

Sensor principle		MH-X2
Electrical data		
Measuring range	°	0 ... 360
Indep. linearity (without misalignment)	%	±0.5
Indep. linearity (with allowed misalignment @ 360°)	%	±1
Max. hysteresis	°	0.5
Resolution	bit	12
Max. repeatability	°	0.35
Max. temperaturecoefficient of the output signal	ppm/°K	5
Power supply voltage	VDC	5 (±10%)
Reverse polarity protection of power supply		no
Redundancy feasible		no
Output driver TTL		
MTTFd / MTBF	years	715 / 715
Current consumption without load (typ.)	mA	18
Recomended ohmic load at output	kOhm	1
Max. capacitive load at output	nF	-
Electrical connection		Cable 4pole
Cross section of single wires	mm^2	0.35 (AWG22)
Output driver Differential RS-485		
MTTFd / MTBF	years	654 / 654
Current consumption without load (typ.)	mA	58
Recomended ohmic load at output	kOhm	0.12
Max. capacitive load at output	nF	-
Electrical connection		Cable 6pole
Cross section of single wires	mm^2	0.25 (AWG24)
Mechanical data		
Mechanical angle	°	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	50
IEC 68-2-27 Shock	g	200
Standards		
EN 55022 class B, Emission radiated (30... 230 MHz)	dB(µV/m)	max. 30
EN 55022 class 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... 1000 MHz)	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, Immission HF conducted (0.15...80MHz)	Vemk	10
EN 61000-4-8, Immission magnetic field (50Hz)	A/m	300
IEC 60393-1 Insulation resistance (500VDC, 1bar, 2s)	GOhm	20
IEC 60393-1 Dielectric strength (VAC, 50Hz, 1min, 1bar)	kV	1

Vert-X 31E - 5V / SSI

Applications

- Concrete pump
- E-Motor feedback system
- Fork lift

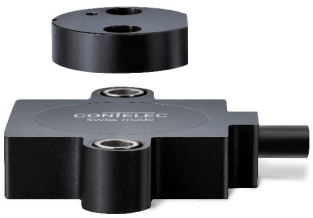
Features

- High protection class IP68
- Compact dimensions
- Very fast, non-contacting measuring method
- Very long life
- Applications under adverse ambient conditions possible (humidity, dampness, dust, vibrations etc.)
- Low temperaturecoefficient of the output signal

Errors and omissions excepted. Subject to change without notice. / State: 12.07.17

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Vert-X 31E - 5V / SSI
Ordering code

Vert-X **3** **1** **E** **5** **a** **6** **3** **6** **2** **6** **1** **8** **0** **2**

Mechanical version
- 31E5 Standard Magnetic actuator type 5
- 31E6 Standard Magnetic actuator type 6
- 31E7 Optional Magnetic acutator type 7
- 31E9 Optional Special magnetic actuator

Mounting hole
- a Standard Through-hole ø 4.4mm
- b Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

Sensor principle
- 6 MH-X2

Electrical angle
- 36 Standard Electrical angle 360°

Power supply voltage
- 5VDC Standard 2

Output signal
- SSI Standard 6

Output characteristics / Output driver
- TTL Standard 1
- Differential RS-485 Optional 3

Electrical connection
- 6 Optional Cable 6pole
- 8 Standard 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

	MH-X2
Custom magnetic actuator	X
Custom cable	X

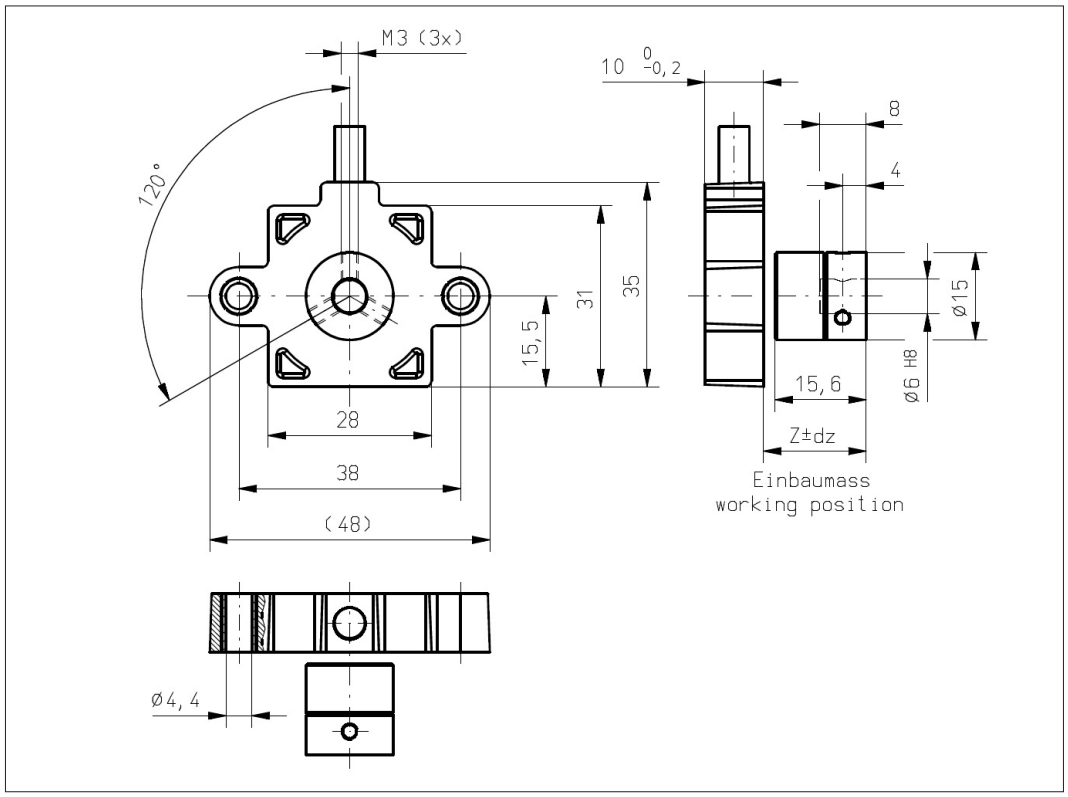
Options (on request)

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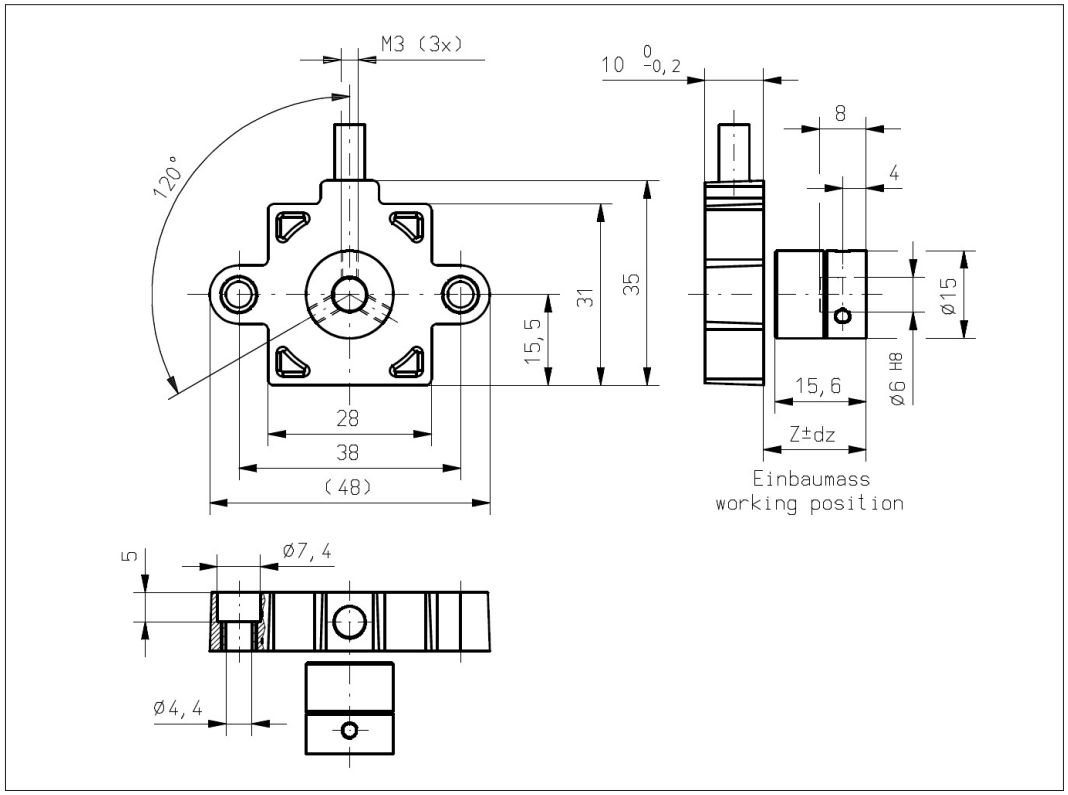




Vert-X 31E5axxx xxx xxx

Accessoires (incl.)
- None

Working position (Z) and max. permitted misalignment of the magnetic actuator
see mounting information



Vert-X 31E5bxxx xxx xxx

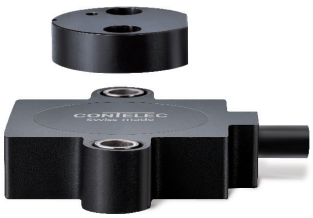
Accessoires (incl.)
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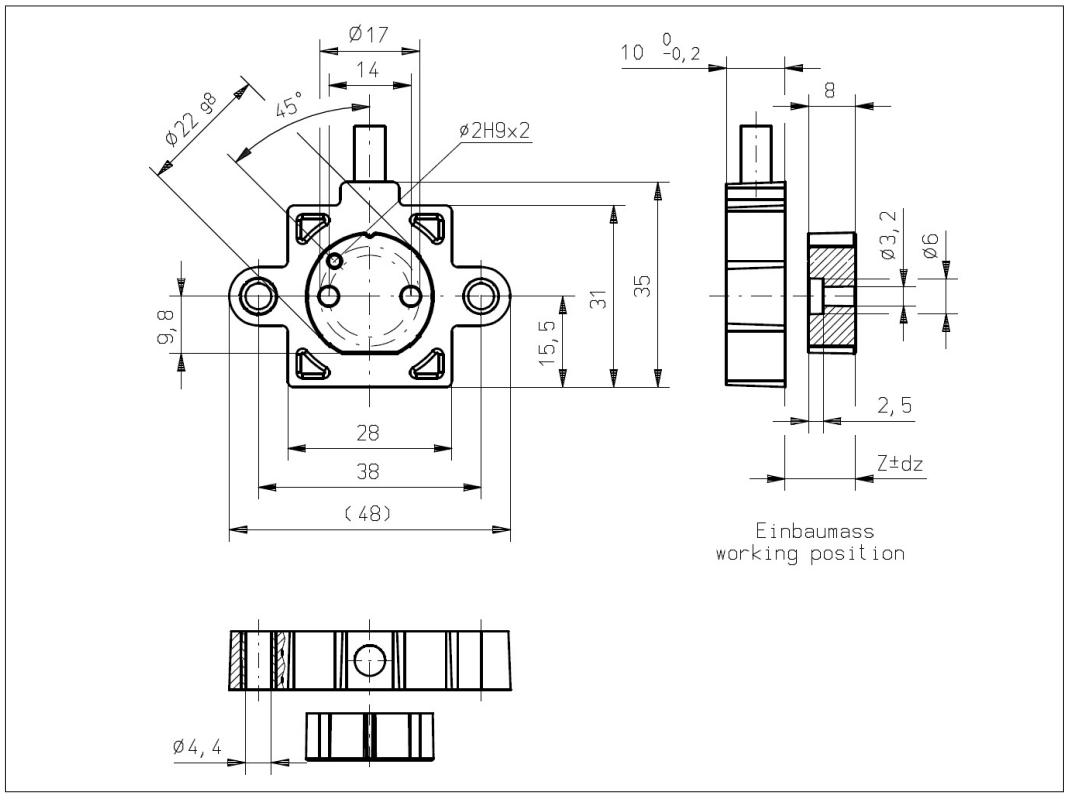
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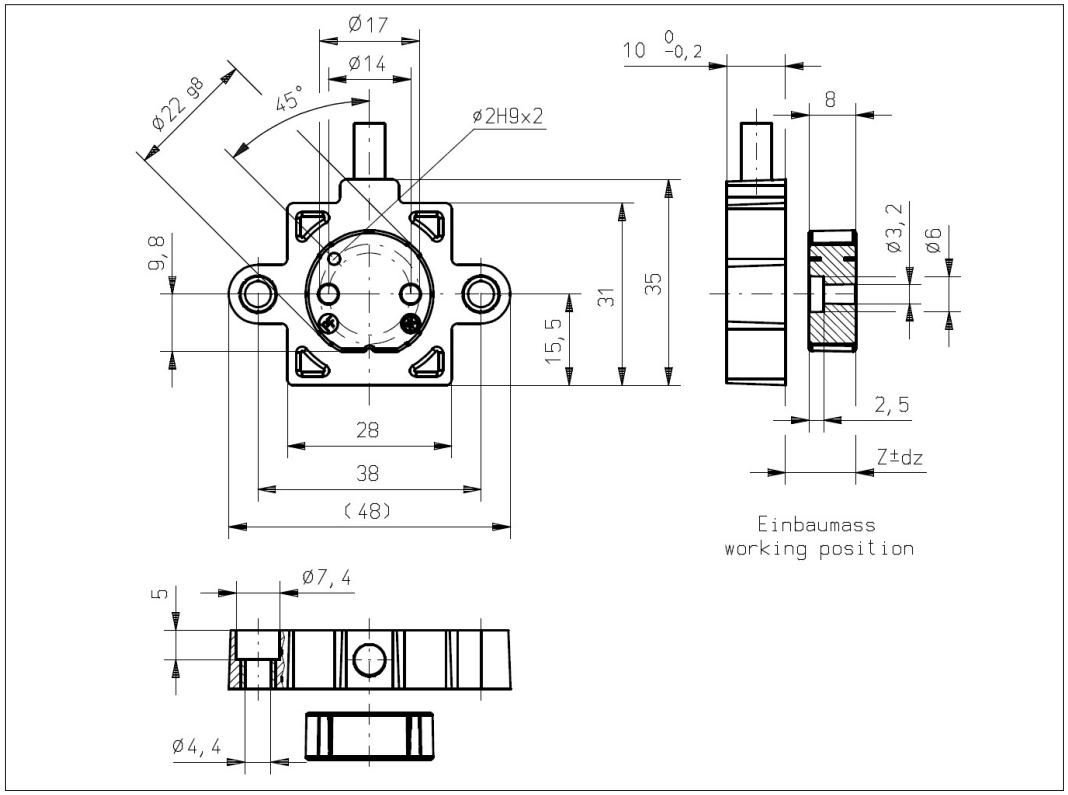




Vert-X 31E6axxx xxx xxx

Accessoires (incl.)
- None

Working position (Z) and max. permitted misalignment of the magnetic actuator
see mounting information



Vert-X 31E6bxxx xxx xxx

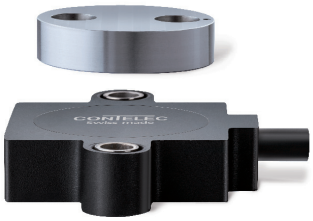
Accessoires (incl.)
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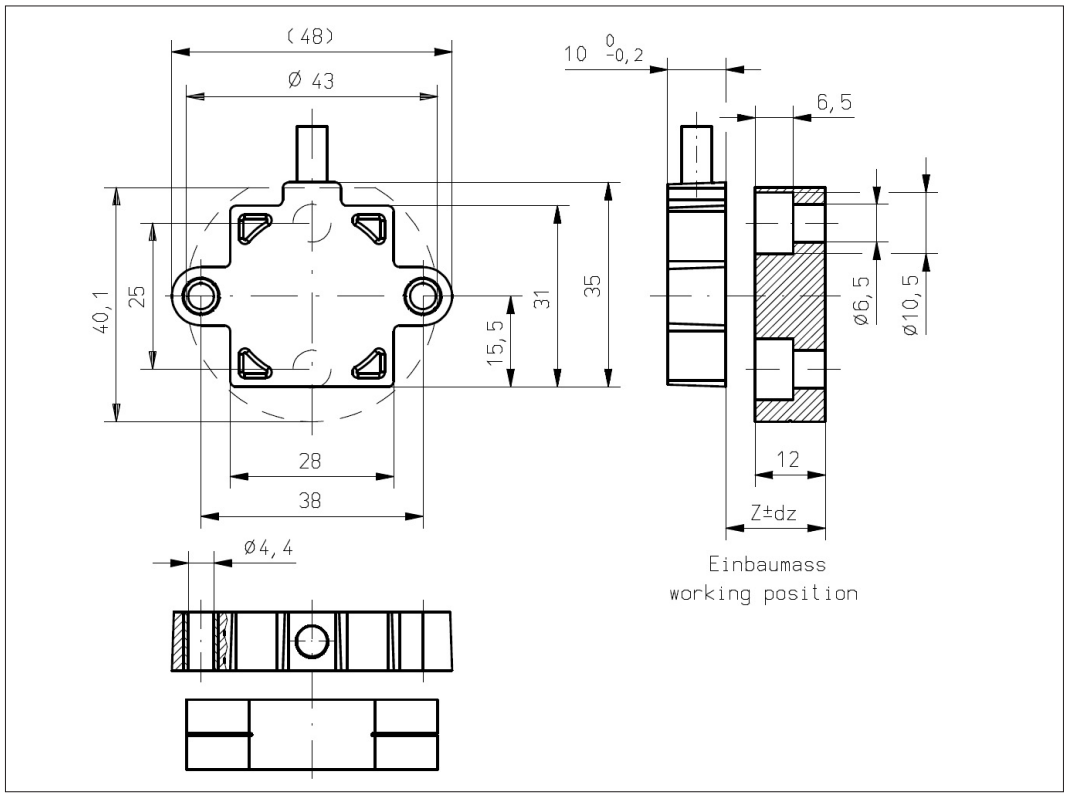
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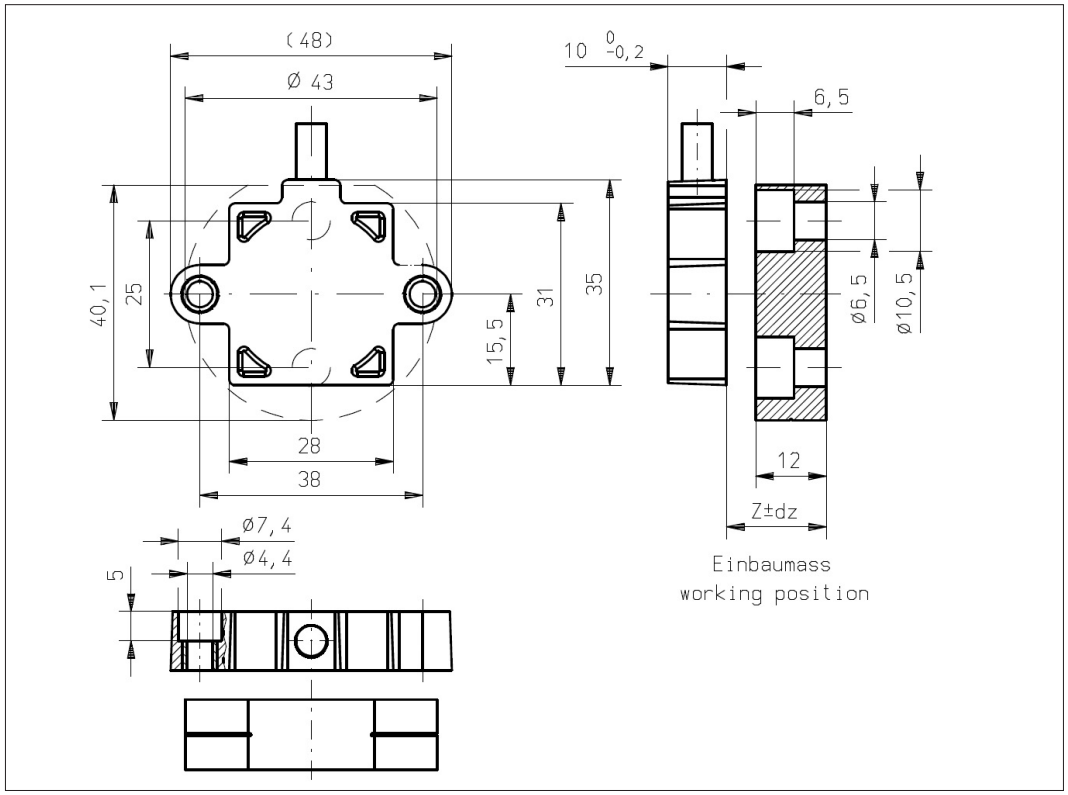




Vert-X 31E7axxx xxx xxx

Accessoires (incl.)
- None

Working position (Z) and max. permitted misalignment of the magnetic actuator
see mounting information



Vert-X 31E7bxxx xxx xxx

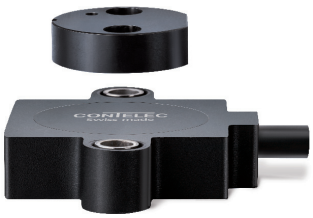
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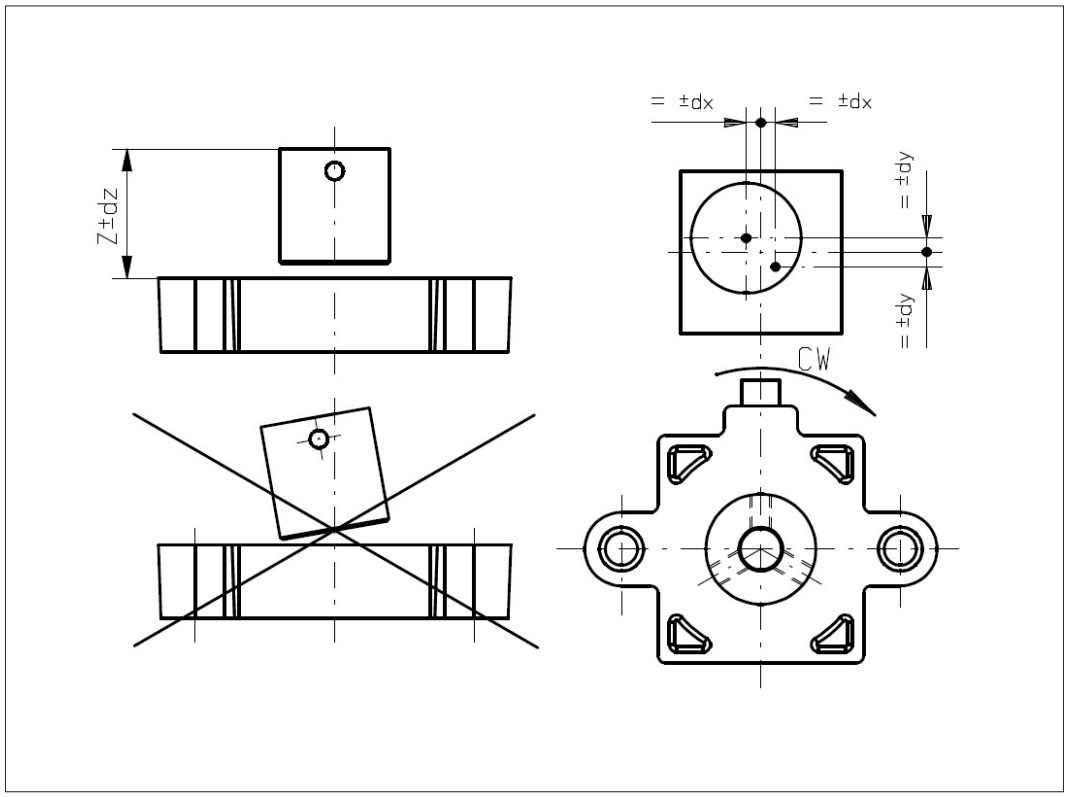
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Vert-X 31E5

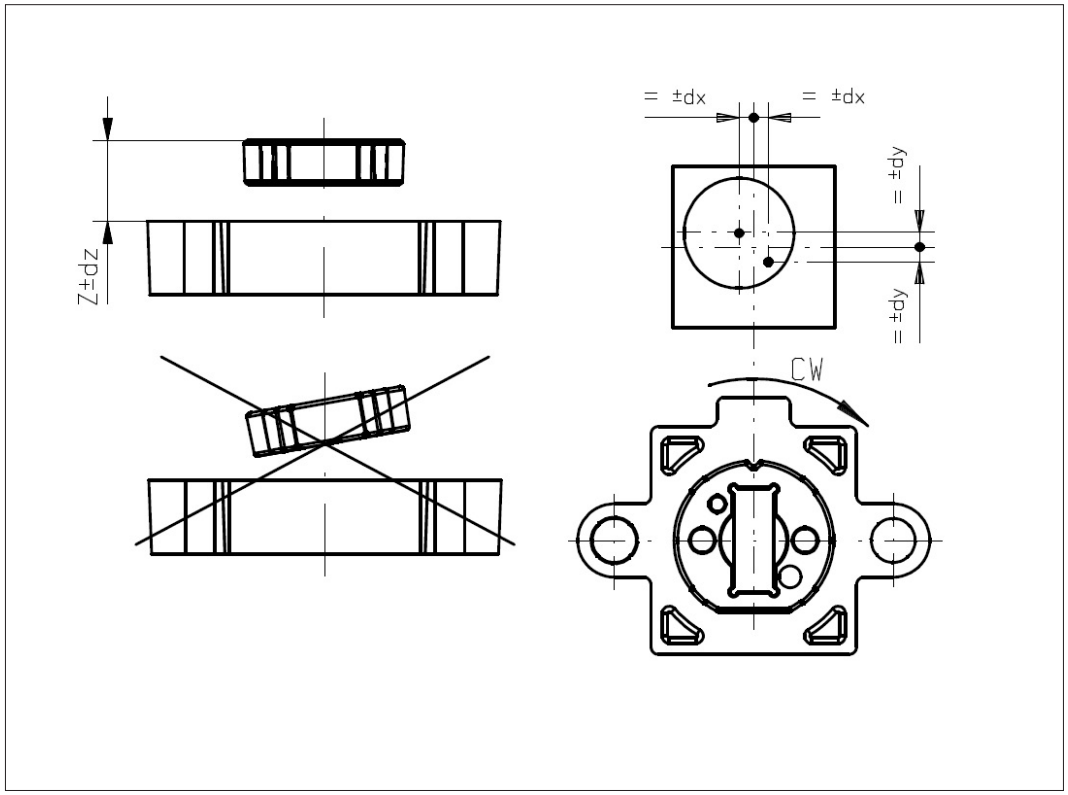
Mounting information

Working position (Z)

MH-X2	16.10mm

Max. permitted misalignment of the magnetic actuator

dx	±0.50mm
dy	±0.50mm
dz	±0.30mm



Vert-X 31E6

Mounting information

Working position (Z)

MH-X2	8.70mm

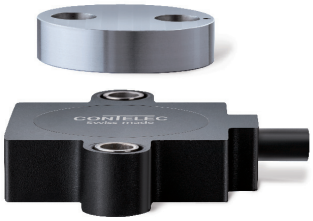
Max. permitted misalignment of the magnetic actuator

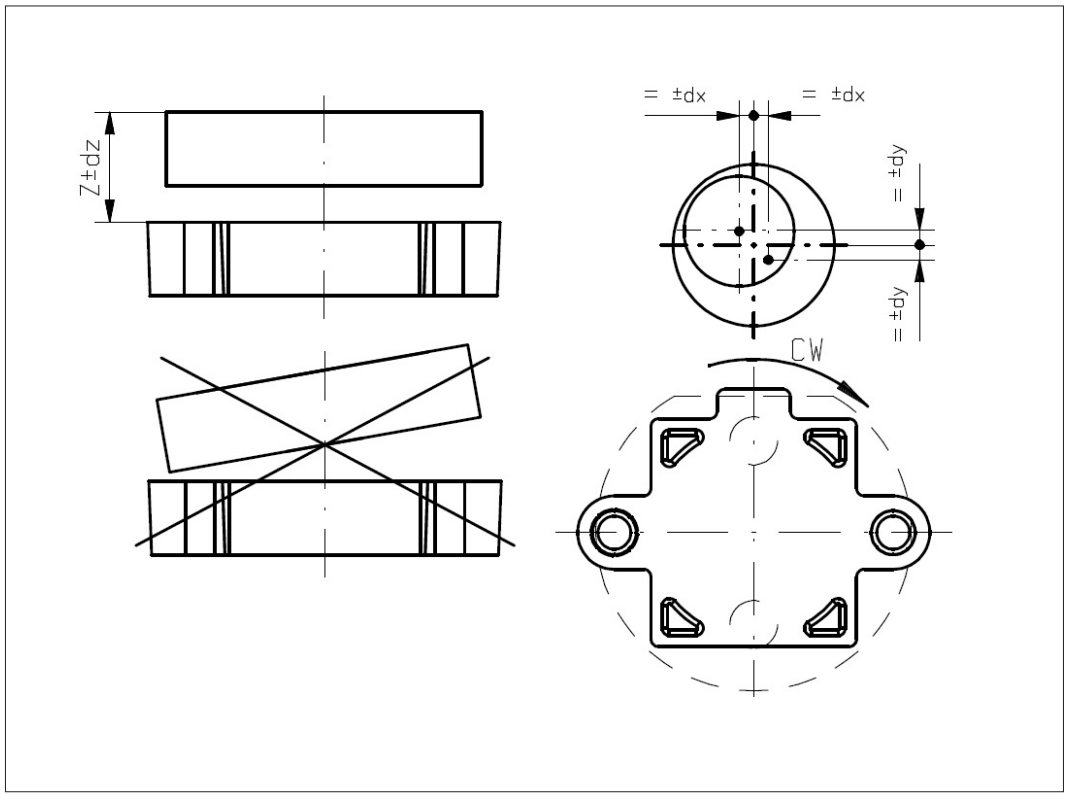
dx	±0.50mm
dy	±0.50mm
dz	±0.50mm

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Vert-X 31E7

Mounting information

Working position (Z)

MH-X2	13.00mm

Max. permitted misalignment of the magnetic actuator

dx	±1.00mm
dy	±1.00mm
dz	±0.80mm

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