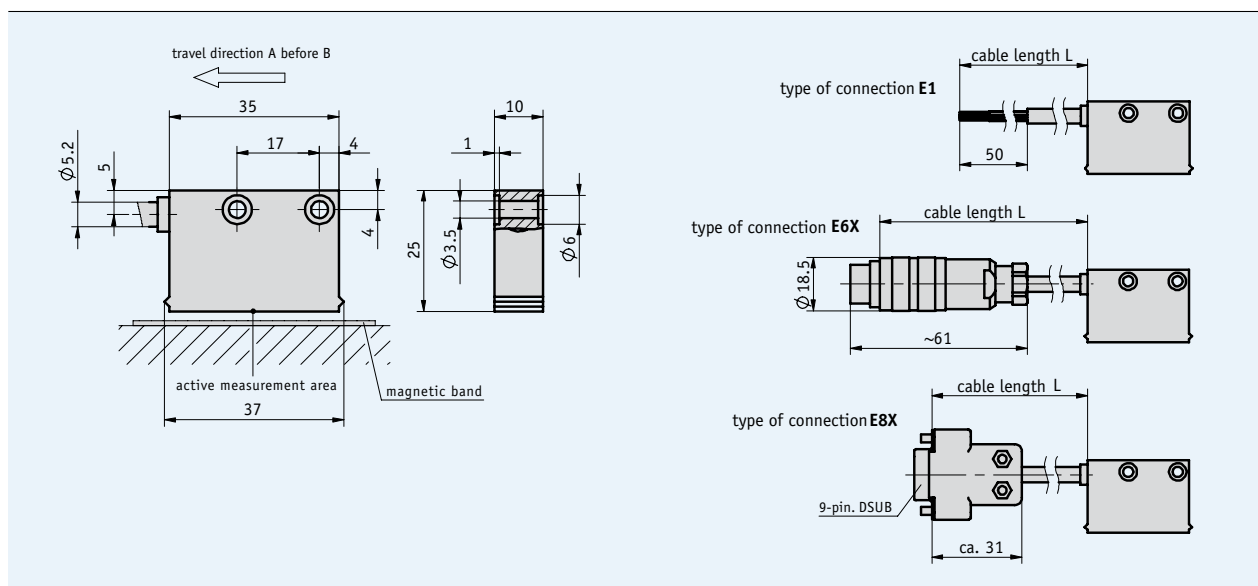


Profile

- Resolution 0.045° with MR200 and MBR200 (100 poles)
- Max. 4600 pulses/revolution with MBR200 (230 poles)
- Max. 18 400 increments/revolution with quadrature evaluation
- Repeat accuracy ±1 increment



5.4

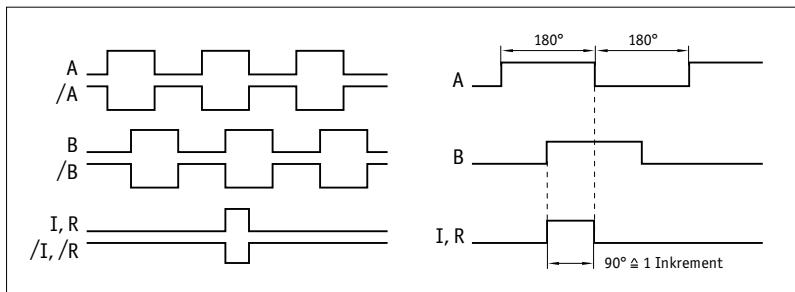
Mechanical data

Feature	Technical data	Additional information
Scale embodiment	MR200 MBR200	
System accuracy	±0.1°	
Repeat accuracy	±1 increment	
Sensor/ring reading distance	0.1 ... 0.8 mm 0.1 ... 0.4 mm	with reference signals O, I with reference signal R
Circumferential 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. measurement range	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
Max. pulses/revolution rotary	max. 2000 pulses/revolution	with MR or MBR200
Pulse width of reference signal	1 increment	
Scaling factor	1, 4, 5, 8, 10, 16, 20	
Jitter	<15 % with reading distance of 0.5 mm	sensor/magnetic ring 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.

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

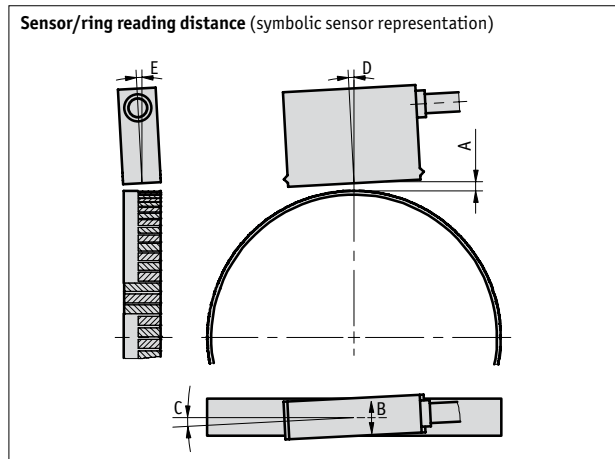
■ **inverted with reference signal**

Signal	E1	E6X	E8X
A	red	PIN 1	PIN 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 ring, please ensure the correct alignment of the sensor and band.

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	<±3°	<±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	
	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	only with non-inverted output signal, max. 5 m cable length
	TTL		
Output signal	NI	non-inverted	with reference signal I or R
	I	inverted	
Reference signal	O	without	
	I	index periodic	
	R	index fixed	
Scaling factor	...	1, 5, 10, 20	

Order code

MSK210 - - - - - - - -

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

Page 142 cont.
Page 4 cont.