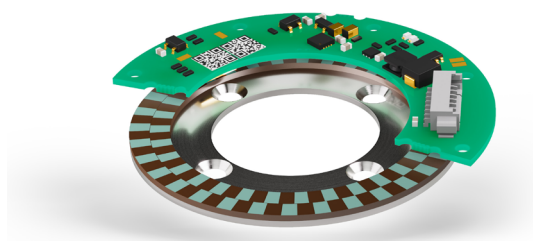


- Absolute magnetic sensing
- BiSS-C, SSI, SPI interfaces
- Resolution up to 19 bit (524288 cpr)

Applications:

- Cobots
- Drones/UAV
- Camera/surveillance systems
- Servo motors



SMAR49A

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:	sensor IP00, ring IP67
Operating temperature range:	-40°C +100°C (-40°F +212°F)
Storage temperature range:	-25°C +85°C (-13°F +185°F)

MECHANICAL SPECIFICATIONS

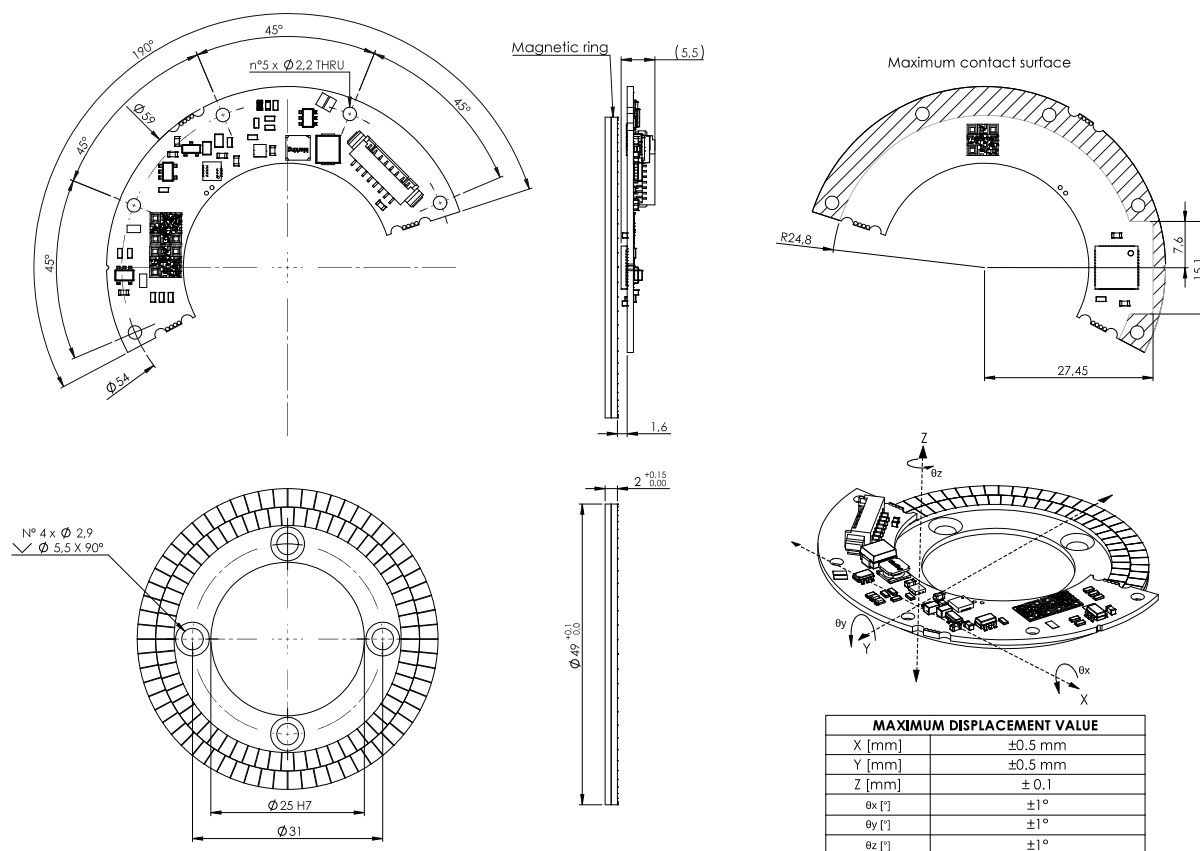
Dimensions:	see drawing
Shaft rotational speed:	max. 24000 rpm (mechanical), 12000 rpm (electrical)
Gap sensor/ring:	0,5 ÷ 0,7 mm typ. (optimal 0,6 mm)
Radial/tangential misalignment:	0,5 mm max.
Electrical connections:	PCB connector (connection cable to be ordered separately)
Weight:	~ 3 g (0,10 oz)

ELECTRICAL SPECIFICATIONS

Resolution:	absolute: 19 bit (524288 cpr) max.
Accuracy:	typ. ±0,05°
Output circuits:	BiSS-C (clock max. 5MHz) SSI (MSB aligned, clock 100 kHz ÷ 2MHz, T _p = 20µs) SPI
Power supply:	+5Vdc ± 5%
Power consumption:	typ. 53 mA (60 mA)

ACCESSORIES / SPARES

SMAR49A-spacer:	PCB spacer
MRA/49A-25-S-E-32NC-A:	Spare ring



SMAR49A

Order code

SMAR49A	-	XXX	-	XXX/XXXXX-XX	-	XX	-	/XXXX
		(a)		(b)		(c)		(d)

(a) INTERFACE / POWER SUPPLY

SC1 = BiSS-C mode, 5Vdc +/- 5%

BG1 = SSI Binary, 5Vdc +/- 5%

SP1 = SPI mode, 5Vdc +/- 5%

(b) RESOLUTION (ABS/INC) - CODING

017/00000-32 = 17 bit, 32

018/00000-32 = 18 bit, 32

019/00000-32 = 19 bit, 32

17M/0000-32 = 17 bit (*), 32

18M/0000-32 = 18 bit (*), 32

19M/00000-32 = 19 bit (*), 32

(c) CONNECTION

X2 = Amphenol FCI 10114830-11108LF
(mating type: FCI 10114826-00008LF)

(d) CUSTOM VERSION

/Sxxx = special version

(*) M = the multiturn counter is 65536 turns (16 bit). Counting is available only with power supply ON.

RING TYPE	-	INNER Ø	-	HUB	-	SCALE	-	CODING	-	ORIENTATION	CUSTOM VERSION
MRA/49X		XXX		X		X		XXXX		X	/Sxxx

MRA/49A		025 = 25 mm		S = Steel		E = Elastomer		32NC = 32/2.00		A = Axial	/Sxxx = custom version
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Document release	Date	Description
1.1	28.07.2026	Order code (connection, mating type)
1.0	21.07.2026	First issue