

Series

SMA2



- BiSS, SSI, Panasonic interface
- Resolution up to 1  $\mu\text{m}$
- Additional incremental output for speed feedback
- Error bit output
- Measuring length up to 8,1 m
- Large mounting tolerances
- Unaffected by dust, debris or liquids with IP67



SMA2

### 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:	anticorrosive, UNI EN AW-6082
Electrical connection:	Lika Hi-flex cable M8 2,0 m or M12 8 pin inline plug
Gap between sensor/tape:	0,1 $\pm$ 0,6 mm
Travel speed (mechanical):	10 m/s max.
Measurement length:	8165 mm max. Measurement length = tape length - 55 mm

### ELECTRICAL SPECIFICATIONS

Resolution:	50, 10, 5, 2, 1 $\mu\text{m}$
Sensor accuracy:	$\pm 2 \mu\text{m}$ max.
Repeat accuracy:	$\pm 1$ increment
Output circuits:	absolute: SSI, BiSS-C, Panasonic RS485 incremental: NPN o.c. (AB)
Position refresh (absolute):	33 $\mu\text{s}$
Counting frequency between edges (incremental):	see table 1
Power supply:	+5Vdc $\pm 5\%$ , +5 +30Vdc
Power consumption:	1 W max.
Protection:	against short-circuit
EMC:	acc. to EN 61000-6-2 level 3

### ACCESSORIES

MTA-A153:	Magnetic tape
E-M12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-050:	cordset with 5 m cable
EC-M12F8-LK-M8-100:	cordset with 10 m cable
KIT LKM-1440:	Set of tape terminals (10 pcs)

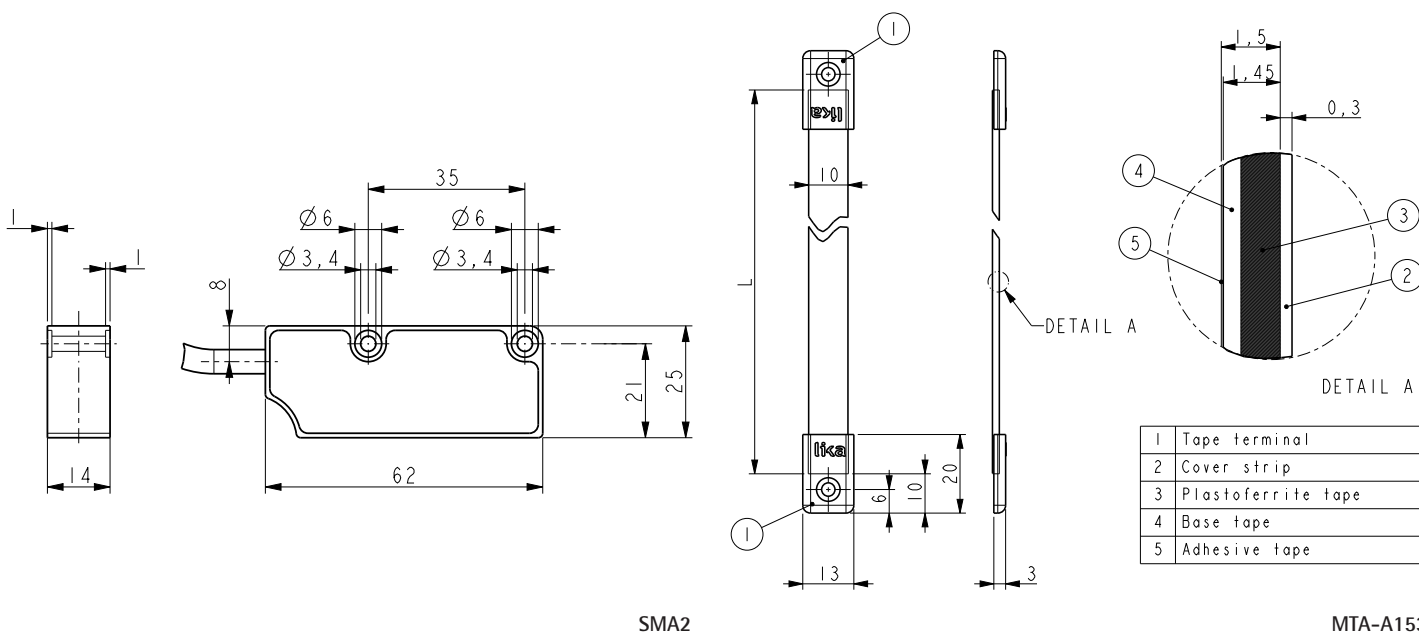
Table 1: Counting frequency between signal edges (incremental)

Resolution code ( $\mu\text{m}$ )	Travel speed		Counting frequency of AB at max speed (kHz) (*)
	a	b	
50	< 7	10	200
10	< 7	10	1000
5	< 7	10	2000
2	< 2.8	4,7	2320
1	< 1.4	2,4	2320

(a) speed limit for best signal (jitter) performance

(b) max allowed speed limit

(\*) min. edge distance = 0,25  $\mu\text{s}$  (4MHz)



SMA2

MTA-A153

Order code - Sensor

SMA2	-	XXX a	-	XXXX b	-	XXXX c	/Sxxx d
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<p><b>a OUTPUT CIRCUITS &amp; POWER SUPPLY</b>                  GG1 = SSI, Gray MSB aligned, +5Vdc ±5%                  G11 = SSI, Gray MSB aligned + AB incremental, +5Vdc ±5%                  BG1 = SSI, Binary MSB aligned, +5Vdc ±5%                  B11 = SSI, Binary MSB aligned + AB incremental, +5Vdc ±5%                  SC1 = BiSS-C interface + AB incremental, +5Vdc ±5%                  JP1 = Panasonic RS485, +5Vdc ±5%                  GG4 = SSI, Gray MSB aligned, +5 +30Vdc                  G14 = SSI, Gray MSB aligned + AB incremental, +5 +30Vdc                  BG4 = SSI, Binary MSB aligned, +5 +30Vdc                  B14 = SSI, Binary MSB aligned + AB incremental, +5 +30Vdc                  SC4 = BiSS-C interface + AB incremental, +5 +30Vdc</p>	<p><b>b RESOLUTION</b>                  0050 = 50 µm                  0010 = 10 µm                  0005 = 5 µm                  0002 = 2 µm                  0001 = 1 µm</p>	<p><b>c CABLE TYPE &amp; LENGTH</b>                  L020 = cable output 2 m                  Lxx0 = cable out. x m (max. length 10m)                  M005 = 0,5 m cable + M12 8 pin inline plug                  M020 = 2 m cable + M12 8 pin inline plug</p>	<p><b>d CUSTOM VERSION</b></p>
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Order code - Magnetic tape

MTA	-	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>                  A153 = SMA2 code</p>	<p><b>b WIDTH</b>                  10 = 10 mm</p>	<p><b>c LENGTH</b>                  001000 = 1 m                  002000 = 2 m                  003000 = 3 m                  004000 = 4 m                  005000 = 5 m                  006000 = 6 m                  007000 = 7 m                  008200 = 8,2 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</p>	<p><b>g ACCURACY CLASS</b>                  040 = ±40 µm                  010 = ±10 µm (max. length 2 m)</p>	<p><b>h CUSTOM VERSION</b></p>
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Document release	Date	Description
1.1	September 2023	Accuracy class update
1.0	July 2023	New order code