



- Standard encoder for linear position measurement
- Gap clearance up to 2 mm
- Lika hi-flex sensor cable for drag cable chains
- Status LED for clearance and gap error
- Optional reference mark LKM1309/5 to be installed along the magnetic tape
- Optional tape cleaning wipers
- Error output available on request (see on page 27)



SME51

### 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 or M12 8 pin inline plug |
| Gap between sensor/tape (without cover strip): | 0,1 ÷ 2,0 mm  |
| Travel speed (mechanical):                     | max 16 m/s  |
| Measurement length:                            | Tape length -5 mm each side                           |

### ELECTRICAL SPECIFICATIONS

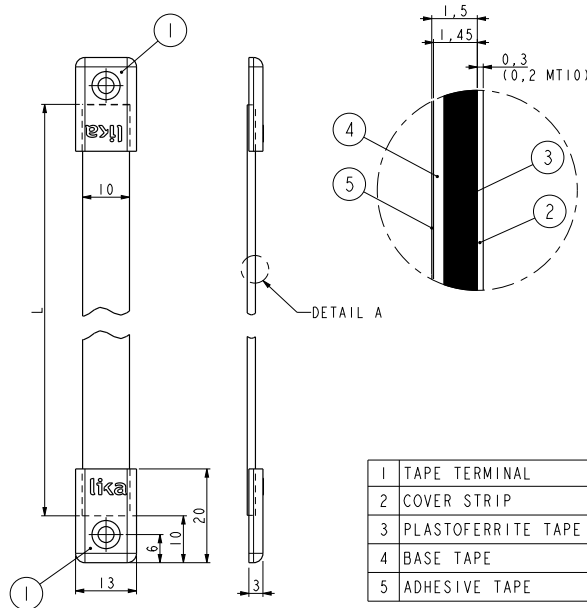
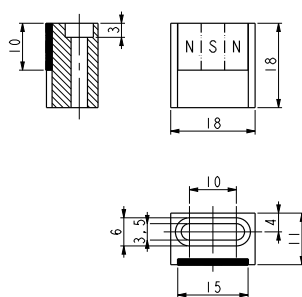
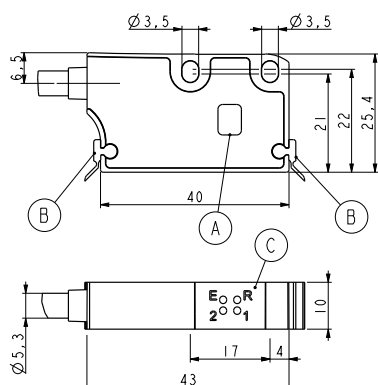
|                     |   |
|---------------------|---|
| Resolution:         | 0,05 / 0,025 / 0,01 / 0,005 mm  |
| Sensor accuracy:    | ±15 µm max.   |
| Repeat accuracy:    | ±1 increment  |
| Output circuits:    | Line Driver, Push-Pull  |
| Output signals:     | AB0 /AB0  |
| Counting frequency: | acc. to edge distance setting   |
| Power supply:       | +5Vdc ±5%, +10Vdc ÷ +30Vdc  |
| Power consumption:  | 70 mA max.  |
| Protection:         | against inversion of polarity (except 5Vdc version) and short-circuit |
| EMC:                | acc. to EN 61000-6-2 level 3  |
| Option:             | Error signal output (PWM)   |

### ACCESSORIES

|                    |                                  |
|--------------------|----------------------------------|
| MT50:              | Magnetic tape                    |
| LKM-1309/5:        | Reference pole support           |
| KIT LKM-1440:      | Set of tape terminals            |
| KIT WIPERS:        | Wipers for SMExx/SMSxx (10 pcs)  |
| KIT PS1-1,0:       | Protection profile (10 pcs)      |
| E-M12F8:           | M12 8 pin mating connector       |
| EC-M12F8-LK-M8-5:  | cordset 5 meters with M12 conn.  |
| EC-M12F8-LK-M8-10: | cordset 10 meters with M12 conn. |

## Edge distance selection

| Order code | Edge distance (µsec) | Max. counting frequency (kHz) | Resolution (µm) vs. max. possible speed (m/s) |       |       |       |
|------------|----------------------|-------------------------------|---|-------|-------|-------|
|            |                      |                               | 5   | 10    | 25    | 50    |
| H          | 0,3                  | 3333                          | 11,67   | 23,34 | 25,00 | 25,00 |
| J          | 0,5                  | 2000                          | 7,00  | 14,00 | 25,00 | 25,00 |
| A          | 1                    | 1000                          | 3,50  | 7,00  | 17,50 | 17,50 |
| B          | 2                    | 500                           | 1,67  | 3,34  | 8,35  | 8,35  |
| C          | 4                    | 250                           | 0,88  | 1,75  | 4,38  | 4,38  |



|    |                             |
|----|-----------------------------|
| A  | Reference sensor "R"        |
| B  | Dust wipers                 |
| C  | Diagnostic LEDES            |
| E: | Gap/Speed error (red)       |
| R: | Reference detection (green) |
| 1: | Power ON (green)            |
| 2: | Not used                    |

|   |                    |
|---|--------------------|
| 1 | TAPE TERMINAL      |
| 2 | COVER STRIP        |
| 3 | PLASTOFERRITE TAPE |
| 4 | BASE TAPE          |
| 5 | ADHESIVE TAPE      |

SME51

LKM-1309/5

MT50

Order code - Sensor

|       |   |     |   |     |   |     |   |     |   |     |   |     |       |
|-------|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|-------|
| SME51 | - | XX  | - | X   | - | XX  | - | X   | - | XX  | - | X   | /Sxxx |
|       |   | (a) |   | (b) |   | (c) |   | (d) |   | (e) |   | (f) | (g)   |

|  |  |   |
|--|--|---|
| <p><b>(a) OUTPUT CIRCUITS</b><br/>                 Y = Push-Pull (AB)<br/>                 YC = Push-Pull (AB, /AB)<br/>                 L = Line Driver (AB, /AB)</p> <p><b>(b) POWER SUPPLY</b><br/>                 1 = +5Vdc ±5% (L output circuit)<br/>                 2 = +10Vdc ÷ +30Vdc (Y and YC output circuit)</p> | <p><b>(c) RESOLUTION</b><br/>                 50 = 0,05 mm (50 µm)<br/>                 25 = 0,025 mm (25 µm)<br/>                 10 = 0,01 mm (10 µm)<br/>                 5 = 0,005 mm (5 µm)</p> <p><b>(d) INDEX</b><br/>                 N = without<br/>                 I = every 5 mm<br/>                 R = unique reference signal</p> | <p><b>(e) CONNECTIONS</b><br/>                 L2 = cable output 2 m<br/>                 Lx = cable output x m<br/>                 M0,5 = 0,5 m cable + M12 inline plug<br/>                 M2 = 2 m cable + M12 inline plug</p> <p><b>(f) EDGE DISTANCE (see edge distance selection)</b><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> <p><b>(g) CUSTOM VERSION</b></p> |
|--|--|---|

Order code - Magnetic tape

|      |   |     |   |     |   |     |   |       |
|------|---|-----|---|-----|---|-----|---|-------|
| MT50 | - | XXX | - | XXX | - | X   | - | /Sxxx |
|      |   | (a) |   | (b) |   | (c) |   | (d)   |

|  |   |  |
|--|---|--|
| <p><b>(a) LENGTH</b><br/>                 1 = 1,0 m      20 = 20,0 m<br/>                 2 = 2,0 m      30 = 30,0 m<br/>                 4 = 4,0 m      50 = 50,0 m<br/>                 10 = 10,0 m    100 = 100,0 m</p> | <p><b>(b) ACCURACY CLASS</b><br/>                 100 = ±85 µm/m<br/>                 50 = ±35 µm/m (up to 30 m)<br/>                 10 = ±8 µm/m (up to 10 m)</p> | <p><b>(c) COVER STRIP</b><br/>                 0 = not supplied<br/>                 1 = supplied</p> <p><b>(d) CUSTOM VERSION</b></p> |
|--|---|--|