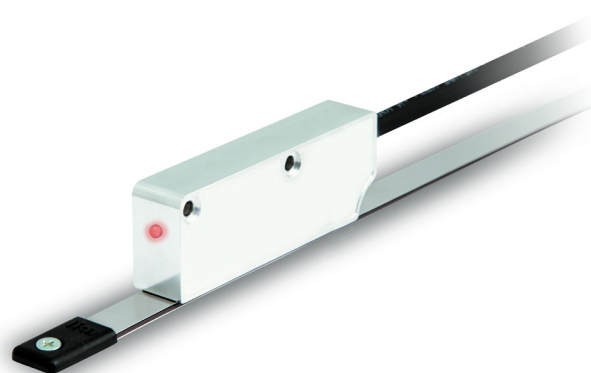


- BiSS-C, SSI, Panasonic interface
- Resolution up to 1 μm
- Additional incremental output for speed feedback
- Error bit output
- Sensor vs tape gap diagnostic LED
- Measuring length up to 32,8 m
- Large mounting tolerances
- Unaffected by dust, debris or liquids with IP67



SMA21

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:	anticorodal, UNI EN AW-6082
Electrical connection:	Lika Hi-flex cable T12 2,0 m or M12 inline plug
Gap between sensor/tape:	0,1 ÷ 0,6 mm
Travel speed (mechanical):	10 m/s max.
Measurement length:	32820 mm max.
	Measurement length = tape length - 63 mm

ELECTRICAL SPECIFICATIONS

Resolution:	50, 10, 5, 2, 1 μm
Sensor accuracy:	$\pm 2 \mu\text{m}$ max.
Repeat accuracy:	± 1 increment
Output circuits:	absolute: SSI, BiSS-C, Panasonic RS485 incremental: Line Driver RS422
Position refresh (absolute):	33 μs
Counting frequency between edges (incremental):	see table 1
Power supply:	+5Vdc $\pm 5\%$, +5 +30Vdc
Power consumption:	1 W max.
Protection:	against inversion of polarity and short-circuit
EMC:	acc. to EN 61000-6-2 level 3

ACCESSORIES

MTA-A154:	Magnetic tape
E-M12F12:	M12 12 pin mating connector
EC-M12F12-LK-T12-050:	cordset with 5 m cable
EC-M12F12-LK-T12-100:	cordset with 10 m cable
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)

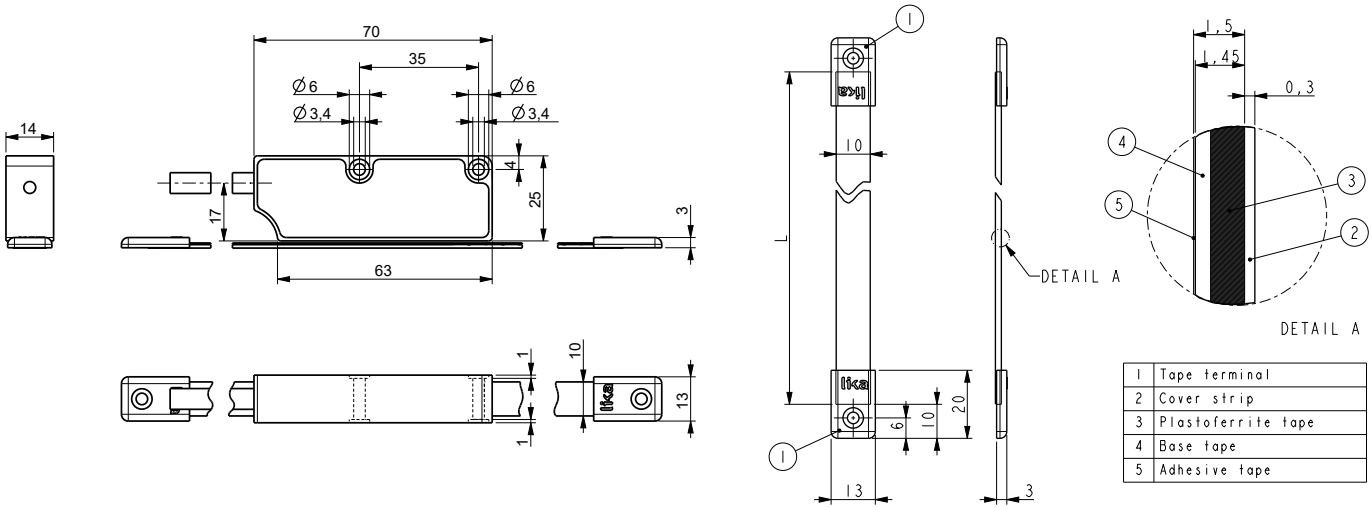
Table 1: Counting frequency between signal edges (incremental)

Resolution code (μm)	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 μs (4MHz)



SMA21

Order code - Sensor

SMA21	-	XXX a	-	XXXX b	-	XXXX c	/Sxxx d
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a OUTPUT CIRCUITS & POWER SUPPLY GG1 = SSI, Gray MSB aligned, +5Vdc ±5% G11 = SSI, Gray MSB aligned + AB, /AB, +5Vdc ±5% BG1 = SSI, Binary MSB aligned, +5Vdc ±5% B11 = SSI, Binary MSB aligned + AB, /AB, +5Vdc ±5% SC1 = BiSS-C interface + AB, /AB, +5Vdc ±5% JP1 ⁽¹⁾ = Panasonic RS485, +5Vdc ±5% GG4 = SSI, Gray MSB aligned, +5 +30Vdc G14 = SSI, Gray MSB aligned + AB, /AB, +5 +30Vdc BG4 = SSI, Binary MSB aligned, +5 +30Vdc B14 = SSI, Binary MSB aligned + AB, /AB, +5 +30Vdc SC4 = BiSS-C interface + AB, /AB, +5 +30Vdc B31 = SSI, Binary MSB aligned + sin/cos, +5Vdc ±5% S31 = BiSS-C interface + sin/cos, +5Vdc ±5% B34 = SSI, Binary MSB aligned + sin/cos, +5 +30Vdc S34 = BiSS-C interface + sin/cos, +5 +30Vdc	b RESOLUTION 0050 = 50 µm 0010 = 10 µm 0005 = 5 µm 0002 = 2 µm 0001 = 1 µm	c CABLE TYPE & LENGTH L020 = cable output 2 m Lxx0 = cable out. x m (max. length 10m) M005 = 0,5 m cable + M12 8 pin inline plug (only for GG1, BG1, JP1, GG4, BG4) M020 = 2 m cable + M12 8 pin inline plug (only for GG1, BG1, JP1, GG4, BG4) F005 = 0,5 m cable + M12 12 pin inline plug F020 = 2 m cable + M12 12 pin inline plug
d CUSTOM VERSION		

(1) with 1 µm resolution, max. measurement length is 16410 mm

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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a CODING A154 = SMA21 code	c LENGTH 005000 = 5 m 010000 = 10 m 015000 = 15 m 020000 = 20 m 025000 = 25 m 032800 = 32,8 m	d BIADHESIVE B = supplied N = not supplied	f COVER STRIP C = supplied N = not supplied	g ACCURACY CLASS 040 = ±40 µm
b WIDTH 10 = 10 mm	e PRINTING P = standard S = custom	h CUSTOM VERSION		

Document release	Date	Description
1.2	1.12.2025	Output circuit & Power supply update (B31, S31, B34, S34)
1.1	29.11.2024	MTA-A154 length update
1.0	July 2023	First issue