



- High resolution encoder for linear measurements
- High speed and protection degree
- Speed proportional output signals (real-time)
- Resolution up to 1 μm
- 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

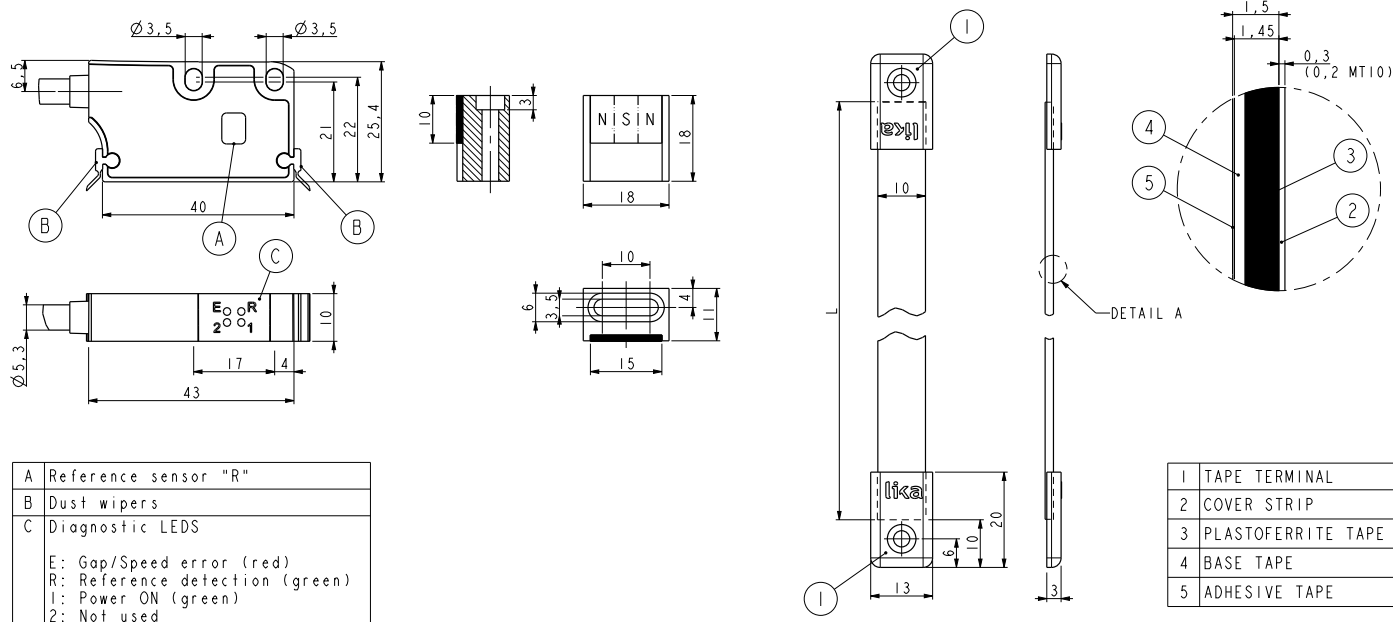
Resolution:	0,05 / 0,01 / 0,002 / 0,001 mm
Sensor accuracy:	±15 μm max.
Repeat accuracy:	±1 increment
Output circuits:	Line Driver, Push-Pull
Output signals:	AB0 /AB0
Counting frequency:	acc. to edge distance setting Push-Pull: 3 MHz max. @ 24Vdc, cable 1 m Line Driver: 5 MHz max. @ 5Vdc, cable 1 m
Power supply:	+5Vdc ±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

MT20:	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-M8-5:	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)			
			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



SME21

LKM-1309/2

MT20

Order code - Sensor

SME21	-	XX	-	X	-	XX	-	X	-	XX	-	X	/Sxxx
		(a)		(b)		(c)		(d)		(e)		(f)	(g)

<p>(a) OUTPUT CIRCUITS Y = Push-Pull (AB) YC = Push-Pull (AB, /AB) L = Line Driver (AB, /AB)</p> <p>(b) POWER SUPPLY 1 = +5Vdc $\pm 5\%$ (L output circuit) 2 = +10Vdc \div +30Vdc (Y and YC output circuit)</p> <p>(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)</p>	<p>(d) INDEX N = without I = every 2 mm R = unique reference signal</p> <p>(e) CONNECTIONS L2 = cable output 2 m Lx = cable output x m M0,5 = 0,5 m cable + M12 inline plug M2 = 2 m cable + M12 inline plug</p>	<p>(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 (*) only with output circuit L</p>
(g) CUSTOM VERSION		

Order code - Magnetic tape

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

<p>(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</p>	<p>(b) ACCURACY CLASS 100 = ± 85 μm/m 50 = ± 35 μm/m (up to 30 m) 10 = ± 8 μm/m (up to 10 m)</p>	<p>(c) COVER STRIP 0 = not supplied 1 = supplied</p>
(d) CUSTOM VERSION		

Document release	Date	Description
1.1	5.11.2020	Edge distance selection update