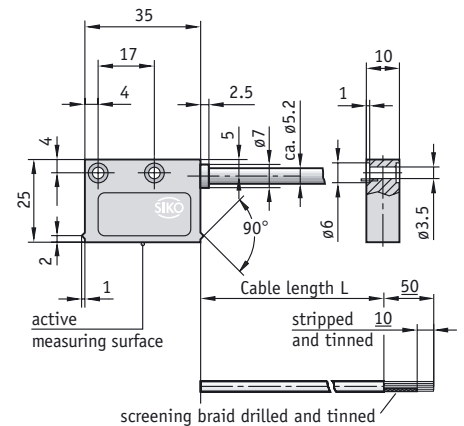


# Magnetic Sensor MSK500/1

Contactlessly measuring scanning unit with integrated translation module and digital signal output. In combination with the MB500 magnetic strip the magnetic sensor forms an open, robust linear measuring system.



Sensor / Strip assignment for R reference signal

## Features:

- insensitive to dust, shavings, humidity
- max. resolution 0.005 mm
- real-time data processing
- IP67 type of protection
- fixed reference point

| Resolution[mm]      | Travel speed $v_{max}$ [m/s] |     |     |     |     |      |      |      |
|---------------------|------------------------------|-----|-----|-----|-----|------|------|------|
| 0.005               | 0.1                          | 0.2 | 0.4 | 0.8 | 1.7 | 3.4  | 6.9  | 13.8 |
| 0.01                | 0.2                          | 0.4 | 0.8 | 1.7 | 3.4 | 6.9  | 14.5 | 25   |
| 0.0125              | 0.3                          | 0.5 | 1.1 | 2.2 | 4.5 | 9    | 18   | 25   |
| 0.02                | 0.4                          | 0.8 | 1.7 | 3.4 | 6.9 | 14.5 | 25   | 25   |
| 0.025               | 0.5                          | 1.1 | 2.2 | 4.5 | 9   | 18   | 25   | 25   |
| 0.05                | 1.1                          | 2.2 | 4.5 | 9   | 18  | 25   | 25   | 25   |
| Pulse interval [μs] | 32                           | 16  | 8   | 4   | 2   | 1    | 0.5  | 0.25 |

The travel speed results from the selected pulse interval and the corresponding resolution.

| Feature                       | Ordering data | Technical data                            | Additional information   |
|-------------------------------|---------------|---|--|
| Operating voltage             | 4             | 24 V DC $\pm$ 20 %                        | standard, with polarity protection                             |
|                               | 5             | 5 V DC $\pm$ 5 %                          |  |
| Connection / cable length     | E1/2.0        | fly lead, 2 m cable                       | standard (max. 20 m cable length)<br>E8, D-SUB 9-pin           |
|                               | E6, E8        | E6, circular plug                         |  |
| Output circuit                | PP            | push-pull                                 | standard<br>RS422  |
|                               | LD            | line driver                               |  |
| Reference signal              | 0             | without                                   | standard   |
|                               | I             | periodic index                            |  |
|                               | R             | fixed index                               |  |
| Resolution                    | 0.005         | 0.005 mm                                  | standard, options 0.01/0.0125/0.02/0.025/0.05                  |
| Pulse interval                | 1             | 1 μs                                      | standard, options 32/16/8/4/2/0.5/0.25/64                      |
| Power consumption             |               | max. 70 mA                                | @ 24 V DC unloaded   |
| Output signals                |               | A, /A, B, /B, options: I, /I or R, /R     | quadrature signal  |
| Sensor / magnetic strip gap   |               | 0.1-2.0 mm, reference signal R 0.1-1.5 mm | lateral offset $\pm$ 2 mm, @ reference signal R $\pm$ 0.5 mm   |
| System accuracy               |               | $\pm$ (0.025 + 0.01 x L) mm, [L in m]     | repeat accuracy $\pm$ 1 increment, at $T_U = 20^\circ\text{C}$ |
| Travel speed                  |               | see table                                 | max. referencing speed 5 m/s                                   |
| Interference protection class |               | 3, according to IEC 801                   | humidity: 100 % rH, condensation permitted                     |
| Temperature ranges            |               | working temperature: -10 ... +70 °C       | storage temperature: -30 ... +80 °C                            |
| Type of protection            |               | IP67 acc. to DIN 40050 (housing)          | CE test mark   |
| Housing                       |               | plastic, black                            |  |
| Cable                         |               | PUR                                       |  |

**Note:** The internal translation module can generate fast counting pulses, the lengths of which are limited by the pulse interval. The follower electronics must be adjusted accordingly. Select the pulse interval in advance, if necessary. For operating voltage 4 and output circuit LD use terminating resistors of  $\geq$  470 Ohm to avoid thermal overload.

Your order:  -  -  -  -  -  -