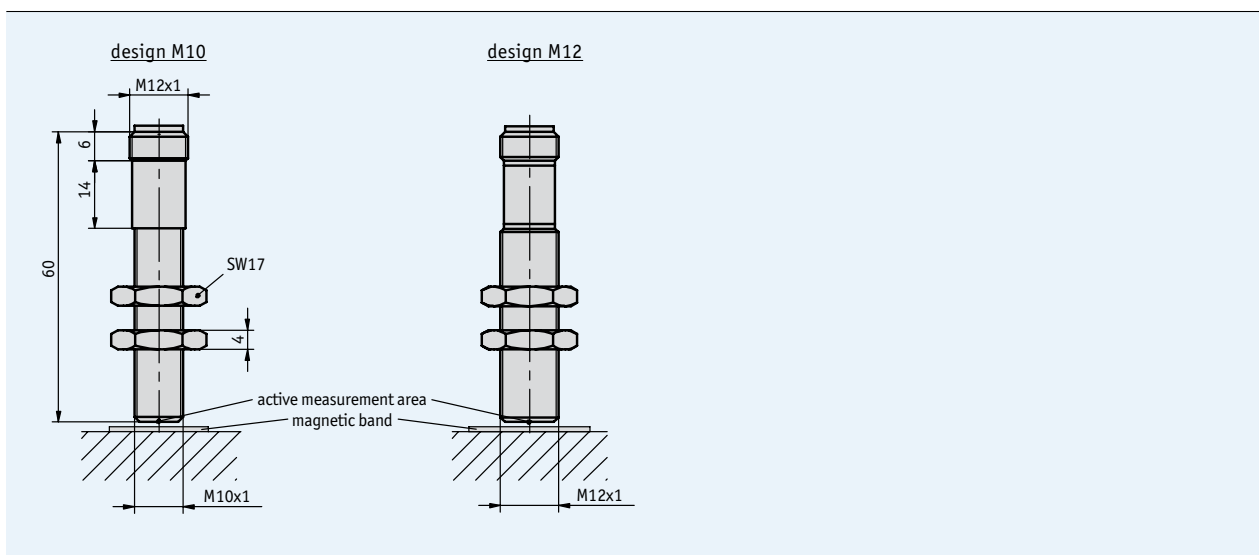


Profile

- Max. resolution up to 5 μm
- Repeat accuracy $\pm 0.005\text{ mm}$
- Index signal periodical
- Stainless steel housing
- M10 or M12 thread design



5.2

Mechanical data

Feature	Technical data	Additional information
Scale embodiment	MB500	
System accuracy	$\pm(0.025 + 0.01 \times L)\text{ mm}$, L in m	
Repeat accuracy	max. $\pm 0.005\text{ mm}$	
Sensor/band reading distance	0.1 ... 2 mm	
Travel speed	depends on resolution and pulse interval	see table
Housing	stainless steel	
Operating temperature	$-20 \dots +80\text{ }^\circ\text{C}$	
Storage temperature	$-30 \dots +85\text{ }^\circ\text{C}$	
Humidity	100 % rh	condensation permitted
Protection category	IP67	
Max. measuring length	infinite	

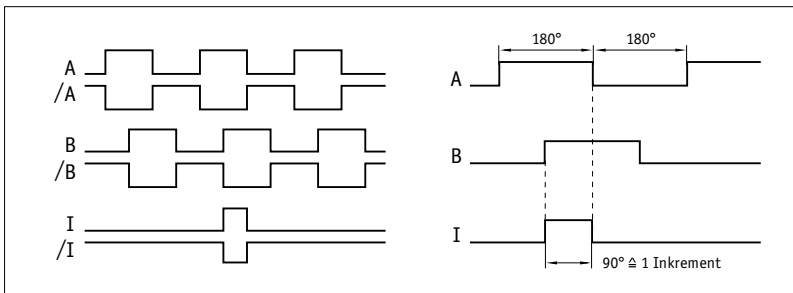
Travel speed

Resolution (mm)		Travel speed V_{max} (m/s)									
		0.005	0.010	0.020	0.040	0.080	0.160	0.320	0.640	1.280	2.560
0.005	0.005	20.00	10.00	5.00	3.25	1.54	0.75	0.375	0.195	0.13	
	0.010	20.00	20.00	10.00	6.50	3.00	1.50	0.75	0.395	0.26	
Pulse interval (μs)		0.12	0.29	0.48	1.00	2.00	4.00	8.00	16.00	24.00	
Counting frequency (kHz)		2083.40	862.10	520.84	250.00	125.00	62.50	31.25	15.625	10.42	

Electrical data

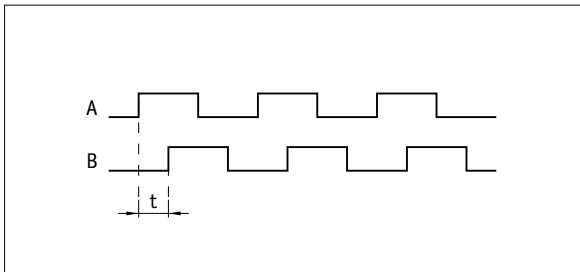
Feature	Technical data	Additional information
Operating voltage	24 V DC 10 ... 30 V 5 V DC ±5 %	
Current consumption	<30 mA off-load	
Output circuit	PP LD (RS422) TTL	
Output signals	A, /A, B, /B, I, /I	
Resolution	0.005, 0.01 mm	
Interference protection class	EN50081-2, EN50082-2	
Real-time requirement	real-time signal processing	

Signal forms



! *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.*

Pulse interval



Example: Pulse interval $t = 1 \mu\text{s}$
(i.e., the downstream unit must be able to process 250 kHz)

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

Pin assignment

non-inverted

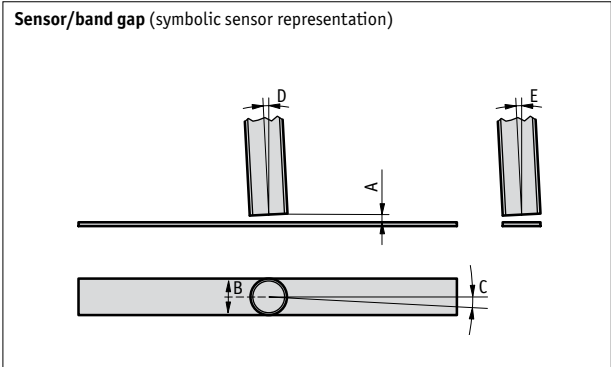
signal	PIN
+UB	1
A	2
GND	3
B	4
I	5

inverted

signal	PIN
I	1
/I	2
B	3
/B	4
/A	5
A	6
GND	7
+UB	8

Mounting instruction

A, Sensor/band reading distance	0.1 ... 2.0 mm
B, Lateral offset	max. ±2 mm
C, Misalignment	<±3°
D, Longitudinal tilt	<±3°
E, Lateral tilt	<±3°



Order

Order table

Feature	Order data	Specifications	Additional information
Operating voltage	4	24 V DC 10 ... 30 V	
	5	5 V DC ±5 %	
Design	M10		
	M12		
Output circuit	PP	Push-Pull	
	LD	Line Driver	
	TTL		only with output signal NI
Output signals	NI	non-inverted	
	I	inverted	
Resolution	...	0.005, 0.010 µm	
Pulse interval in µs	...	0.12, 0.29, 0.48, 1, 2, 4, 8, 16, 24	

Order code

MSK5000R - - - - - I - -

A B C D E F

Scope of delivery: MSK5000R, User information

Accessories:
Mating plug

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Additional information:

Short Description, Technical Details
Product Overview

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