

JTL-50F High Precision Fiber Optic Gyroscope Inclinometer

Summary

The instrument is a new type inclination measuring instrument which adopts a high precision fiber optic gyroscope. It can be used to determine dip angle and azimuth angle of vertical borehole or direction borehole in a magnetic field or iron casing tube. It can also determine the depth of borehole accurately. It has been widely used in engineering, hydrology, oil field, coal field, and geology for borehole determination.

The instrument is made of the ground control box, inclinometer probe, and laptop computers, designed to be portable; equipped with special software to display and print the borehole inclinometer data tables, drawing drilling plan, section, side projection and spatial trajectories.

I. Main technical features

1. The instrument uses a high-precision FOG azimuth measuring device, small size, long life, shock and vibration, small zero drift. It is the ideal directional sensor for measuring the azimuth angle in the magnetic mine area and the iron casing, that is, the shortcoming of the power tuning gyroscope is avoided and the advantage of the power tuned gyroscope is improved.
2. The instrument uses a high-precision dual-axis tilt sensor as an angle measuring device, after 24 AD samples obtained after data processing vertex data.
3. Application-optimized digital signal processing to optimize the measurement system to accurately measure the angle and azimuth, the measurement results to achieve high precision requirements; Dynamic Compensation technology to eliminate gyroscope zero drift, zero drift precision measurements.
4. Application of the technology of long wire transmission in digital communication, reliable transmission of long cable digital signal, and improve the anti-interference ability of the instrument.
5. Do not need to ground directional, you can always measure the true north azimuth drilling, saving time and effort, to ensure the accuracy of measurement.
6. The ground control box angle, azimuth, tool face angle, and signal transmitted to the computer after mixing depth.
7. Computer ground data processing, display, save and draw a plane projection, can print three-dimensional trajectory map.

II. Main technical specifications

1. Measuring range:
Angle: $0^{\circ} \sim 50^{\circ}$
Azimuth: $0^{\circ} \sim 360^{\circ}$
2. Measurement accuracy:
Angle measurement error: $\pm 0.2^{\circ}$
Azimuth measurement error: $< \pm 3^{\circ}$ (angle $1^{\circ} \sim 50^{\circ}$)
3. Measuring depth: 1500 m (temperature $< 60^{\circ}\text{C}$)
4. Measurement: measuring point
5. Working power supply: AC 220V $\pm 10\%$; 50HZ
6. Power consumption: about 75W
7. Environmental temperature: $-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$
8. Instrument cable: four-core cable (resistance $< 85\Omega / 100\text{m}$)
9. Dimensions and weight:
Downhole probe: $\Phi 50 \text{ mm} \times 1680 \text{ mm} / 9\text{kg}$
Ground control box: $370 \text{ mm} \times 160 \text{ mm} \times 290 \text{ mm} / 6\text{kg}$



NOTE: Notebooks, winches, cables should be deprovisioned.