ЭУПМ-360-М1

Magnetic Angular Position Encoder

Purpose

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 constant 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.

Bearings   Magnet   Microcircuit chip
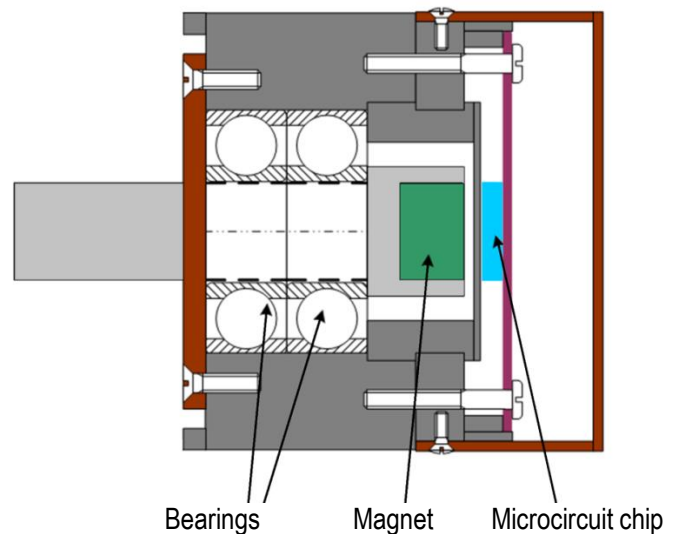
Technic specification

• Angular resolution:	5,3 ang. min;
• Steps per turn:	4,096;
• Measurement error:	not more than +5%;
• Rotation speed[1]:	max.10000 rpm;
• Supply voltage:	+7…30 V;
• Consumption current:	not more than 30°mA;
• Operating temperature range:	- 40…+85°C;
• Weight:	200 g

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

Interfaces Used

Encoder is supplied with one of the interfaces:

- BiSS-C;
- Serial synchronous SSI;
- Quarter-phase incremental.

**Interface connector (subject to modification):**

РСГ10ТВ (plug) on encoder butt	РСГ10ТВ (plug) on encoder side	cable with DB-9 connector (socket):

Communication Interfaces:

| Table of interfaces output to DB-9, РСГ10ТВ connectors			
Name	**Description**	**No. of DB-9 contact**	**No. of DB-9 contact**
SSI interface			
• VDD	Power supply	1	1
• CLOCKp	Clock frequency (direct)	2	3
• CLOCKn	Clock frequency (complementary)	3	6
• DATAp	Data output (direct)	7	2
• DATAn	Data output (complementary)	8	5
• GND	Ground	6	9, 10
• SLIp	Not used	9	4
• SLIn	Not used	5	7
Incremental interface			
• VDD	Power supply	1	1
• A_p	Quadrature A (direct)	2	3
• A_n	Quadrature A (complementary)	3	6
• B_p	Quadrature B (direct)	7	2
• B_n	Quadrature B (complementary)	8	5
• GND	Ground	6	9, 10
• Z_p	Index (direct)	9	4
• Z_n	Index (complementary)	5	7

РСГ10ТВ
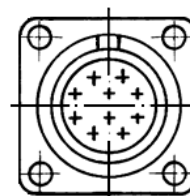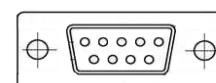
DB-9

Applications

- High precision;
- Small dimensions;
- Interfaces set;
- Housing adaptation for customer attachment.

Dimensions
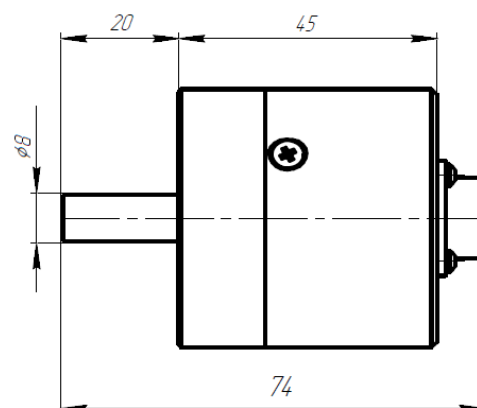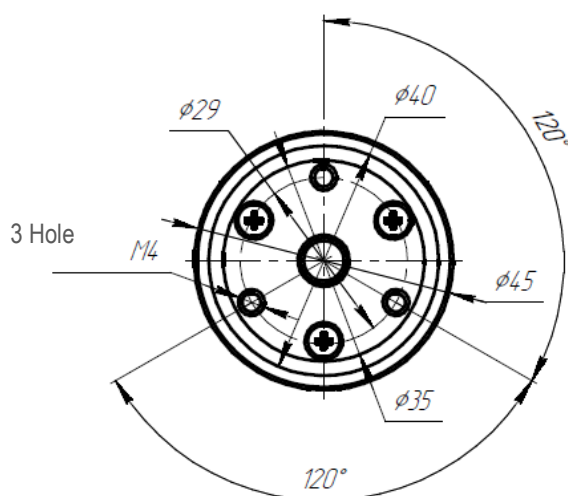
Encoder is fixed with 3 M4 screws located along 29 mm diameter at the angle of 120° to each other.
Encoder can be complete with additional mounting flange at the customer request.