



Vert-X 13E

Applications

- Servodrives
- Insetting machines
- Sewer inspection robots
- Medical applications

Features

- High protection class IP68
- Very compact dimensions
- Non-contacting measuring method
- Very long life
- High accuracy of measurement
- Use in cramped installation conditions

Options

- Special electrical angle
- Output signal
X ... Y% UB
- Custom housing design
- Custom magnetic actuator design
- Custom cable / wires

Errors and omissions excepted. Subject to change without notice. State: 01.10.10

Contelec AG
Portstrasse 38
CH-2503 Biel/Bienne
Phone +41 (0)32 3665600
Telefax +41 (0)32 3665604
sales@contelec.ch

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Version		B	C
Electrical Data			
Measuring range	°	0 ... 360	360
Independent linearity		see table B	see table C
Max. hysteresis		see table B	see table C
Resolution		see table B	see table C
Max. repeatability		see table B	see table C
Sample rate		see table B	see table C
System propagation delay		see table B	see table C
Max. temperature coefficient of the output signal ppm/°K		50	50
Min. life (electrical)	years	10	10
Power supply voltage	VDC	5 (±10 %)	5 (±10 %)
Current consumption without load (typical)		see table B	see table C
Min. ohmic load at output		see table B	see table C
Max. capacitive load at output		see table B	see table C
PWM frequency		see table B	-
Reverse polarity protection of power supply		see table B	see table C
Electrical connection		see table B	see table C
Mechanical Data			
Mechanical range	°	360 (continuous)	360 (continuous)
Min. life (mechanical)	movements	infinite	infinite
Operating temperature	°C	see table B	see table C
Storage temperature	°C	see table B	see table C
Protection class		IP68	IP68
Standards			
EN 55022 classe B, emission radiated (30 ... 230 MHz)		max. 30 dB(µV/m)	max. 30 dB(µV/m)
EN 55022 classe B, emission radiated (230 ... 1000MHz)		max. 37 dB(µV/m)	max. 37 dB(µV/m)
EN 61000-4-2, ESD on housing and connections (contact / air)		4 / 8 kV	4 / 8 kV
EN 61000-4-3, immission HF radiated (80 ... 1000 MHz)		100 V/m	100 V/m
EN 61000-4-4, burst (on supply lines / signal lines)		1 / 0.5 kV	1 / 0.5 kV
EN 61000-4-5, surge (on supply lines / signal lines)		-	-
EN 61000-4-6, immission HF conducted (0.15 ... 80MHz)		10 Vemk	10 Vemk
EN 61000-4-8, immission magnetic field (50Hz)		30 A/m	30 A/m
IEC 60393-1 insulation resistance (500VDC, 1bar, 2s)		20 GOhm	20 GOhm
IEC 60393-1 dielectric strength (VAC, 50Hz, 1min, 1bar)		1 kV	1 kV
IEC 68-2-6 vibration (Amax = 0.75mm, f = 5 ... 2000 Hz)		50 g	50 g
IEC 68-2-27 shock		200 g	200 g



Additional features

- Full resolution and accuracy at programmed electrical angle

Additional options

- Electrical angle within 0 ... 360° programmable
- Redundancy
- Operating temperature -40 ... + 125°C
- Fast mode / slow mode selectable
(Standard: slow mode, except for SPI: fast mode)

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Vert-X 13E Ordering code Version B



Vert-X 13E Table Version C

Additional features

- High operating speed

Additional options

- Operating temperature
-40 ... + 125°C
- Incremental resolution
128,64 or 32ppr
programmable
(Standard 256ppr)

Interface		SSI	Incremental (A,B,Z)
Independent linearity	%	±0.5	±0.5
Max. hysteresis	°	0.1	0.7
Resolution	bit	10	10 (quadrature)
Resolution per channel	ppr	-	256 / (128 / 64 / 32)
Max. repeatability	°	0.12	0.12
Sample rate	kHz	10	10
System propagation delay	µs	65	200
Current consumption without load (typical)	mA	16	16
Min. ohmic load at output	kOhm	5	5
Max. capacitive load at output	nF	1	1
Reverse polarity protection of power supply		no	no
Electrical connection axial		ribbon cable	ribbon cable
Cross section of single wires	mm ²	0.09 (AWG28)	0.09 (AWG28)
Operating temperature	°C	-40 ... +105	-40 ... +105
Storage temperature	°C	-40 ... +105	-40 ... +105
Electrical connection radial		round cable 6pol	round cable 6pol
Cross section of single wires	mm ²	0.09 (AWG28)	0.09 (AWG28)
Operating temperature	°C	-40 ... +125	-40 ... +125
Storage temperature	°C	-40 ... +125	-40 ... +125
Redundancy feasible		no	no

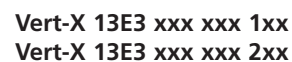
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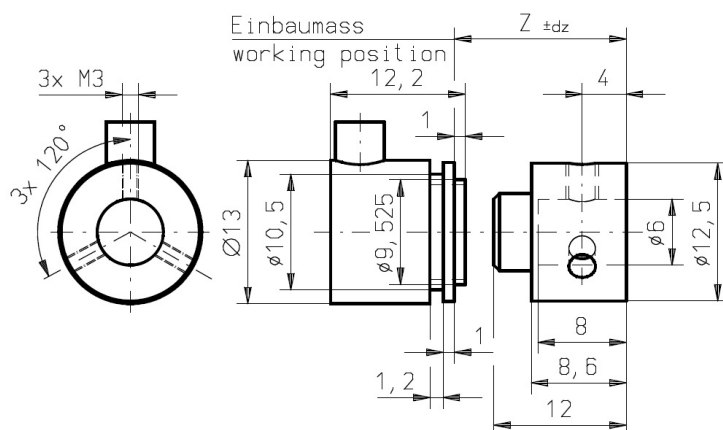
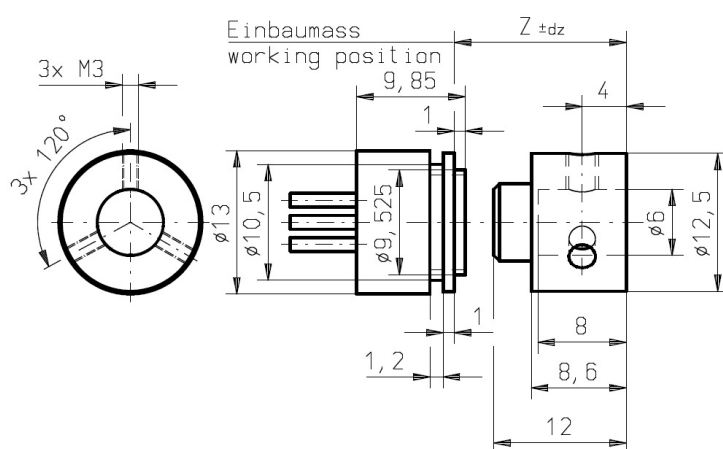


Vert-X 13E Ordering code Version C



Version B	11.05mm
Version B redundant	10.55mm
Version C	10.55mm

dz $\pm 0.5\text{mm}$



Vert-X 13E3 xxx xxx 4xx
Vert-X 13E3 xxx xxx 6xx

Version B	11.05mm
Version B redundant	10.55mm
Version C	10.55mm

dz $\pm 0.5\text{mm}$

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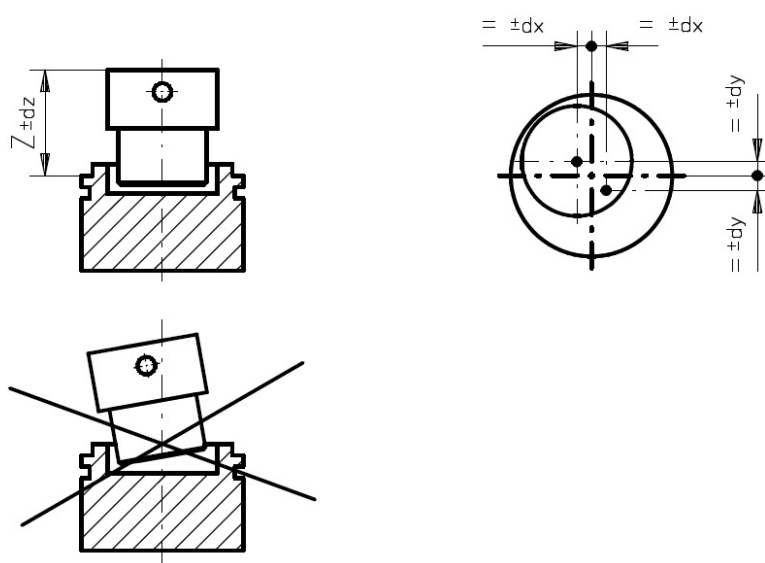
Vert-X 13E Mounting information

Working position (Z)

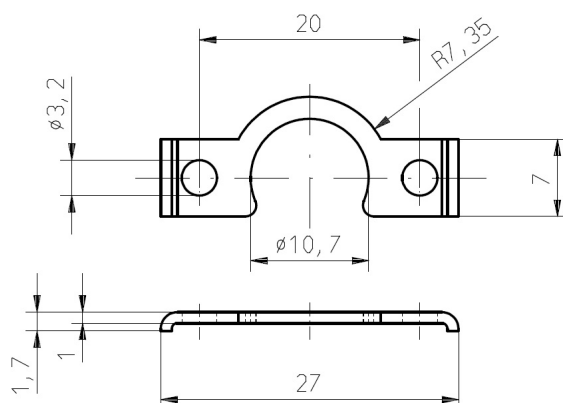
Version B	11.05mm
Version B redundant	10.55mm
Version C	10.55mm

Max. permitted misalignment of the magnetic actuator

dx	±0.25mm
dy	±0.25mm
dz	±0.5mm



Vert-X 13E Accessories Fixation clip



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