



Vert-X 29 - 5V / 10...90% Ub

Applications

- Servodrives
- Forklifter
- Dancer arm
- Operating table

Features

- Compact dimensions
- Contactless measuring method
- Long life
- High accuracy of measurement
- Simple adjustment with elongated holes
- Full resolution and accuracy at programmed electrical angle
- Full redundancy possible
- Better linearity, up to $\pm 0.3\%$ possible

Sensor principle		MH-C
Electrical data		
Measuring range	°	0 ... 360
Indep. linearity	% of meas. range	± 1
Max. hysteresis	°	0.25
Resolution	bit	12
Max. repeatability	°	0.1
Sample rate fast mode	kHz	(5)
Sample rate slow mode	kHz	1.66
System propagation delay fast mode	μs	(800)
System propagation delay slow mode	μs	4600
Max. temperature coefficient of the output signal	ppm/K	50
MTTFd / MTBF	years	668 / 668
Power supply voltage	VDC	5 ($\pm 10\%$)
Current consumption without load (typ.) fast mode	mA	(14)
Current consumption without load (typ.) slow mode	mA	9
Min. ohmic load at output	kOhm	10
Max. capacitive load at output	nF	100
Reverse polarity protection of power supply		yes
Electrical connection		Cable 3pole
Cross section of single wires	mm ²	0.56 (AWG20)
Redundancy feasible		yes
Electrical connection redundant		Cable 6pole
Cross section of single wires redundant	mm ²	0.25 (AWG24)
Mechanical data		
Mechanical range	°	360 (continuous)
Protection class		IP54 / IP67
Max. starting torque at specified protection class	Ncm	0.5 / 3
Max. rotating speed	rpm	120
Min. life	movements	50 Mio.
Max. permitted axial shaft load	N	10
Max. permitted radial shaft load	N	10
Operating & storage temperature	°C	-40 ... +125
EN 60068-2-6 Vibration (Amax = 0.75mm, f = 5...2000Hz)	g	20
EN 60068-2-27 Shock	g	50
Standards		
EN 55022 class B, Emission radiated (30...230MHz)	dB($\mu V/m$)	max. 30
EN 55022 class B, Emission radiated (230...1000MHz)	dB($\mu V/m$)	max. 37
EN 55022 class B, Emission conducted (0.15...0.5MHz)	dB(μV)	max. 56 ... 46
EN 55022 class B, Emission conducted (0.5...5MHz)	dB(μV)	max. 46
EN 55022 class B, Emission conducted (5...30MHz)	dB(μV)	max. 50
EN 61000-4-2, ESD (contact discharge / air discharge)	kV	$\pm 8 / \pm 15$
EN 61000-4-3, Immision HF radiated (80...1000MHz/1.4...2.7GHz)	V/m	100
EN 61000-4-4, Burst (on all lines)	kV	± 1
EN 61000-4-6, Immision HF conducted (0.15...80MHz)	Vemk	12
EN 61000-4-8, Immision magnetic field (50Hz)	A/m	300
EN 60393-1 Insulation resistance (500VDC, 1bar, 2s)	GOhm	20
EN 60393-1 Dielectric strength (VAC, 50Hz, 1min, 1bar)	kV	1

Errors and omissions excepted. Subject to change without notice. / State: 30.11.16

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Ordering code

Output characteristics		Output signal		Power supply voltage		Electrical connection		Length of cable	
Positive gradient CW	Standard	10% ... 90% Ub	Standard	5VDC	Standard	4	Standard	02	Standard
Positive gradient CCW	Optional	x% ... y% Ub (within 5 ... 95%)	Optional			6	Optional	06	Optional
Redundant, positive gradient CW	Optional					9	Optional	10	Optional
Redundant, positive gradient CCW	Optional							99	Optional
Redundant, crossed signal curves	Optional								Special length

Electrical angle		Sensor principle		Protection class		Shaft		Mechanical version	
36	Standard	7	MH-C	a	Standard	2	Standard	294	Standard
xx	Optional			c	Standard	9	Optional	299	Optional
99	Optional								

Vert-X 2 9 4 2 a 7 3 6 2 2 1 4 0 2

Options (on request)

	MH-C
Custom shaft design	X
Custom cable	X
Interface x% ... y% Ub (within 5% ... 95% Ub)	X
Sample rate in fast mode	X
Special electrical angle within 30 to 360° (ex factory)	X
Full redundancy possible	X
Indep. linearity of ± 0.3% meas. range	X

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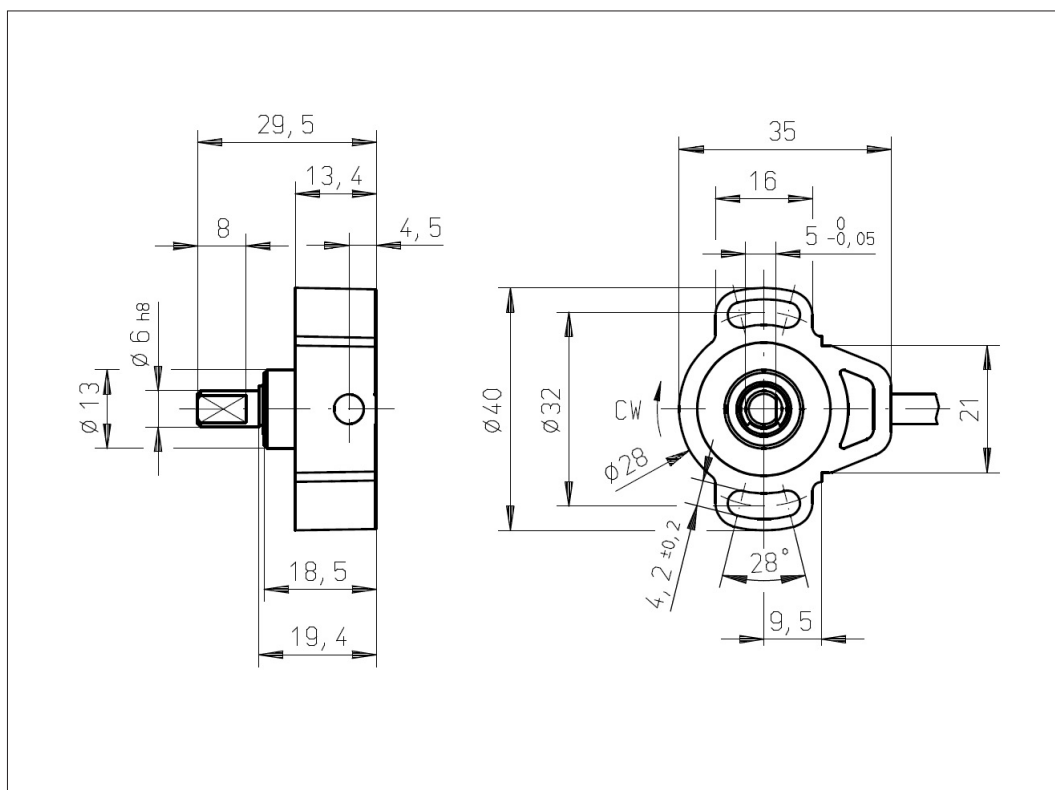
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Accessories (incl.)

- None



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