



- Cost effective non-contacting absolute encoder
- IP68 protection degree for harsh environments, IP69K on request
- Modbus/RS485, SSI & Analogue output
- Programmable resolution
- Self-diagnostics on tape distance & integrity
- Measuring length up to 1250 mm



SMAX • SMAZ

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
Operating temperature range:	-25°C +85°C (-13°F +185°F)
Storage temperature range:	-40°C +100°C (-40°F +212°F)

MECHANICAL SPECIFICATIONS

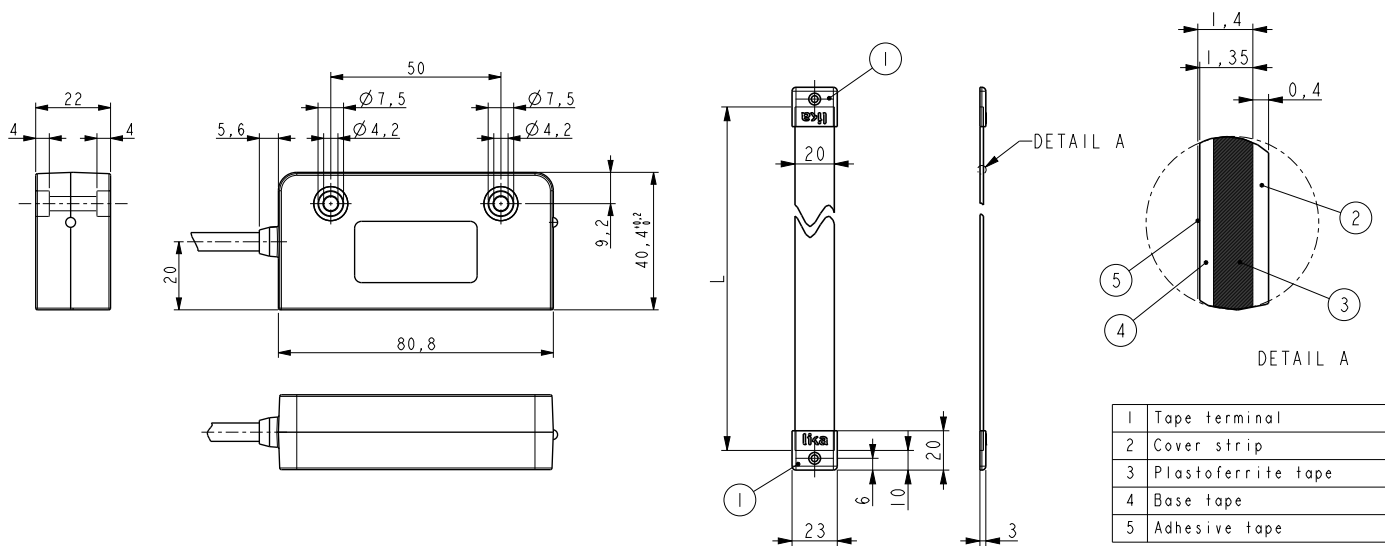
Dimensions:	see drawing
Housing material:	Macromelt OM 646-EN
Electrical connection:	Lika Hi-flex cable M8 1,0 m or M12 8 pin inline plug
Gap between sensor/tape:	0.1 ÷ 2.0 mm
Travel speed (mechanical):	5 m/s max.
Measurement length:	SMAX: 600 mm max., SMAZ: 1250 mm max. Measurement length = tape length - 80 mm
Options:	• additional cable

ELECTRICAL SPECIFICATIONS

Resolution:	programmable or fix 1.25, 1.0, 0.5, 0.1 mm
Sensor accuracy:	Modbus, SSI: typical $\pm 160 \mu\text{m}$ ($\pm 250 \mu\text{m}$ max.) Analogue output: typical < 0.5% (1% max.)
Repeat accuracy:	± 1 increment
Output circuits:	analogue 4-20mA, 0-10V, Modbus/RS485, SSI
Position refresh:	100 μs
Power supply:	Modbus, SSI: +10Vdc +30Vdc Analogue output: +13Vdc +30Vdc
Power consumption:	1 W max.
Protection:	against inversion of polarity and short-circuit (except AI1 and AV2 circuits)
EMC:	acc. to EN 61000-6-2 level 3
Functions:	SSI: zero setting, counting direction Modbus: preset, counting direction, scaling, baud-rate Analogue: Teach-in of output range

ACCESSORIES

MTAX:	Magnetic tape for SMAX
MTAZ:	Magnetic tape for SMAZ
KIT LKM-1439:	Set of tape terminals (10 pcs)
EM12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-5:	cordset 5 meters with M12 conn.
EC-M12F8-LK-M8-10:	cordset 10 m. with M12 conn.



SMAX • SMAZ

MTAX • MTAZ

Order code sensor - SSI output

SMAX SMAZ	-	XX ⓐ	-	XXXX ⓑ	-	XXX ⓒ	/Sxxx ⓓ
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<p>ⓐ OUTPUT CIRCUITS</p> <p>BG = Binary, SSI MSB aligned</p> <p>GG = Gray, SSI MSB aligned</p>	<p>ⓑ RESOLUTION</p> <p>1250 = 1,25 mm</p> <p>1000 = 1,0 mm</p> <p>500 = 0,5 mm</p> <p>100 = 0,1 mm</p>	<p>ⓒ CONNECTIONS</p> <p>L1 = cable output 1 m (standard)</p> <p>Lx = cable output x m</p> <p>M0,5 = 0,5 m cable + M12 8 pin inline plug</p> <p>M2 = 2 m cable + M12 8 pin inline plug</p>	<p>ⓓ CUSTOM VERSION</p>
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Order code sensor - Modbus/RS485, Analogue output

SMAX SMAZ	-	XXX ⓐ	-	XXX ⓑ	-	XXX ⓒ	/Sxxx ⓓ
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<p>ⓐ OUTPUT CIRCUITS</p> <p>MB = Modbus/RS485</p> <p>AI1 = 4-20 mA (10 bit)</p> <p>AV2 = 0-10V (10 bit)</p>	<p>ⓑ RESOLUTION</p> <p>PRG = programmable</p>	<p>ⓒ CONNECTIONS</p> <p>L1 = cable output 1 m (standard)</p> <p>Lx = cable output x m</p> <p>M0,5 = 0,5 m cable + M12 8 pin inline plug</p> <p>M2 = 2 m cable + M12 8 pin inline plug</p>	<p>ⓓ CUSTOM VERSION</p>
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Order code - Magnetic tape

MTAX - XXX MTAZ - XXXX ⓐ	-	XX ⓑ	-	X ⓒ
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<p>ⓐ TAPE LENGTH (measuring length)</p> <p>MTAX-280 = 280 mm (ML = 200)</p> <p>MTAX-380 = 380 mm (ML = 300)</p> <p>MTAX-680 = 680 mm (ML = 600)</p> <p>MTAZ-1330 = 1330 mm (ML = 1250)</p>	<p>ⓑ ACCURACY CLASS</p> <p>50 = ± 35µm/m</p>	<p>ⓒ COVER STRIP</p> <p>0 = not supplied</p> <p>1 = supplied</p>	<p>Product combination: SMAX + MTAX, SMAZ + MTAZ</p>
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