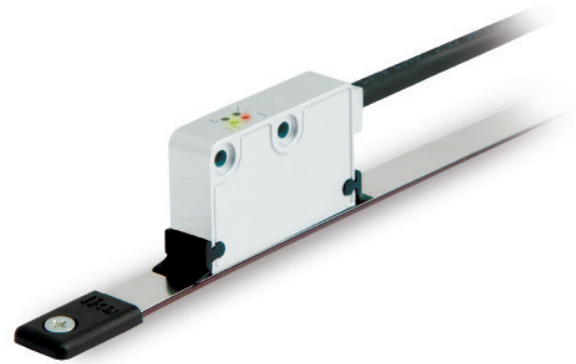


Series

SME21



- High resolution encoder for linear measurements
- High speed and protection degree
- Speed proportional output signals (real-time)
- Resolution up to 1  $\mu\text{m}$
- Optional reference mark LKM1309/2 to be installed along the magnetic tape
- Optional tape cleaning wipers
- Error output available on request (see on page 27)



SME21

### 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 ÷ 1,0 mm
Travel speed (mechanical):	max 16 m/s
Measurement length:	Tape length -5 mm each side

### ELECTRICAL SPECIFICATIONS

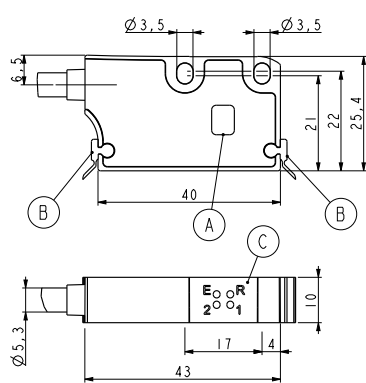
Resolution:	0,05 / 0,01 / 0,002 / 0,001 mm
Sensor accuracy:	$\pm 15 \mu\text{m}$ max.
Repeat accuracy:	$\pm 1$ increment
Output circuits:	Line Driver, Push-Pull
Output signals:	AB0 /AB0
Counting frequency:	acc. to edge distance setting Push-Pull: 3 MHz max. @ 24Vdc, cable 1 m Line Driver: 5 MHz max. @ 5Vdc, cable 1 m
Power supply:	+5Vdc $\pm 5\%$ , +10Vdc $\pm 30\text{Vdc}$
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

MTI-0200:	Magnetic tape
LKM-1309/2:	Reference pole support
KIT LKM-1440:	Set of tape terminals (10 pcs)
KIT WIPERS:	Wipers for SMExx/SMSxx (10 pcs)
E-M12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-050:	cordset 5 meters with M12 conn.
EC-M12F8-LK-M8-100:	cordset 10 meters with M12 conn.

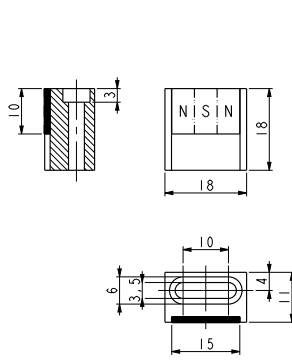
## Edge distance selection

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	3,33	6,66	20,00	20,00
J	0,5	2000	2,00	4,00	20,00	20,00
A	1	1000	1,0	2,00	10,00	20,00
B	2	500	-	1,00	5,00	20,00
C	4	250	-	-	2,50	12,50

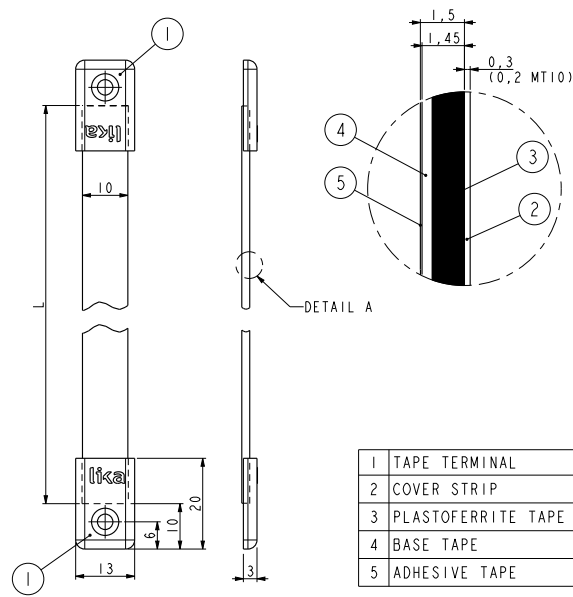


A	Reference sensor "R"
B	Dust wipers
C	Diagnostic LEDES
E:	Gap/Speed error (red)
R:	Reference detection (green)
1:	Power ON (green)
2:	Not used

SME21



LKM-1309/2



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

MTI-0200-10

Order code - Sensor

SME21	-	XXX	-	XXXX	-	X	-	XXXX	-	X	/Sxxx
		(a)		(b)		(c)		(d)		(e)	(f)

**(a) OUTPUT CIRCUITS & POWER SUPPLY**  
 Y2 = Push-Pull (AB), +10Vdc ÷ +30Vdc  
 YC2 = Push-Pull (AB, /AB), +10Vdc ÷ +30Vdc  
 L1 = Line Driver (AB, /AB), +5Vdc ±5%  
 L2 = Line Driver (AB, /AB), +10Vdc ÷ +30Vdc

**(b) RESOLUTION**  
 0050 = 0,05 mm (50 µm)  
 0010 = 0,01 mm (10 µm)  
 0002 = 0,002 mm (2 µm)  
 0001 = 0,001 mm (1 µm)

**(c) INDEX**  
 N = without  
 I = every 2 mm  
 R = unique reference signal

**(d) CABLE TYPE & LENGTH**  
 L020 = cable output 2 m  
 Lxx0 = cable out. x m (max. length 10m)  
 M005 = 0,5 m cable + M12 inline plug  
 M020 = 2 m cable + M12 inline plug

**(e) 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  
 (\*) only with output circuit L

**(f) CUSTOM VERSION**

Order code - Magnetic tape

MTI	-	XXXX	-	XX	-	XXXXXX	-	X	-	X	-	X	-	XXX	/Sxxx
		(a)		(b)		(c)		(d)		(e)		(f)		(g)	(h)

**(a) CODING**  
 0200 = 2 mm pole pitch (ex MT20)

**(b) WIDTH**  
 10 = 10 mm

**(c) LENGTH**  
 001000 = 1 m  
 002000 = 2 m  
 004000 = 4 m  
 010000 = 10 m  
 020000 = 20 m  
 030000 = 30 m  
 050000 = 50 m  
 100000 = 100 m

**(d) BIADHESIVE**  
 B = supplied  
 N = not supplied

**(e) PRINTING**  
 P = standard  
 S = custom

**(f) COVER STRIP**  
 C = supplied  
 N = not supplied

**(g) ACCURACY CLASS**  
 100 = ±85 µm/m  
 050 = ±35 µm/m (up to 30 m)  
 010 = ±8 µm/m (up to 10 m)

**(h) CUSTOM VERSION**

Document release	Date	Description
1.2	December 2023	New order code
1.1	5.11.2020	Edge distance selection update