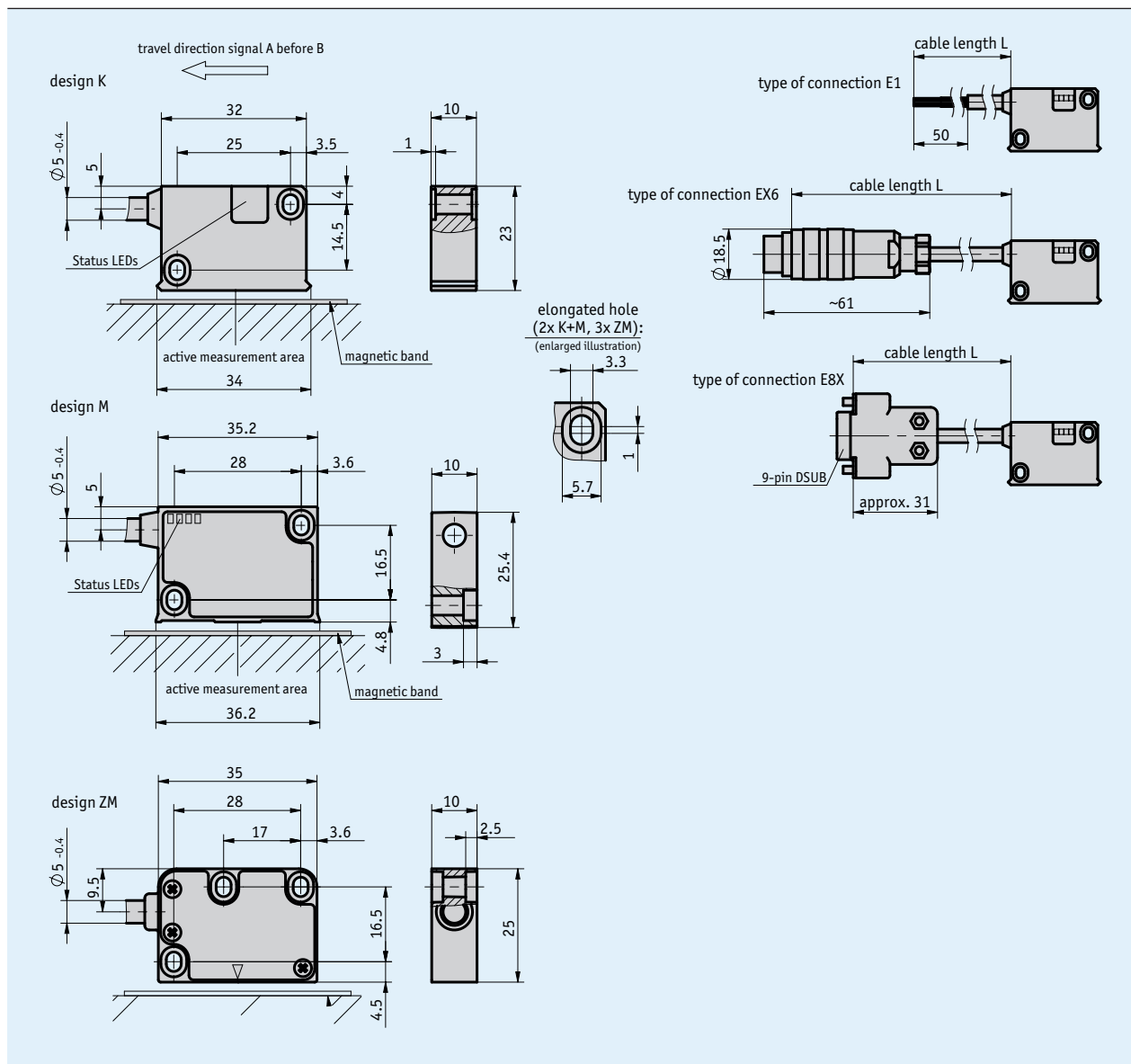


Profile

- Repeat accuracy of ± 1 increment
- Status LED display
- Works with MR500 magnetic ring, MBR500 magnetic tape ring
- Reading distance ≤ 2 mm
- Max. 200000 pulses/revolution in combination with MR500 and MBR500 (160 poles)



Mechanical data

Feature	Technical data	Additional information
Housing	synthetic material ABS black	K design
	zinc die-cast/aluminum	M design, aluminum front cover
	zinc die-cast	ZM design
Sensor/ring reading distance	0.1 ... 2 mm	O, I reference signals
	0.1 ... 1.5 mm	R reference signal
Cable sheath	PUR, suitable for drag-chain use	6, 8-wire $\varnothing_{5,0,4}$ mm

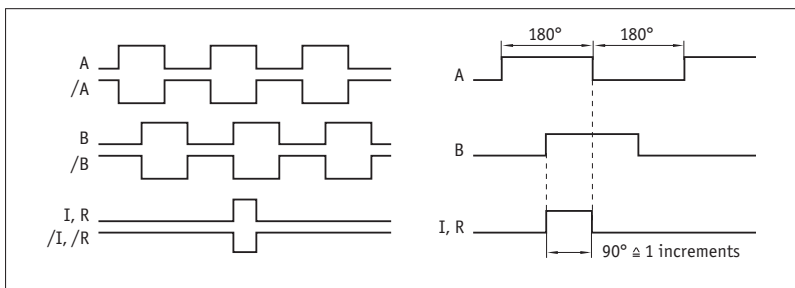
Peripheral speed

Scaling factor	Peripheral speed Vmax [m/s]															
	1250	250	125	50	25	12.5	0.20	0.25	0.50	1.00	2.50	4.00	8.00	16.00	32.00	66.00
4.00	3.20	1.60	0.80	0.32	0.20	0.10	0.05	0.03	0.01							
20.00	16.00	8.00	4.00	1.60	1.00	0.50	0.25	0.13	0.06							
25.00	25.00	16.00	8.00	3.20	2.00	1.00	0.50	0.25	0.12							
25.00	25.00	25.00	20.00	8.00	5.00	2.50	1.25	0.63	0.30							
25.00	25.00	25.00	25.00	16.00	10.00	5.00	2.50	1.25	0.61							
25.00	25.00	25.00	25.00	25.00	20.00	10.00	5.00	2.50	1.21							
Pulse interval [μ s]	0.20	0.25	0.50	1.00	2.50	4.00	8.00	16.00	32.00	66.00						
Counting frequency [kHz]	1250.00	1000.00	500.00	250.00	100.00	62.50	31.25	15.63	7.81	3.79						

Electrical data

Feature	Technical data	Additional information
Operating voltage	6.5 ... 30 V DC	reverse polarity protected
	4.75 ... 6 V DC	without reverse polarity protection
Current consumption	<25 mA	at 24 V DC, unloaded
	<75 mA	loaded
Output circuit	PP, LD (RS422)	
Output signals	A, /A, B, /B, I, /I bzw. R, /R	
Output signal level high	>UB - 2.5 V	PP
	>2.5 V	LD
Output signal level low	<0.8 V	
Pulse width of reference signal	1 or 4 increment(s)	
Real-time requirement	speed-proportional signal output	
Type of connection	open cable end	
	plug connector	7/8-pole
	D-Sub	9-pole

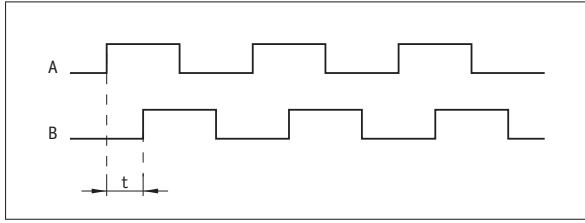
Signal pattern



! The logical condition of signals A and B is not defined in reference to the index signal I or the reference signal R. It can deviate from the signal form.

! Reference or index signal with 4 increments (360°) signal length is only valid from the 5th counting step onwards. A corresponding delay should be taken into consideration after switching on the operating voltage.

■ Pulse interval



Example: Pulse interval t = 1 μs

(i. e., the downstream unit must be able to process 250 kHz)

$$\text{Formula for counting frequency} = \frac{1}{1 \mu\text{s} \times 4} = 250 \text{ kHz}$$

System data

Feature	Technical data	Additional information
Scaling factor	12.5, 25, 50, 125, 250, 1250	
System accuracy	±0.1°	
Repeat accuracy	±10 μm	
Measuring range	∞	
Circumferential speed	depending on scaling factor and pulse interval	see table

Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-10 ... 70 °C	
Storage temperature	-30 ... 80 °C	
Relative humidity	100 %	condensation admissible
EMC	EN 61000-6-2 EN 61000-6-4	interference resistance / immission emitted interference / emission
Protection category	IP67	EN 60529
Shock resistance	500 m/s ² , 11 ms	EN 60068-2-27
Vibration resistance	100 m/s ² , 5 ... 150 Hz	EN 60068-2-6

Pin assignment

■ Inverted without reference signal

Signal	E1	E6X	E8X
A	red	1	1
B	orange	2	2
nc		3	3
+UB	brown	4	4
GND	black	5	5
/A	yellow	6	6
/B	green	7	7
nc			8
nc			9

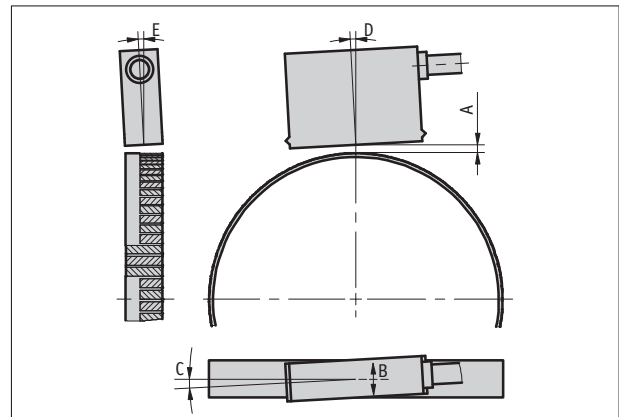
■ Inverted with reference signal

Signal	E1	E6X	E8X
A	red	1	1
B	orange	2	2
I,R	blue	3	3
+UB	brown	4	4
GND	black	5	5
/A	yellow	6	6
/B	green	7	7
/I, /R	violet	8	8
nc			9

Hint for mounting

For systems with reference points on the magnetic ring please take care that sensor and ring are aligned correctly (see picture).

Reference signal	O, I	R
A, Sensor/ring reading distance	≤2 mm	≤1.5 mm
B, Lateral offset	±2 mm	±0.5 mm
C, Alignment error	±3°	±3°
D, Longitudinal inclination	±1°	±1°
E, Lateral inclination	±3°	±3°



(symbolic sensor representation)

Order

Ordering information

one or more system components are required:

Magnetic ring MR500
Magnetic band ring MBR500

www.siko-global.com
www.siko-global.com

Ordering table

Feature	Ordering data	Specification	Additional information
Operating voltage	10	6.5 ... 30 V DC	
	11 A	4.75 ... 6 V DC	
Design	K	plastic housing	
	M B	metal housing with status LEDs	
	ZM	metal housing without status LEDs	
Type of connection	E1	open cable end	
	E6X C	bullet connector without mating connector	
	E8X	D-SUB 9-pin without mating connector	
		extension cables on request	
Cable length	...	01.0 ... 20 m, in steps of 1 m	
	D	others on request	
Output circuit	PP	push-pull	
	LD E	Line Driver	
Reference signal	O	without	
	I F	periodic index	index signal every 5 mm
	R	fixed reference	
Scaling factor	...	12.5, 25, 50, 125, 250, 1250	
	G	others on request	
Pulse interval	...	0.2, 0.25, 0.5, 1.00, 2.5, 4, 8, 16, 32, 66	
H			

Order key

MSK5000 rotativ - - - - - - - -

Scope of delivery: MSK5000 rotativ, Mounting instructions, Sensor fastening set