

Series

**SMI2 • SMI5**



- Resolution selector from 50 to 2  $\mu\text{m}$
- Compact reading head with IP68 protection
- Power-on and error LEDs
- Automatic output signal performance control
- Ideal for linear motors and pick & place axes



SMI2 • SMI5

### 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:	IP68 (sensor head), IP65 (connector)
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:	sensor: die cast aluminium, UNI EN AC-46100 connector: Macromelt OM646-EN
Electrical connections:	Lika Hi-flex cable M6 + DSub 9 pin inline plug
Gap between sensor/tape (without cover strip):	SMI2: 0,1 ÷ 1,0 mm SMI5: 0,1 ÷ 2,0 mm
Travel speed (mechanical):	max 16 m/s
Measurement length:	Tape length -5 mm each side

### ELECTRICAL SPECIFICATIONS

Resolution:	SMI2: 0,002 ÷ 0,02 mm SMI5: 0,005 ÷ 0,05 mm
Sensor accuracy:	±1 increment (after auto-calibration)
Repeat accuracy:	±1 increment
Output circuits:	Line Driver, Push-Pull
Output signals:	AB0 /AB0
Counting frequency:	500 kHz max. (others on request)
Power supply:	+5Vdc ±5%, +10Vdc ÷ +30Vdc
Power consumption:	80 mA
Protection:	against inversion of polarity (except 5Vdc version) and short-circuit
EMC:	acc. to EN 61000-6-2 level 3

### ACCESSORIES

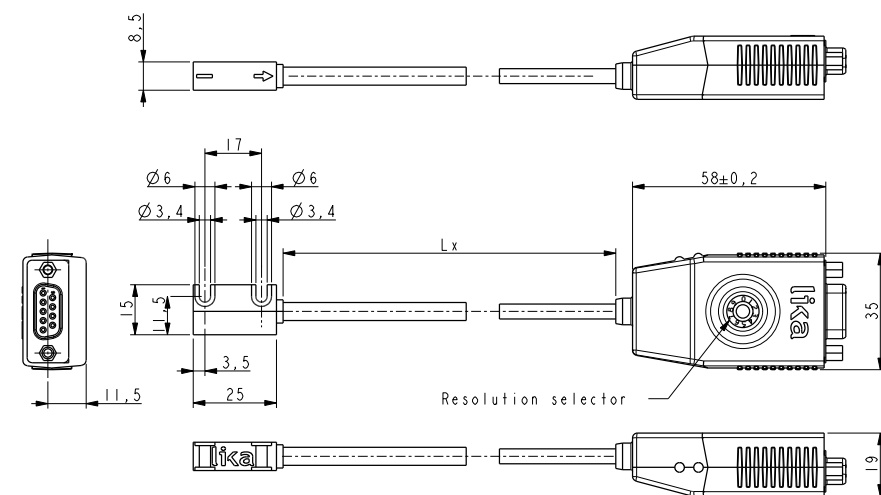
MTI-0500:	Magnetic tape for SMI5
MTI-0200:	Magnetic tape for SMI2
KIT LKM-1440:	Set of tape terminals (10 pcs)
EDE9P:	9 pin DSub mating connector

### Edge distance SMI5

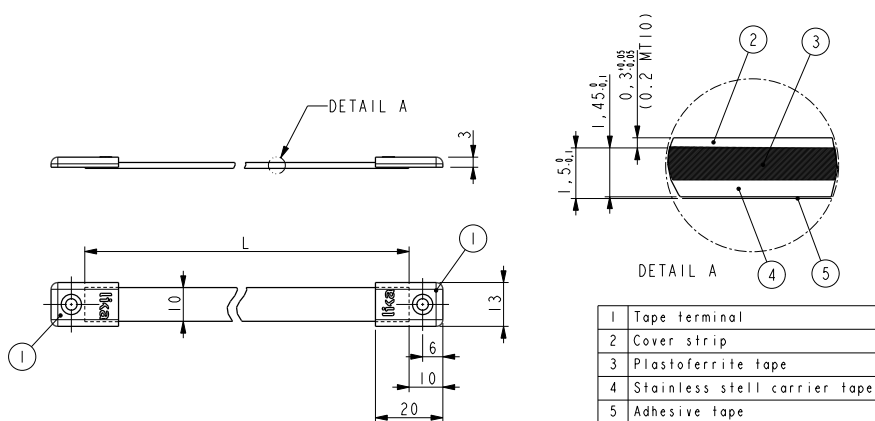
Order code	Edge distance (μsec)	Max. counting frequency (kHz)	Resolution (μm) vs. max. possible speed (m/s)							
			5	6,25	10	12,5	20	25	40	50
<b>B</b>	2	500	2,15	2,69	4,30	5,38	8,60	10,75	17,20	21,50

### Edge distance SMI2

Order code	Edge distance (μsec)	Max. counting frequency (kHz)	Resolution (μm) vs. max. possible speed (m/s)							
			2	2,5	4	5	8	10	16	20
<b>B</b>	2	500	0,86	1,08	1,72	2,15	3,44	4,30	6,88	8,60



SMI2 • SMI5



MTI-0200-10 • MTI-0500-10

Order code - Sensor

SMI2 SMI5	-	R a	-	XXX b	-	XX c	-	XX d
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<p><b>a) SENSOR</b> R = rectangular</p> <p><b>b) OUTPUT CIRCUITS &amp; POWER SUPPLY</b> YC2 = Push-Pull, 10 ÷ 30Vdc (ABO /ABO) L1 = Line Driver (RS422), +5Vdc ±5% (ABO /ABO)</p>	<p><b>c) CABLE TYPE &amp; LENGTH</b> L005 = 0,5 m L010 = 1 m L020 = 2 m L030 = 3 m L050 = 5 m</p>	<p><b>d) EDGE DISTANCE</b> B = 2 µs (500 kHz) - standard on request: K = 0,125 µs (8 MHz) H = 0,25 µs (4 MHz) J = 0,5 µs (2 MHz) A = 1 µs (1 MHz)</p>
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Order code - Magnetic tape

MTI	-	XXXX a	-	XX b	-	XXXXXX c	-	X d	-	X e	-	X f	-	XXX g	/Sxxx h
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<p><b>a) CODING</b> 0200 = 2 mm pole pitch (ex MT20) 0500 = 5 mm pole pitch (ex MT50)</p> <p><b>b) WIDTH</b> 10 = 10 mm</p>	<p><b>c) LENGTH</b> 001000 = 1 m 002000 = 2 m 004000 = 4 m 010000 = 10 m 020000 = 20 m 030000 = 30 m 050000 = 50 m 100000 = 100 m</p>	<p><b>d) BIADHESIVE</b> B = supplied N = not supplied</p> <p><b>e) PRINTING</b> P = standard S = custom</p>	<p><b>f) COVER STRIP</b> C = supplied N = not supplied</p>	<p><b>g) ACCURACY CLASS</b> 100 = ±85 µm/m 050 = ±35 µm/m (up to 30 m) 010 = ±8 µm/m (up to 10 m)</p>	<p><b>h) CUSTOM VERSION</b></p>
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Document release	Date	Description
1.0	December 2023	New order code