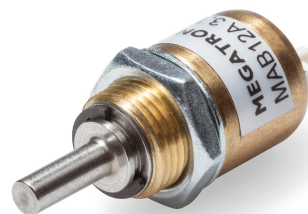


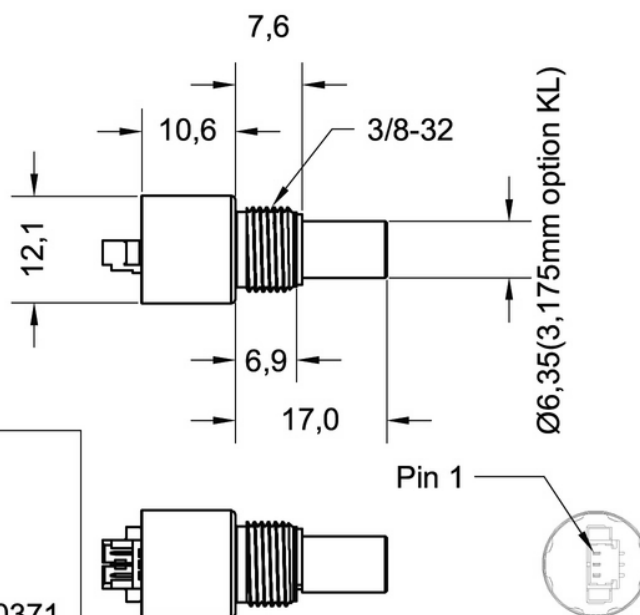
Series MAB12A / Hall Effect Absolute Encoder

- Angle range 360°
- Resolution: 10 Bit or 12 Bit (only with PWM)
- 12 mm housing diameter
- Analog or PWM output
- Optional with ball bearing

This well-priced and very compact encoder fulfills high demands on precision. The option with 1/8"-shaft and ball bearing guarantees highest life time.



Drawing



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

Cable with connector not included in delivery! Please order separately MEGATRON Artikel: 125722

Series MAB12A / Hall Effect Absolute Encoder

Electrical Data

Output signal	0,5V analog	5V PWM	
Resolution	10 Bit	10 Bit	12 Bit
Update rate	0.38 ms	1.0 ms	4,1 ms
Electrical angle	360°		
Supply voltage	5 VDC ± 10%		
Current consumption (no load)	< 20 mA		
Signal load	> 10 kOhm		

Mechanical Data

	Sleeve Bearing medium torque	Sleeve Bearing low torque	Ball Bearing
Maximum rotational speed	100 rpm		15.000 rpm
Life cycle (without axial load)	> 10 million turns		(91,5/F _R) ³ million turns F _R = radial load in N
Operating torque	0.35 ± 0.2 Ncm	< 0.3 Ncm	0.035 Ncm
max. radial load	10 N	10 N	5 N
Max. fastening torque mounting nut	0.8 Nm		

Other Data

Protection class (shaft and housing)	IP40
Operating temperature	-40 ... + 125° C
Storage temperature	-55 ... + 125° C
Housing material	Brass
Shaft material	stainless steel
Weight	approx. 20 g

Series MAB12A / Hall Effect Absolute Encoder

Order Code				
Series MAB12A		MAB12A		
<u>Shaft diameter</u>				
Ø 6 mm / M10			6 (*)	
Ø 6,35 mm (1/4")			6,35	
Ø 3,17 mm (1/8")			3,17	
<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 (*)
<u>Bearing</u>				
Sleeve bearing low torque				LT
Sleeve bearing middle torque				MT (*)
Ball bearing (only with option 3,17)				KL

Cable assembly 3-pin, wire length 500 mm, 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

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

