

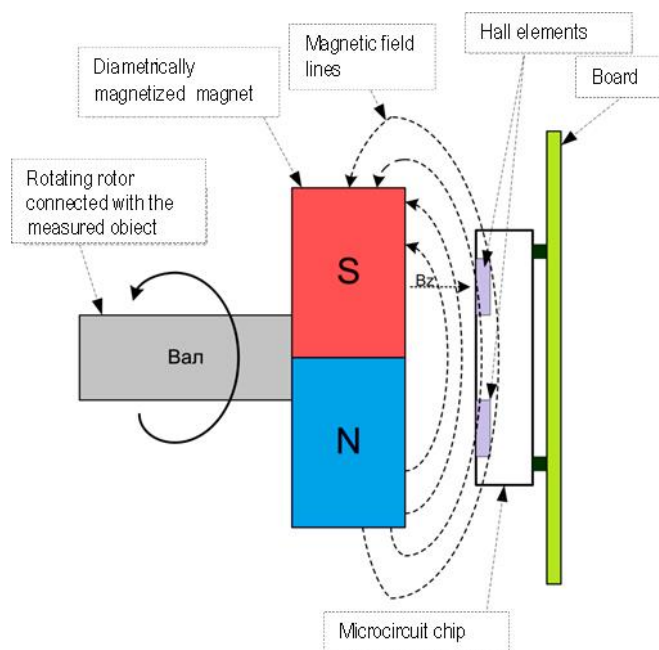
Angular position encoder (magnetic)

General Description

Encoder is designed to generate electrical signals (codes) indicating shaft absolute angular position and its rotation direction. It can be used in electromechanical equipment control systems that require precise recording of units and mechanisms parts rotation parameters.

Principle of operation

Diametrically magnetized permanent magnet is fixed on the encoder turning shaft butt. Magnetic field position transducer integrated into housing of specialized microcircuit chip is located in immediate vicinity from the magnet. The microcircuit chip amplifies and converts signals of magnetic field position transducer into digital code. The calculated position code is represented as a set of standard digital and analog data transfer interfaces. When shaft is rotated, the microcircuit chip allows to determine shaft current position at any time moment and the direction of its rotation. Rotating object shaft and encoder shaft are connected using the coupling.



Technic specification

• Angular resolution:	5,3 ang. min;
• Steps per turn:	4,096;
• Measurement error:	not more than +0.35°;
• Rotational speed ¹ :	max. 20000 rpm;
• Supply voltage:	+5 ±10% V;
• Consumption current:	50 mA;
• Operating temperature range:	- 60...+125°C;

*rotation speed can be limited by response speed of the output interface used.

Interfaces Used

Depending on the modification, encoder is supplied with one of the interfaces:

- Analog;
- Serial synchronous SSI/SPI;
- Quarter-phase incremental;
- Interface for three-phase motors control.

Communication Interfaces

Interfaces description:

Analog – linear, ratiometric

SSI interface

• MA	SPI clock frequency
• MISO	SPI output

Incremental interface

• A	Incremental quarter-phase A output
• B	Incremental quarter-phase B output
• INDEX	Reference pulse

Interface for three-phase motor control.

• W	W output of three-phase interface
• V	V output of three-phase interface
• U	U output of three-phase interface

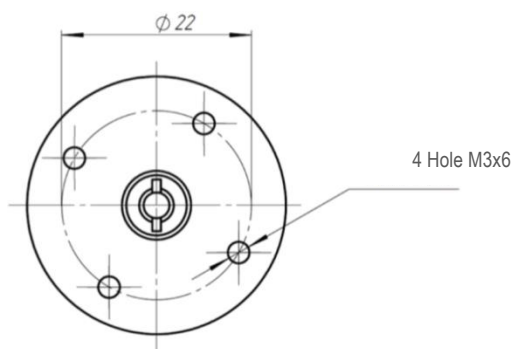
Output signals are released from encoder housing via cable.

A connector can be installed on the cable subject to customer requirement.

Applications

- High precision;
- Small dimensions;
- Presence of analog and digital interfaces.

Dimensions



Encoder is fixed to the object with 4 M3 screws located along 22 mm diameter at the angle of 90° to each other.

Encoder can be complete with additional mounting flange at the customer request.

