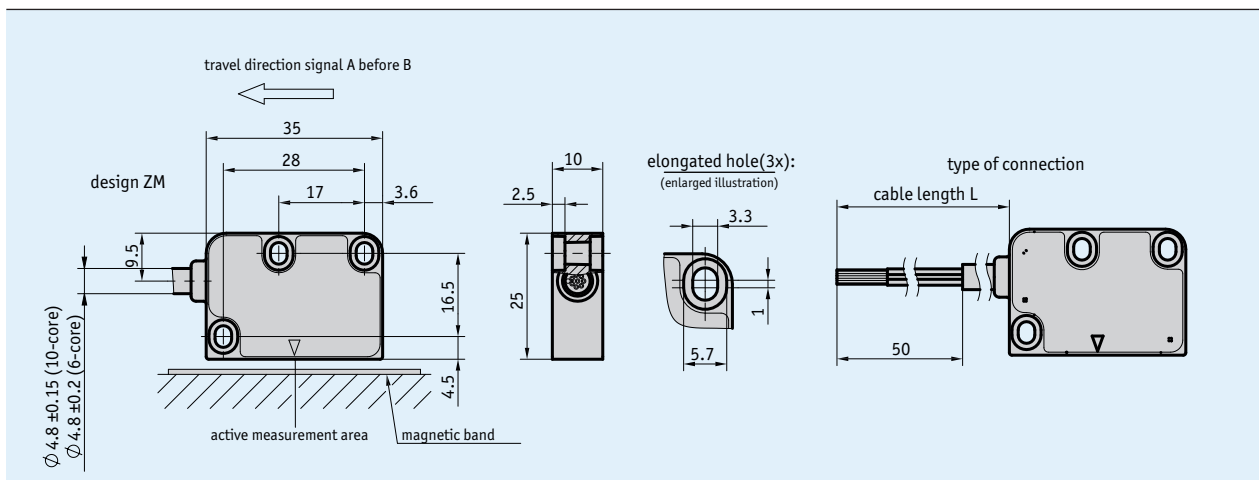
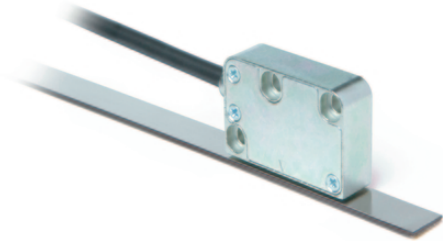


Profile

- Enhanced safety owing to independent output channels
- 2 magnetic sensors and 2 signal conditioners in one sensor head
- Works with MB320/1 magnetic tape, MRI01 or MR320 magnetic ring, MBR320 magnetic tape ring
- Reading distance ≤ 2 mm
- Repeat accuracy of ± 1 increment
- Great application temperature range of $-40 \dots 85^\circ \text{C}$
- Cost advantage by installation of one MSK320R sensor instead of two MSK320 sensors



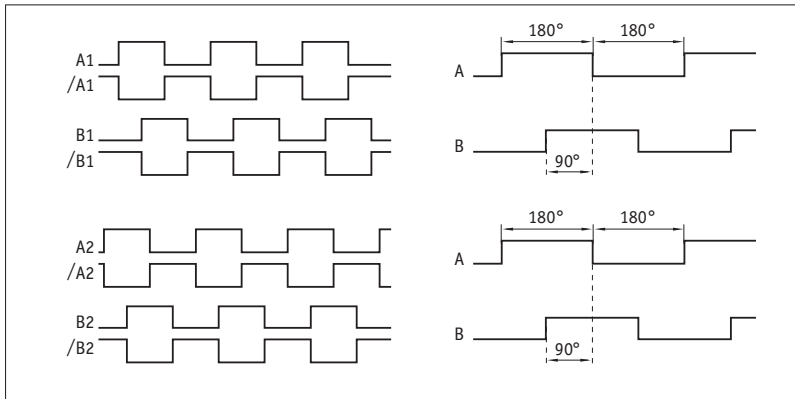
Mechanical data

| Feature | Technical data | Additional information |
|------------------------------|---------------------------|--|
| Housing | zinc die cast | ZM design |
| Sensor/band reading distance | 0.1 ... 2 mm | reference signal 0 |
| Sensor/ring reading distance | 0.1 ... 2 mm | reference signal 0 |
| Cable sheath | PUR drag chain-compatible | 10-core, $\varnothing 4.8 \pm 0.15$ mm |

Electrical data

| Feature | Technical data | Additional information |
|---------------------------------|-------------------------------------|--|
| Operating voltage | 4.5 ... 30 V DC | reverse polarity protected |
| Current consumption | <20 mA <75 mA | at 24 V DC, off-load loaded |
| Output circuit | PP, LD (RS422) | PP only with 4.5 ... 30 V DC and LD only with 4.5 ... 6 V DC |
| Output signals | A1, /A1, B1, B/1, A2, A/2, B2, B/2 | quadrature signal |
| Output signal level high | >UB -2.5 V >2.5 V | PP LD |
| Output signal level low | <0.8 V <0.5 V | PP LD |
| Pulse width of reference signal | 1 increment(s) | |
| Real-time requirement | velocity-proportional signal output | |
| Type of connection | open cable end | |

Signal pattern



! The logic state of signals A1/B1 relating to signals A2/B2 is not defined. The phasing A1/B1 and A2/B2 may deviate from the signal pattern.

System data

| Feature | Technical data | Additional information |
|-----------------------|--|--|
| Resolution | 0.8, 0.4, 0.2, 0.1, 0.05, 0.025, 0.0125 mm | each channel configurable |
| Scaling factor | 1, 2, 4, 8, 16, 32, 64 | each channel configurable |
| System accuracy | $\pm(0.1 + 0.01 \times L)$ mm, L in m | at $T_u = 20^\circ\text{C}$, 0.8 mm sensor/tape reading distance with 0.8 mm nominal distance |
| | $\pm 0.1^\circ$ | at $T_u = 20^\circ\text{C}$, 0.8 mm sensor/ring reading distance with 0.8 mm nominal distance |
| Repeat accuracy | ± 1 increment(s) | |
| Measuring range | ∞ | |
| Circumferential speed | ≤ 25 m/s | |
| Travel speed | ≤ 25 m/s | |

Ambient conditions

| Feature | Technical data | Additional information |
|----------------------|-------------------------------------|---|
| Ambient temperature | -40 ... 85 °C | |
| Storage temperature | -40 ... 85 °C | |
| Relative humidity | 100 % | condensation admissible |
| EMC | EN 61326-1 | immunity requirement of industrial applications, emission limit class B |
| 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

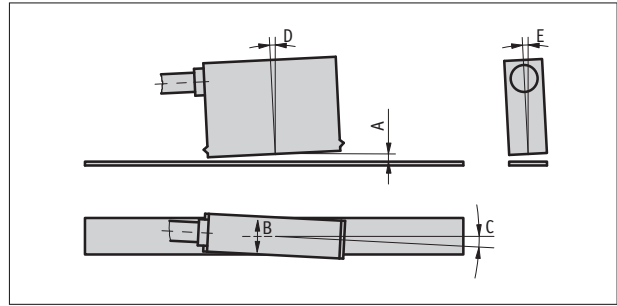
inverted

| Signal | E1 (cable color) |
|--------|------------------|
| +UB | brown |
| GND | black |
| A1 | red |
| B1 | orange |
| /A1 | yellow |
| /B1 | green |
| A2 | blue |
| B2 | violet |
| /A2 | white |
| /B2 | gray |

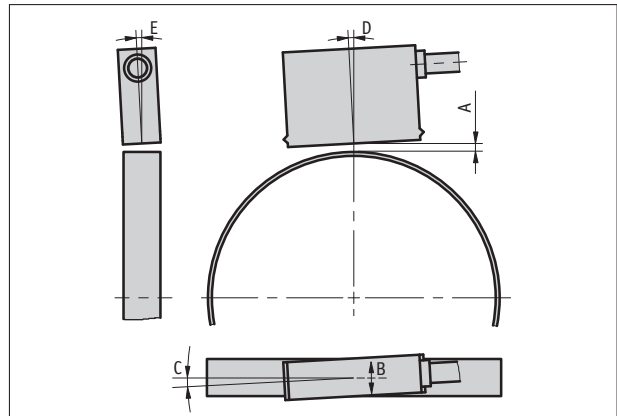
Hint for mounting

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

| | |
|---|-------|
| A , Sensor/ring reading distance | ≤2 mm |
| B , Lateral offset | ±2 mm |
| C , Alignment error | ±3° |
| D , Longitudinal inclination | ±1° |
| E , Lateral inclination | ±3° |



symbolic sensor representation



symbolic sensor representation

Order

Ordering information

One or more system components are required:

| | |
|---------------------------|--|
| Magnetic band MB320/1 | www.siko-global.com |
| Magnetic ring MRI01 | www.siko-global.com |
| Magnetic ring MR320 | www.siko-global.com |
| Magnetic band ring MBR320 | www.siko-global.com |

Ordering table

| Feature | Ordering data | Specification | Additional information |
|--|---------------|--|------------------------|
| Cable length | 00.1 | 0.1 m | |
| | ... | 01.0 ... 20.0 m, in intervals of 1 m | |
| Resolution linear/ scaling factor radial A1/B1 | ... | 0.0125/64, 0.025/32, 0.05/16, 0.1/8, 0.2/4, 0.4/2, 0.8/1 | |
| | | others on request | |
| Resolution linear/ scaling factor radial A2/B2 | ... | 0.0125/64, 0.025/32, 0.05/16, 0.1/8, 0.2/4, 0.4/2, 0.8/1 | |
| | | others on request | |

Order key



Scope of delivery: MSK320R, Mounting instructions