

SA-MAPxx-000

Magnetic angle position sensor

Features

- Measures rotation angle / angle positions with very high resolution (e.g. steering position)
- Low weight and small housing
- Long operation time
ball bearings: >100x10⁶ cycles
- Wide linear range
- High resolution



Available with Deutsch connector

Options

- To give a higher resolution, the sensor can be ordered with reduced measuring range down to min +5° / -5°. For more details see ordering information.

Technical specifications


Electrical characteristics

Voltage supply.....	5 V
Output voltage.....	0 - 5 V
Resistance range.....	0.5 to 10 Ω
Output range.....	± 5 °
.....	± 10 °
.....	± 20 °
.....	± 30 °
.....	± 40 °
.....	± 50 °
Range of linearity.....	max. ± 50 °

Vibration resistance

Vibration tested at.....	10 G
with a frequency of	@50 Hz

Calibration

 Use the formulas on 2nd page to calculate the physical values

Mechanical characteristics

Dimensions (over all).....	Ø5 x 62 mm
Mounting rod.....	Ø 5 mm
Weight.....	45 g
Cable.....	
type.....	Raychem EPD
wire cross section.....	3 x AWG26
length (standard).....	1200 mm

Environmental data

Ambient operating range.....	-25 to +80 °C
Humidity.....	5 to 95 %
Sealing class.....	IP 65

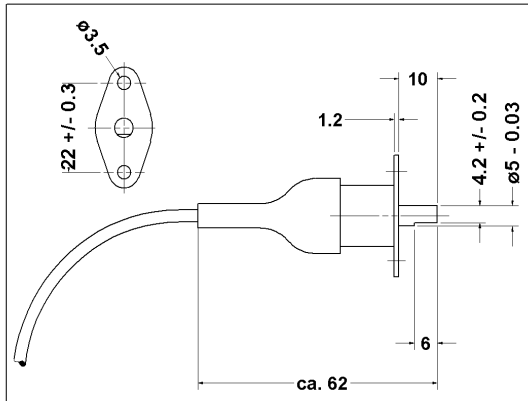
Ordering information

Art.No.:	
Output range ± 5°.....	SA-MAP05-000
Output range ± 10°.....	SA-MAP10-000
Output range ± 20°.....	SA-MAP20-000
Output range ± 30°.....	SA-MAP30-000
Output range ± 40°.....	SA-MAP40-000
Output range ± 50°.....	SA-MAP50-000

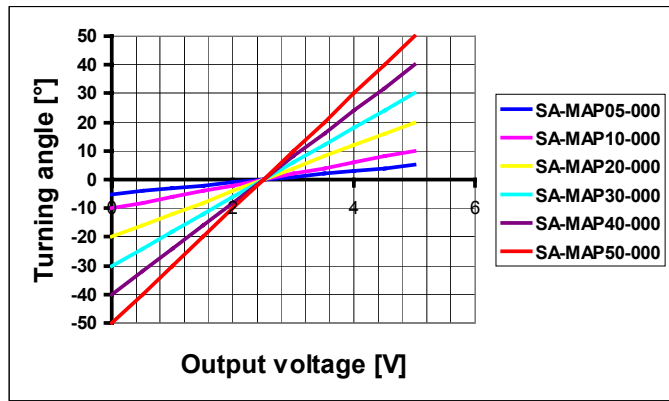
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Dimensions



Linear output voltage



Formulas

SA-MAPxx-000		Multiplier						Offset		
12 Bit A/D	Turning angle [°]	$2 * xx / 4095$						*	Digits	- xx
16 Bit A/D	Turning angle [°]	$2 * xx / 65535$						*	Digits	- xx
Voltage*)	Turning angle [°]	2	4	8	12	16	20	*	Volt	- xx
		SA-MAP05	SA-MAP10	SA-MAP20	SA-MAP30	SA-MAP40	SA-MAP50			

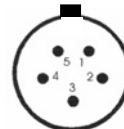


Replace the **xx** with the turning angle of your sensor:
 → Possible values are 5, 10, 20, 30, 40 and 50° (other values on request)

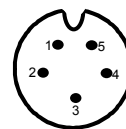
Connector layout

Mating plug Connector at sensor

Pin	Name	Description	Color (standard)	Color (alternative)
1	AGND	Analog Ground	black	or brown
2	+5V	Power supply	red	or white
3	n.c.	Not connected	-	-
4	n.c.	Not connected	-	-
5	Signal	Analog signal	white	or green



Binder 719, 5 PF (front side)

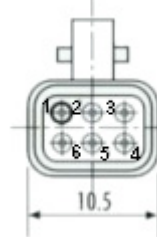


Binder 719, 5 PM (front side)

Available also with Deutsch connector (optional)

Pin	Deutsch 6-pin / male	Color
1	GND	black
2	+5V	red
3	-	-
4	-	-
5	Signal	white
6	-	-

Connector on sensor



Deutsch ASC605-06PN 6 PM (front side)



Optional available with open wires. Other options on customer request !

Please note:

For the first order of special customer options please use the following order code: **SA-MAPxx-000**
 After the first order you will get from 2D a uniquely order code for your next orders.

Ordering information

Connector type	Order code	Remark
Standard: Binder 719,5PM	SA-MAPxx-000	xx = put in the range of the sensor type
Optional: Deutsch, 6PM	SA-MAPxx-001	xx = put in the range of the sensor type