



Vert-X 37E - 24V

Applications

- Agricultural machines
- Construction machines
- Forest machines
- Special purpose vehicles

Features

- High protection class IP69
- Very robust design
- Non-contacting measuring method
- Very long life
- High accuracy of measurement
- Applications under adverse ambient conditions possible (humidity, dampness, oil, dust, vibrations etc.)

Options

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

Errors and omissions excepted. Subject to change without notice. State: 20.11.06

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CONTELEC
 A company of the Siedle-Group

Version		B	C
Electrical Data			
Measuring range	°	0 ... 360	360
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		100	100
Min. life (electrical)	years	10	10
Power supply voltage		see table B	see table C
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	-40 ... +85	-40 ... +85
Storage temperature	°C	-40 ... +85	-40 ... +85
Protection class		IP69	IP69
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)		1 kV	1 kV
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



Vert-X 37E - 24V Table Version B

Additional features

- Full resolution and accuracy at programmed electrical angle

Additional options

- Electrical angle within 0 ... 360° programmable
- Redundancy

Interface		0.5 ... 4.5V	0.1 ... 10V	4 ... 20mA
Indep. linearity (without misalignment)	% meas. range	±0.3	±0.3	±0.3
Indep. linearity (with allowed misalignm. @ 360°)	% meas. range	±0.5	±0.5	±0.5
Max. hysteresis	°	0.1	0.1	0.1
Resolution	bit	12	12	12
Max. repeatability	°	0.1	0.1	0.1
Sample rate fast mode	kHz	5	5	5
Sample rate slow mode	kHz	1.66	1.66	1.66
System propagation delay fast mode	µs	800	850	850
System propagation delay slow mode	µs	4600	4650	4650
Power supply voltage	VDC	8 ... 35	10.8 ... 35	16 ... 35
Current consump. without load (typ.) fast mode	mA	16	16	16
Current consump. without load (typ.) slow mode	mA	10	10	10
Min. ohmic load at output	kOhm	5	10	0 ... 0.5
Max. capacitive load at output	nF	5	10	10
PWM frequency	kHz	-	-	-
Reverse polarity protection of power supply		yes	yes	yes
Electrical connection axial		wires	wires	wires
Cross section of single wires	mm ²	0.5 (AWG20)	0.5 (AWG20)	0.5 (AWG20)
Electrical connection radial		round cable 3pol	round cable 3pol	round cable 3pol
Cross section of single wires	mm ²	0.5 (AWG20)	0.5 (AWG20)	0.5 (AWG20)
Redundancy feasible		yes	no	no

Interface		PWM	SPI
Indep. linearity (without misalignment)	% meas. range	±0.3	±0.3
Indep. linearity (with allowed misalignm. @ 360°)	% meas. range	±0.5	±0.5
Max. hysteresis	°	0.1	0.1
Resolution	bit	12	14
Max. repeatability	°	0.1	0.1
Sample rate fast mode	kHz	1	2.2
Sample rate slow mode	kHz	1	0.55
System propagation delay fast mode	µs	800	400
System propagation delay slow mode	µs	4600	600
Power supply voltage	VDC	8 ... 35	8 ... 35
Current consump. without load (typ.) fast mode	mA	16	16
Current consump. without load (typ.) slow mode	mA	10	10
Min. ohmic load at output	kOhm	10	-
Max. capacitive load at output	nF	1	-
PWM frequency	kHz	0.1 (... 1)	-
Reverse polarity protection of power supply		yes	yes
Electrical connection axial		wires	ribbon cable
Cross section of single wires	mm ²	0.5 (AWG20)	0.5 (AWG20)
Electrical connection radial		round cable 3pol	round cable 6pol
Cross section of single wires	mm ²	0.5 (AWG20)	0.5 (AWG20)
Redundancy feasible		yes	yes

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**Vert-X 37E - 24V
Table
Version C**

Additional features

- High operating speed

Interface		SSI	Incremental (A,B,Z)
Independent linearity	°	1.8	1.8
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
Power supply voltage	VDC	8 ... 30	8 ... 30
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		yes	yes
Electrical connection axial		ribbon cable	ribbon cable
Cross section of single wires	mm ²	0.5 (AWG20)	0.5 (AWG20)
Electrical connection radial		round cable 6pol	round cable 6pol
Cross section of single wires	mm ²	0.5 (AWG20)	0.5 (AWG20)
Redundancy feasible		no	no

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