

# BERÖRINGSFRI VINKELGIVARE VERT-X 31E

VERT-X 31E MH-C

- Hög mätnoggrannhet
- Obegränsad mekanisk livslängd
- Radial och axial tolerans



## PRODUKTBESKRIVNING

Vert-X 31E - Beröringsfri vinkelgivare med hög tolerans

Med fysiskt litet mått och mycket flexibla utgångsmöjligheter skräddarsyr du enkelt din karaktär på givaren

Givaren monteras på fast del och magneten på rörlig del. Ingen radial eller axial belastning ger oändlig mekanisk livslängd. Välj på ett antal olika magneter helt beroende på just dina behov av avstånd och funktion.

För beställning, använd nedan beställningsnycklar och/eller kontakta oss.

Vert-X 31E 5 V 10..90 Ub

Output characteristics	
Positive gradient CW	Standard 1
Positive gradient CCW	Optional 2
Redundant, positive gradient CW	Optional 3
Redundant, positive gradient CCW	Optional 4
Redundant, crossed signal curves	Optional 5
Positive gradient CW with 1 switch output*	Optional A
Positive gradient CCW with 1 switch output*	Optional B
Positive gradient CW with 2 switch outputs*	Optional C
Positive gradient CCW with 2 switch outputs*	Optional D
Sense of rotation settable	Optional E
Zero point & sense of rotation settable	Optional F
Middle point & sense of rotation settable	Optional G
Start + end point & sense of rotation settable	Optional H
Programmable with Vert-X EasyAdapt	Optional P

  

Output signal	
10% ... 90% Ub	Standard 2
x% ... y% Ub (within 5 ... 95%)	Optional 3

  

Power supply voltage	
5VDC	Standard 2

  

Electrical connection	
4	Standard Cable 3pole
6	Optional Cable 6pole
9	Optional Special cable ; Special wires

  

Length of cable	
02	Standard 1.0m
06	Optional 3.0m
10	Optional 5.0m
99	Optional Special length

  

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

Electrical angle	
36	Standard Electrical angle 360°
xx	Optional 03 to 35; Declaration in 10° steps
99	Optional Special angle

  

Sensor principle	
7	MH-C
8	MH-C2

  

Mounting hole	
a	Standard Through-hole ø 4.4mm
b	Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

  

Mechanical version	
31E5	Standard Magnetic actuator type 5
31E6	Standard Magnetic actuator type 6
31E7	Optional Magnetic actuator type 7
31E9	Optional Special magnetic actuator

		<b>Output characteristics</b>								<b>Electrical connection</b>				
		Positive gradient CW	Standard	1			4	Standard	Cable 3pol					
		Positive gradient CCW	Optional	2			6	Optional	Cable 6pol					
		Redundant, positive gradient CW	Optional	3			9	Optional	Special cable ; Special wires					
		Redundant, positive gradient CCW	Optional	4						<b>Length of cable</b>				
		Redundant, crossed signal curves	Optional	5						02	Standard	1.0m		
					<b>Output signal</b>					06	Optional	3.0m		
		PWM	Standard	4						10	Optional	5.0m		
					<b>Power supply voltage</b>					99	Optional	Special length		
		SVDC	Standard	2										
<b>Vert-X</b>	3	1	E	6	a	7	3	6	2	4	1	4	0	2
					<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>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										

Vert-X 31E 5 V / SPI

		<b>Output characteristics</b>								<b>Electrical connection</b>				
		Positive gradient CW	Standard	1			1	Optional	Cable 10pol					
		Positive gradient CCW	Optional	2			6	Standard	Cable 6pol					
		Redundant, positive gradient CW	Optional	3			9	Optional	Special cable ; Special wires					
		Redundant, positive gradient CCW	Optional	4						<b>Length of cable</b>				
		Redundant, crossed signal curves	Optional	5						02	Standard	1.0m		
					<b>Output signal</b>					06	Optional	3.0m		
		SPI	Standard	8						10	Optional	5.0m		
					<b>Power supply voltage</b>					99	Optional	Special length		
		SVDC	Standard	2										
<b>Vert-X</b>	3	1	E	6	a	7	3	6	2	8	1	6	0	2
					<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>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										

Vert-X 31E 24 V / 0,1-10 V

Output characteristics	
Positive gradient CW	Standard 1
Positive gradient CCW	Optional 2
Positive gradient CW with 1 switch output*	Optional A
Positive gradient CCW with 1 switch output*	Optional B
Positive gradient CW with 2 switch outputs*	Optional C
Positive gradient CCW with 2 switch outputs*	Optional D
Sense of rotation settable	Optional E
Zero point & sense of rotation settable	Optional F
Middle point & sense of rotation settable	Optional G
Start + end point & sense of rotation settable	Optional H
Programmable with Vert-X EasyAdapt	Optional P

  

Output signal	
0,1VDC ... 10VDC	Standard 1

  

Power supply voltage	
24VDC	Standard 1

  

Electrical connection	
4	Standard Cable 3pole
6	Optional Cable 6pole
9	Optional Special cable ; Special wires

  

Length of cable	
02	Standard 1.0m
06	Optional 3.0m
10	Optional 5.0m
99	Optional Special length

  

Electrical angle	
36	Standard Electrical angle 360°
xx	Optional 03 to 35; Declaration in 10° steps
99	Optional Special angle

  

Sensor principle	
7	MH-C
8	MH-C2

  

Mounting hole	
a	Standard Through-hole ø 4.4mm
b	Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

  

Mechanical version	
31E5	Standard Magnetic actuator type 5
31E6	Standard Magnetic actuator type 6
31E7	Optional Magnetic actuator type 7
31E9	Optional Special magnetic actuator

  

Vert-X	3	1	E	6	a	7	3	6	1	1	1	4	0	2
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Vert-X 31E 24 V / 0,5-4,5 V

Output characteristics	
Positive gradient CW	Standard 1
Positive gradient CCW	Optional 2
Redundant, positive gradient CW	Optional 3
Redundant, positive gradient CCW	Optional 4
Redundant, crossed signal curves	Optional 5
Positive gradient CW with 1 switch output*	Optional A
Positive gradient CCW with 1 switch output*	Optional B
Positive gradient CW with 2 switch outputs*	Optional C
Positive gradient CCW with 2 switch outputs*	Optional D
Sense of rotation settable	Optional E
Zero point & sense of rotation settable	Optional F
Middle point & sense of rotation settable	Optional G
Start + end point & sense of rotation settable	Optional H
Programmable with Vert-X EasyAdapt	Optional P

  

Output signal	
0,5VDC ... 4,5VDC	Standard 2

  

Power supply voltage	
24VDC	Standard 1

  

Electrical connection	
4	Standard Cable 3pole
6	Optional Cable 6pole
9	Optional Special cable ; Special wires

  

Length of cable	
02	Standard 1.0m
06	Optional 3.0m
10	Optional 5.0m
99	Optional Special length

  

Electrical angle	
36	Standard Electrical angle 360°
xx	Optional 03 to 35; Declaration in 10° steps
99	Optional Special angle

  

Sensor principle	
7	MH-C
8	MH-C2

  

Mounting hole	
a	Standard Through-hole ø 4.4mm
b	Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

  

Mechanical version	
31E5	Standard Magnetic actuator type 5
31E6	Standard Magnetic actuator type 6
31E7	Optional Magnetic actuator type 7
31E9	Optional Special magnetic actuator

  

Vert-X	3	1	E	6	a	7	3	6	1	2	1	4	0	2
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Vert-X 31E 24 V / 4-20 mA

		<b>Output characteristics</b>													
		Positive gradient CW	Standard	1											
		Positive gradient CCW	Optional	2											
		Positive gradient CW with 1 switch output*	Optional	A											
		Positive gradient CCW with 1 switch output*	Optional	B											
		Positive gradient CW with 2 switch outputs*	Optional	C											
		Positive gradient CCW with 2 switch outputs*	Optional	D											
		Sense of rotation settable	Optional	E											
		Zero point & sense of rotation settable	Optional	F											
		Middle point & sense of rotation settable	Optional	G											
		Start + end point & sense of rotation settable	Optional	H											
		Programmable with Vert-X EasyAdapt	Optional	P											
		<b>Output signal</b>													
		4mA ... 20mA	Standard	5											
		<b>Power supply voltage</b>													
		24VDC	Standard	1											
<b>Vert-X</b>	<b>3</b>	<b>1</b>	<b>E</b>	<b>6</b>	<b>a</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>4</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												
		8	MH-C2												
		<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											

Vert-X 31E 24 V / PWM

		<b>Output characteristics</b>													
		Positive gradient CW	Standard	1											
		Positive gradient CCW	Optional	2											
		Redundant, positive gradient CW	Optional	3											
		Redundant, positive gradient CCW	Optional	4											
		Redundant, crossed signal curves	Optional	5											
		<b>Output signal</b>													
		PWM	Standard	4											
		<b>Power supply voltage</b>													
		24VDC	Standard	1											
<b>Vert-X</b>	<b>3</b>	<b>1</b>	<b>E</b>	<b>6</b>	<b>a</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>4</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>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											

Vert-X 31E 24 V / SPI

Output characteristics	
Positive gradient CW	Standard 1
Positive gradient CCW	Optional 2
Redundant, positive gradient CW	Optional 3
Redundant, positive gradient CCW	Optional 4
Redundant, crossed signal curves	Optional 5

  

Output signal	
SPI	Standard 8

  

Power supply voltage	
24VDC	Standard 1

  

Electrical connection	
1	Optional Cable 10pole
6	Standard Cable 6pole
9	Optional Special cable ; Special wires

  

Length of cable	
02	Standard 1.0m
06	Optional 3.0m
10	Optional 5.0m
99	Optional Special length

  

Vert-X 3 1 E 6 a 7 3 6 1 8 1 6 0 2

  

Electrical angle	
36	Standard Electrical angle 360°
xx	Optional 03 to 35; Declaration in 10° steps
99	Optional Special angle

  

Sensor principle	
7	MH-C

  

Mounting hole	
a	Standard Through-hole ø 4.4mm
b	Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

  

Mechanical version	
31E5	Standard Magnetic actuator type 5
31E6	Standard Magnetic actuator type 6
31E7	Optional Magnetic actuator type 7
31E9	Optional Special magnetic actuator

Vert-X 31E 5 V / SSI

Output characteristics / Output driver	
TTL	Standard 1
Differential RS-485	Optional 3

  

Output signal	
SSI	Standard 6

  

Power supply voltage	
5VDC	Standard 2

  

Electrical connection	
6	Optional Cable 6pole
8	Standard Cable 4pole
9	Optional Special cable

  

Length of cable	
02	Standard 1.0m
06	Optional 3.0m
10	Optional 5.0m
99	Optional Special length

  

Vert-X 3 1 E 5 a 6 3 6 2 6 1 8 0 2

  

Electrical angle	
36	Standard Electrical angle 360°

  

Sensor principle	
6	MH-X2

  

Mounting hole	
a	Standard Through-hole ø 4.4mm
b	Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

  

Mechanical version	
31E5	Standard Magnetic actuator type 5
31E6	Standard Magnetic actuator type 6
31E7	Optional Magnetic actuator type 7
31E9	Optional Special magnetic actuator

Vert-X 31E 24 V / SSI

Output characteristics / Output driver	
TTL	Standard 1
Differential RS-485	Optional 3

  

Output signal	
SSI	Standard 6

  

Power supply voltage	
24VDC	Standard 1

  

Electrical connection	
6	Optional Cable 6pole
8	Standard Cable 4pole
9	Optional Special cable

  

Length of cable	
02	Standard 1.0m
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 8 0 2

  

Electrical angle	
36	Standard Electrical angle 360°

  

Sensor principle	
6	MH-X2

  

Mounting hole	
a	Standard Through-hole ø 4.4mm
b	Optional Through-hole ø 4.4mm with counterbore ø 7.4mm

  

Mechanical version	
31E5	Standard Magnetic actuator type 5
31E6	Standard Magnetic actuator type 6
31E7	Optional Magnetic actuator type 7
31E9	Optional Special magnetic actuator

Vert-X 31E 5 V / Incremental

		<b>Output characteristics / Output driver</b>						<b>Electrical connection</b>						
		TTL (A,B,Z)	Standard	1			1	Optional	Cable 10pole					
		TTL (A,B)	Optional	2			6	Standard	Cable 6pole					
		Differential RS-422 (A,A',B,B',Z,Z')	Optional	3			8	Optional	Cable 4pole					
		Differential RS-422 (A,A',B,B')	Optional	4			9	Optional	Special cable					
		Open collector (A,B,Z)	Optional	7										
		Open collector (A,B)	Optional	8										
		Special output driver	Optional	9										
		<b>Output signal</b>						<b>Length of cable</b>						
		Incremental	Standard	7			02	Standard	1.0m					
		<b>Power supply voltage</b>						06	Optional	3.0m				
		5VDC	Standard	2			10	Optional	5.0m					
							99	Optional	Special length					
Vert-X	3	1	E	5	a	6	3	6	2	7	1	6	0	2
		<b>Electrical angle</b>												
		36	Standard			Electrical angle 360°								
		<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										

Vert-X 31E 24 V / Incremental

		<b>Output characteristics / Output driver</b>						<b>Electrical connection</b>						
		TTL (A,B,Z)	Standard	1			1	Optional	Cable 10pole					
		TTL (A,B)	Optional	2			6	Standard	Cable 6pole					
		Differential RS-422 (A,A',B,B',Z,Z')	Optional	3			8	Optional	Cable 4pole					
		Differential RS-422 (A,A',B,B')	Optional	4			9	Optional	Special cable					
		Push-Pull/HTL (A,B,Z)	Standard	5										
		Push-Pull/HTL (A,B)	Optional	6										
		Open collector (A,B,Z)	Optional	7										
		Open collector (A,B)	Optional	8										
		Special output driver	Optional	9										
		<b>Output signal</b>						<b>Length of cable</b>						
		Incremental	Standard	7			02	Standard	1.0m					
		<b>Power supply voltage</b>						06	Optional	3.0m				
		24VDC	Standard	1			10	Optional	5.0m					
							99	Optional	Special length					
Vert-X	3	1	E	5	a	6	3	6	1	7	5	6	0	2
		<b>Electrical angle</b>												
		36	Standard			Electrical angle 360°								
		<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										

## TEKNISK DATA

<b>IP-klass</b>	IP68
<b>Mätområde</b>	0-360°
<b>Repetierbarhet</b>	0,1 °
<b>Samplingshastighet långsam drift</b>	9 mA
<b>Samplingshastighet snabb drift</b>	14 mA
<b>Temperaturområde från</b>	-40 °C



