



## Vert-X 28 - 24V / PWM

### Applications

- Harvester
- Fork-lift
- Operating table
- Hydraulic pump

### 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

Sensor principle		MH-C	MH-C2
<b>Electrical data</b>			
Measuring range	°	0 ... 360	-
Indep. linearity	% of meas. range	±0.3	-
Max. hysteresis	°	0.1	-
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	25	-
MTTFd / MTBF	years	240/240	-
Power supply voltage	VDC	8 ... 35	-
Current consumption without load (typ.) fast mode	mA	(19)	-
Current consumption without load (typ.) slow mode	mA	14	-
Min. ohmic load at output	kOhm	10	-
Max. capacitive load at output	nF	1	-
PWM frequency	Hz	855 (±20%)	-
Reverse polarity protection of power supply		yes	-
Electrical connection		Cable 3pole	-
Cross section of single wires	mm <sup>2</sup>	0.56 (AWG20)	-
Redundancy feasible		yes	-
Electrical connection redundant		Wires (6x)	-
Cross section of single wires redundant	mm <sup>2</sup>	0.56 (AWG20)	-
<b>Mechanical data</b>			
Mechanical range	°	360 (continuous)	-
Protection class		IP54 / IP65	-
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	20	-
Max. permitted radial shaft load	N	20	-
Operating & storage temperature	°C	-40 ... +85	-
IEC 68-2-6 Vibration (Amax = 0.75mm, f = 5 ... 2000 Hz)	g	20	-
IEC 68-2-27 Shock	g	50	-
<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	30	-
IEC 60393-1 Insulation resistance (500VDC, 1bar, 2s)	GOhm	20	-
IEC 60393-1 Dielectric strength (VAC, 50Hz, 1min, 1bar)	kV	1	-

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**CONTELEC**  
 A company of the Siedle-Group



**Vert-X 28 - 24V / PWM**  
**Ordering code**

		<b>Output characteristics</b>						<b>Electrical connection</b>						
		Positive gradient CW	Standard	1				1	Standard	Round cable 3pole				
		Positive gradient CCW	Optional	2				4	Optional	Wires 6pole				
		Redundant, positive gradient CW	Optional	3				9	Optional	Special cable / wires				
		Redundant, positive gradient CCW	Optional	4				<b>Length of wires</b>						
		Redundant, crossed signal curves	Optional	5				01	Optional	10cm				
								03	Optional	30cm				
								05	Standard	50cm				
								99	Optional	Special length				
								<b>Length of cable</b>						
								02	Standard	1.0m				
								06	Optional	3.0m				
								10	Optional	5.0m				
								99	Optional	Special length				
		<b>Output signal</b>												
		PWM	Standard	5										
		<b>Power supply voltage</b>												
		24VDC	Standard	6										
<b>Vert-X</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	
					<b>Electrical angle</b>									
					36			Standard	Electrical angle 360°					
					xx			Optional	03 to 35; Declaration in 10° steps					
					99			Optional	Special angle					
					<b>Sensor principle</b>									
					7			MH-C						
					<b>Mechanical version</b>									
		2801			Standard			6mm shaft D-shape; IP54						
		2821			Optional			Push on coupling; IP54						
		2831			Standard			6mm shaft D-shape; IP65						
		2841			Optional			Push on coupling; IP65						
		2899			Optional			Special shaft						

	MH-C	MH-C2
Custom shaft design	X	-
Custom cable / wires	X	-
Sample rate in fast mode	X	-
Switch functions TTL (max. 2)	X	-
Special characteristic curve	-	-
Special electrical angle within 30° to 360° (ex factory)	X	-
Electrical angle programmable (Software)	-	-
Start & end point settable (Additional wires)	-	-
Sense of rotation CW/CCW settable / programmable (Additional wires or Software)	-	-
Index point settable / programmable (Additional wires or Software)	-	-

**Options (on request)**

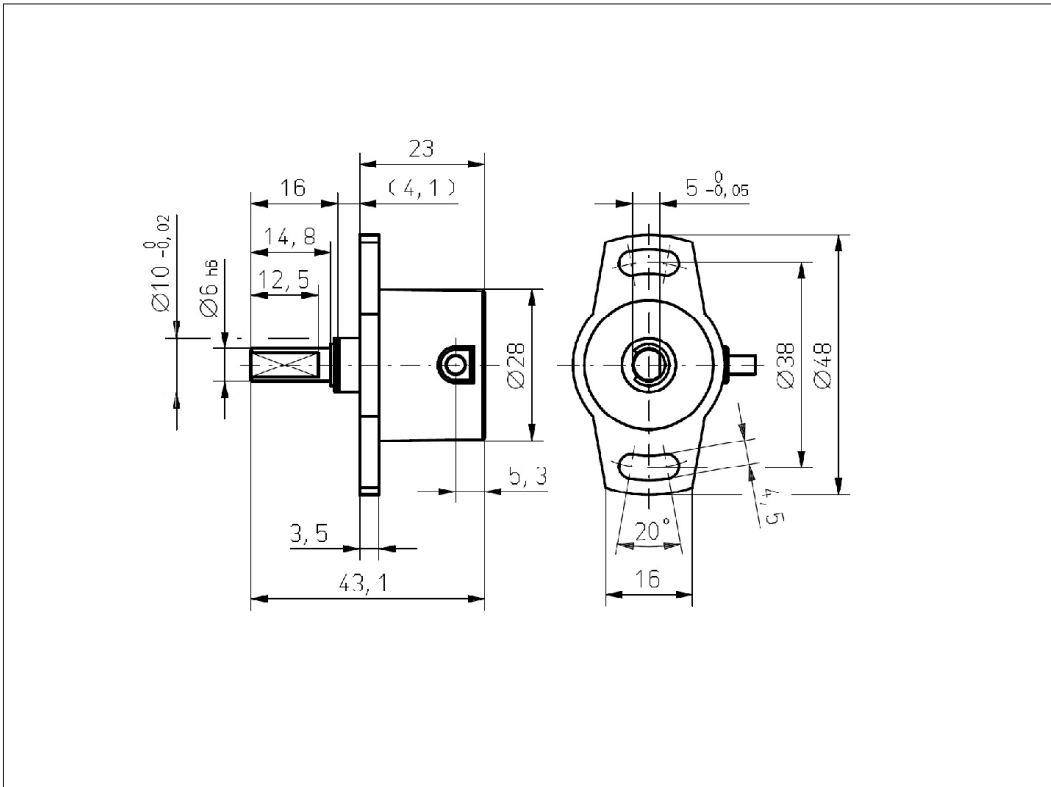
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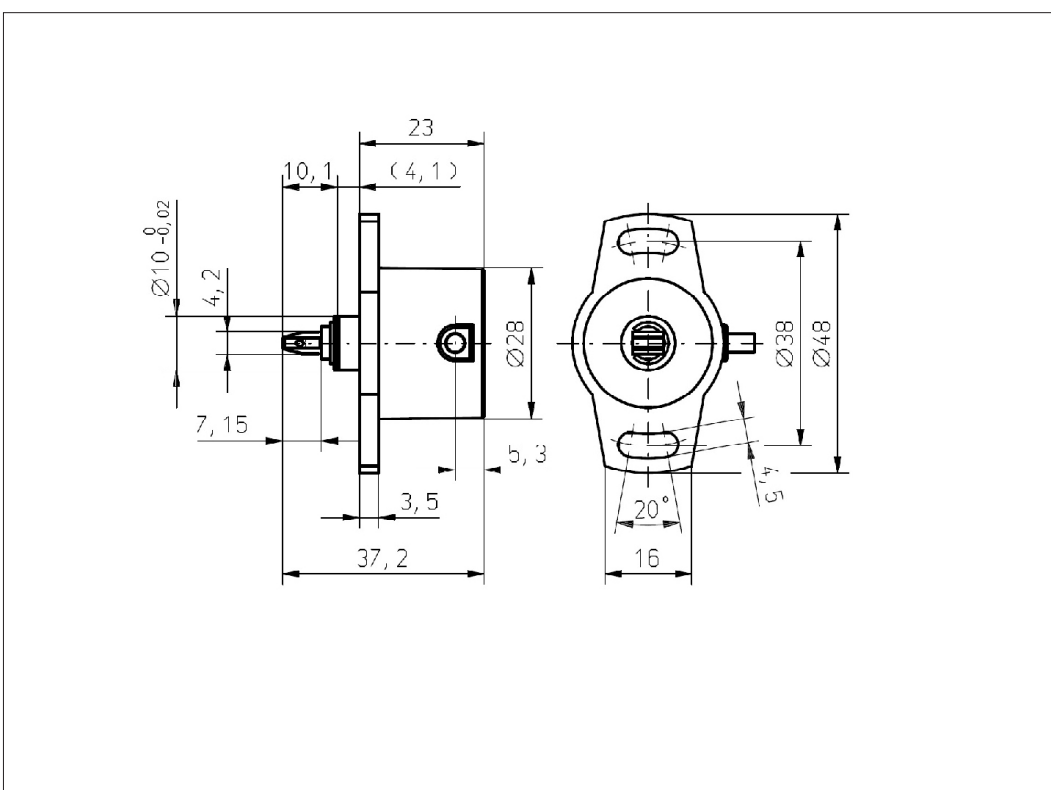
**Vert-X 2801**  
**Vert-X 2831**

- Accessories (incl.)**
- None



**Vert-X 2821**  
**Vert-X 2841**

- Accessories (incl.)**
- None



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