

Series

SMAX • SMAZ



- 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



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#### 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

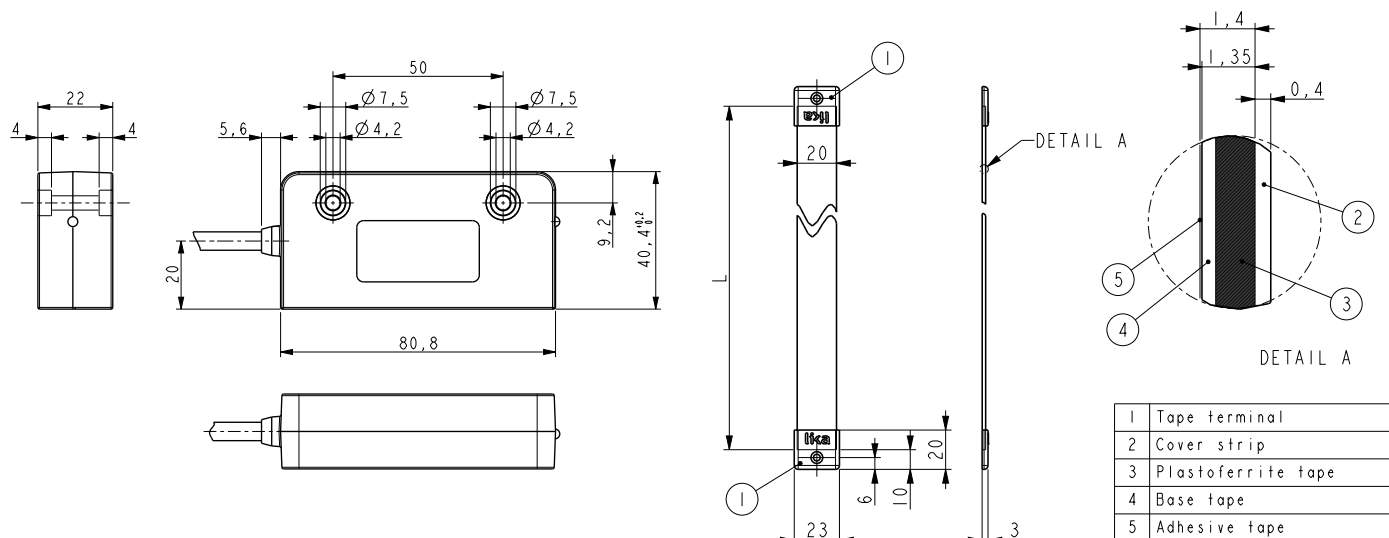
Dimensions:	see drawing
Housing material:	Macromelt OM 646-EN
Electrical connection:	Lika Hi-flex cable M8 1,0 m or M12 8 pin inline plug
Gap between sensor/tape:	0.1 ÷ 2.0 mm
Travel speed (mechanical):	5 m/s max.
Measurement length:	SMAX: 600 mm max., SMAZ: 1250 mm max. Measurement length = tape length - 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:	$\pm 1$ increment
Output circuits:	analogue 4-20mA, 0-10V, Modbus/RS485, SSI
Position refresh:	100 $\mu\text{s}$
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-A301:	Magnetic tape for SMAX
MTAZ-A302:	Magnetic tape for SMAZ
KIT LKM-1439:	Set of tape terminals (10 pcs)
EM12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-050:	cordset 5 meters with M12 conn.
EC-M12F8-LK-M8-100:	cordset 10 m. with M12 conn.



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MTA-A301 • MTA-A302

Order code sensor - SSI output

SMAX SMAZ	-	XXX a	-	XXXX b	-	XXXX c	/Sxxx d
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<p><b>a</b> OUTPUT CIRCUITS &amp; POWER SUPPLY</p> <p>BG2 = Binary, SSI MSB aligned, +10Vdc +30Vdc GG2 = Gray, SSI MSB aligned, +10Vdc +30Vdc</p>	<p><b>b</b> RESOLUTION</p> <p>1250 = 1,25 mm 1000 = 1,0 mm 0500 = 0,5 mm 0100 = 0,1 mm</p>	<p><b>c</b> CABLE TYPE &amp; LENGTH</p> <p>LO10 = cable output 1 m (standard) 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</b> CUSTOM VERSION</p>
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Order code sensor - Modbus/RS485, Analogue output

SMAX SMAZ	-	XXX a	-	XXXX b	-	XXXX c	/Sxxx d
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<p><b>a</b> OUTPUT CIRCUITS &amp; POWER SUPPLY</p> <p>MB2 = Modbus/RS485, +10Vdc +30Vdc AI12 = 4-20 mA (10 bit), +13Vdc +30Vdc AV22 = 0-10V (10 bit), +13Vdc +30Vdc</p>	<p><b>b</b> RESOLUTION</p> <p>OPRG = programmable</p>	<p><b>c</b> CABLE TYPE &amp; LENGTH</p> <p>LO10 = cable output 1 m (standard) 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</b> CUSTOM VERSION</p>
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Order code - Magnetic tape

MTAX MTAZ	-	XXXX a	-	XX b	-	XXXXXX c	-	X d	-	X e	-	X f	-	XXX g	/Sxxx h
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<p><b>a</b> CODING</p> <p>A301 = SMAX absolute coding (MTAX) A302 = SMAZ absolute coding (MTAZ)</p>	<p><b>b</b> WIDTH</p> <p>20 = 20 mm</p>	<p><b>c</b> PROFILE LENGTH</p> <p>000280 = 280 mm (ML = 200) only for MTAX 000380 = 380 mm (ML = 300) only for MTAX 000680 = 680 mm (ML = 600) only for MTAX 001330 = 1330 mm (ML = 1250) only for MTAZ</p>	<p><b>d</b> BIADHESIVE</p> <p>B = supplied N = not supplied</p>	<p><b>e</b> PRINTING</p> <p>P = standard S = custom</p>	<p><b>f</b> COVER STRIP</p> <p>C = supplied N = not supplied</p>	<p><b>g</b> ACCURACY CLASS</p> <p>050 = ± 35µm/m</p>	<p><b>h</b> CUSTOM VERSION</p>
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Document release	Date	Description
1.1	21.02.2024	SMAX-SMAZ order code update - output circuits Et power supply (analogue)
1.0	December 2023	New order code