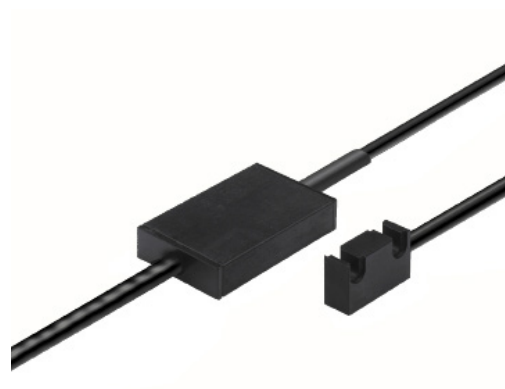


Series

SMB2 • SMB5



- Compact encoders with in-line external interpolator
- IP67 protection
- Resolution up to 5  $\mu\text{m}$



SMB2 • SMB5

### ENVIRONMENTAL SPECIFICATIONS

|                              |  |
|------------------------------|--|
| Shock:                       | 250 g, 6 ms acc. to CEI EN 60068-2-27    |
| Vibrations:                  | 10 g, 5-2000 Hz acc. to CEI EN 60068-2-6 |
| Protection:                  | IP67                                     |
| Operating temperature range: | -25°C ÷ +85°C (-13°F +185°F)             |
| Storage temperature range:   | -40°C ÷ +100°C (-40°F +212°F)            |

### MECHANICAL SPECIFICATIONS

|  |  |
|--|--|
| Dimensions:                                    | see drawing                              |
| Housing material:                              | die cast aluminium, UNI EN AC-46100      |
| Electrical connections:                        | Lika Hi-flex cable M8, 2,0 m             |
| Gap between sensor/tape (without cover strip): | SMB2: 0,1 ÷ 1,0 mm<br>SMB5: 0,1 ÷ 2,0 mm |
| Travel speed (mechanical):                     | max 16 m/s                               |
| Measurement length:                            | Tape length -5 mm each side              |

### ELECTRICAL SPECIFICATIONS

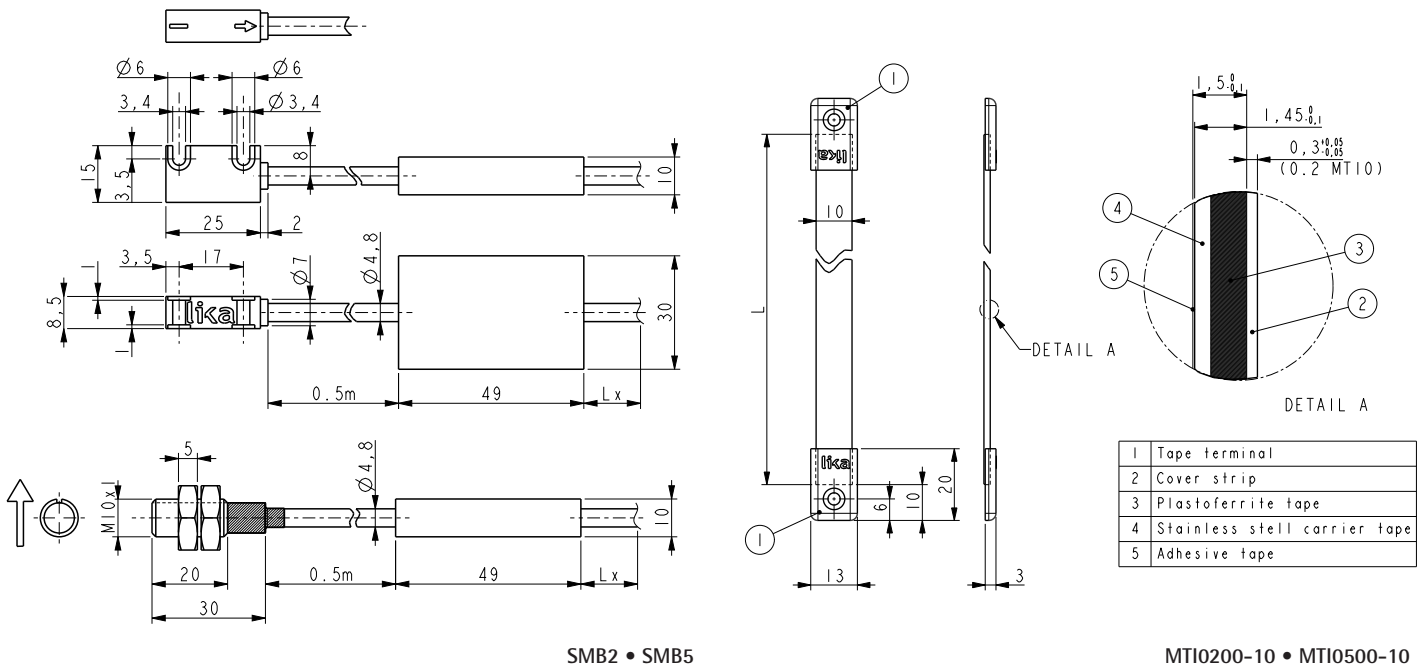
|                     |   |
|---------------------|---|
| Resolution:         | 0,01 / 0,005 mm   |
| Sensor accuracy:    | $\pm 15 \mu\text{m}$ max.   |
| Repeat accuracy:    | $\pm 1$ increment   |
| Output circuits:    | Line Driver, Push-Pull  |
| Output signals:     | AB0 /AB0  |
| Counting frequency: | acc. to edge distance setting   |
| Power supply:       | +5Vdc $\pm 5\%$ , +10Vdc ÷ +30Vdc                                     |
| Power consumption:  | 70 mA   |
| Protection:         | against inversion of polarity (except 5Vdc version) and short-circuit |
| EMC:                | acc. to EN 61000-6-2 level 3  |

### ACCESSORIES

|               |                                |
|---------------|--------------------------------|
| MTI-0200:     | Magnetic tape for SMB2         |
| MTI-0500:     | Magnetic tape for SMB5         |
| KIT LKM-1440: | Set of tape terminals (10 pcs) |

### Edge distance selection

| Order code | Edge distance ( $\mu\text{sec}$ ) | Max. counting frequency (kHz) | Resolution ( $\mu\text{m}$ ) vs. max. possible speed (m/s) |       |
|------------|-----------------------------------|-------------------------------|--|-------|
|            |                                   |                               | 5  | 10    |
| H          | 0,3                               | 3.333                         | 11,67  | 23,34 |
| J          | 0,5                               | 2.000                         | 7,00   | 14,00 |
| A          | 1                                 | 1.000                         | 3,50   | 7,00  |
| B          | 2                                 | 500                           | 1,67   | 3,34  |
| C          | 4                                 | 250                           | 0,88   | 1,75  |



SMB2 • SMB5

MTI0200-10 • MTI0500-10

Order code - Sensor

|              |   |        |   |          |   |           |   |           |   |           |   |        |            |
|--------------|---|--------|---|----------|---|-----------|---|-----------|---|-----------|---|--------|------------|
| SMB2<br>SMB5 | - | X<br>a | - | XXX<br>b | - | XXXX<br>c | - | XXXX<br>d | - | XXXX<br>e | - | X<br>f | /Sxxx<br>g |
|--------------|---|--------|---|----------|---|-----------|---|-----------|---|-----------|---|--------|------------|

|  |   |  |  |
|--|---|--|--|
| <p><b>a) SENSOR</b><br/>R = rectangular<br/>C = circular</p> <p><b>b) OUTPUT CIRCUITS &amp; POWER SUPPLY</b><br/>Y2 = Push-Pull (AB), +10Vdc ÷ +30Vdc<br/>YC2 = Push-Pull (AB, /AB), +10Vdc ÷ +30Vdc<br/>L1 = Line Driver (AB, /AB), +5Vdc ±5%</p> | <p><b>c) RESOLUTION</b><br/>0010 = 0,01 mm<br/>0005 = 0,005 mm (only SMB5)<br/>(others on request)</p> <p><b>d) SENSOR CABLE</b><br/>L005 = cable length between sensor and converter 0,5 m<br/>(others on request)</p> | <p><b>e) CABLE TYPE &amp; LENGTH</b><br/>L020 = cable output 2 m<br/>L050 = cable output 5 m<br/>Lxx0 = cable out. x m (max. length 10m)</p> | <p><b>f) EDGE DISTANCE</b><br/>(see edge distance selection)<br/>H = 0,3 µs<br/>J = 0,5 µs<br/>A = 1 µs<br/>B = 2 µs (standard value)<br/>C = 4 µs</p> |
|  |   |  | <b>g) CUSTOM VERSION</b>   |

Order code - Magnetic tape

|     |   |           |   |         |   |             |   |        |   |        |   |        |   |          |            |
|-----|---|-----------|---|---------|---|-------------|---|--------|---|--------|---|--------|---|----------|------------|
| MTI | - | XXXX<br>a | - | XX<br>b | - | XXXXXX<br>c | - | X<br>d | - | X<br>e | - | X<br>f | - | XXX<br>g | /Sxxx<br>h |
|-----|---|-----------|---|---------|---|-------------|---|--------|---|--------|---|--------|---|----------|------------|

|   |   |   |  |   |
|---|---|---|--|---|
| <p><b>a) CODING</b><br/>0200 = 2 mm pole pitch (ex MT20)<br/>0500 = 5 mm pole pitch (ex MT50)</p> <p><b>b) WIDTH</b><br/>10 = 10 mm</p> | <p><b>c) LENGTH</b><br/>001000 = 1 m<br/>002000 = 2 m<br/>004000 = 4 m<br/>010000 = 10 m<br/>020000 = 20 m<br/>030000 = 30 m<br/>050000 = 50 m<br/>100000 = 100 m</p> | <p><b>d) BIADHESIVE</b><br/>B = supplied<br/>N = not supplied</p> <p><b>e) PRINTING</b><br/>P = standard<br/>S = custom</p> | <p><b>f) COVER STRIP</b><br/>C = supplied<br/>N = not supplied</p> | <p><b>g) ACCURACY CLASS</b><br/>100 = ±85 µm/m<br/>050 = ±35 µm/m (up to 30 m)<br/>010 = ±8 µm/m (up to 10 m)</p> |
|   |   |   | <b>h) CUSTOM VERSION</b>   |   |

| Document release | Date          | Description    |
|------------------|---------------|----------------|
| 1.0              | December 2023 | New order code |