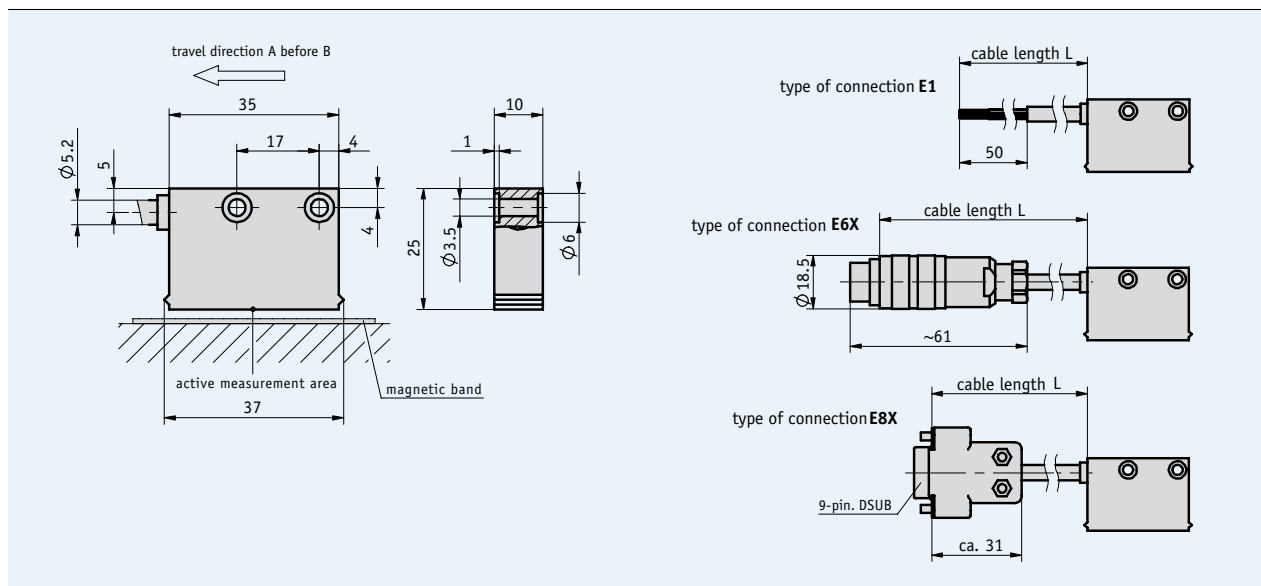


# Magnetic Sensor MSK210

## Incremental, digital interface, resolution 25 $\mu\text{m}$

### Profile

- Max. resolution 25  $\mu\text{m}$
- Repeat accuracy  $\pm 1$  increment, max.  $\pm 0.025$  mm
- Works with magnetic band MB200
- Reading distance up to 1 mm



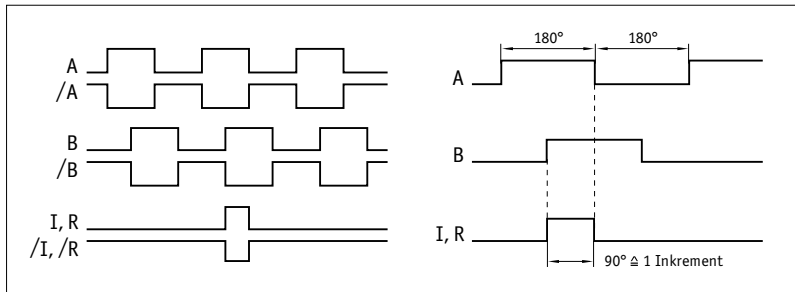
### Mechanical data

Feature	Technical data	Additional information
Scale embodiment	MB200	
System accuracy	$\pm(0.05 + 0.01 \times L)$ mm, L in m	
Repeat accuracy	$\pm 1$ increment, max. $\pm 0.025$ mm	
Sensor/band reading distance	0.1 ... 1 mm 0.1 ... 0.4 mm	with reference signals O, I with reference signal R
Travel speed	max. 25 m/s	max. referencing speed 2 m/s
Housing	plastic green	
Sensor cable	PUR	drag chain-compatible
Operating temperature	-10 ... +70 °C	
Storage temperature	-30 ... +80 °C	
Humidity	100 % rh	condensation permitted
Protection category	IP67	
Vibration resistance	10 g/50 Hz	
Max. measuring length	infinite	

## Electrical data

Feature	Technical data	Additional information
Operating voltage	24 V DC ± 20 % 5 V DC ± 5 %	reverse-polarity protection on UB no reverse-polarity protection on UB
Current consumption	<20 mA off-load <75 mA loaded	at 24 V
Type of connection	flying leads round connector D-SUB 9-pin	
Output circuit	PP, LD (RS422), TTL	PP only with 24 V
Output signals	A, B A, /A, B, /B, Option: I, /I, or R, /R	quadrature signal
Pulse width of reference signal	1 increment	
Resolution	0.025, 0.05, 0.1 mm	
Jitter	<15 % bei	sensor/band reading distance 0.5 mm
Interference protection class	3	according to IEC 801
Real-time requirement	real-time signal processing	
Signal level high	>UB - 2.5 V >2.5 V >2.4 V	with PP with LD with TTL
Signal level low	<0.8 V <0.5 V <0.4 V	with PP with LD with TTL

### 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.

5.2

## Pin assignment

### non-inverted

Signal	E1	E6X	E8X
A	red	3	3
B	orange	4	4
+UB	brown	2	2
GND	black	1	1
N.C.		5,6,7	5,6,7,8,9

### inverted

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

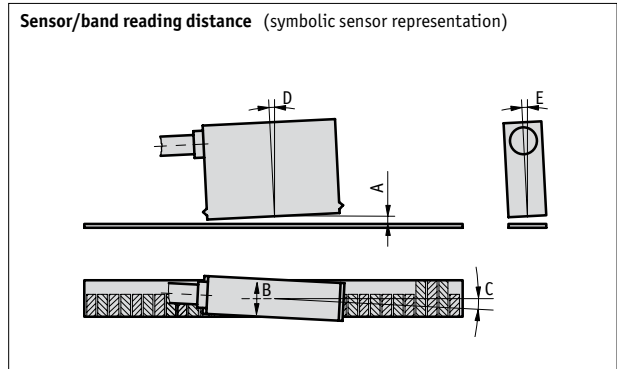
### inverted with reference signal

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

### Mounting instruction

On systems with reference points on the magnetic band, please ensure the correct alignment of the sensor and band (see diagram).

Reference signal	O, I	R
A, Sensor/band reading distance	max. 0.8 mm	max. 0.4 mm
B, Lateral offset	max. ±2 mm	max. ±0.5 mm
C, Misalignment	<±1°	<±1°
D, Longitudinal tilt	<±1°	<±1°
E, Lateral tilt	<±3°	<±3°



### Order

#### Order table

Feature	Order data	Specifications	Additional information
Operating voltage	4	24 V DC ±20 %	reverse-polarity protection
	5	5 V DC ±5 %	
Type of connection	E1	flying leads, 2 m cable	
	E6X	round connector without mating connectors	
	E8X	D-SUB 9-pin without mating connectors cable extensions on request	
Cable length L	...	1 ... 20 m, in steps of 1 m	
	C	others on request	
Output circuit	PP	push-pull	only with operating voltage 4
	LD	line driver	
	TTL		only with non-inverted output signal, max. cable length 5 m
Output signal	NI	non-inverted	
	I	inverted	with reference signal I or R
Reference signal	O	without	
	I	index periodic	
	R	index fixed	not possible with resolution 0.5 mm
Resolution	...	0.025, 0.05, 0.1, 0.5	
	G		

#### Order code

MSK210 -  -  A -  -  -  -  -  -  -  -

A                      B                      C                      D                      E                      F                      G

**Scope of delivery:** MSK210, User information, Allen fastening screws M3 x 14 mm ISO 4762, lock washers M3 DIN 7980, strain relief for sensor cable, distance gage 0.3 mm

#### Additional information:

Short Description, Technical Details  
Product Overview

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