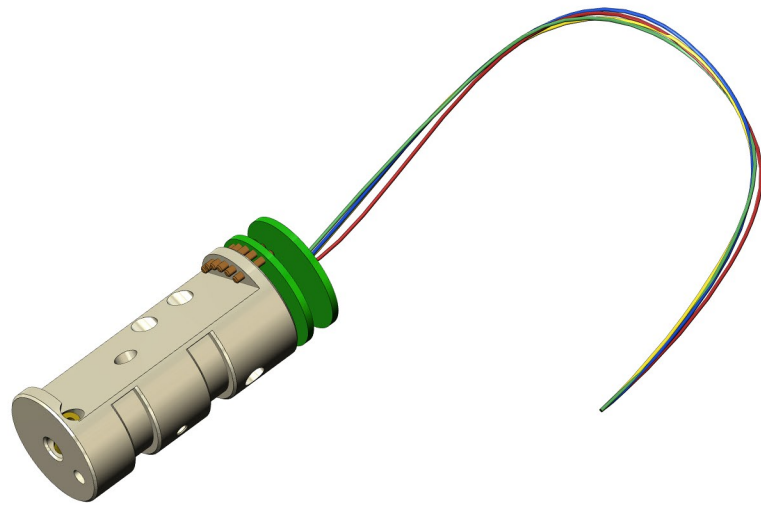


### Features

- Complete 3-axis system
- Compact size: OD 26mm, length 67mm
- Digital output
- High accuracy over the  $-40^{\circ}\text{C}$  to  $+145^{\circ}\text{C}$  temperature range
- Low noise Level
- High shock and vibration tolerance
- Low power consumption
- Single power input  $+5.6\text{V}$  to  $6\text{V}$

### Applications

- Fluxgate compass systems
- Magnetic anomaly detection
- Measurement of the Earth's magnetic field
- Navigation systems



The MELDOR-mag-26 three-component high-temperature digital fluxgate magnetometer belongs to the field of magnetic measurement technology, particularly magnetic navigation and navigational equipment, magnetic prospecting, magnetic mapping, and related applications. The key technical advantage of this magnetometer is the miniaturization of measurement equipment while maintaining high accuracy in measuring the components of the magnetic field induction vector across a wide temperature range.

Structurally, the magnetometer is implemented as a separate measurement module with a mechanically rigid housing that contains three mutually orthogonal fluxgate sensors for detecting all three components of the magnetic induction vector. The module's electronic section includes power supply circuits, control units, analog and digital signal processing circuits, as well as a data transmission interface.

The operating principle is based on detecting periodic changes in the magnetic flux through ferromagnetic cores, whose magnetic permeability is periodically modulated by the excitation coil's magnetic field. These changes are recorded via a sensing coil, in which an electromotive force is induced.

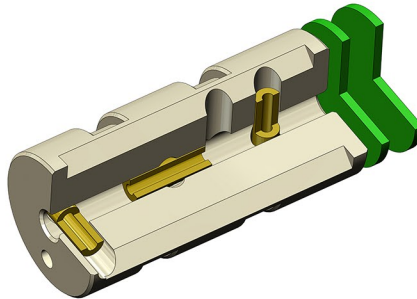
The magnetometer is one of the company's latest developments and incorporates a new digital signal processing method that enhances the dynamic response and reduces measurement nonlinearity.

The extended operating temperature range of the sensor is achieved through an innovative solution that compensates for the temperature dependence of fluxgate core saturation.

Low power consumption and single-polarity power supply of the magnetometer enable its integration into or development of new autonomous magnetometric systems with extended operational time.

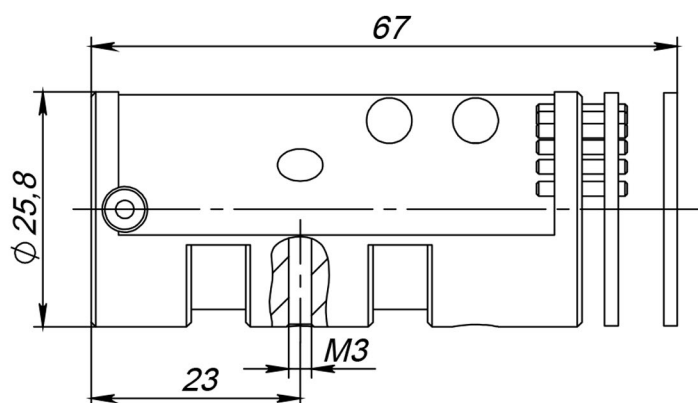
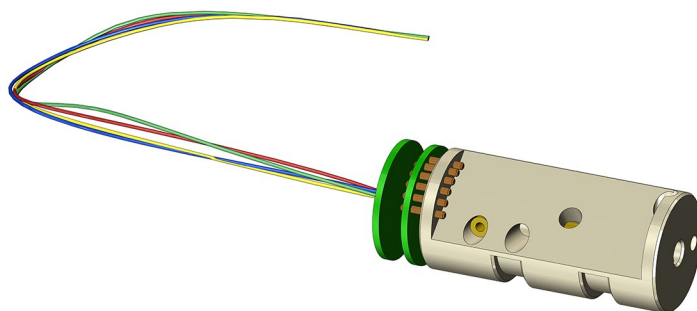
The magnetometer is a versatile device capable of addressing a wide range of scientific, technical, and research tasks. It can be used in systems where standard magnetic field sensors do not provide the required sensitivity and stability. The instrument is suitable for measuring the Earth's magnetic field — in navigation and magnetosphere studies, residual magnetic field control, as well as for material and packaging inspection. Thanks to its high accuracy and robust design, the magnetometer is widely used in geophysical instrumentation, especially in inclinometry during well construction.

The developed sensor is compact and lightweight, simple, and relatively inexpensive for mass production, while offering sensitivity more than an order of magnitude higher than that of well-known sensors.



PHISICAL		
Diameter (OD)	mm	26
Length	mm	67
Output connections long	mm	180
ELECTRICAL		
Supply voltage	V	+5.6 ... 6.0 <sup>(1)</sup>
Current consumption	mA	44
Power consumption	W	0,24
ENVIRONMENTAL		
Operational temperature range	°C	-40 ... 145
PERFOMANCE		
Number of axes	pcs.	3
Measuring range	μT	±70 <sup>(2)</sup>
Scaling error	%	0.1
Zero error	%	0.1
Orthogonality error	deg	0.05
Resolution	nT	< 2.2 <sup>(3)</sup>
Update Rate	Hz	20
Temperature offset of measurement values	%	< 0.1
Linearity error	%	< 0.1
Digital interface		UART <sup>(4)</sup>
Voltage levels of the digital interface		RS232
		1.7V ... 5.5 V <sup>(5)</sup>
Digital interface protocol		Upon agreement
Supply of software for <b>WINDOWS</b> for visualization of digital magnetometer measurement values is possible		

1. Range expansion is possible
2. Other ranges are possible
3. With a measurement range of ±70 μT (possibly 0.5 nT)
4. Speed by agreement
5. From an internal or external power source



How to Order:

**MELDOR-mag-26**