Three-Component Borehole Magnetometer

This three-component borehole magnetometer is designed for magnetic exploration. It is suitable for use in drilling with a diameter greater than 6mm, measuring horizontal components X and Y, as well as vertical component Z in a magnetic field.

Overview

High-Precision Borehole Magnetometry

The Three-Component Borehole Magnetometer is a specialized instrument designed for high-precision measurement of magnetic field components within boreholes. It is essential for verifying ground magnetic abnormalities, determining the nature of subsurface anomalies, and guiding drilling operations. With its robust design, it supports geological surveys and mineral exploration, providing critical data for subsurface mapping and resource assessment.

Key Performance Metrics

Magnetic Measuring Range

-99999 nT	99999 nT
Min Range	Max Range

Update Rate	3 times/sec

Technical Specifications

Orientation Sensor Accuracy

Sensor Type	Max Difference
X, Y Magneto Sensors	d 400ɲT
Z Magneto Sensor	d 300ɲT

Inclination and Azimuth

- Inclination Range: 0~45°, Error < 0.2°
- Azimuth Range: 0~360°, Error < 2° (for inclination e3°)

Operational Limits

Depth and Pressure Ratings

2000 m	150 kg/cm2
Max Well Depth	Pressure-Proof

Physical Characteristics

Dimensions

Component	Dimensions (mm)
Probe	Æ40 × 1400
Master Instrument	305 × 200 × 228

Power Requirements	DC12V/200mA

Applications

Primary Applications	Geological Survey, Mineral Exploration, Geophysical Research, Drilling Guidance, Sub-surface Mapping