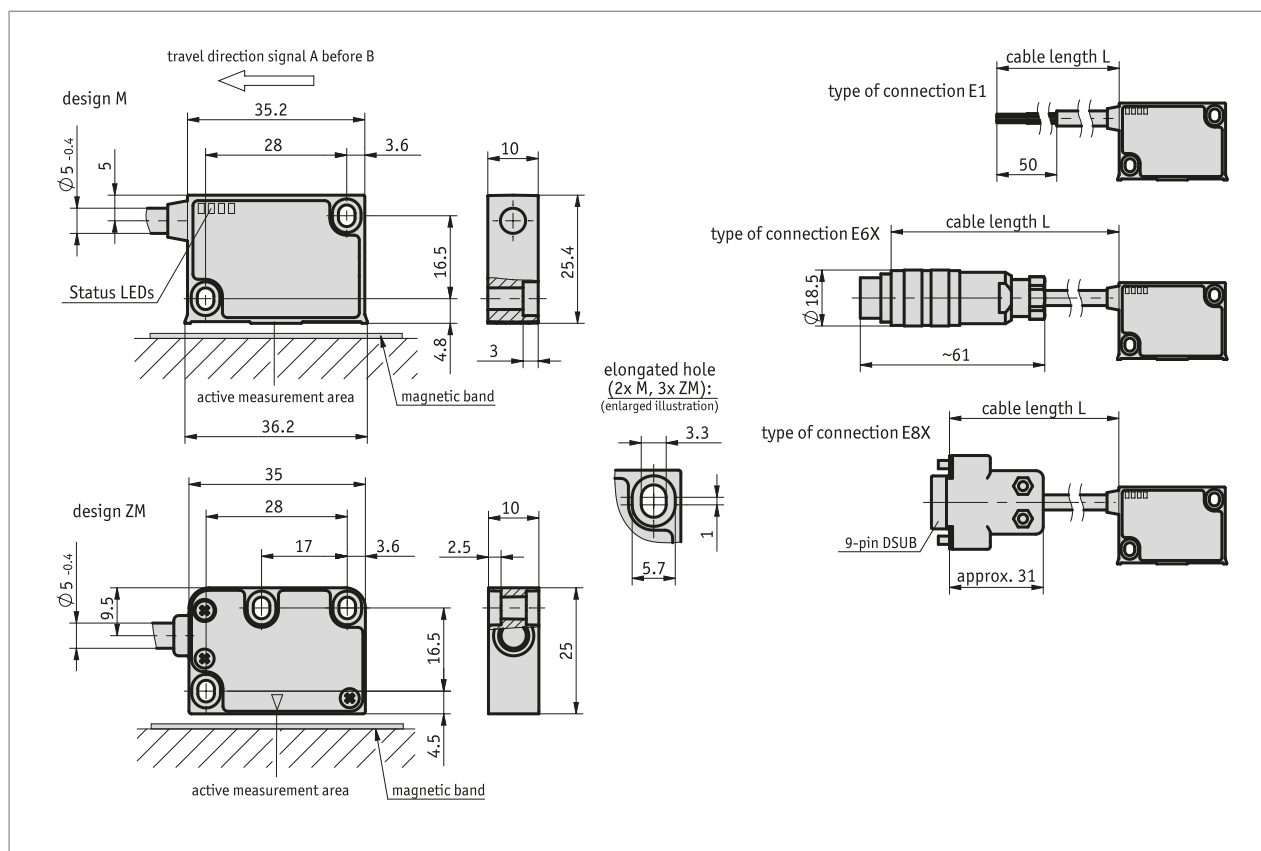


Profile

- Max. resolution 0.2 µm
- Repeat accuracy ±1 µm
- LED status display
- Reading distance ≤0.4 mm
- Robust metal housing



Mechanical data

Feature	Technical data	Additional information
Housing	zinc die-cast/aluminum	M design: aluminum front cover
	zinc die-cast	ZM design
Sensor/band reading distance	0.1 ... 0.4 mm	0, I reference signals
	0.1 ... 0.2 mm	RB reference signal
Cable sheath	PUR, suitable for drag-chain use	6, 8-core Ø5-0.4 mm
Cable bending radius	5x cable diameter	static
	7.5x cable diameter	dynamic
Service life of cable	>5 Million cycles	Under the following test conditions: travel 4.5 m travel speed 3 m/s acceleration 5 m/s ² ambient temperature 20 °C ±5 °C.

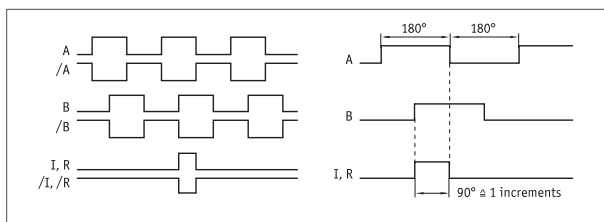
Travel speed

		Travel speed Vmax [m/s]			
Resolution [µm]	0.2	0.64	0.32	0.16	0.08
	1	3.20	1.60	0.80	0.40
	2	6.40	3.20	1.60	0.80
	5	16.00	8.00	4.00	2.00
Pulse interval [µs]		0.25	0.50	1.00	2.00
Counting frequency [kHz]		1000.00	500.00	250.00	125.00

Electrical data

Feature	Technical data	Additional information
Operating voltage	6.5 ... 30 V DC	reverse polarity protection
	4.75 ... 6 V DC	no reverse polarity protection
Current consumption	25 mA	unloaded
Output circuit	LD (RS422)	
Output signals	A, /A, B, /B, I, /I or R, /R	
Output signal level high	>2.5 V	
Output signal level low	<0.5 V	
Latency	1.5 µs	
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

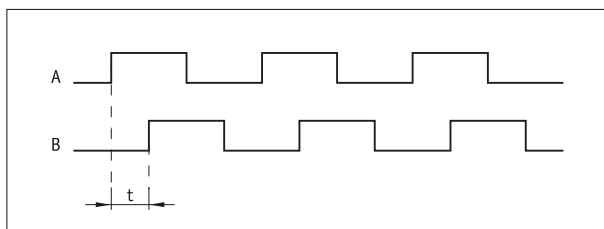
Signal image



! 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, LD output circuit



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
Resolution	0.2, 1, 2, 5 µm	
Linearity deviation	±2 µm at T ₀ = 20° C	0.2 mm sensor/strip reading distance
Repeat accuracy	±1 µm	
Measuring range	∞	
Travel speed	Dependent on resolution 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	interference resistance / immission
	EN 61000-6-4	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

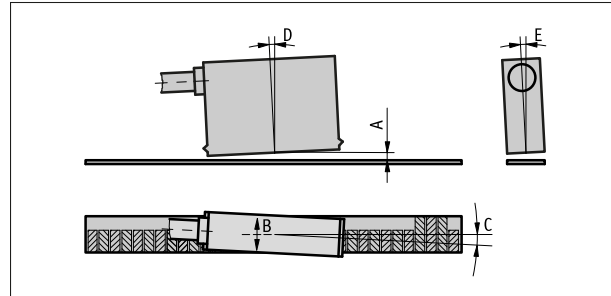
■ Inverted with reference signal

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 tape please take care that sensor and strip are correctly aligned (see picture).

Reference signal	O, I	R
A, Sensor/tape reading distance	≤0.4 mm	≤0.2 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 representation

Order

■ Ordering information

One or more system components are required:

Magnetic tape MB100/1

www.siko-global.com

■ Ordering table

Feature	Ordering data	Spezifikation	Additional information
Operating voltage	A <u>10</u> 11	6.5 ... 30 V DC 4.75 ... 6 V DC	A voltage drop is to be expected with increasing cable length. This must be taken into account in the electrical design.
design	B <u>M</u> ZM	metal housing with status LEDs metal housing without status LEDs	
Type of connection	C <u>E1</u> E6X E8X	open cable end bullet connector without mating connector D-SUB 9-pole without mating connector cable extension on request	
Cable length	D <u>...</u>	01.0 ... 20 m, in intervals of 1 m others on request	
reference signal	E <u>0</u> 1 RB	without periodic index fixed reference	index signal every 1 mm
Resolution	F <u>...</u>	0.2, 1, 2, 5 in µm others on request	
Pulse interval	G <u>...</u>	0.25, 0.5, 1.00, 2.0 in µs others on request	

■ Order key

MSK1000 - A - B - C - D - E - F - G



Scope of delivery:

MSK1000, Fastening set, Installation Instructions



Accessories you can find:

Installation tool ZB3054

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