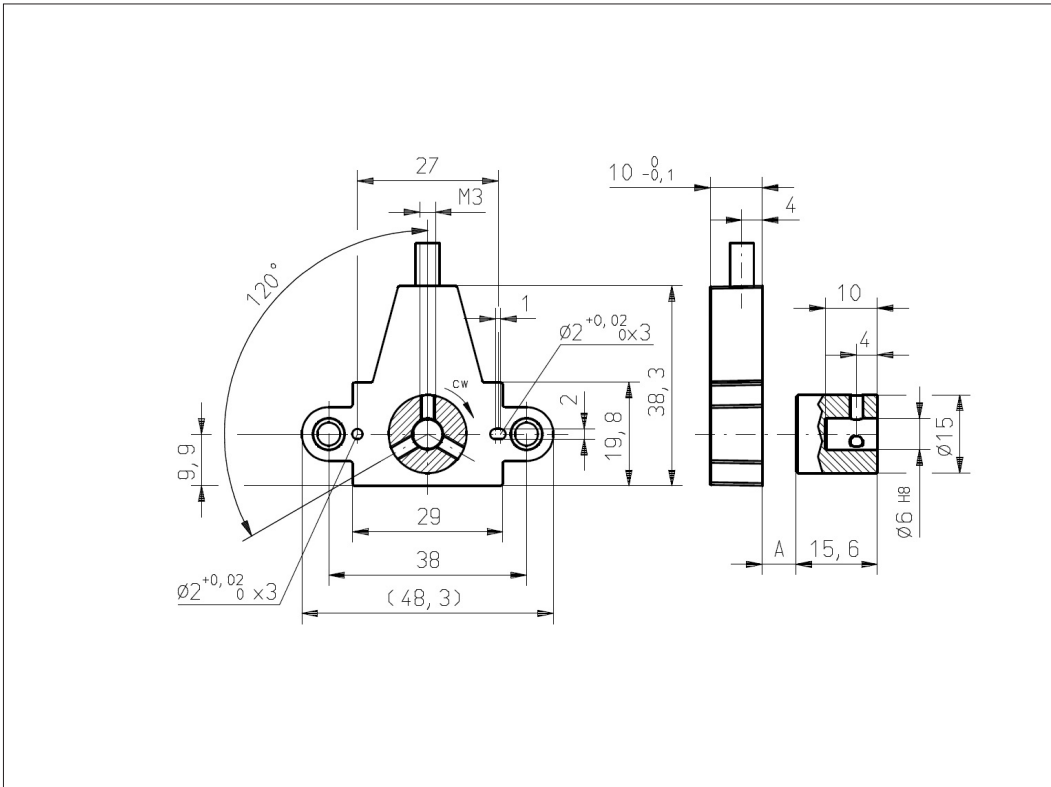
Single 0 ... 6.7mm

#### Extended without safety flag (Optional)

Single 0 ... 10.4mm

#### 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

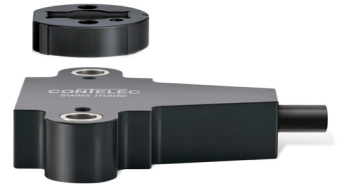


### Vert-X 32E5b836 13x xxx 1)

### Vert-X 32E5d836 13x xxx 2)

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## Vert-X 32E6

### Accessories (incl.)

None

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

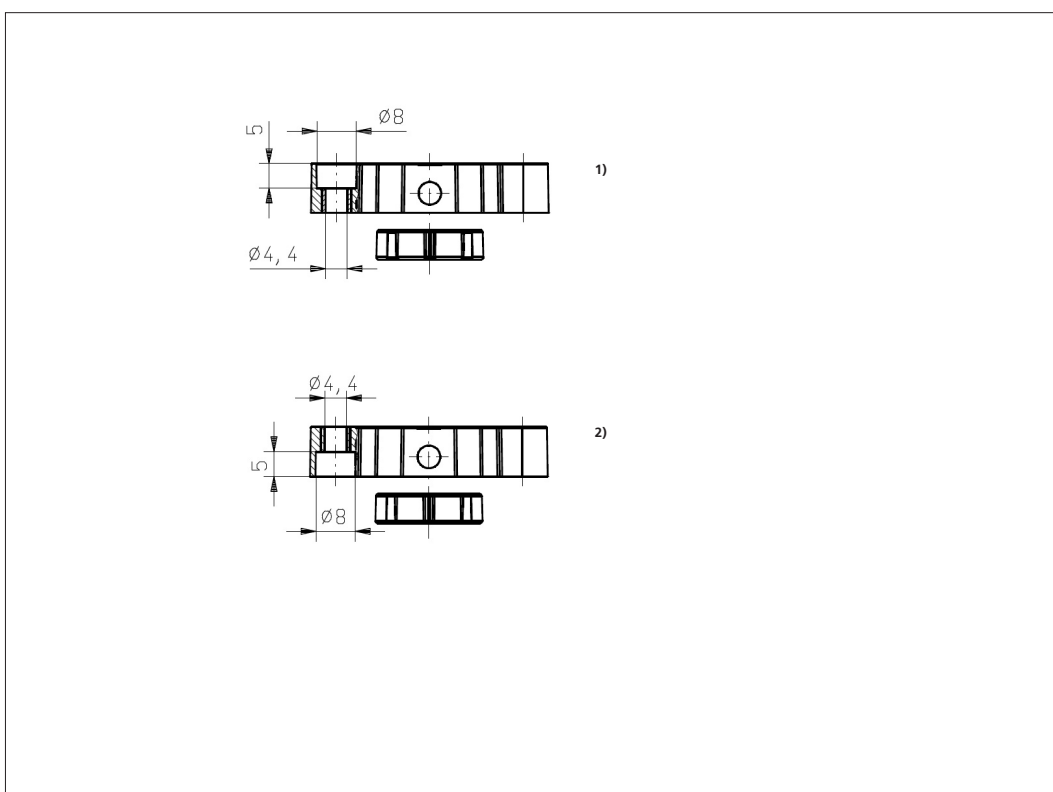
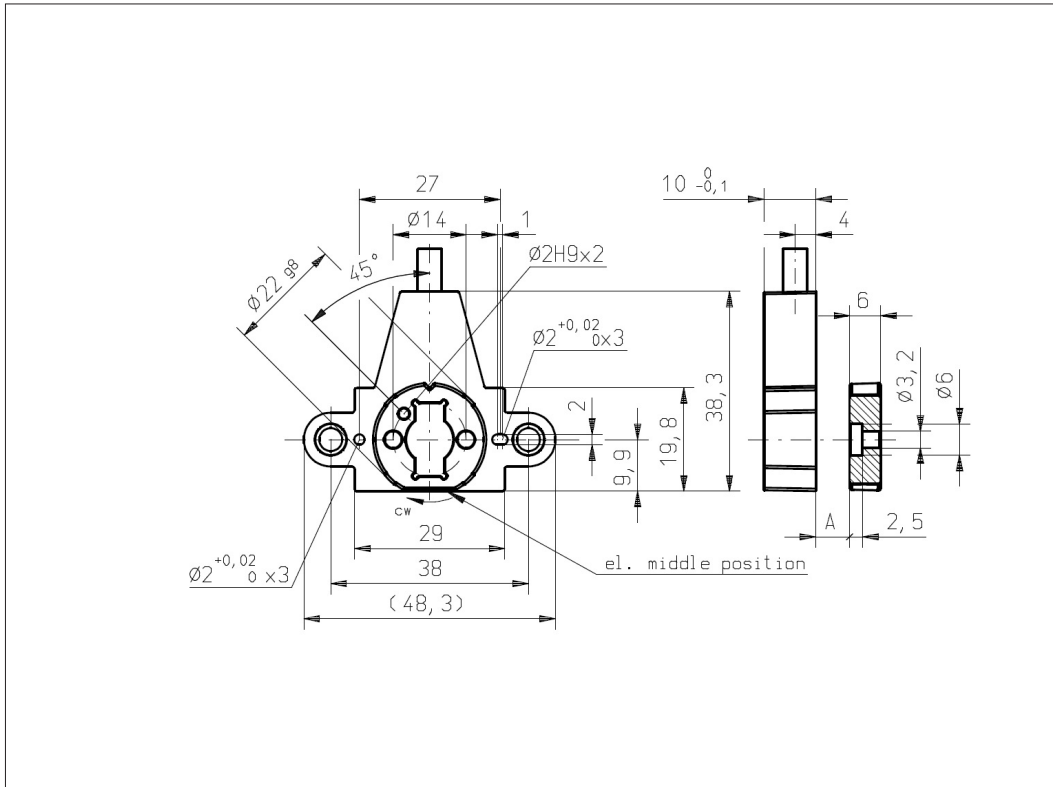
Single 0 ... 5.5mm

### Extended without safety flag (Optional)

Single 0 ... 8.9mm

### 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 32E6b836 13x xxx <sup>1)</sup>

## Vert-X 32E6d836 13x xxx <sup>2)</sup>

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### Vert-X 32E7

#### Accessories (incl.)

None

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

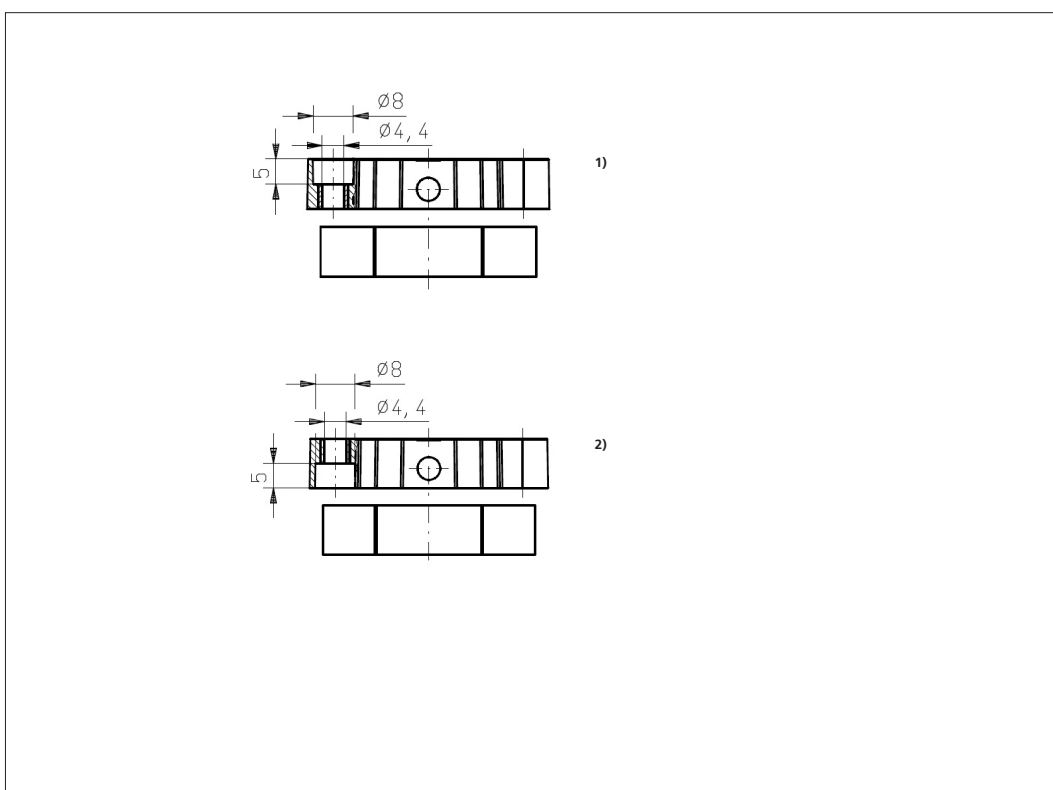
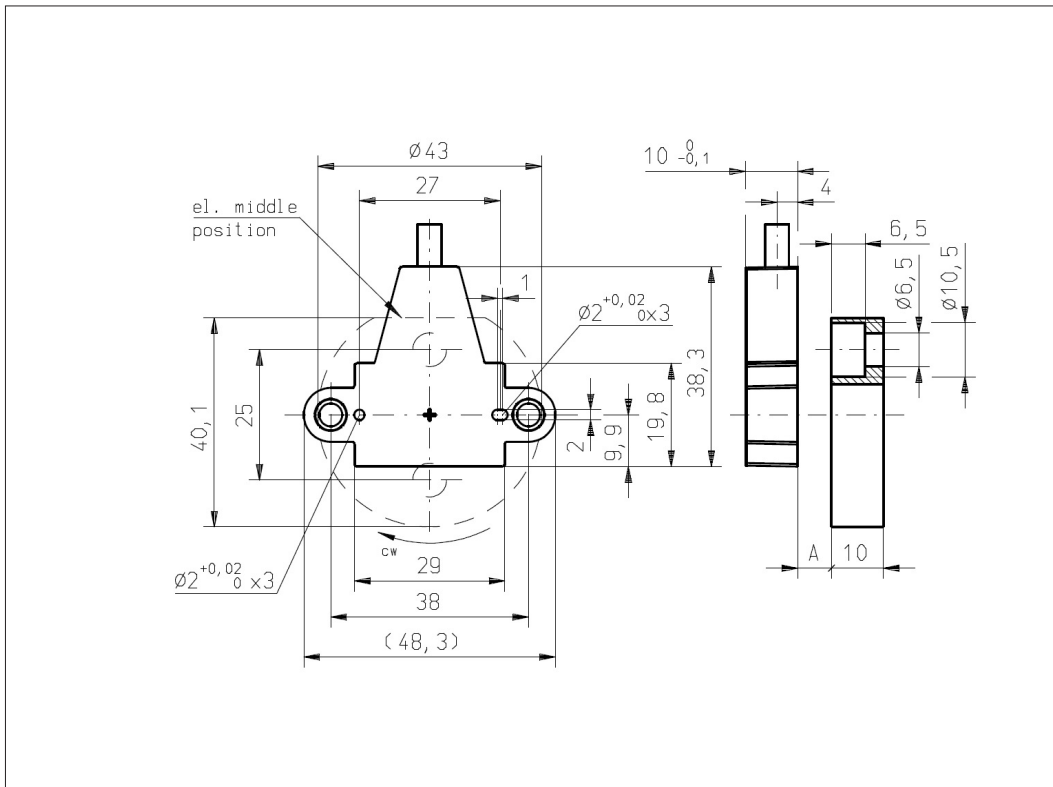
Single 0 ... 13.7mm

#### Extended without safety flag (Optional)

Single 0 ... 20.1mm

#### 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



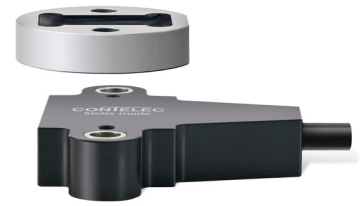
#### Vert-X 32E7b836 13x xxx 1)

#### Vert-X 32E7d836 13x xxx 2)

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### Vert-X 32E8

#### Accessories (incl.)

None

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

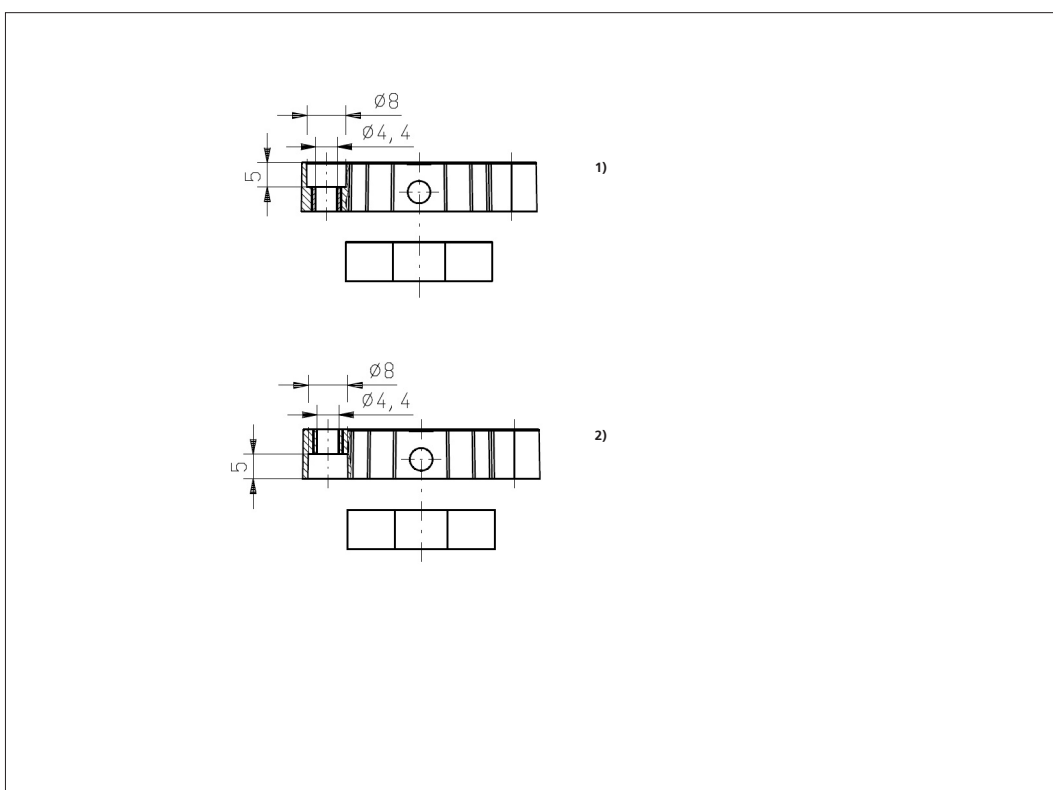
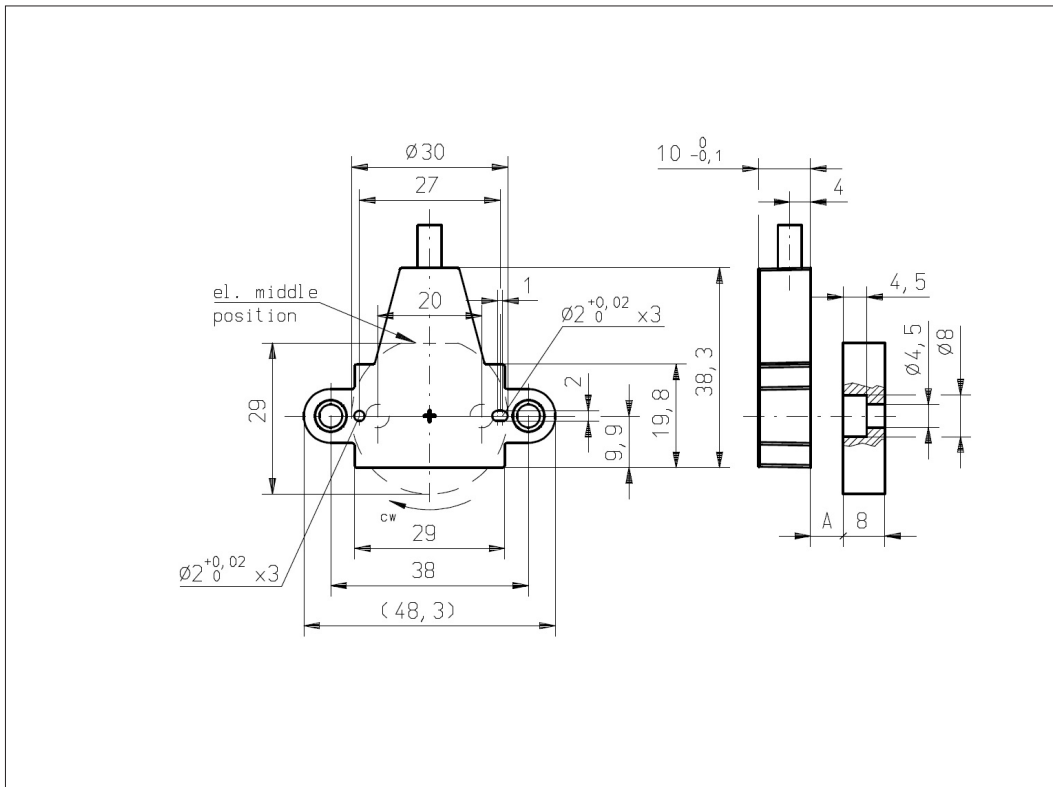
Single 0 ... 13.2mm

#### Extended without safety flag (Optional)

Single 0 ... 19.1mm

#### 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



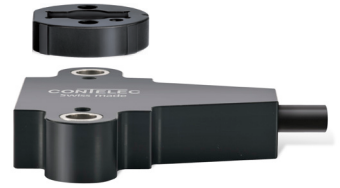
### Vert-X 32E8b836 13x xxx 1)

### Vert-X 32E8d836 13x xxx 2)

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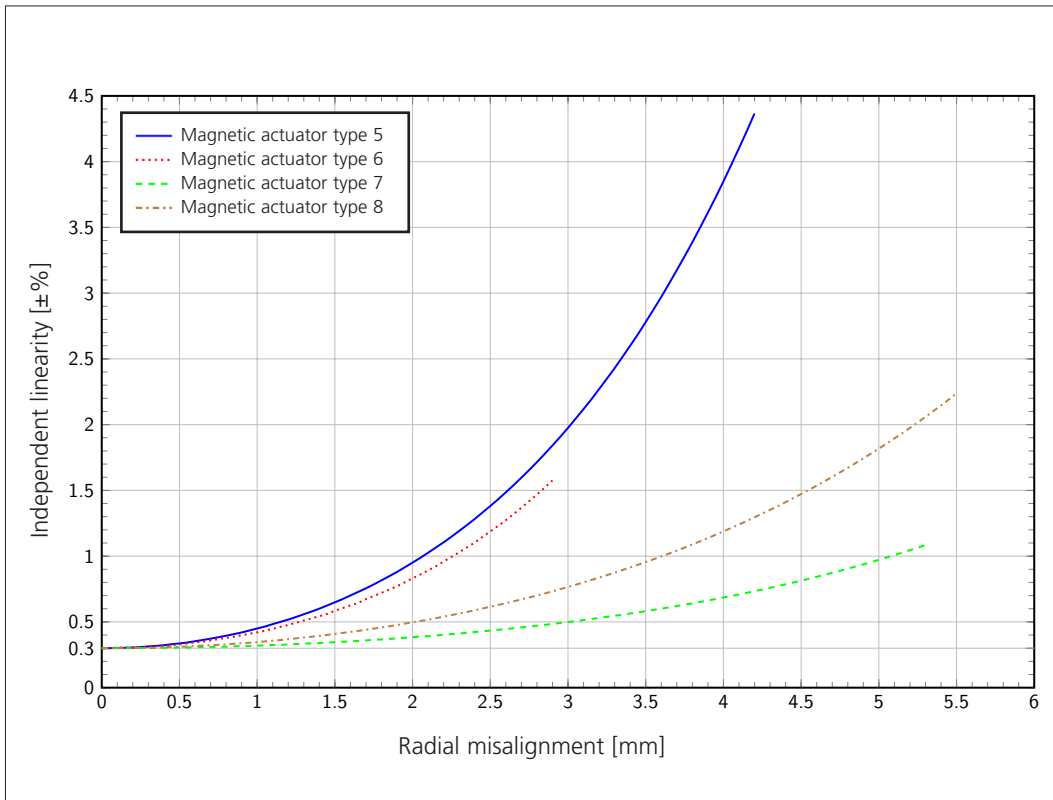
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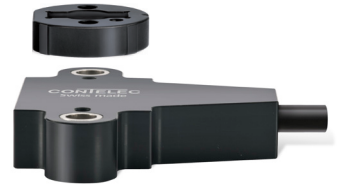
### Vert-X 32E

**Indep. linearity with radial misalignment (@360°)**



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Vert-X 32E - 24V / CANopen,  
Certificates



Certificate # **CiA201003-301V402/20-0116**

Vendor ID **00 00 00 80**

Manufacturer **Contelec AG**

Device **Vert-X MH-C2 CAN**

Product code: 0001 8774h  
Object 1018h/02h

Revision number: 0000 00A1h  
Object 1018h/03h

Hardware version: HV30781B  
Object 1009h

Software version: SV\_1.2.3  
Object 100Ah

EDS **MH-C2\_CAN.eds**

File version: 1

File revision: 0

EDS version: 4.02

Nuremberg, 26.03.2010

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