

ROTAMAG

Bearingless magnetic ring encoder

Series

SMRA • MRA



- Absolute contactless sensing
- Hollow shaft up to 110 mm (others on request)
- SSI & BiSS output with alarm bits
- MRA/130, self-fixing ring (no fixing holes required)
- IP68 protection



SMRA • MRA

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

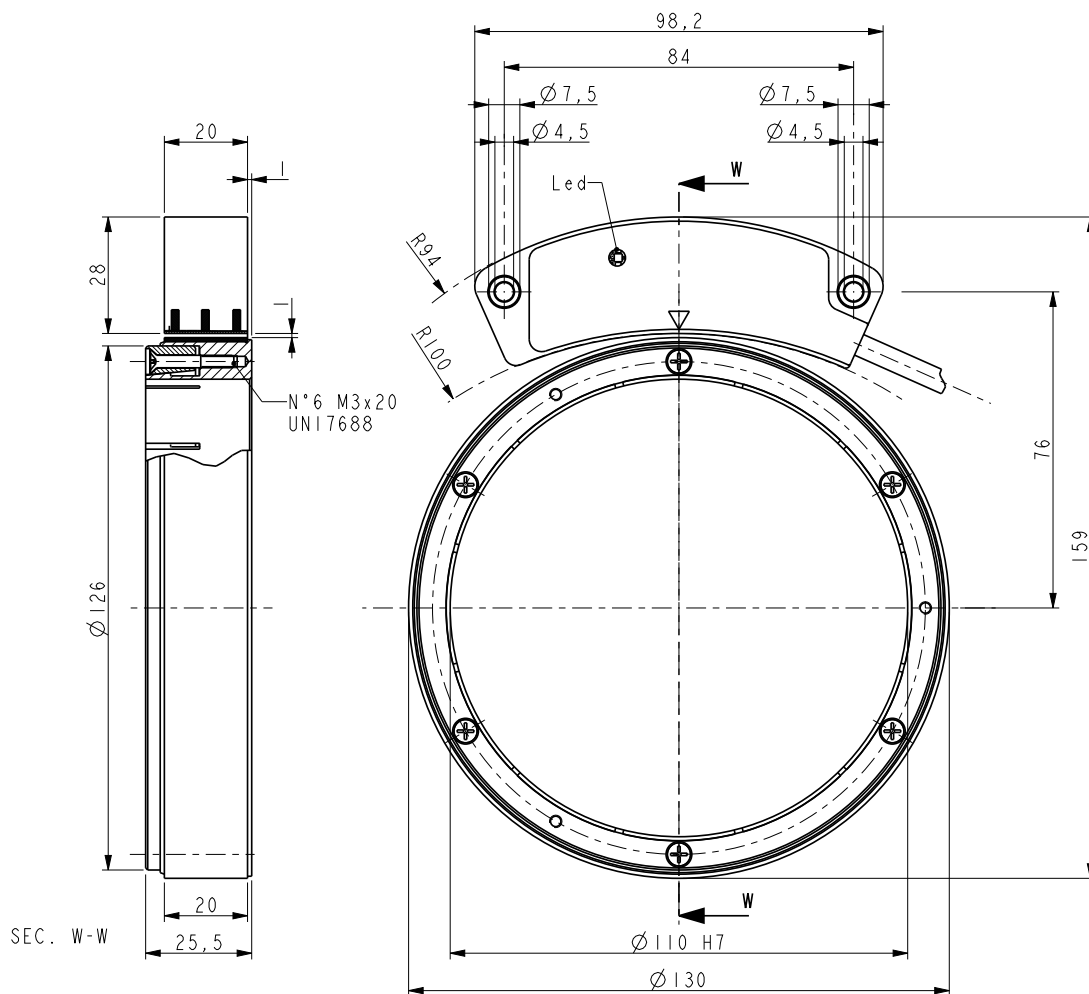
Dimensions:	see drawings
Hollow shaft diameter:	see drawings
Shaft rotational speed:	15000 rpm max. (mechanical)
Moment of inertia:	MRA/130: $2,18 \times 10^{-3} \text{ kg m}^2$
Gap sensor-ring:	$1 \pm 0,2 \text{ mm}$
Electrical connections:	M12 8 pin inline plug or Lika Hi-flex cable 1,0 m
Option:	• additional cable

ELECTRICAL SPECIFICATIONS

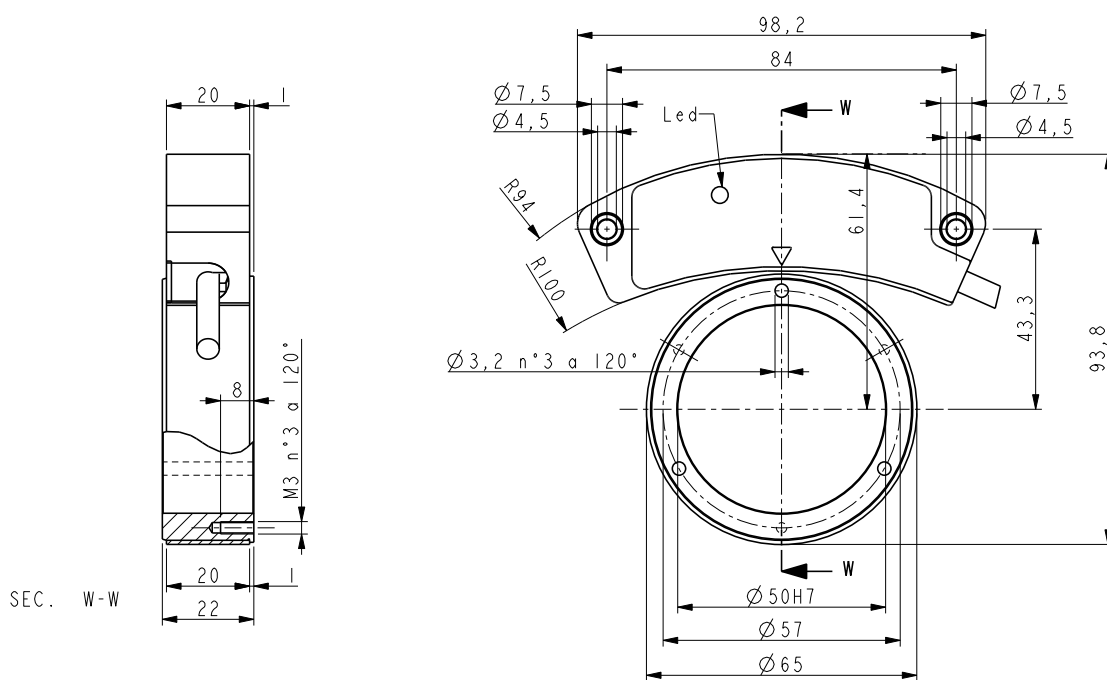
Resolution:	4096, 8192, 16384 cpr
Accuracy:	$\pm 0,3^\circ$ typ. ($\pm 0,4^\circ$ max.)
Repeatability:	± 1 count
Output circuits:	BiSS-C, clock rate 10MHz max. SSI, MSB aligned, clock rate max 2MHz Position refresh up to 7000 rpm
Output code:	Gray, Binary
Power supply:	+5Vdc $\pm 5\%$, +10Vdc \div +30Vdc
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

MATERIALS

Sensor housing:	anticorodal, UNI EN AW-6082
Hub:	MRA/130: C40 steel nichel plated MRA/65: AISI 420, UNI EN 4021
Ring:	plastoferrite



SMRA • MRA/130



SMRA • MRA/65

Order code - Sensor

SMRA	-	XXX Ⓐ	-	XX Ⓑ	-	XXX Ⓒ	-	XX Ⓓ	-	/Sxxx Ⓔ
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Ⓐ 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 12 = 4096 cpr 13 = 8192 cpr 14 = 16384 cpr	Ⓒ CONNECTIONS Lx = cable output x m (max. 10 m) M0,5 = 0,5 m cable + M12 8 pin inline plug M2 = 2 m cable + M12 8 pin inline plug	Ⓓ RING TYPE (*) R1 = MRA/130-64N R4 = MRA/65-64N	Ⓔ CUSTOM VERSION
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(*) SMRA sensors are specifically optimized for each ring type. Wrong ring type may not allow proper function.
Magnetic rings have to be ordered separately.

Order code - Magnetic rings

SENSOR MATCH	RING TYPE	-	MAGNETIC CODING	-	INSIDE DIAMETER	CUSTOM VERSION
R1	MRA/130	-	64N = 64 poles	-	110 = 110 mm	/Sxxx
R4	MRA/65	-	64N = 64 poles	-	50 = 50 mm	/Sxxx