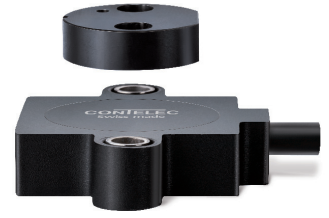


# 提夫自控技术（上海）有限公司



Vert-X 31E - 24V / SSI

Sensor principle		MH-X2
<b>Electrical data</b>		
Measuring range	°	0 ... 360
Indep. linearity (without misalignment)	%	±0.5
Indep. linearity (without 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	8 ... 35
Reverse polarity protection of power supply		yes
Redundancy feasible		no
<b>Output driver TTL</b>		
MTTFd / MTBF	years	536 / 536
Current consumption without load (typ.)	mA	20
Recomended ohmic load at output	kOhm	1
Max. capacitive load at output	nF	-
Electrical connection		Cable 4pole
Cross section of single wires	mm <sup>2</sup>	0.35 (AWG22)
<b>Output driver Differential RS-485</b>		
MTTFd / MTBF	years	501 / 501
Current consumption without load (typ.)	mA	60
Recomended ohmic load at output	kOhm	0.12
Max. capacitive load at output	nF	-
Electrical connection		Cable 6pole
Cross section of single wires	mm <sup>2</sup>	0.25 (AWG24)
<b>Mechanical data</b>		
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
<b>Standards</b>		
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

## Applications

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

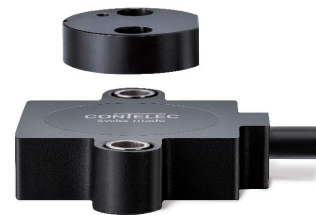
## Features

- 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: 22.05.13

**CONTELEC**

# 提夫自控技术（上海）有限公司



Vert-X 31E - 24V / SSI  
Ordering code

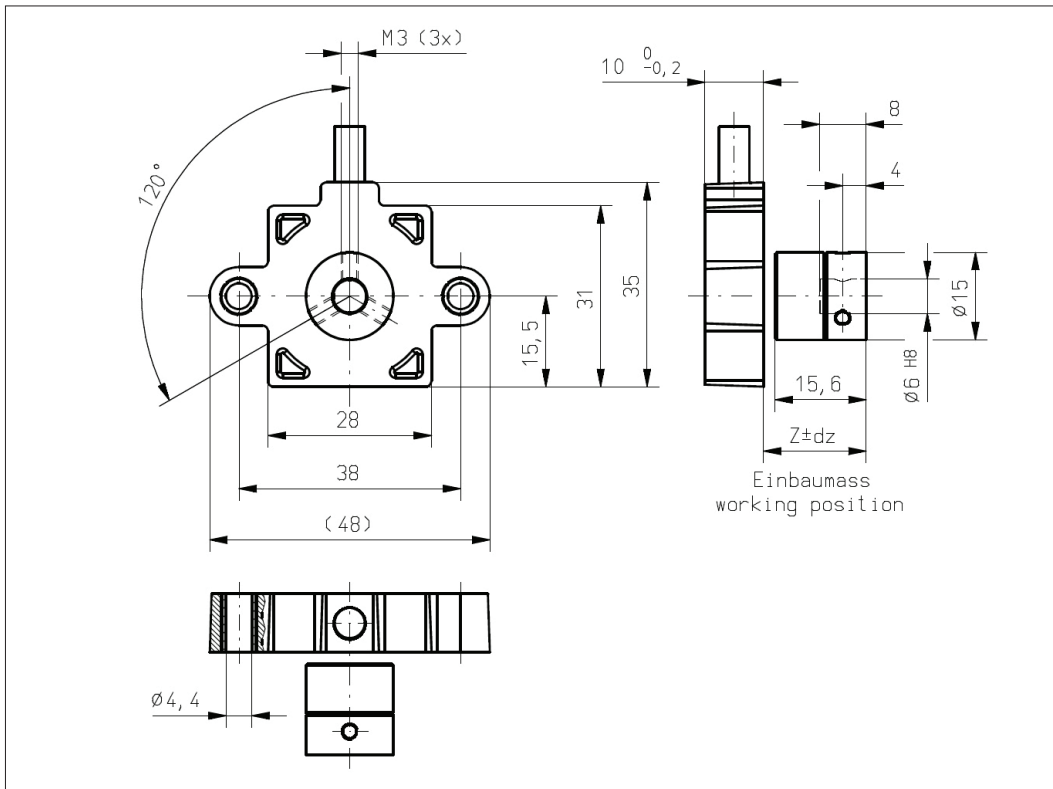
<b>Output characteristics / Output driver</b>		<b>Electrical connection</b>	
TTL	Standard	1	
Differential RS-485	Optional	3	
<b>Output signal</b>		<b>Length of cable</b>	
SSI	Standard	6	
<b>Power supply voltage</b>		02 Standard 1.0m	
24VDC	Standard	1	
		06 Optional 3.0m	
		10 Optional 5.0m	
		99 Optional Special length	
Vert-X	3	1	E
	5	a	6
	3	6	1
	6	1	6
	1	6	1
	8	0	2
<b>Electrical angle</b>		Electrical angle 360°	
36	Standard		
<b>Sensor principle</b>			
6	MH-X2		
<b>Mounting hole</b>			
a	Standard	Through-hole ø 4.4mm	
b	Optional	Through-hole ø 4.4mm with counterbore ø 7.4mm	
<b>Mechanical version</b>			
31E5	Standard	Magnetic actuator type 5	
31E6	Standard	Magnetic actuator type 6	
31E7	Optional	Magnetic actuator type 7	
31E9	Optional	Special magnetic actuator	

	MH-X2
Custom magnetic actuator	X
Custom cable	X

Options (on request)

Errors and omissions excepted. Subject to change without notice. / State: 22.05.13





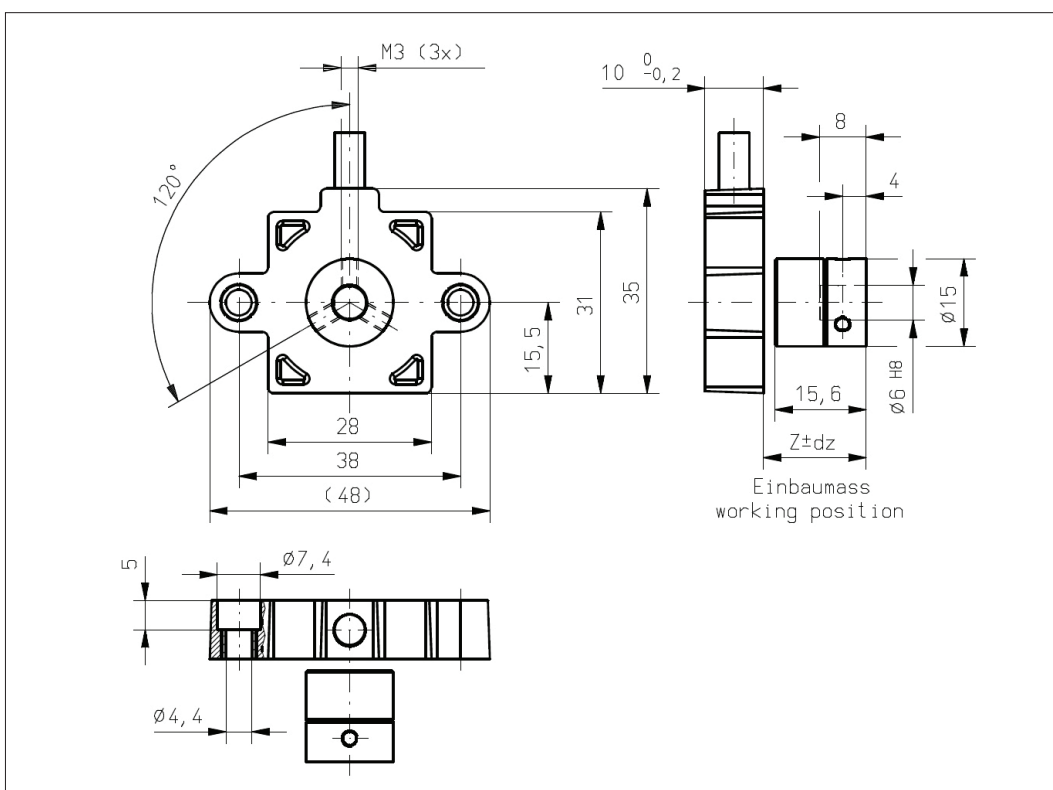
Vert-X 31E5axxx xxx xxx

**Accessoires (incl.)**

- None

**Working position (Z) and max. permitted misalignment of the magnetic actuator**

see mounting information



Vert-X 31E5bxxx xxx xxx

**Accessoires (incl.)**

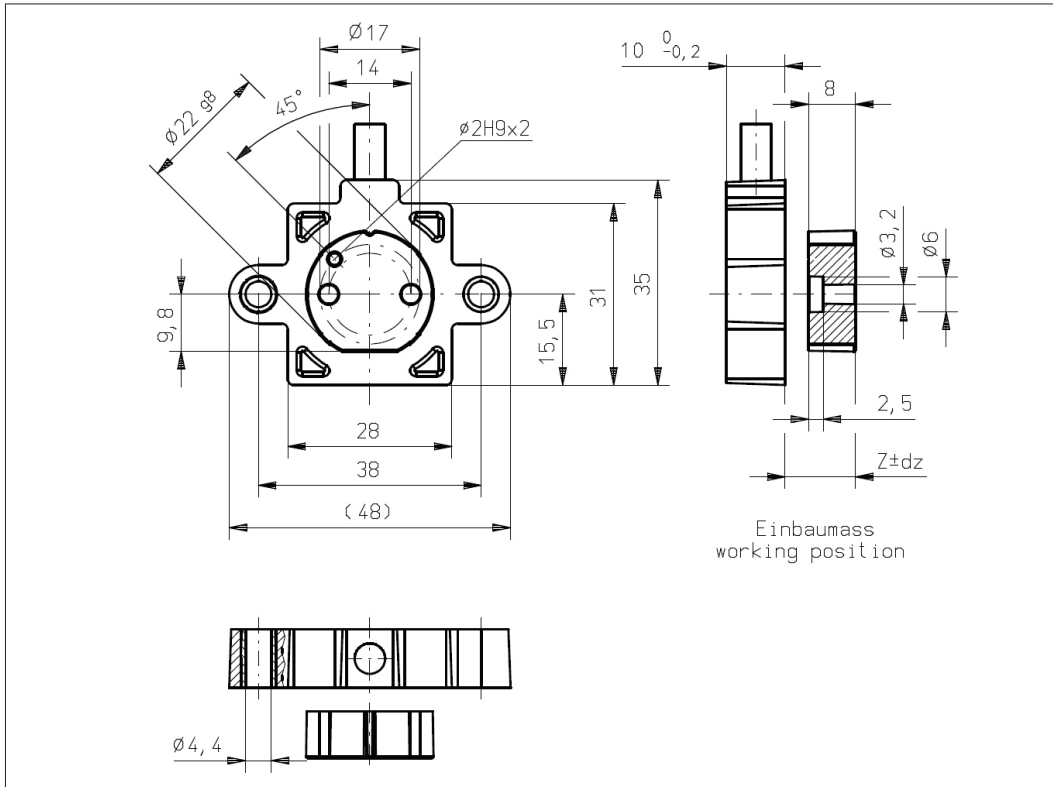
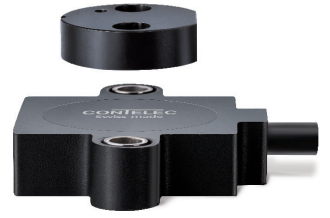
- None

**Working position (Z) and max. permitted misalignment of the magnetic actuator**

see mounting information

Errors and omissions excepted. Subject to change without notice. / State: 22.05.13

# 提夫自控技术（上海）有限公司



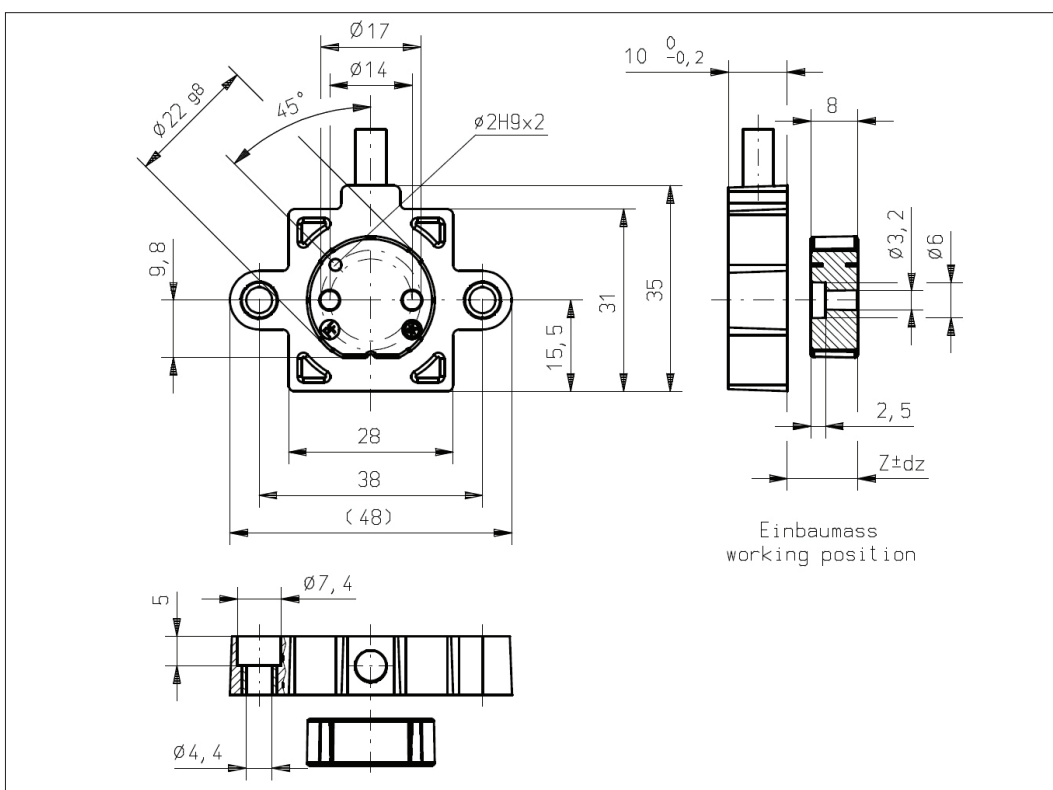
Vert-X 31E6axxx xxx xxx

**Accessoires (incl.)**

- None

**Working position (Z) and max. permitted misalignment of the magnetic actuator**

see mounting information



Vert-X 31E6bxxx xxx xxx

**Accessoires (incl.)**

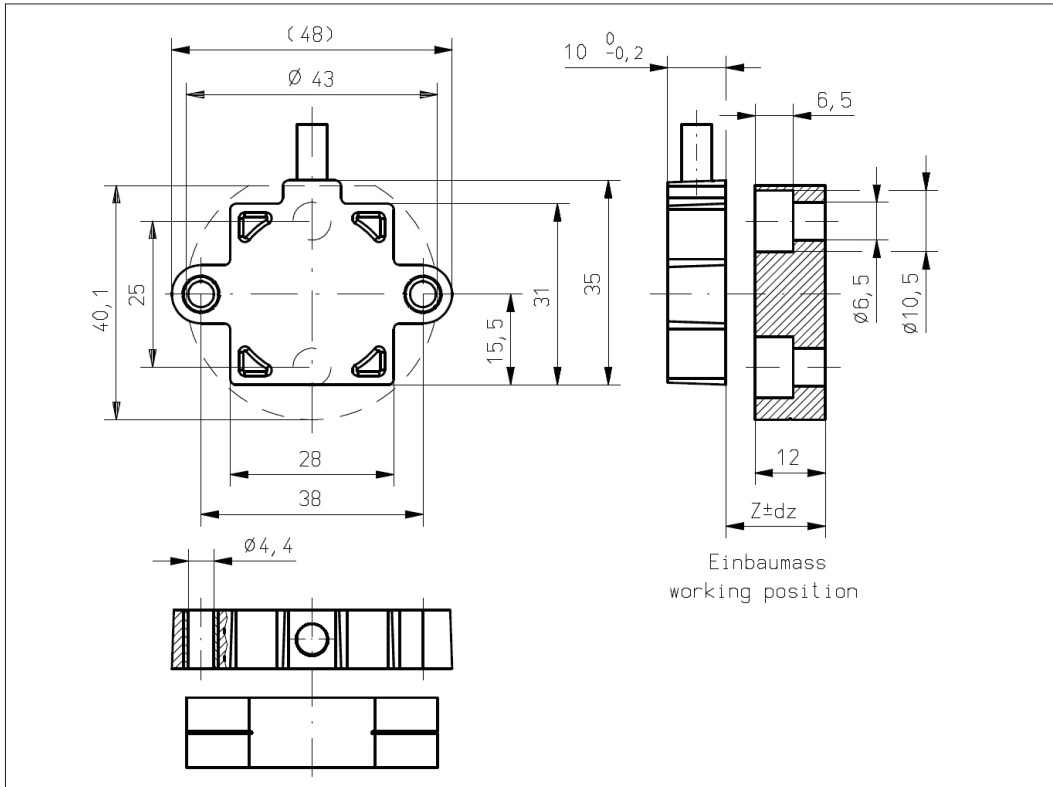
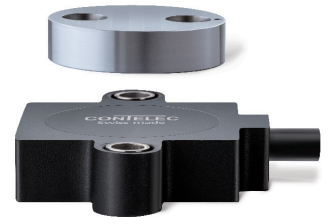
- None

**Working position (Z) and max. permitted misalignment of the magnetic actuator**

see mounting information

Errors and omissions excepted. Subject to change without notice. / State: 22.05.13





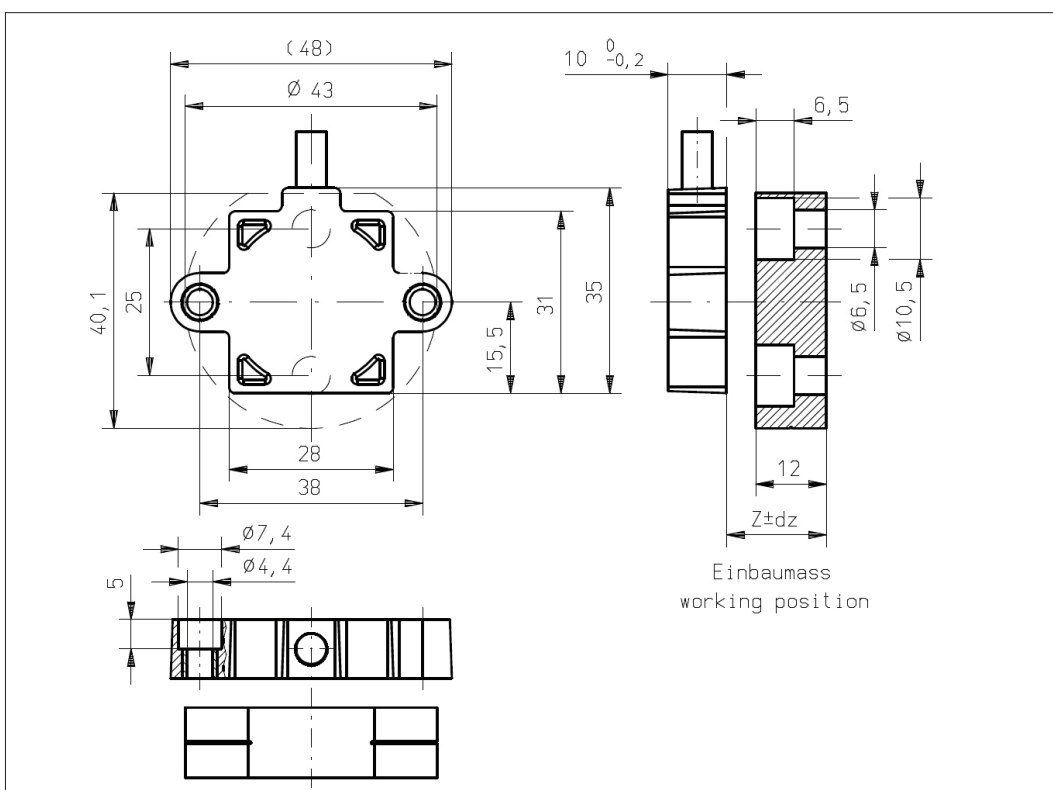
**Vert-X 31E7axxx xxx xxx**

**Accessoires (incl.)**

- None

**Working position (Z) and max. permitted misalignment of the magnetic actuator**

see mounting information



**Vert-X 31E7bxxx xxx xxx**

**Accessoires (incl.)**

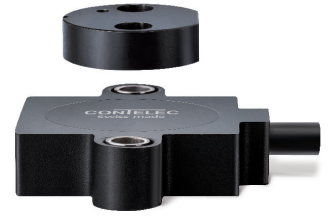
- None

**Working position (Z) and max. permitted misalignment of the magnetic actuator**

see mounting information

Errors and omissions excepted. Subject to change without notice. / State: 22.05.13





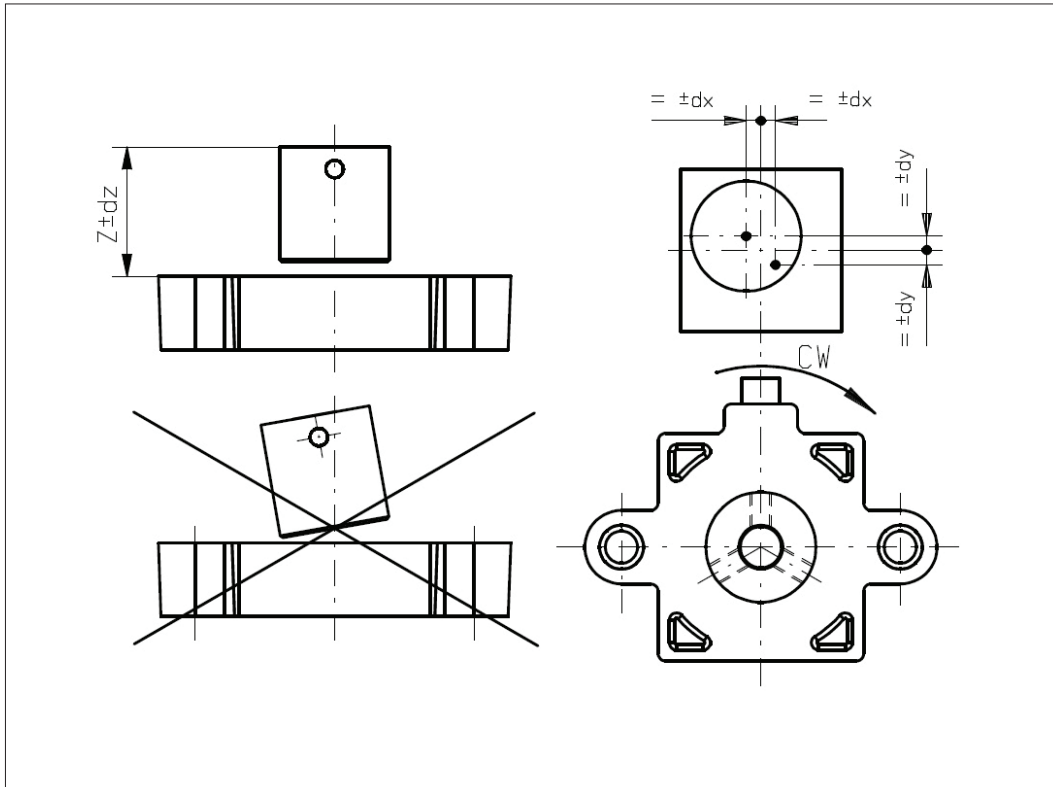
## Vert-X 31E5

### 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

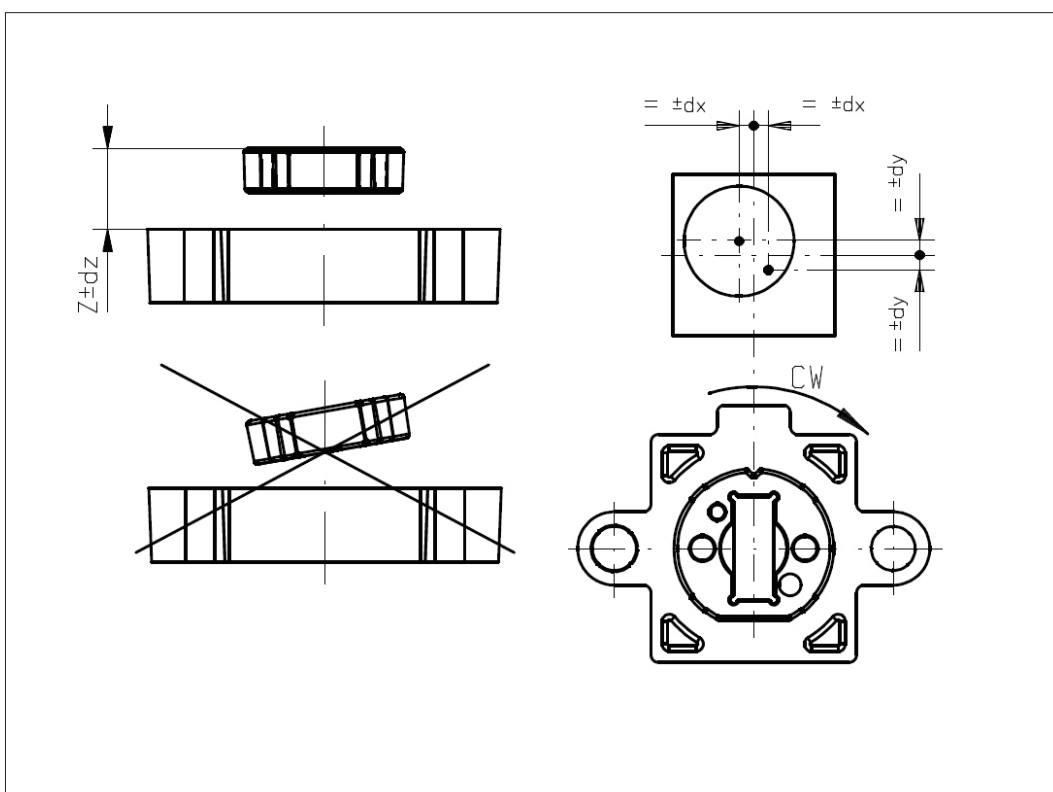
### Mounting information

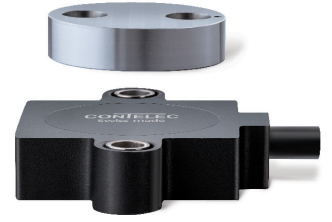
**Working position (Z)**  
MH-X2 8.70mm

### Max. permitted misalignment of the magnetic actuator

dx	±0.50mm
dy	±0.50mm
dz	±0.50mm

Errors and omissions excepted. Subject to change without notice. / State: 22.05.13





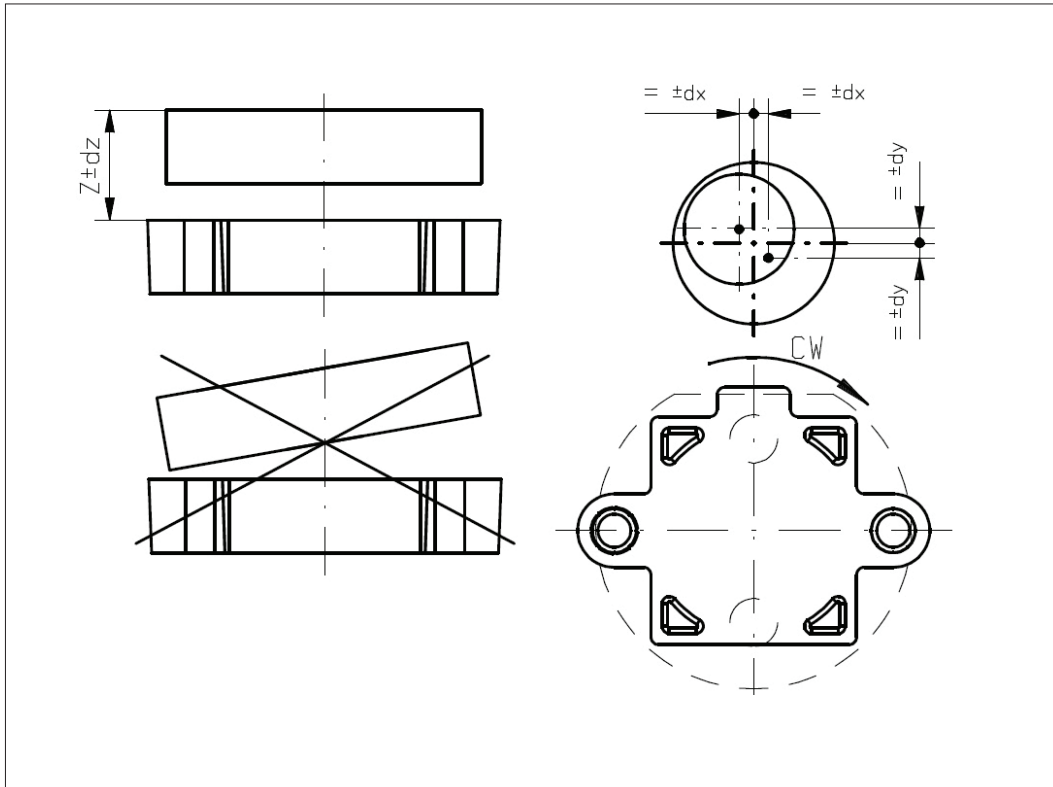
## Vert-X 31E7

### Mounting information

**Working position (Z)**  
MH-X2 13.00mm

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

dx	±1.00mm
dy	±1.00mm
dz	±0.80mm



Errors and omissions excepted. Subject to change without notice. / State: 22.05.13