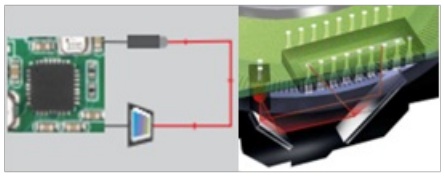
HTS-521L10- Farther, Faster and Stronger



HTS-521^{L10} is Hi-Target's new generation high-precision long-range total station. The inspiration for its cool and refreshing appearance comes from the Bumblebee. A tough exterior provides evidence of its durability and the colour screen and automatic sensor offer surveyors a wonderful experience. HTS-521^{L10} incorporates a new EDM structure design which greatly improves the measuring range, speed, and other aspects of performance. The new optical design and optimized software algorithm reduce error caused by external interference and ensure the reliability of data. The perfect combination of hardware and software offers you a new measurement experience.

Hi-Target's new total station

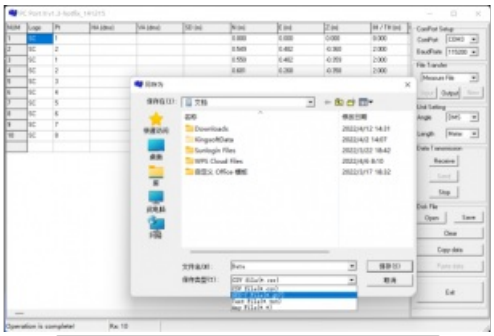
The Measurement Performance of HTS-521^{L10}

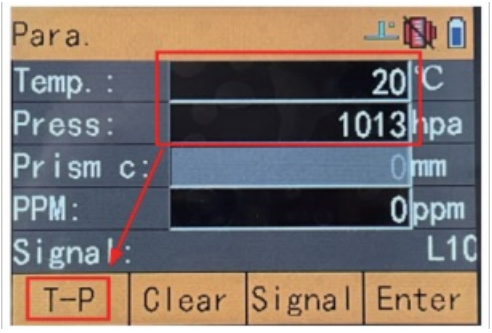
The design of the optical path structure of HTS-521^{L10} has been updated and incorporates a new ranging algorithm, cooperating with high-quality optical and electronic components. The reflectorless range is up to 1000m and the fastest measuring speed is down to 0.3s. Moreover, the accuracy reaches 3+2ppm (target: a Kodak whiteboard, temperature: 25° C, visibility: 20km, dry breeze) in reflectorless mode. The range of the prism mode is more than 6000 metres under a normative environment and the accuracy is 2+2ppm.

The absolute coding angle measurement technology

The absolute coding angle measurement technology provides an accuracy of 2" and initialization is not required when starting. The original angle can still be maintained even when the instrument is turned off or suddenly powered off.

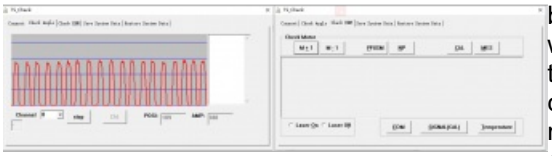
The main board includes an STM32 chip and the circuit has been upgraded. Compared with other brands of equipment of a





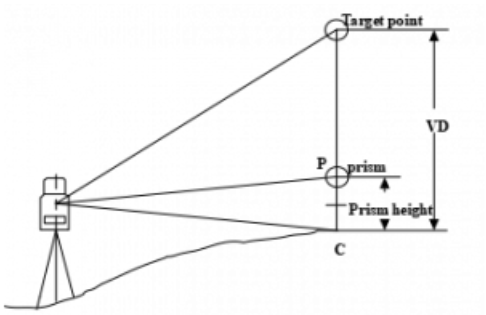
similar quality, the HTS-521[L10] system works more smoothly and responds more quickly, redefining the measurement operation for surveyors.

STM32 chip



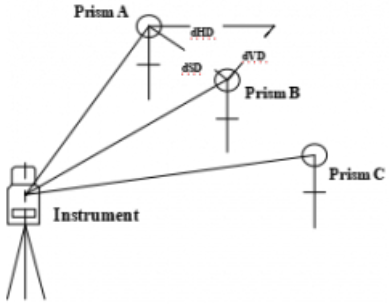
As the dual-axis compensator is more sensitive, compensation can be achieved in short order when the vertical axis is tilted. Furthermore, the compensation range can reach 3', guaranteeing accurate measurement.

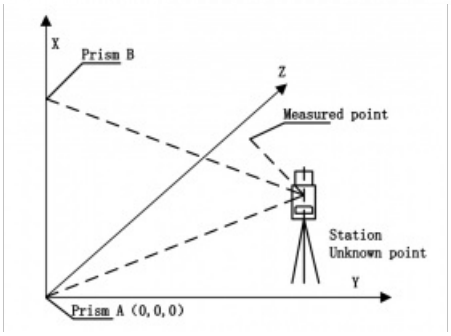
Compensation for accurate measurement



HTS-521[L10] is equipped with a 3000mA large-capacity lithium battery, having up to 18 hours of battery life for a normal day. It can be fully charged within 3 hours by Type-C, which is able to adequately maintain the work for at least one day.

Large-capacity lithium battery





The Operating Experience of HTS-521[L10]

The HTS-521[L10] has a 2.8-inch high-brightness colour display with 240*320 pixels, which is clearly visible even in the sun. At the same time, the rubber keypad with a backlight design can still be seen in a dark environment for handy operation.

High-brightness colour display

The design of the micro-stop structure has been reinforced in the HTS-521[L10] to make fine-tuning more accurate. The knob is made of rubber for a better operating feel and result.

The design for a better operation

The shortcut key of the measurement setting

The EDM consists of more stable and better electronic and optical components for the ranging system, angle measuring system, and compensation system. In addition, the silent stepping motor ensures noiseless operation during measurement.

With the shortcut keys of the measurement setting, the data can be obtained by one key. When measuring, the surveyor does not need to leave his view of the field to move to the on-screen keyboard to operate it, and only needs to use the shortcut keys to complete the data acquisition and storage, which significantly increases speed.

HTS-521[L10] supports a variety of data export methods such as U disk, USB cable, RS232 cable, Bluetooth, and so on. Furthermore, it supports several data formats to export such as *txt, *csv, *gt7, and *dat, to fulfill the different needs.

A variety of data export methods

With an automatic sensor, the temperature, pressure, and other parameters can be obtained automatically with one key that will multiply efficiency several times.

Automatic sensor

The Maintenance of HTS-521^{L10}

A fully-sealed angle measurement code plate effectively resists dust and water vapour and pollution from the environment, greatly reducing the failure rate. It is also unnecessary to wipe the code plate.

A fully-sealed angle measurement code plate

The modular design of the EDM structure means that it is easier to disassemble. As a result, the total station is much easier to maintain.

What's more, HTS-521^{L10} has a comprehensive fault detection software, TS-Check. It's easy to use as you can connect the device to the computer via USB and then check the fault of the goniometric system, ranging system, and other components through the software. In addition, you can also check the parameters of the software, etc.

Comprehensive fault detection software

The Quality of HTS-521^{L10}

The IP65 protection rating means that HTS-521^{L10} is completely waterproof and dustproof, and the important parts such as the battery compartment and the U disk drive are technically protected by waterproof rubber.

IP65 protection rating

Each device has undergone rigorous product testing, including vibration testing, high/low temperature testing, etc. Field-testing in Russia showed it can even work normally in cold conditions, -30 °C.

The Functions of HTS-521^{L10}

Numerous convenient applications have been developed for HTS-521^{L10} for different customer groups and working scenarios, mainly including REM, MLM, Area, Projection, and Road. Here are some examples:

REM
REM is adequate for acquiring height data when the prism cannot be placed at the target point. Under the REM mode, you can place the prism at any point along the vertical line of the target point to obtain the height of the target.

REM

There are two REM modes: 'Input TH' and 'without TH'. You can select the mode of 'Input TH' if you need the altitude from the ground to the target. However, if you need the altitude from any reference point to the target, you can choose another mode.

MLM
In this mode, you can measure the horizontal distance (dHD), slope distance (dSD), elevation difference (dVD), and azimuth angle (dHD) between two targets. Moreover, you can also input the coordinates or retrieve the coordinates from files to calculate the value.

MLM

Coord.Z
This function is used to measure the data of known points to calculate the Z coordinate of the station and reset the Z coordinate.

Projection
This function is used to measure the deviation length (X) between the prism point and the starting point of the baseline, the deviation distance(Y) between the prism point and the starting point of the baseline, and the altitude difference (Z) between the prism point and the starting point of the baseline.

Projection

Roadway

The Roadway function is divided into two parts: Design Roadway and Stake out Roadway. You can complete the stake out of designed points according to the stake and deviation of the Designed Roadway.

In short, HTS-521^{L10} is widely used in engineering surveying, roads, bridges, tunnels, electric power, railways, and other application scenarios. A longer measurement range, greater speed, and more convenient operation generate more accurate

and efficient measurements. Rugged and durable product quality always safeguards your measurements.