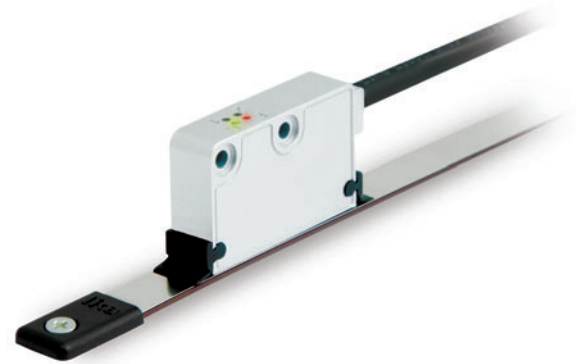




- Two integrated limit switch sensors
- High resolution encoder for linear measurements
- High speed and protection degree
- Speed proportional output signals
- Resolution up to 1  $\mu\text{m}$
- Reference and limit switch marks to be installed along the magnetic tape
- Optional tape cleaning wipers



SME22

### 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 M10, 2,0 m       |
| Gap between sensor/tape (without cover strip): | 0,1 ÷ 1,0 mm                        |
| Travel speed (mechanical):                     | max 16 m/s                          |
| Measurement length:                            | Tape length -5 mm each side         |

### ELECTRICAL SPECIFICATIONS

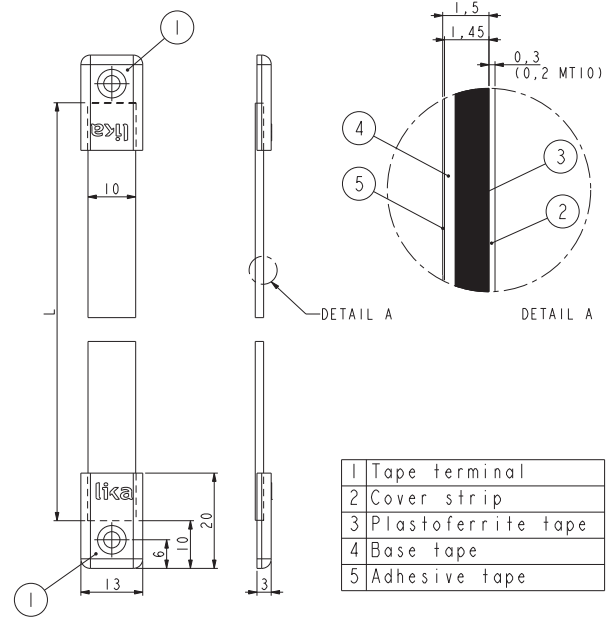
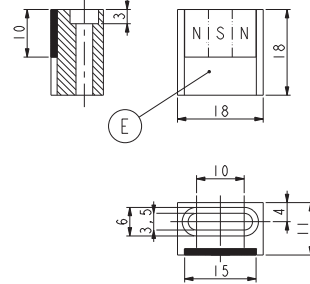
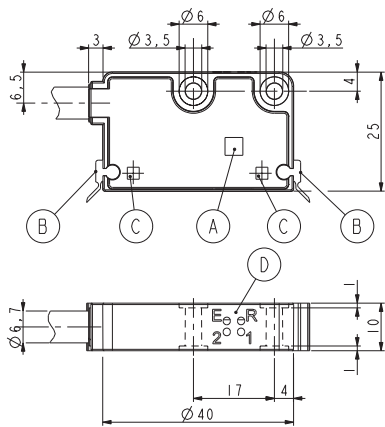
|                     |                                                                       |
|---------------------|-----------------------------------------------------------------------|
| Resolution:         | 0,05 / 0,01 / 0,002 / 0,001 mm                                        |
| Sensor accuracy:    | $\pm 15 \mu\text{m}$ max.                                             |
| Repeat accuracy:    | $\pm 1$ increment                                                     |
| Output circuits:    | Line Driver, Push-Pull                                                |
| Output signals:     | AB0 /AB0 + LS1, LS2 (o.c. 50 mA)                                      |
| Counting frequency: | acc. to edge distance setting                                         |
| Power supply:       | +5Vdc $\pm 5\%$ , +10Vdc ÷ +30Vdc                                     |
| Power consumption:  | 80 mA max.                                                            |
| Protection:         | against inversion of polarity (except 5Vdc version) and short-circuit |
| EMC:                | acc. to EN 61000-6-2 level 3                                          |

### ACCESSORIES

|               |                                 |
|---------------|---------------------------------|
| MT20:         | Magnetic tape                   |
| LKM-1309/2:   | Reference pole support          |
| LKM-1309/LS   | Limit switch support            |
| KIT LKM-1440: | Set of tape terminals (10 pcs)  |
| KIT WIPERS:   | Wipers for SMExx/SMSxx (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) |      |       |       |
|------------|-----------------------------------|-------------------------------|------------------------------------------------------------|------|-------|-------|
|            |                                   |                               | 1                                                          | 2    | 10    | 50    |
| H          | 0,3                               | 3333                          | 2,33                                                       | 4,67 | 23,34 | 14,58 |
| J          | 0,5                               | 2000                          | 1,40                                                       | 2,80 | 14,00 | 8,74  |
| A          | 1                                 | 1000                          | 0,70                                                       | 1,40 | 7,00  | 4,38  |
| B          | 2                                 | 500                           | 0,33                                                       | 0,67 | 3,34  | 2,08  |
| C          | 4                                 | 250                           | 0,18                                                       | 0,35 | 1,75  | 1,09  |



|                                |                      |
|--------------------------------|----------------------|
| A                              | Reference sensor "R" |
| B                              | Dust wipers          |
| C                              | Limit switch sensors |
| D                              | Diagnostic LEDs      |
| E: Gap/Speed error (red)       |                      |
| R: Reference detection (green) |                      |
| 1: Limit switch (green)        |                      |
| 2: Limit switch (green)        |                      |

E Tape position on LKMI309/LS

|   |                    |
|---|--------------------|
| 1 | Tape terminal      |
| 2 | Cover strip        |
| 3 | Plastoferrite tape |
| 4 | Base tape          |
| 5 | Adhesive tape      |

SME22

LKM-1309/2 • LKM-1309/LS

MT20

Order code - Sensor

|       |   |     |   |     |   |     |   |     |   |     |   |     |       |
|-------|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|-------|
| SME22 | - | XX  | - | X   | - | XX  | - | X   | - | XX  | - | X   | /Sxxx |
|       |   | (a) |   | (b) |   | (c) |   | (d) |   | (e) |   | (f) | (g)   |

(a) OUTPUT CIRCUITS

Y = Push-Pull (AB)  
 YC = Push-Pull (AB, /AB)  
 L = Line Driver (AB, /AB)

(b) POWER SUPPLY

1 = +5Vdc ±5% (L output circuit)  
 2 = +10Vdc ÷ +30Vdc (Y and YC output circuit)

(c) RESOLUTION

50 = 0,05 mm (50 µm)  
 10 = 0,01 mm (10 µm)  
 2 = 0,002 mm (2 µm)  
 1 = 0,001 mm (1 µm)

(d) INDEX

R = unique reference signal

(e) CONNECTIONS

L2 = cable output 2 m  
 L5 = cable output 5 m  
 Lx = cable output x m

(f) EDGE DISTANCE (see edge distance selection)

H = 0,3 µs  
 J = 0,5 µs  
 A = 1 µs  
 B = 2 µs (standard value)  
 C = 4 µs

(g) CUSTOM VERSION

Order code - Magnetic tape

|      |   |     |   |     |   |     |   |       |
|------|---|-----|---|-----|---|-----|---|-------|
| MT20 | - | XXX | - | XXX | - | X   | - | /Sxxx |
|      |   | (a) |   | (b) |   | (c) |   | (d)   |

(a) LENGTH

1 = 1,0 m      20 = 20,0 m  
 2 = 2,0 m      30 = 30,0 m  
 4 = 4,0 m      50 = 50,0 m  
 10 = 10,0 m    100 = 100,0 m

(b) ACCURACY CLASS

100 = ±85 µm/m  
 50 = ±35 µm/m (up to 30 m)  
 10 = ±8 µm/m (up to 10 m)

(c) COVER STRIP

0 = not supplied  
 1 = supplied

(d) CUSTOM VERSION