



- 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

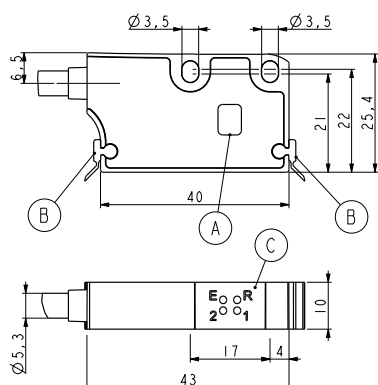
Resolution:	50 / 25 / 10 / 5 / 2 / 1 / 0,5 / 0,08 µm
Sensor accuracy:	±10 µm max.
Repeat accuracy:	±1 increment
Output circuits:	Line Driver, Push-Pull
Output signals:	AB0 /AB0
Counting frequency:	acc. to edge distance setting Push-Pull: 3 MHz max. @ 24Vdc, cable 1 m Line Driver: 5 MHz max. @ 5Vdc, cable 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

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.

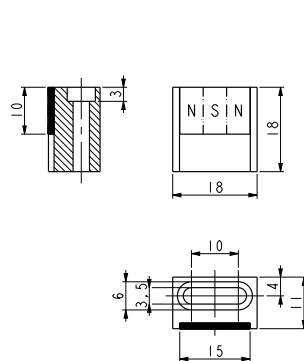
### Edge distance selection

Order code	Edge distance (µsec)	Max. counting frequency (kHz)	Resolution (µm) vs. max. possible speed (m/s)							
			0,08	0,5	1	2	5	10	25	50
K	0,2	5000	0,40	2,50	5,00	10,00	-	-	-	-
H	0,3	3333	-	1,67	3,33	6,66	16,00	25,00	25,00	25,00
J	0,5	2000	-	1,00	2,00	4,00	10,00	20,00	25,00	25,00
A	1	1000	-	-	1,00	2,00	5,00	10,00	25,00	25,00
B	2	500	-	-	-	-	2,50	5,00	12,50	25,00
C	4	250	-	-	-	-	1,25	2,50	6,25	12,50

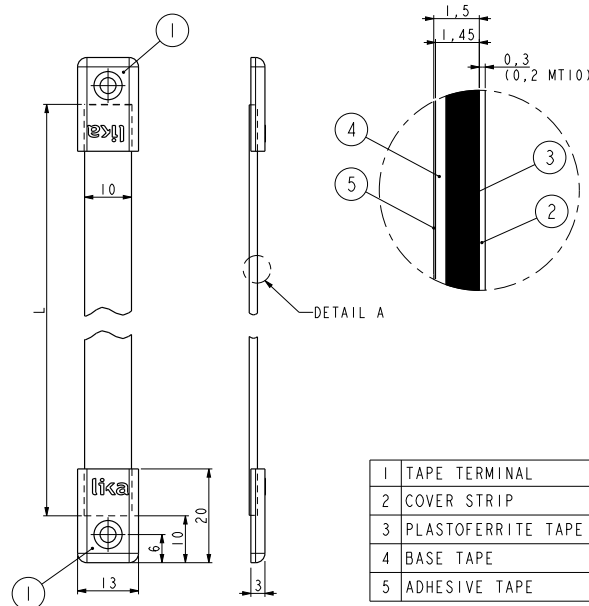


A	Reference sensor "R"
B	Dust wipers
C	Diagnostic LEDES
E:	Gap/Speed error (red)
R:	Reference detection (green)
1:	Power ON (green)
2:	Not used

SME51



LKM-1309/5



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

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>                  Y = Push-Pull (AB)                  YC = Push-Pull (AB, /AB)                  L = Line Driver (AB, /AB)</p> <p><b>(b) POWER SUPPLY</b>                  1 = +5Vdc ±5% (L output circuit)                  2 = +10Vdc ÷ +30Vdc (Y and YC output circuit)</p>	<p><b>(c) RESOLUTION</b>                  50 = 0,05 mm (50 µm)                  25 = 0,025 mm (25 µm)                  10 = 0,01 mm (10 µm)                  5 = 0,005 mm (5 µm)                  2 = 0,002 mm (2 µm)                  1 = 0,001 mm (1 µm)                  05 = 0,0005 mm (0,5 µm)                  008 = 0,00008 mm (0,08 µm)</p>	<p><b>(d) INDEX</b>                  N = without                  I = every 5 mm                  R = unique reference signal</p> <p><b>(e) CONNECTIONS</b>                  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><b>(f) EDGE DISTANCE</b>                  (see edge distance selection)                  K = 0,2 µs (*)                  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>
<b>(g) CUSTOM VERSION</b>			

Order code - Magnetic tape

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

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

Document release	Date	Description
1.1	5.11.2020	Edge distance selection update