

Programmable Multi-Turn Hall Effect Encoder

Series MAB36APM



- Field programmable up to 200 turns
- Up to 100 mio. turns life
- IP65 protection grade
- Analog 0~5V, 0~10V or 4~20mA output
- Ø36mm diameter housing

The series MAB36APM provides a flexible and exact setting of the start and end points as well as the direction of the signal by customer. During power off shaft can be rotated by $\pm 179^\circ$ without loss of position.

Electrical Data

Electrical angle	*Programmable up to 72000° (200 turns). Factory set at 3600° (10 turns)
Independent linearity	$\pm 0.5\%$ @ 360°, $\pm 0.05\%$ @ 3600°, $\pm 0.005\%$ @ 36000°
Output signal	0 to 5V , 0 to 10V (4 ~ 20mA option)
Resolution	12 bit (4096 steps)
Update Rate	5 ms
Supply Voltage	16 ~ 30 VDC (8 ~ 30V for 4 ~ 20mA output option)
Power consumption (no load)	< 15 mA (typically 6 mA)
Output load	> 5k Ω
Isolation resistance	1000 VAC @ 50 Hz, 1 min.
Dielectric strength	2 M Ω @ 500 VDC, 1 min.

*For detecting the absolute position, the sensor cannot be turned more than $\pm 179^\circ$ during a power off state.

Mechanical and Environmental Data

Mechanical angle of rotation	360° (continuous)
Lifetime (no load)	10 mio. revolutions (100 mio. with optional polymer bearing)
Bearing	Ball bearings
Max. operating speed	120 rpm
Starting torque	< 0.2 Ncm (> 1Ncm with optional o-ring shaft seal)
Operating temperature	-30°C ~ +80°C (higher operating temps upon request)
Protection grade (cable and electronics)	IP65
Protection grade (shaft / bearing)	IP40 (IP55 with optional o-ring)
Vibration	$\pm 1.5\text{mm} / 20\text{G} / 10$ to 2,000Hz / 12 hours
Shock	50G / 11ms / half sine / 18 times
Housing material	Aluminum
Shaft material	Stainless steel
Mass	approx. 110g

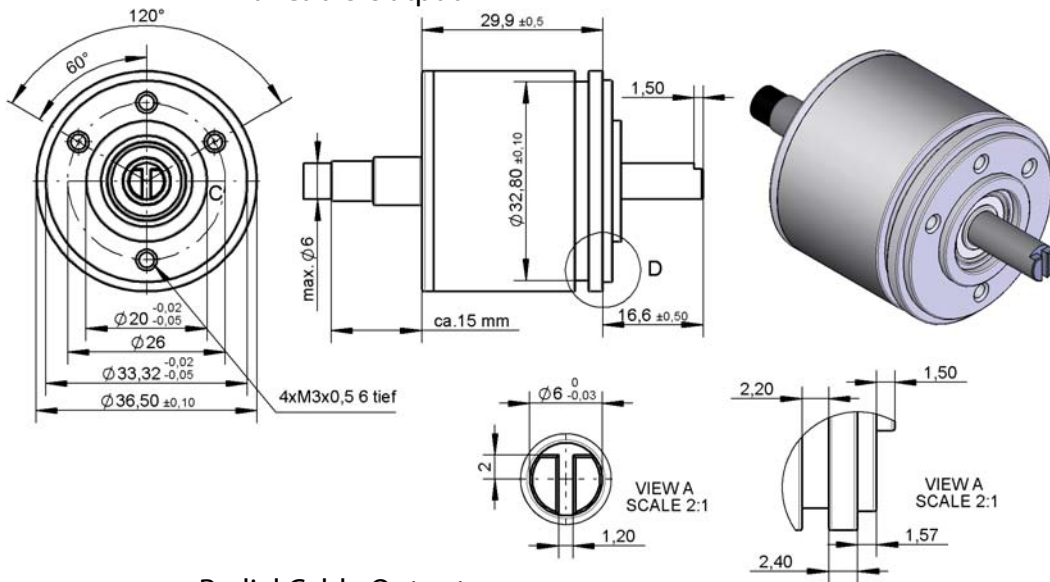
Note 1: Customers should test and verify device performance in any given application. General specifications values are measured at temperatures of +15°C ~ +35°C. Please consult us if application is intended to be at lower or higher temperatures. Specifications are subject to change without notice.

Emission / Immunity

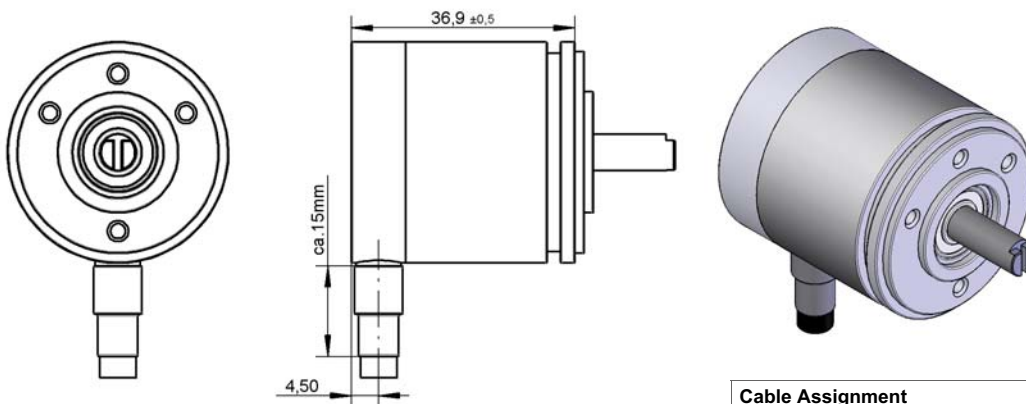
EN 55011 Emission AC/DC power	Class B
EN 55011 Emission housing	Class B
EN 61000-4-2 Immunity housing ESD	Class B
EN 61000-4-3 Immunity RF sine wave	Class A
EN 61000-4-4 Immunity DC power, I/O cable: Burst	Class B
EN 61000-4-5 Immunity DC power, I/O cable: Surge	Class B
EN 61000-4-6 Immunity DC power, I/O cable: Conducted sine wave	Class A

Dimensions (mm)

Axial Cable Output



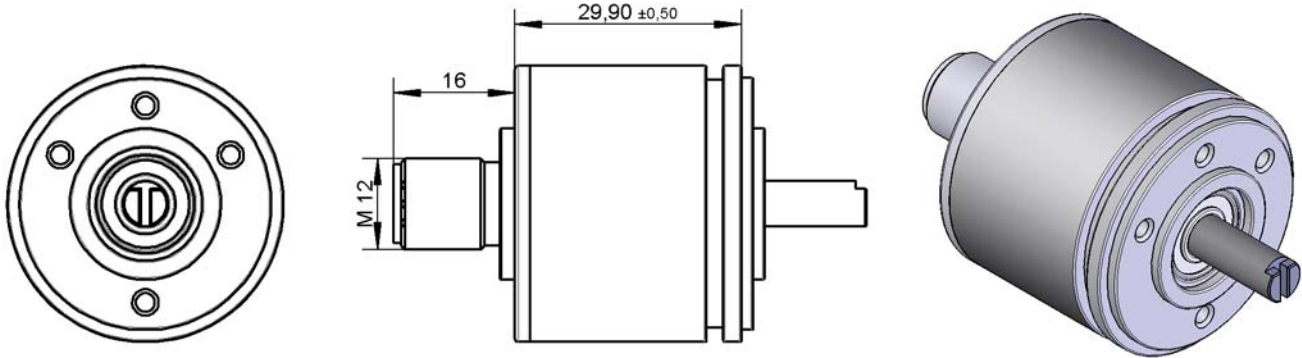
Radial Cable Output



Cable Assignment	
Ground	black
Output signal	brown
Supply voltage	red
Startpos	yellow
Endpos	green
DIR	orange

Dimensions (mm)

M12 Connector Option



Connector Assignment	
Ground	1
Supply voltage	2
Output signal	3
DIR	4
StartPos	5
EndPos	6

