




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

Applications

- Forklifter
- Platformer
- Agricultural machine

Features

- CiA approved 
- 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)

Sensor principle		MH-C2
Electrical data		
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.), per channel	mA	30
Reverse polarity protection of power supply		yes
Electrical connection		Round cable
Cross section of single wires	mm ²	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's		16 & 17 (programmable 1 ... 127)
Default bitrate	kBit/s	125
Mechanical data		
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
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...2700MHz/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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CONTELEC
 A company of the Siedle-Group



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

Ordering code

CAN characteristics	
Redundant 2-Bus / CAN-High ; CAN-Low ; R _{CAN}	Optional 7
Redundant 2-Bus / CAN-High ; CAN-Low	Standard 8
Redundant 1-Bus / CAN-High-In ; CAN-High-Out ; CAN-Low-In ; CAN-Low-Out	Optional A
Redundant 1-Bus / CAN-High ; CAN-Low ; R _{CAN}	Optional B
Redundant 1-Bus / CAN-High ; CAN-Low	Standard C
Special version	Optional 9

Output signal	
CANopen Encoder Profile 406 (C2)	Standard 3

Power supply voltage	
24VDC	Standard 1

Electrical connection	
6	Optional Round cable 6pole
8	Standard Round cable 4pole
C	Standard 2x Round cable 4pole
9	Optional Special cable

Length of cable	
02	Standard 1.0m
06	Optional 3.0m
10	Optional 5.0m
99	Optional Special length

Vert-X **3 2 E 6 b 8 3 6** **1 3 8** **C 0 2**

Electrical angle	
36	Standard Electrical angle 360°

Sensor principle	
8	MH-C2

Mounting hole	
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

Mechanical version	
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 _{CAN}	X
Custom bitrate (10 ; 20 ; 50 ; 100 ; 250 ; 500 ; 800 ; 1000 kBit/s)	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

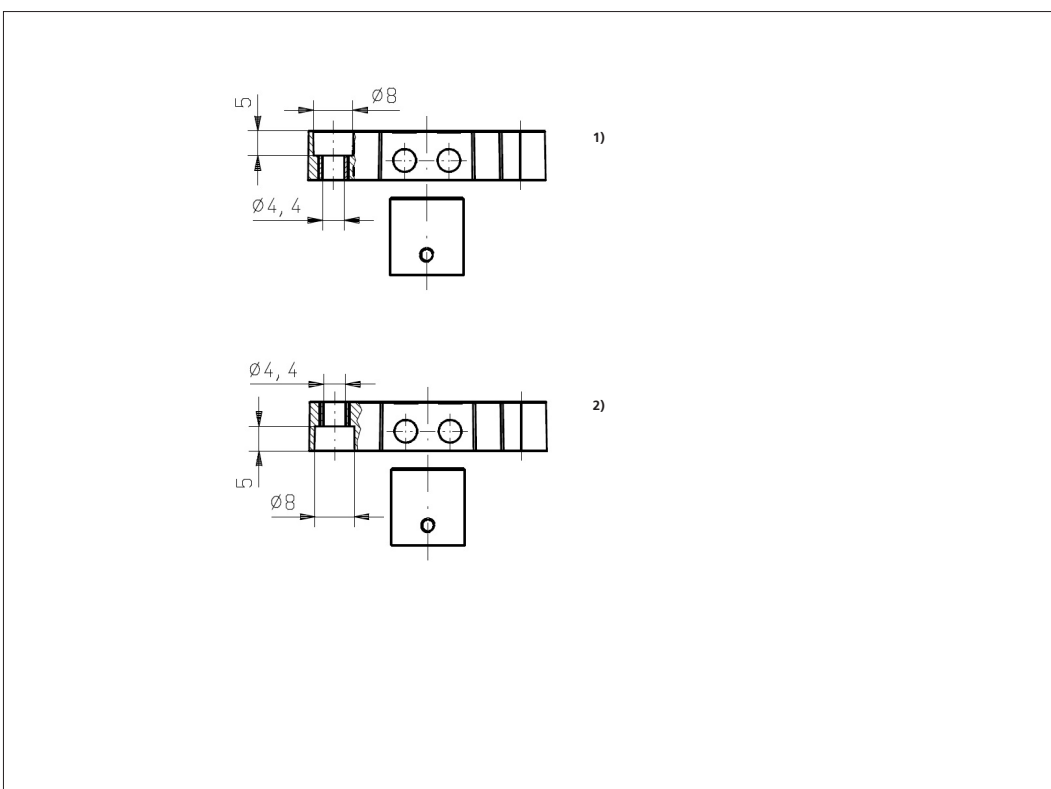
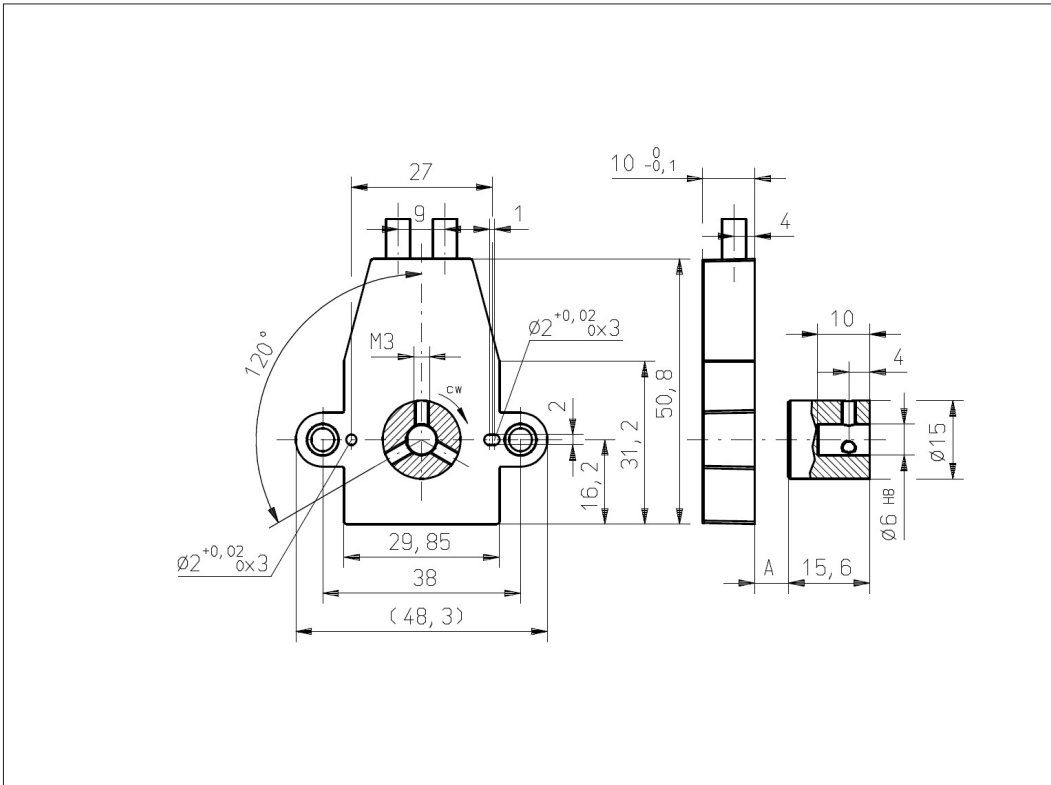
Redundant 0 ... 6.2mm

Extended without safety flag (Optional)

Redundant 0 ... 9.9mm

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 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

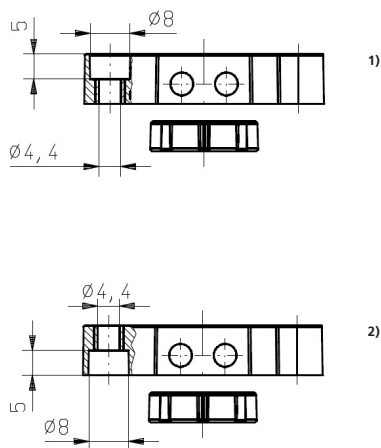
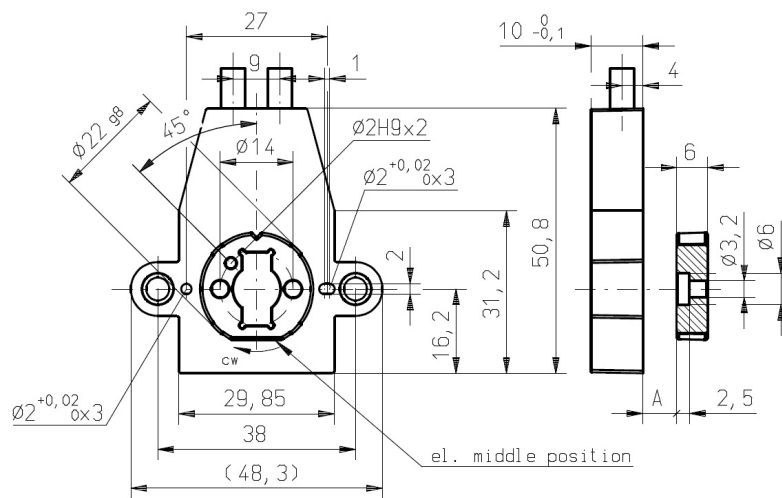
Redundant 0 ... 5.0mm

Extended without safety flag (Optional)

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



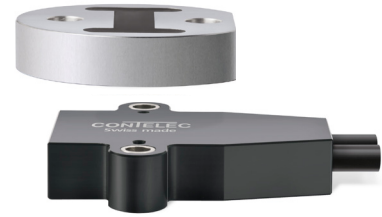
Vert-X 32E6b836 13x xxx ¹⁾

Vert-X 32E6d836 13x xxx ²⁾

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Vert-X 32E7

Accessories (incl.)

None

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

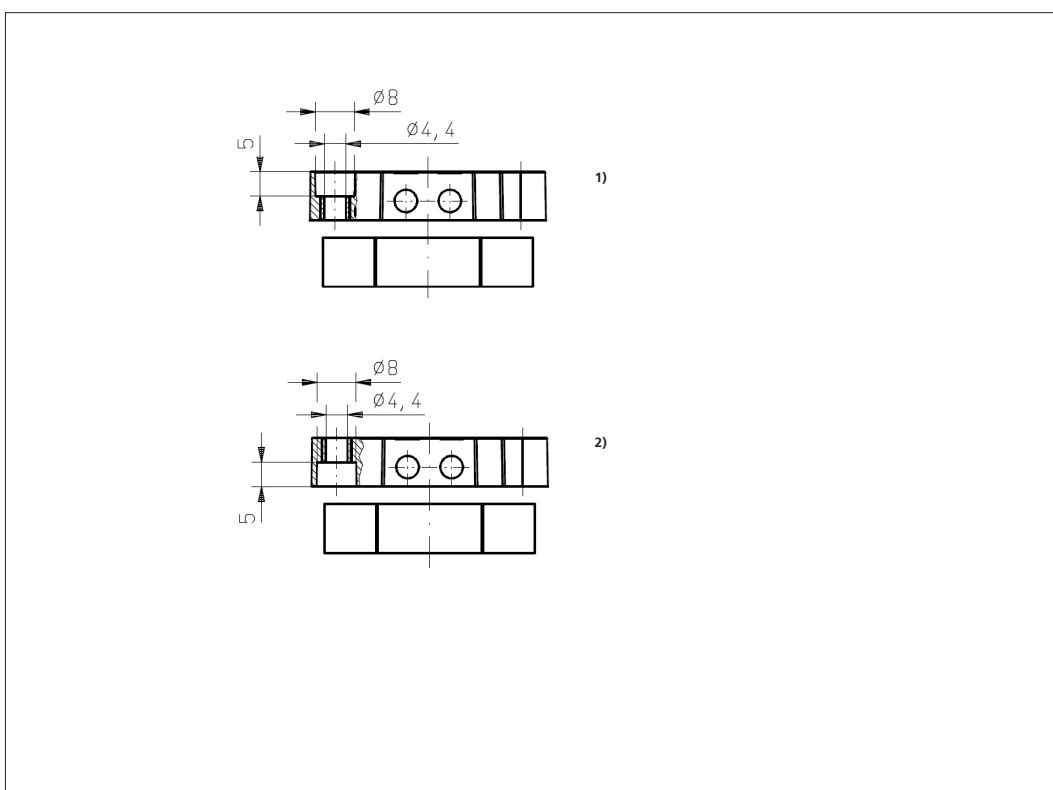
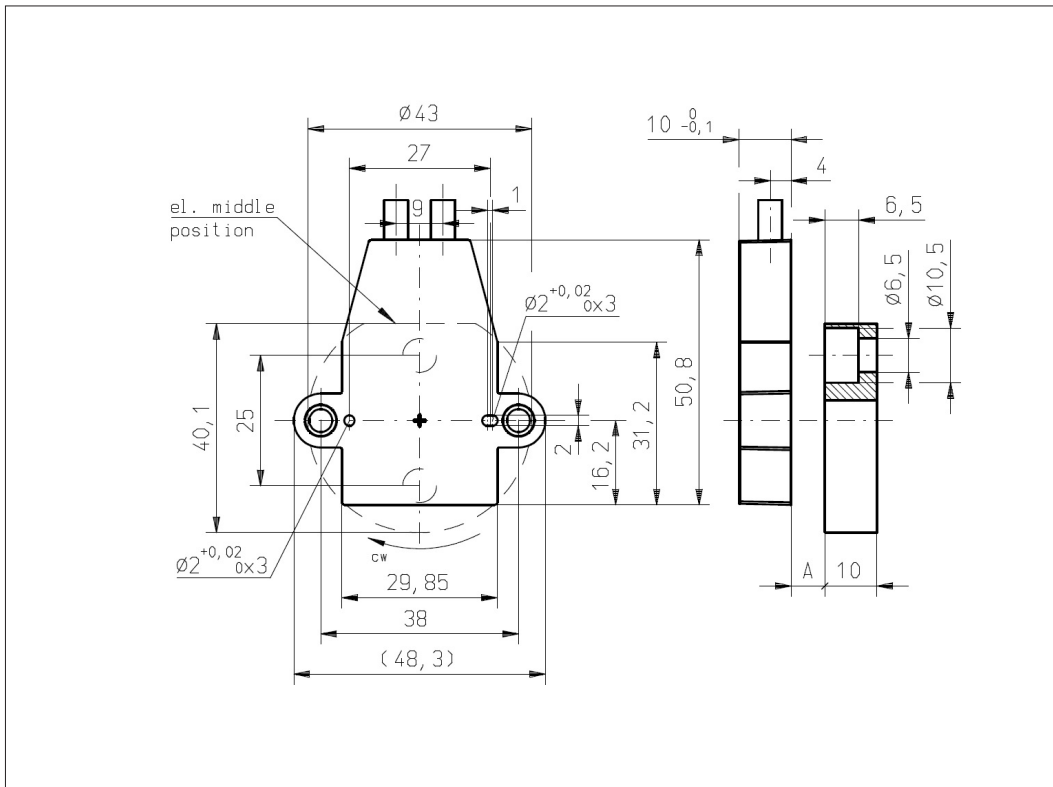
Redundant 0 ... 13.2mm

Extended without safety flag (Optional)

Redundant 0 ... 19.6mm

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

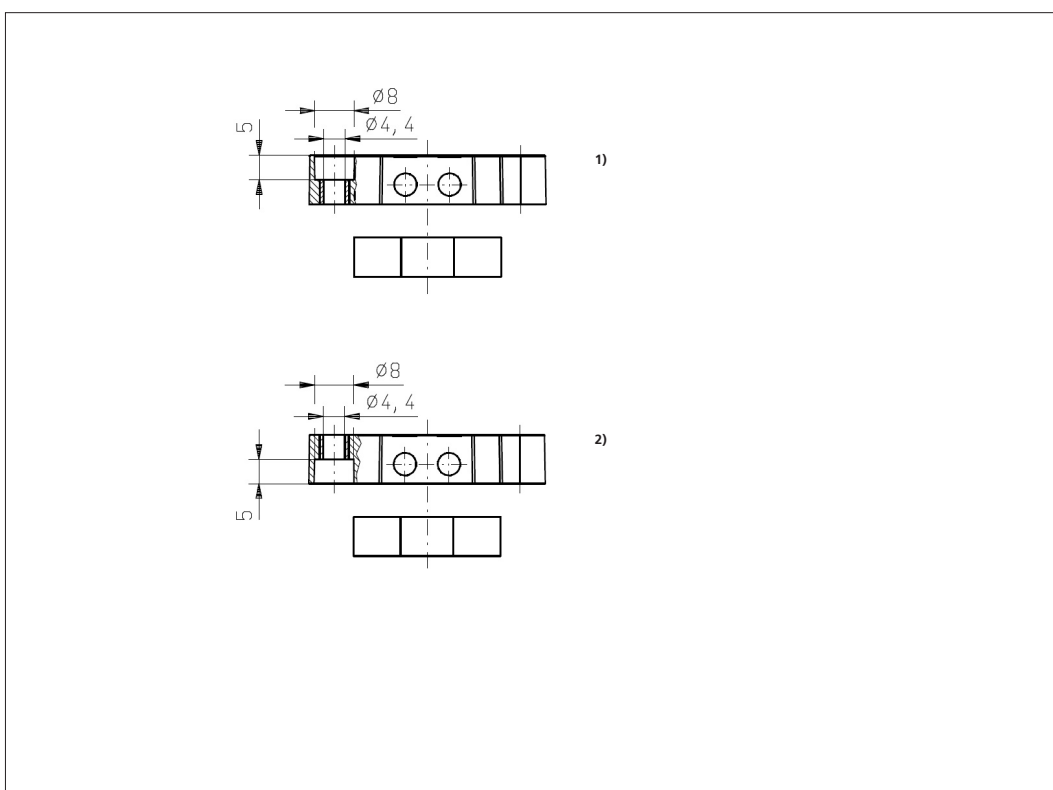
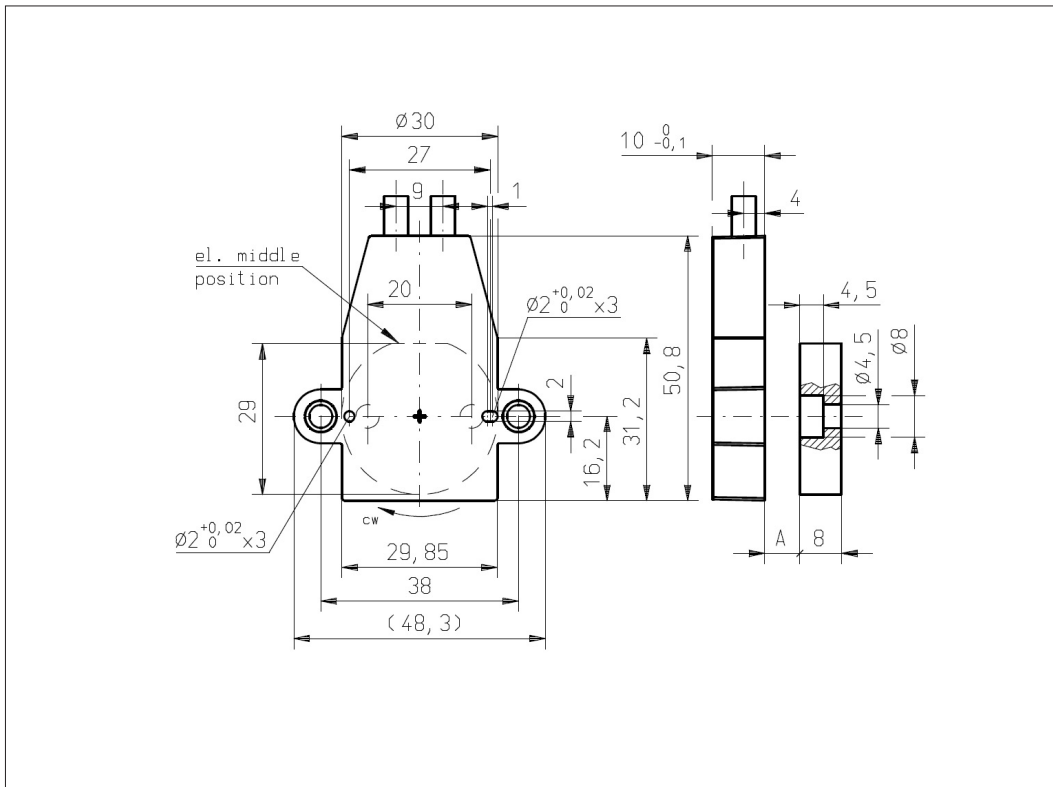
Redundant 0 ... 12.7mm

Extended without safety flag (Optional)

Redundant 0 ... 18.6mm

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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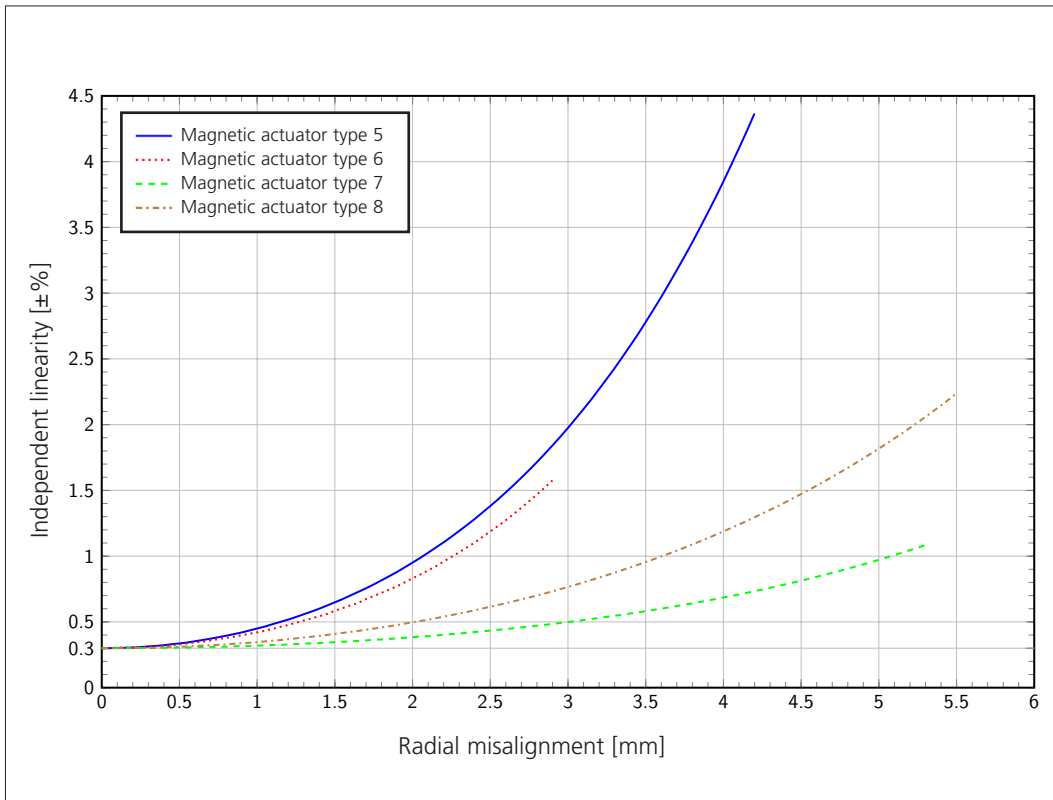
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Vert-X 32E

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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