


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.)
- Full redundancy possible (see separate data sheet)

Sensor principle		MH-C2
Electrical data		
Measuring range	°	0 ... 360
Indep. linearity (without misalignment)	% of meas. range	±0.3
Indep. linearity (with misalignment)	% of meas. range	±1
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 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		16 (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
IEC 68-2-6 Vibration (Amax = 0.75mm, f = 5 ... 2000 Hz)	g	20
IEC 68-2-27 Shock	g	50

Standards		
EN 55022 classe B, Emission radiated (30... 230 MHz)	dB(µV/m)	max. 30
EN 55022 classe B, Emission radiated (230...1000MHz)	dB(µV/m)	max. 37
EN 61000-4-2, ESD (contact discharge / air discharge)	kV	±4 / ±8
EN 61000-4-3, Immission HF radiated (80...2700 MHz)	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, Immission HF conducted (0.15...80 MHz)	Vemk	12
EN 61000-4-8, Immission magnetic field (50 Hz)	A/m	300
IEC 60393-1 Insulation resistance (500VDC, 1bar, 2s)	GOhm	20
IEC 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: 29.08.14

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

Ordering code

CAN characteristics	
CAN-High-In; CAN-High-Out; CAN-Low-In; CAN-Low-Out	Optional 3
CAN-High; CAN-Low; R _{CAN}	Optional 4
CAN-High; CAN-Low	Standard 5
Special version	Optional 9

Electrical connection	
6	Optional Round cable 6pole
8	Standard 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

Output signal	
CANopen Encoder Profile 406 (C2)	Standard 3

Power supply voltage	
24VDC	Standard 1

Vert-X 3 2 E 6 b 8 3 6 1 3 5 8 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
e	Optional Through-hole ø 4.4mm with counterbore 90° on both sides

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 cable	X
CAN integrated bus termination resistor (120Ω) / R _{CAN}	X
Custom bitrate (10 ; 20 ; 50 ; 100 ; 250 ; 500 ; 800 ; 1000 kBit/s)	X
Full redundancy possible (see separate data sheet)	X

Options (on request)

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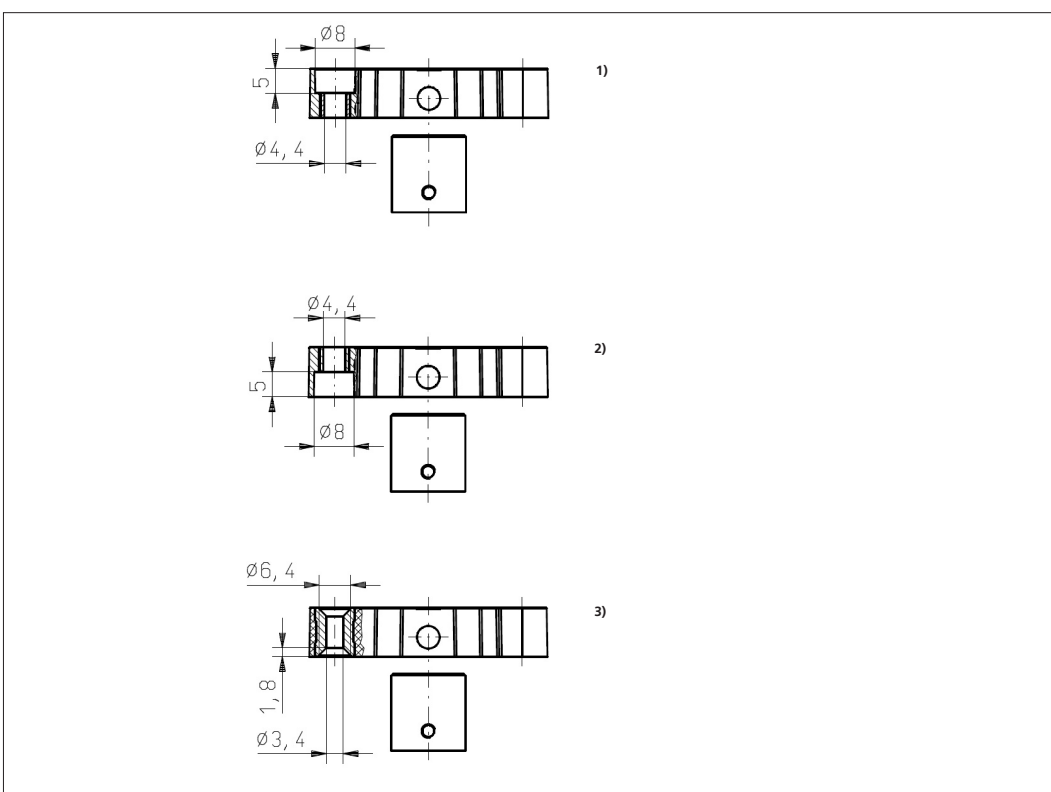
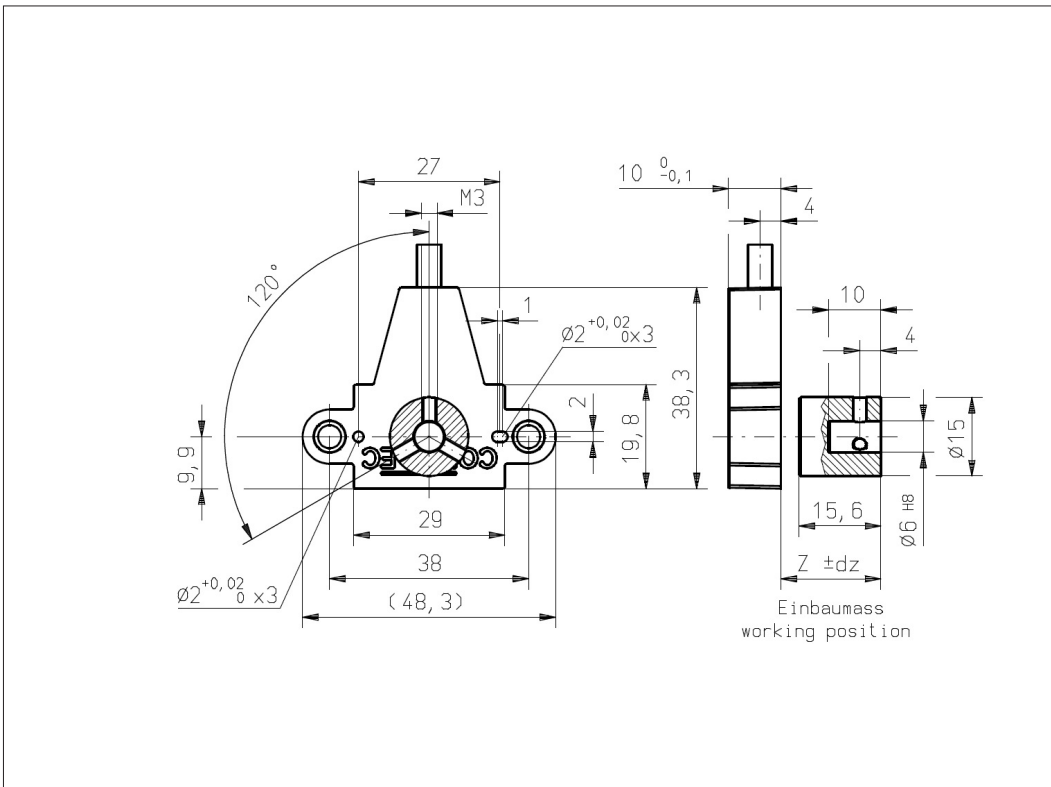
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**Vert-X 32E5
single**

Accessoires (incl.)
None

**Working position (Z) and
max. permitted misalign-
ment of the magnetic
actuator**
see mounting information



Vert-X 32E5b836 13x xxx ¹⁾

Vert-X 32E5d836 13x xxx ²⁾

Vert-X 32E5e836 13x xxx ³⁾

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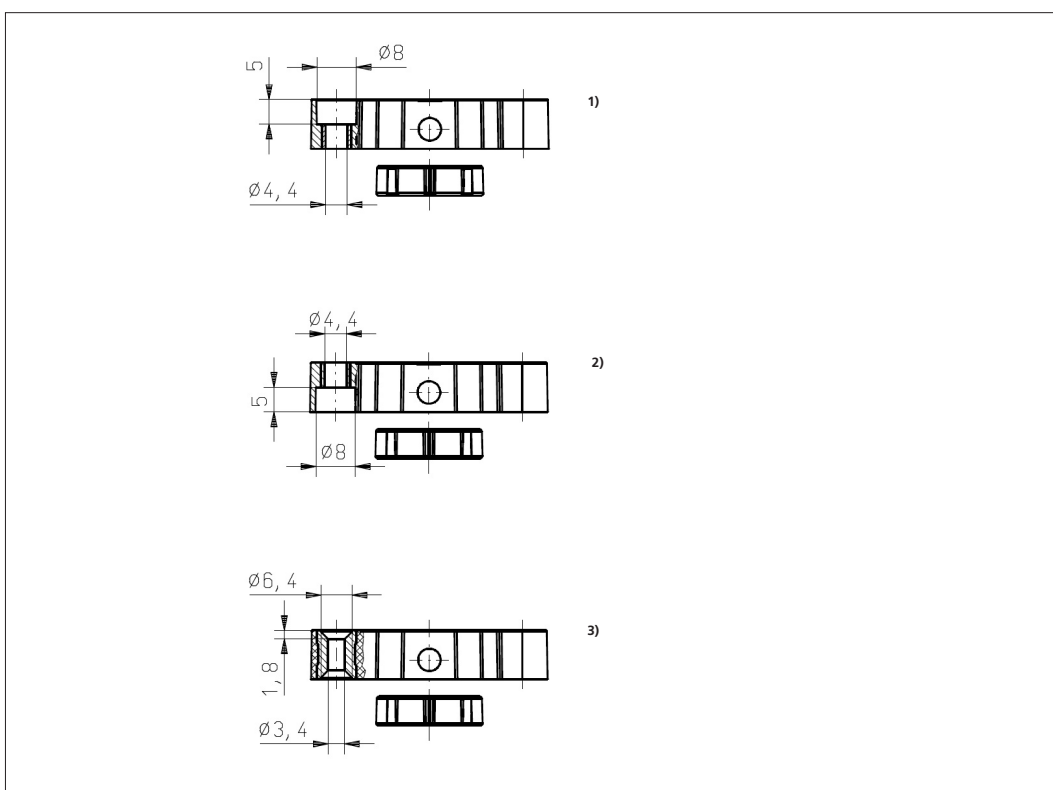
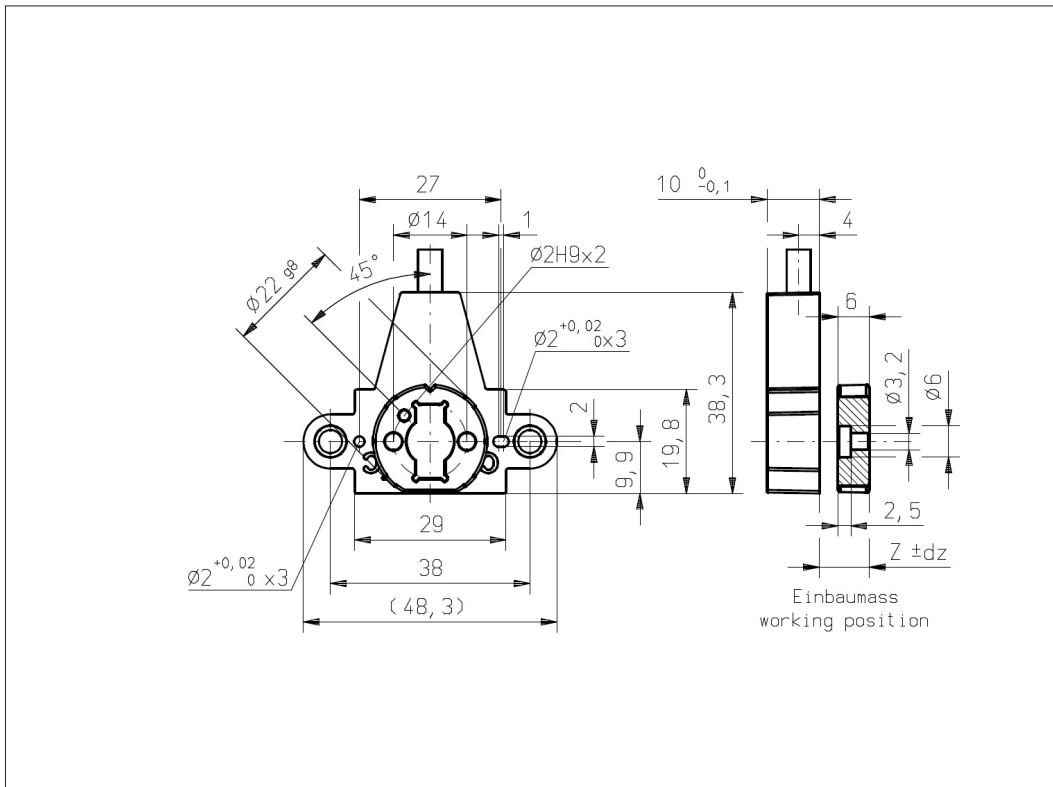
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**Vert-X 32E6
single**

Accessoires (incl.)
None

**Working position (Z) and
max. permitted misalign-
ment of the magnetic
actuator**
see mounting information



Vert-X 32E6b836 13x xxx ¹⁾

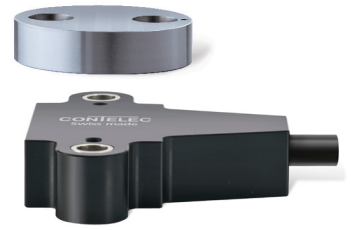
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Vert-X 32E6e836 13x xxx ³⁾

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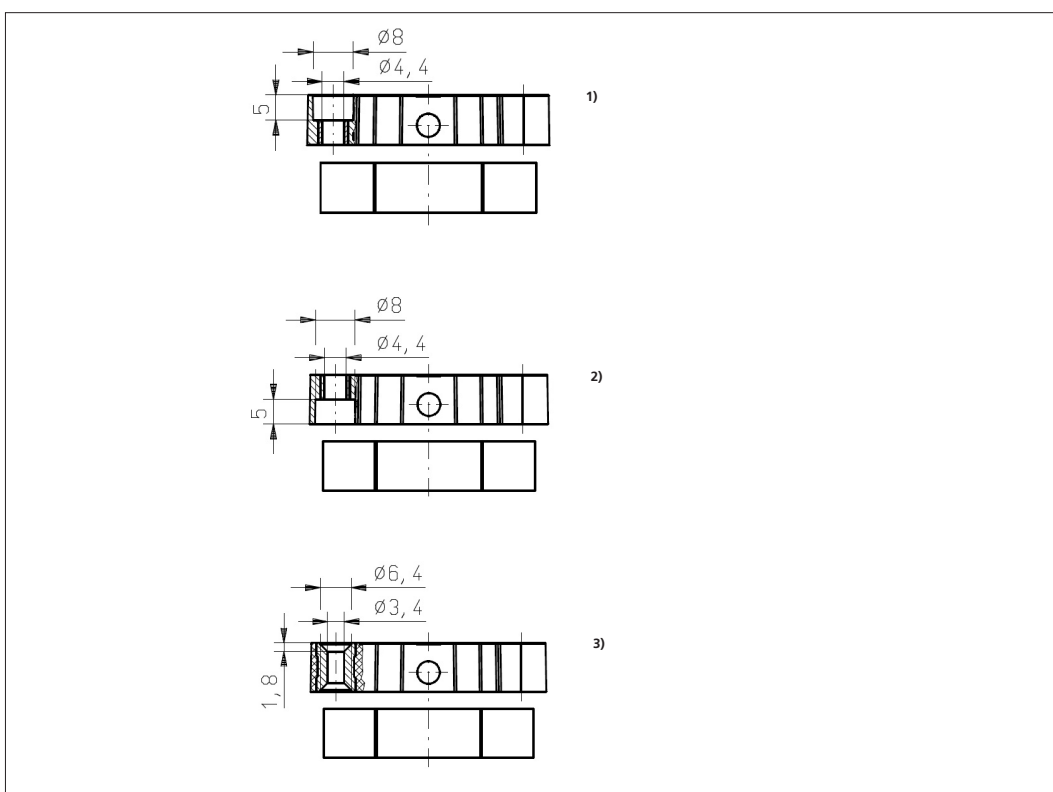
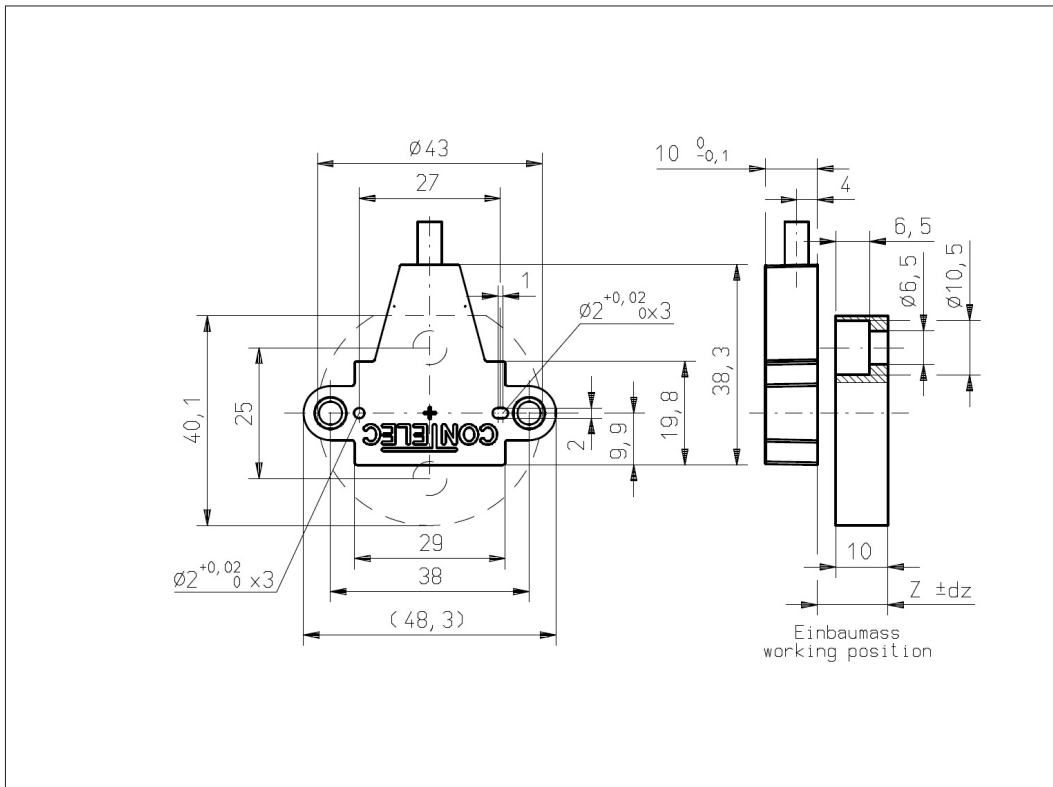
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**Vert-X 32E7
single**

Accessoires (incl.)
None

**Working position (Z) and
max. permitted misalign-
ment of the magnetic
actuator**
see mounting information



Vert-X 32E7b836 13x xxx ¹⁾

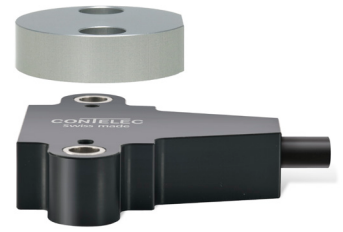
Vert-X 32E7d836 13x xxx ²⁾

Vert-X 32E7e836 13x xxx ³⁾

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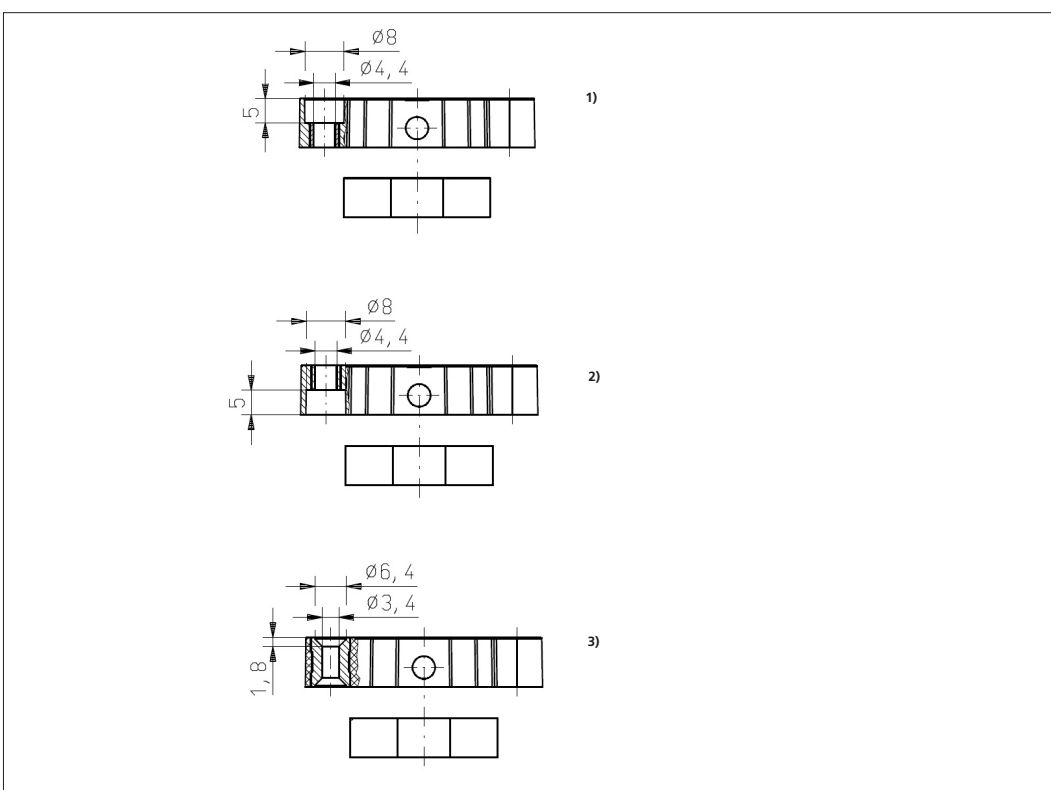
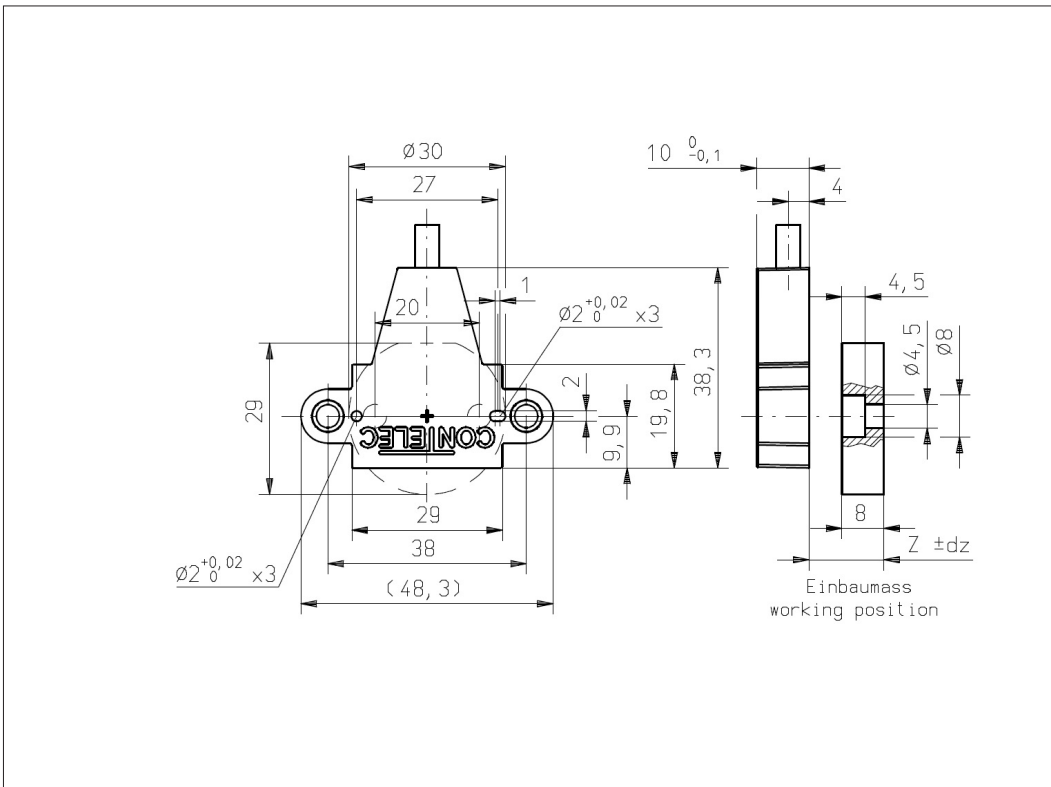
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**Vert-X 32E8
single**

Accessoires (incl.)
None

**Working position (Z) and
max. permitted misalign-
ment of the magnetic
actuator**
see mounting information



Vert-X 32E8b836 13x xxx ¹⁾

Vert-X 32E8d836 13x xxx ²⁾

Vert-X 32E8e836 13x xxx ³⁾

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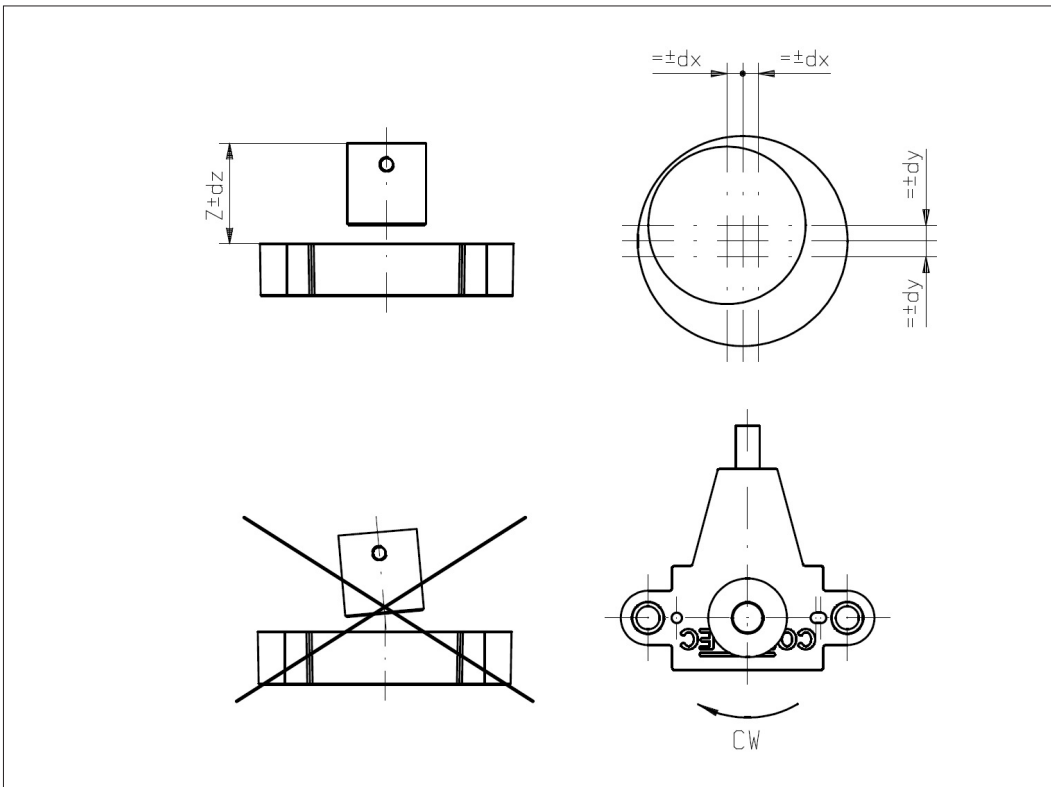
**Vert-X 32E5
single**

Mounting information

Working position (Z)
MH-C2 18.00mm

**Max. permitted misalign-
ment of the magnetic
actuator**

dx ±2.00mm
dy ±2.00mm
dz ±1.20mm



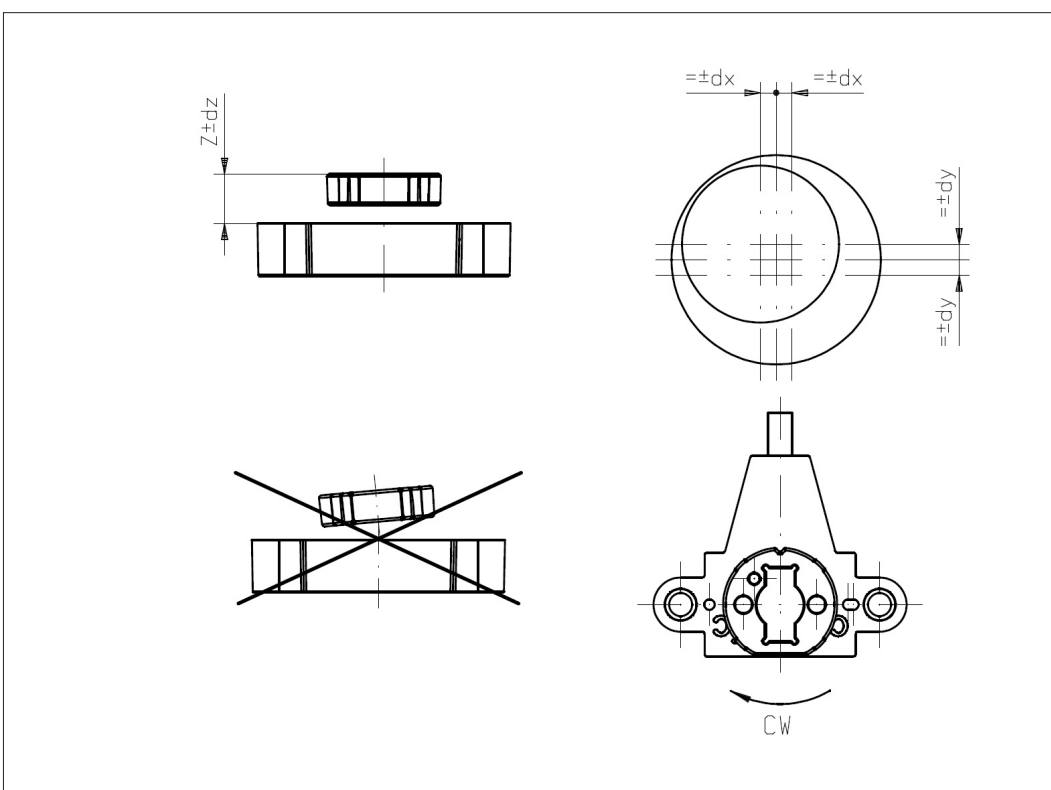
**Vert-X 32E6
single**

Mounting information

Working position (Z)
MH-C2 7.90mm

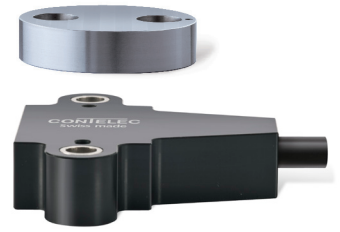
**Max. permitted misalign-
ment of the magnetic
actuator**

dx ±2.00mm
dy ±2.00mm
dz ±0.80mm



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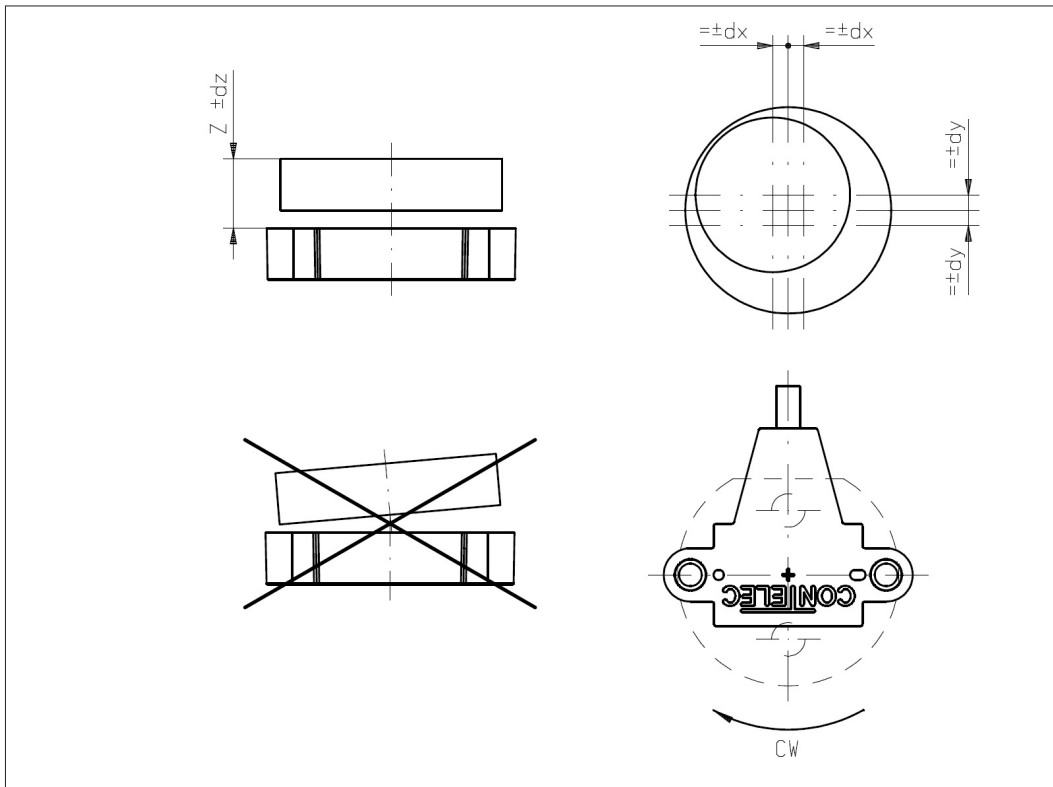
Vert-X 32E7 single

Mounting information

Working position (Z)
MH-C2 16.40mm

Max. permitted misalignment of the magnetic actuator

dx	±3.00mm
dy	±3.00mm
dz	±1.80mm



Vert-X 32E8 single

Mounting information

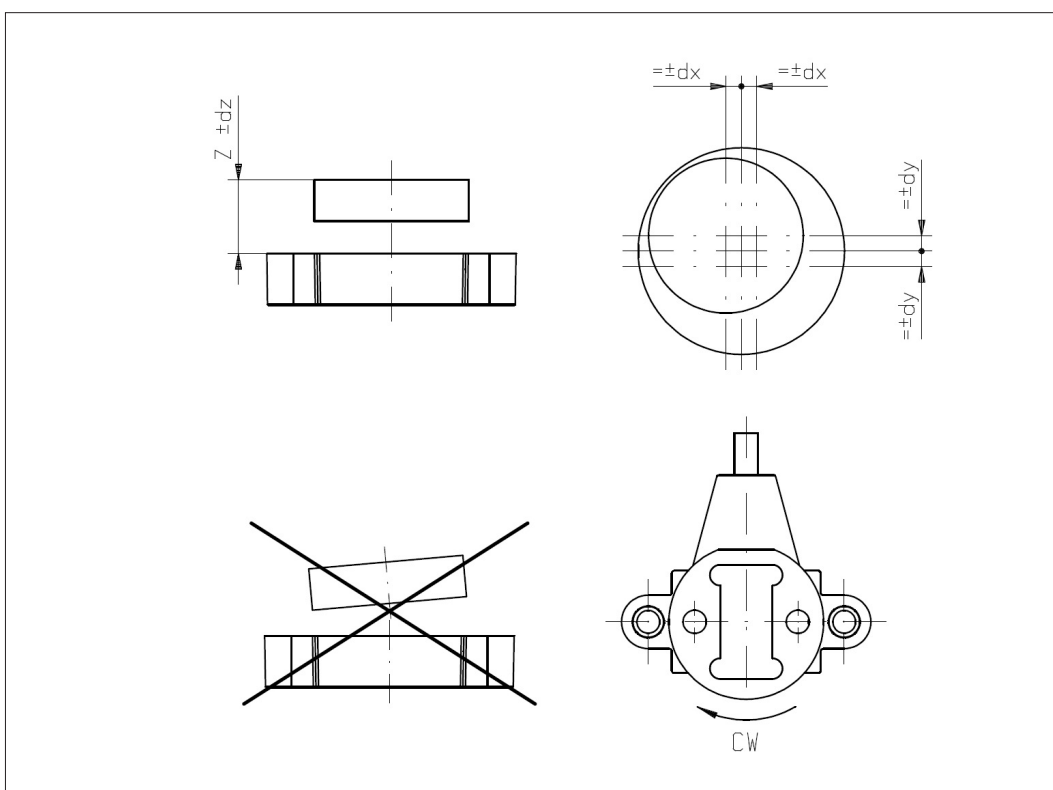
Working position (Z)
MH-C2 14.30mm

Max. permitted misalignment of the magnetic actuator

dx	±3.00mm
dy	±3.00mm
dz	±1.60mm

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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: C000 C0A1h
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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