ROTAMAG

Absolute encoder for curved axes and magnetic rings

Series SMLA • MTLA or MRA

- Absolute contacless sensing
- Detection of arcs, curved axes and rings
- SSI & BiSS output with alarm bits
- Self-fixing tape on any diameter >150mm
- Curved structures available on request
- Ultra fast position refresh
- IP68 protection

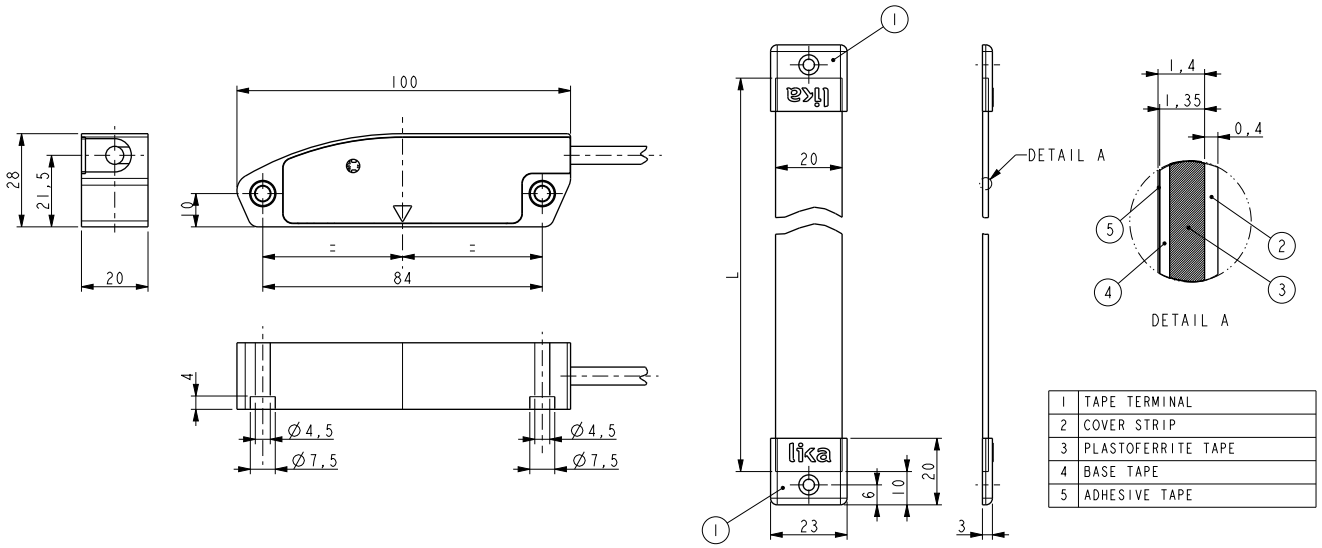
SMLA • MTLA

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range:	-25°C +85°C (-13°F +185°F)
Storage temperature range:	-40°C +100°C (-40°F +212°F)
Protection:	IP68

MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Housing materials:	anticorodal, UNI EN AW-6082
Electrical connections:	M12 8 pin inline plug or Lika Hi-flex cable 1,0 m
Gap sensor-tape:	1 ± 0,2 mm
Shaft rotational speed:	15000 rpm max. (mechanical)
Travel speed:	16 m/s
Measurement length:	tape length-10 mm
Option:	• additional cable

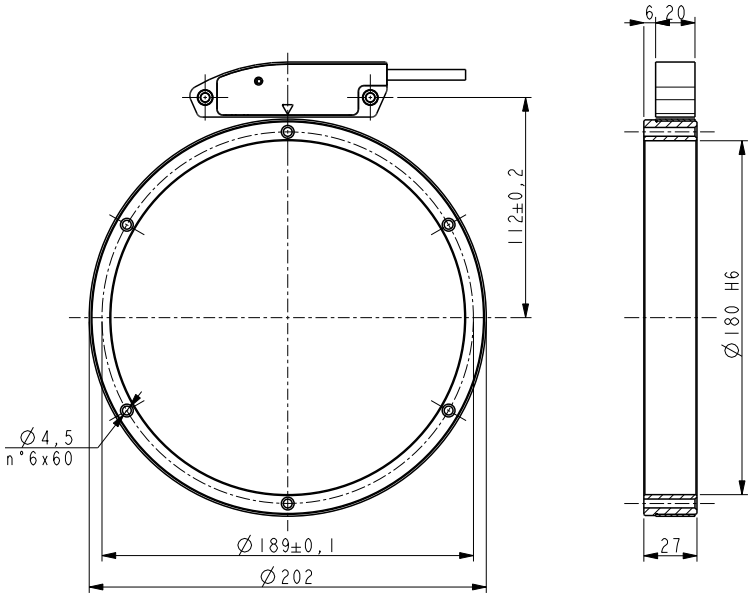
ELECTRICAL SPECIFICATIONS	
Resolution:	Linear (mm) = tape length / steps Rotary (°) = 360° / cpr (see user manual)
Accuracy:	sensor + tape: ± 300µm typ. (max. ± 450µm) sensor + ring: ± 0,3° typ. (± 0,4° max.)
Repeatability:	± 1 count
Output circuits:	BiSS-C, clock rate 10MHz max. SSI, MSB aligned, clock rate max 2MHz Position refresh up to > 16 m/s
Output code:	Gray, Binary
Power supply:	+5Vdc ± 5%, +10Vdc ÷ +30Vdc
Power consumption:	1 W max.
Protection:	against inversion of polarity (except 5V version) and short-circuit
EMC:	electro-magnetic immunity, EN 61000-4-2 EN 61000-4-4
Functions:	• Counting direction • Zero setting /Preset

ACCESSORIES	
EM12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-5:	cordset 5 m, M12 8 pin connector
EC-M12F8-LK-M8-10:	cordset 10 m, M12 8 pin connector
LKM-1439:	tape terminals

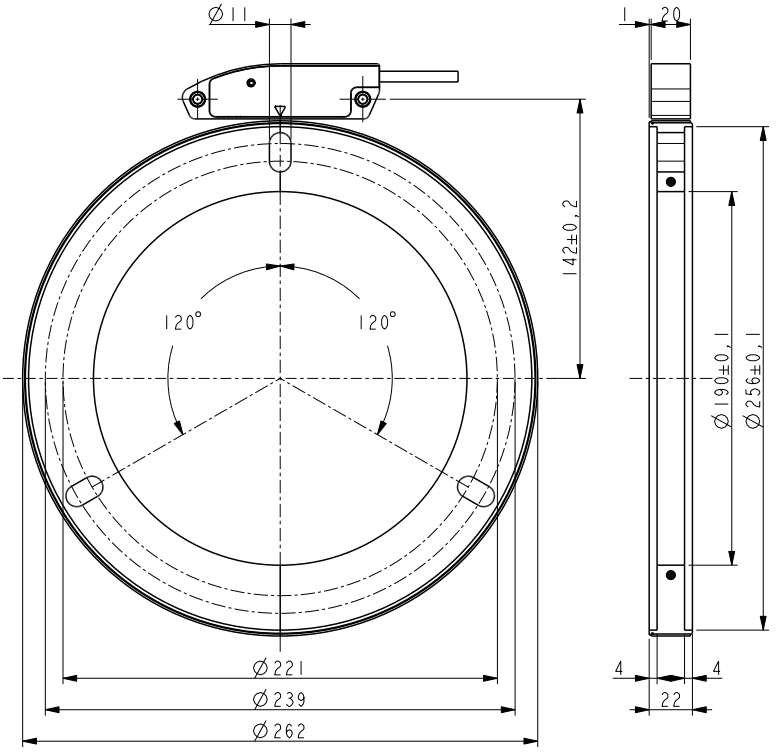


1	TAPE TERMINAL
2	COVER STRIP
3	PLASTOFERRITE TAPE
4	BASE TAPE
5	ADHESIVE TAPE

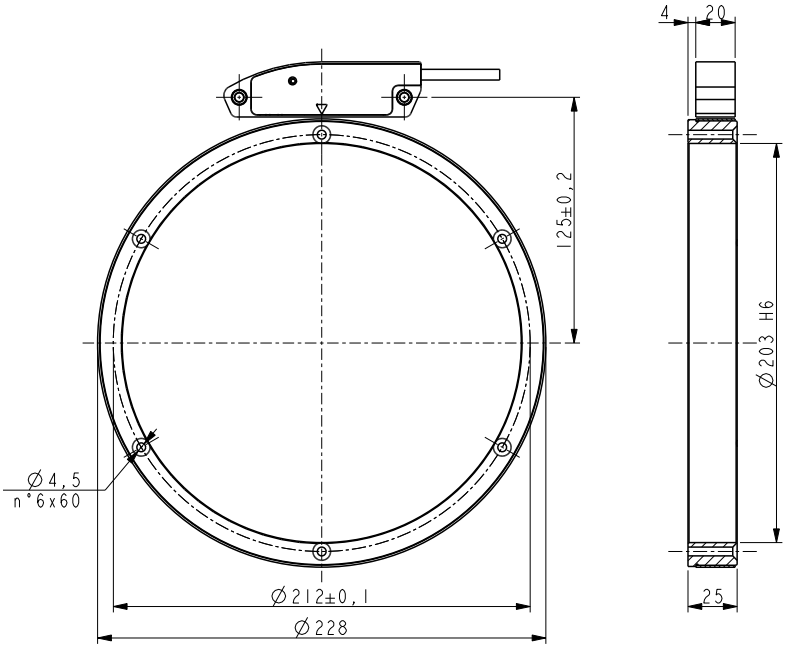
SMLA • MTLA - Type T1, Type T2



SMLA • MRA202 - Type R3



SMLA • MRA262 - Type R2



SMLA • MRA228 - Type R5

Order code - Sensor

SMLA	-	XXX ⓐ	-	XX ⓑ	-	XXX ⓒ	-	XX ⓓ	-	/Sxxx ⓔ

ⓐ **OUTPUT CIRCUITS**
GG1 = SSI, Gray MSB aligned, +5Vdc ±5%
GG2 = SSI, Gray MSB aligned, +10Vdc +30Vdc
BG1 = SSI, Binary MSB aligned, +5Vdc ±5%
BG2 = SSI, Binary MSB aligned, +10Vdc +30Vdc
SC1 = BiSS-C mode, +5Vdc ± 5%
SC2 = BiSS-C mode, +10Vdc +30Vdc

ⓑ **RESOLUTION** (1)
12 = 4096 steps/cpr
13 = 8192 steps/cpr
14 = 16384 steps/cpr
15 = 32768 steps/cpr *(not in combination with T1)*

ⓒ **CONNECTIONS**
L1 = cable output 1 m
L2 = cable output 2 m
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

ⓓ **TAPE/RING TYPE** (2)
T1 = magnetic tape 400 mm
T2 = magnetic tape 805 mm
R2 = magnetic ring MRA/262-128N
R3 = magnetic ring MRA/202-128N
R5 = magnetic ring MRA/228-128N

ⓔ **CUSTOM VERSION**

(1) Total resolution (nr. of steps) over the complete tape length or ring circumference
(2) SMLA sensors are specifically optimized for each tape and ring type. Wrong tape or ring type may not allow proper function. Tapes and rings must be ordered separately.

Order code - Magnetic tapes

SENSOR MATCH	TAPE TYPE	-	TAPE LENGTH	-	ACCURACY CLASS	-	COVER STRIPS	CUSTOM VERSION
T1	MTLA	-	**400** = 400 mm (type T1)	-	**50** = ± 50 µm/m	-	**1** = supplied	/Sxxx
T2	MTLA	-	**805** = 805 mm (type T2)	-	**50** = ± 50 µm/m	-	**1** = supplied	/Sxxx

Order code - Magnetic rings

SENSOR MATCH	RING TYPE	-	MAGNETIC CODING	-	INSIDE DIAMETER	CUSTOM VERSION
R2	MRA/262	-	**128N** = 128 poles	-	**190** = 190 mm	/Sxxx
R3	MRA/202	-	**128N** = 128 poles	-	**180** = 180 mm	/Sxxx
R5	MRA/228	-	**128N** = 128 poles	-	**203** = 203 mm	/Sxxx