

- Bearingless encoder
- Resolution up to 8192 PPR
- Non contact magnetic sensing
- Sensor/ring clearance up to 1,5 mm
- IP67 washdown protection (IP69K on request)



SMRIL • MRI

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:	IP67

MECHANICAL SPECIFICATIONS

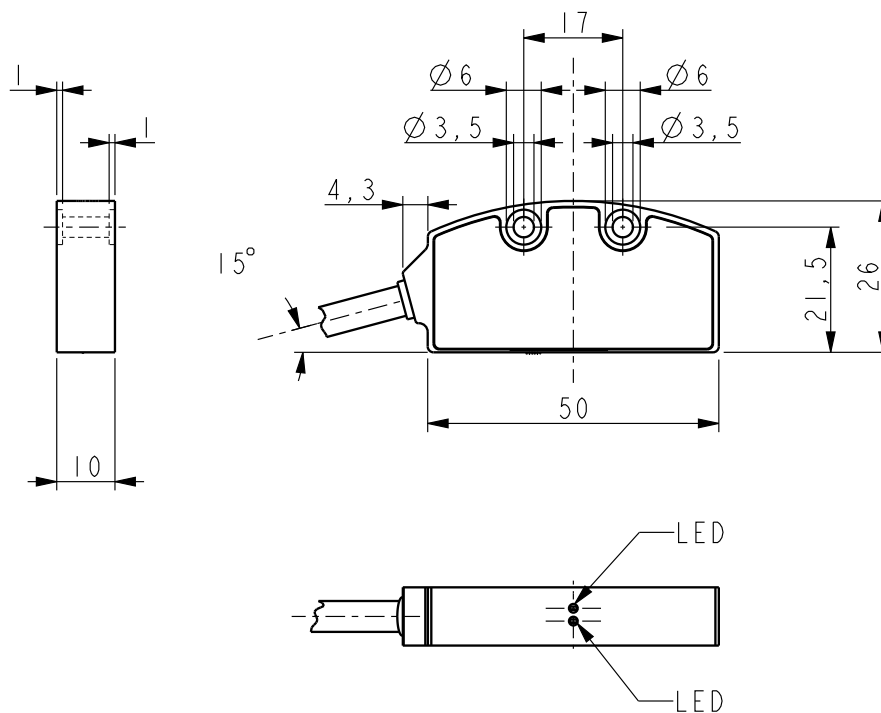
Dimensions:	see drawing
Hollow shaft diameter:	see drawing
Shaft rotational speed:	10000 rpm max. (mechanical)
Gap sensor-ring:	0.1 ÷ 1.5 mm (without reference) 0.1 ÷ 1 mm (with reference)
Electrical connections:	M12 8 pin inline plug or Lika Hi-flex cable 1,0 m (3.3 ft)
Option:	• additional cable

ELECTRICAL SPECIFICATIONS

Resolution (PPR):	see specifications
Accuracy:	± 0,05° (± 0,1° typical)
Output circuits:	Line Driver, Push-Pull
Power supply:	+5Vdc ±5%, +10Vdc ÷ +30Vdc
Consumption:	70 mA max.
Output signals:	AB /AB, ABO /ABO
Output current (per channel):	40 mA max.
Protection:	against inversion of polarity and short-circuit (except L circuit)
EMC:	electro-magnetic immunity, EN 61000-4-2 EN 61000-4-4

MATERIALS

Housing:	anticorodal, UNI EN AW-6082
Hub:	anticorodal, UNI EN AW-6082 or stainless steel
Ring:	ferrite or plastoferite



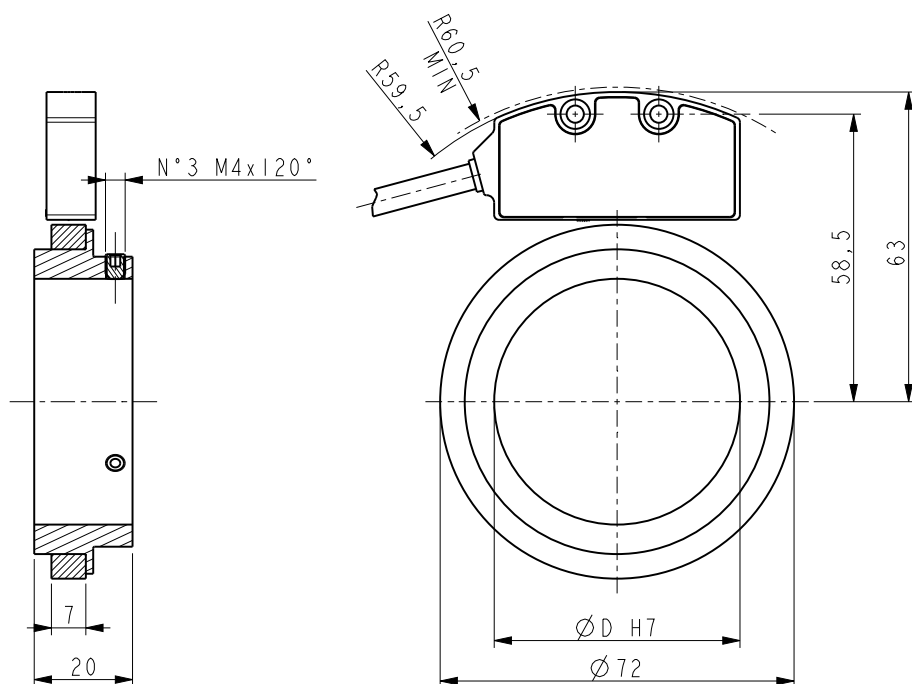
SMRIL

Order code

SMRIL	-	XX (a)	-	X (b)	-	XXX (c)	-	XX (d)	-	X (e)	-	X (f)	X (g)	/Sxxx (h)
-------	---	-----------	---	----------	---	------------	---	-----------	---	----------	---	----------	----------	--------------

④ OUTPUT CIRCUITS Y = Push Pull (AB) YC = Push Pull (AB, /AB) L = Line Driver (AB, /AB)	④ INDEX N = without R = with reference signal	⑦ RING TYPE (*) E = MRI/72 (*) Magnetic ring has to be ordered separately.
⑤ POWER SUPPLY 1 = +5Vdc ±5% (L) 2 = +10Vdc ÷ +30Vdc (Y and L)	⑥ CONNECTIONS L1 = cable output 1 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	⑨ MIN. EDGE DISTANCE J = 0,5 µs (2 MHz)
③ RESOLUTION see Resolution vs rpm combinations (other resolutions on request)		⑧ CUSTOM VERSION

(*) SMRIL sensors are specifically optimized for each ring type. Wrong ring type may not allow proper function. Magnetic rings have to be ordered separately.



Resolution vs rpm combinations

Order code Resolution	PPR	Max. counting speed
32	512	40000 rpm
64	1024	20000 rpm
128	2048	10000 rpm
256	4096	5000 rpm
512	8192	2500 rpm

ORDER CODE MAGNETIC RING

Order code	D H7
MRI/72-64-3-30	Ø 30 mm
MRI/72-64-3-50	Ø 50 mm

All rings without reference

Resolution vs rpm combinations

Order code Resolution	PPR	Max. counting speed
80	1000	4000 rpm
160	2000	4000 rpm
400	5000	3200 rpm

ORDER CODE MAGNETIC RING

Order code	D H7
MRI/72-50-3-30	Ø 30 mm
MRI/72-50-3-50	Ø 50 mm

All rings without reference

Document release	Date	Description
1.1	18.02.2021	Mechanical characteristics review