

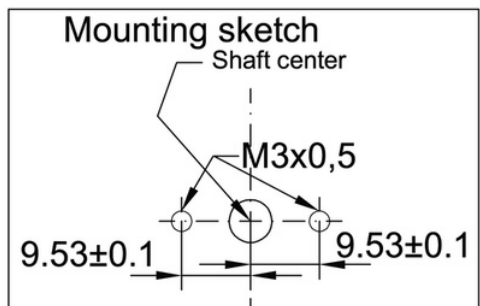
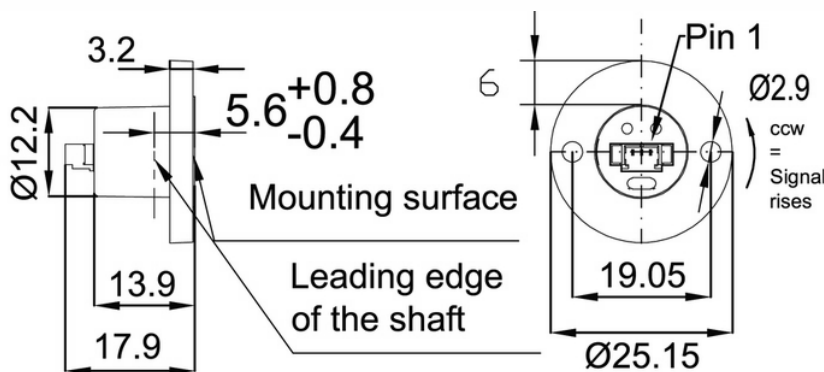
Series MAB12AH - Hall Effect Absolute Encoder

- 12 mm housing diameter
- Angle range 360°
- Resolution: 10 Bit or 12 Bit (only with PWM)
- Push-on magnet holder
- Shaft Ø 4mm, 6mm, 6,35mm
further on request

The MAB12A is a tiny encoder. The push-on magnet holder allows an easy mounting.



Drawing and Interface



Terminal lay-out and connector

Pin 1 +5VDC

Pin 2 Analog Out

Pin 3 GND

Connector in the sensor: Molex # 53398-0371

Counter connector housing: Molex # 51021-0300

Crimp pins for counter conn.: Molex # 50079-8100

Crimp tools: Molex # 50079

Axial mounting tolerance:

5,6 +0,8/-0,4 mm

failure insignificant

Radial mounting tolerance:

Excentricity max. failure / 360°

< 0,25 mm approx. 0,2°

< 0,5 mm approx. 0,6°

< 0,75 mm approx. 1,2°

Not included in delivery: Cable loom with flexible wires 500mm long

MEGATRON part no. 125722

Series MAB12AH - Hall Effect Absolute Encoder

Electrical Data

Output Signal	5 analog	5V PWM	
Resolution	12 Bit	10 Bit	12 Bit
Update Rate	0.38 ms	1.0 ms	4.1 ms
Electrical Angle Range	360°		
Supply voltage	5 VDC ± 10%		
Current Consumption (no load)	< 20 mA		
Signal Load	> 10 kOhm		

Mechanical Data

Max. Mechanical Rotation Speed	10.000 rpm
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Other Data

Protection Class	IP40
Operating Temperature	-40 ... + 125°C
Storage Temperature	-55 ... + 125°C
Housing Material	Plastic
Weight	approx. 20 g

Options and Order Description

Series MAB12AH	MAB12AH		
<u>Shaft diameter</u>			
Ø 2 mm		2 (*)	
Ø 2,3 mm		2,3 (*)	
Ø 2,5 mm		2,5 (*)	
Ø 3 mm		3 (*)	
Ø 3,17 mm (1/8")		3,17 (*)	
Ø 4 mm		4 (*)	
Ø 5 mm		5 (*)	
Ø 6 mm		6	
Ø 6,35 mm (1/4")		6,35 (*)	
<u>Resolution / Supply Voltage / Output signal</u>			
10 bit / 5 V ± 10 % / 0..5 V ratiometric		10	0505
10 bit / 5 V ± 10 % / pulse-width modulation		10	0505 PWM (*)
12 bit / 5 V ± 10 % / pulse-width modulation		12	0505 PWM (*)

Cable 3-pol with wire 500mm, AWG 28. MEGATRON part no. 125722

"bold print = standard option"

short-term stock types can be found on: <http://www.megatron.de/en/stocklists/angle-sensors/lagerliste.html>

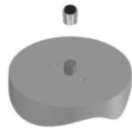
(*) = on request available for projects

23.02.2015

Series MAB12AH - Hall Effect Absolute Encoder

Mounting

Step 1:



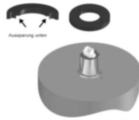
*Vorab Gewindebohrungen gem. Zeichnung positionieren.
Magnethalter bis zum Anschlag auf die Welle aufchieben.*

Step 2:



Sensorgehäuse aufsetzen

Step 3:



Befestigungsring aufsetzen (Ausparung unten)

Step 4:



*Befestigungsring festschrauben und ggf.
Nullpunktjustage durch drehen des Sensorgehäuses*

PWM - Pulse Width Modulation

PWM provides a constant carrier frequency which defines High to Low ratio. The ratio between high and low responds to the signal characteristics. It is in a fixed relation to the angle. Generally for further signal processing, no A/D converter is required because many microcontrollers already have PWM input.

10 Bit Version:

Frequency: 1000 Hz

Minimum Pulse Width: 1 μ s

Maximum Pulse Width: 1024 μ s

12 Bit Version:

Frequency: 244 Hz

Minimum Pulse Width: 1 μ s

Maximum Pulse Width: 4096 μ s

