

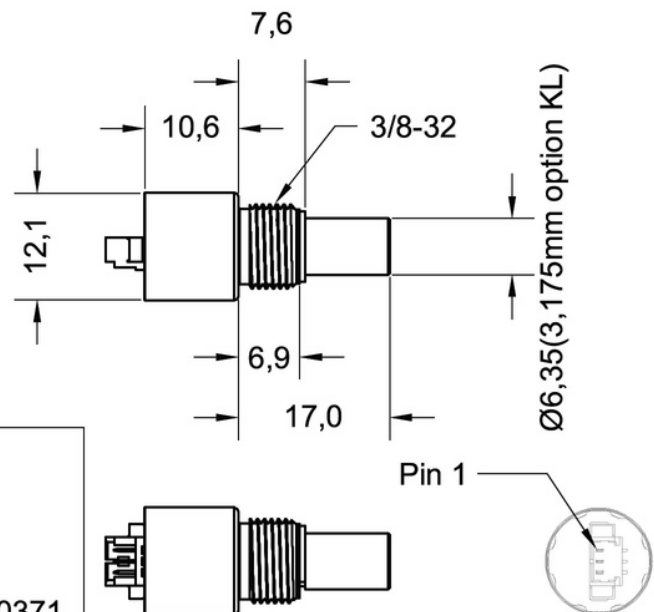
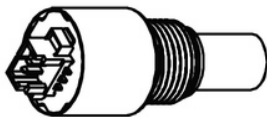
## Series MAB12A / Hall Effect Absolute Encoder

- 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 <sub>R</sub> ) <sup>3</sup> million turns F <sub>R</sub> = 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

Descripton	Order Code				
Infiniturn with analog output Housing $\varnothing$ 12 mm	MAB12A				
Shaft $\varnothing$ 6.35 mm standard Option: 6mm, 3.17mm		6,35 6 3.17			
Resolution 10Bit Resolution 12 Bit (only with option PWM)			10 12		
Supply voltage / Output signal 5V $\pm$ 10% / 0-5V Option: PWM see. last page				0505 0505PWM	
Sleeve bearing low torque Option: Sleeve bearing medium torque Option: Ball bearing (only with 3,17 mm shaft)					LT MT KL
Example Order Code:	MAB12A	6.35	10	0505PWM	MT

Cable assembly 3-pin, wire length 500 mm, AWG 28. MEGATRON Part No. 125722

## Our speciality are custom solutions, for reasonable prices even for small series

On serial demand we offer: Mounting of gear wheels and other mechanical parts, assembling of cables, connectors and more. Please ask us.

## 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  $\mu$ s

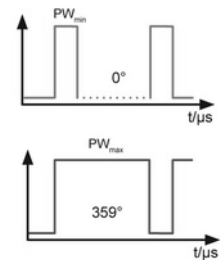
Maximum Pulse Width: 1024  $\mu$ s

### 12 Bit Version:

Frequency: 244 Hz

Minimum Pulse Width: 1  $\mu$ s

Maximum Pulse Width: 4096  $\mu$ s



The specifications and information in this datasheet cannot consider all special demands that are caused by the application. Because of this, they are no general description of the properties of the product.

2012 January 25. All specifications are subject to change without notice.