• 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

**ENVIROMENTAL 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 ±160 μm (±250 μm 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 A1 and A2 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
- MTZ: 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.
Order code sensor – SSI output

<table>
<thead>
<tr>
<th>SMAX</th>
<th>SMAZ</th>
<th>-</th>
<th>XX</th>
<th>-</th>
<th>XXXX</th>
<th>-</th>
<th>XXX</th>
<th>/Sxxx</th>
</tr>
</thead>
</table>

① OUTPUT CIRCUITS
BG = Binary, SSI MSB aligned
GG = Gray, SSI MSB aligned

② RESOLUTION
1250 = 1,25 mm
1000 = 1,0 mm
500 = 0,5 mm
100 = 0,1 mm

③ CONNECTIONS
L1 = cable output 1 m (standard)
Lx = cable output x m
M0,5 = 0,5 m cable + M12 8 pin inline plug
M2 = 2 m cable + M12 8 pin inline plug

④ CUSTOM VERSION

Order code sensor – Modbus/RS485, Analogue output

<table>
<thead>
<tr>
<th>SMAX</th>
<th>SMAZ</th>
<th>-</th>
<th>XXX</th>
<th>-</th>
<th>XXX</th>
<th>-</th>
<th>XXX</th>
<th>/Sxxx</th>
</tr>
</thead>
</table>

① OUTPUT CIRCUITS
MB = Modbus/RS485
AI1 = 4-20 mA (10 bit)
AV2 = 0-10V (10 bit)

② RESOLUTION
PRG = programmable

③ CONNECTIONS
L1 = cable output 1 m (standard)
Lx = cable output x m
M0,5 = 0,5 m cable + M12 8 pin inline plug
M2 = 2 m cable + M12 8 pin inline plug

④ CUSTOM VERSION

Order code – Magnetic tape

<table>
<thead>
<tr>
<th>MTAX - XXX</th>
<th>MTAZ - XXXX</th>
<th>-</th>
<th>XX</th>
<th>-</th>
<th>X</th>
</tr>
</thead>
</table>

① TAPE LENGTH (measuring length)
MTAX-280 = 280 mm (ML = 200)
MTAX-380 = 380 mm (ML = 300)
MTAX-680 = 680 mm (ML = 600)
MTAZ-1330 = 1330 mm (ML = 1250)

② ACCURACY CLASS
50 = ± 35μm/m

③ COVER STRIP
0 = not supplied
1 = supplied

Product combination: SMAX + MTAX, SMAZ + MTAZ

Specifications subject to changes without prior notice