



Alpha Surveying

# Alpha **Ti**

## Precision Total Station

1.5" angular accuracy | 1000m without prism | 3.2-inch screen | Photoelectric Compensator



# Precision Total Station

Originated from European optical technology, Alpha Ti comes out with a brand new hardware structure and new measuring tape, and static absolute encoder. The 1.5" angle measurement accuracy and the 1000m non-prism measuring range enable the Alpha Ti to do various kinds of precision measurements.



## High-precision Ranging Technology

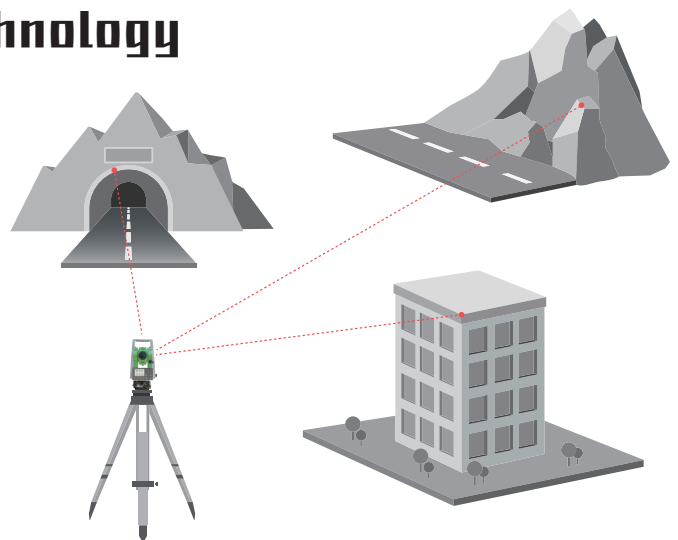
Alpha Ti can achieve fast and accurate ranging through built-in eight adaptive high-frequency measuring rulers and advanced phase laser ranging algorithm, meeting the accuracy requirements of various advanced engineering measurements.

**1,000m**

Without Prism

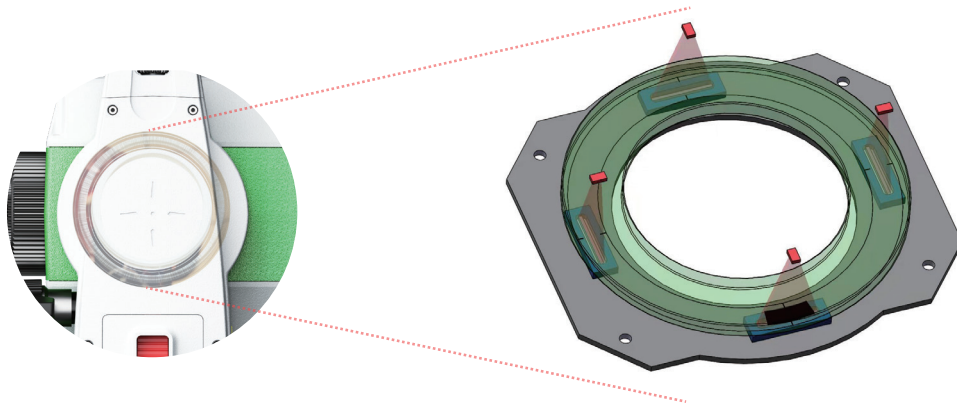
**4,000m**

With Prism



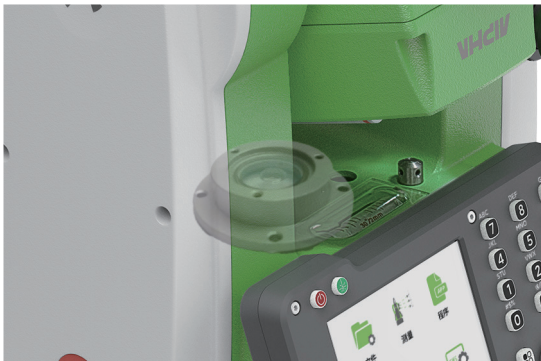
# Angle measuring technology

Absolute encoder enables angle measurement accuracy in dusty, humid and other harsh conditions. Starting up without initialization, all information will be kept after power interruption, power off or restart. The self-developed precision angle sensor design, error compensation algorithm, combined with photoelectric decoding, top-notch precision photolithographic absolute coding disk, brings stable and reliable accuracy.



## Photoelectric Compensator

The compensator is located just above the vertical axis, and the accurate compensation is obtained quickly between rotations. At the same time, the CCD is used for accurate calibration, and the compensation range is as high as 4', high operation efficiency.



## Superfine Shafting

The high-quality alloy steel is heat-treated several times being processed with a specially designed ultra-high precision grinder. The G3 top-grade steel balls are selected and ground through dozens of procedures to meet the strict requirements of 1" accuracy instruments.



## Strong Protection

Powerful and precise electronic compensation and high redundancy angle measurement algorithm enable the total station to work efficiently and reliably in all kinds of extreme environments.



# User-friendly High-precision Total Station



Equipped with a full-featured operation panel, 3.2-inch bright colour screen, and buttons with comfortable spacing and without sound. Built-in commonly used measurement functions, standard Bluetooth 5.0 for convenient data transmission, and the third-party application. Alpha Ti is a combination of advanced hardware and software!

## 3.2-inch Color Screen

Larger screen brings more data display and good viewing experience.

## Rounded backlight button

The rounded backlight button makes it easier for measurement work at night.

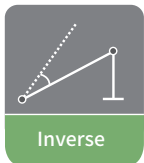
## Customized Fn Function Key

The customized function key for a personalized total station.

## One-touch Laser Fixed

One touch, rapid centring and leveling up for measurement.

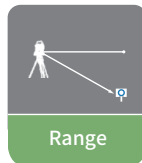
# On-board Measurement Software



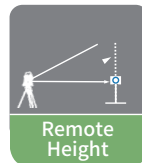
Inverse



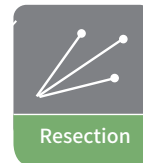
Repeated measurement



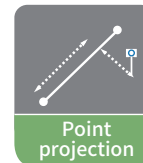
Range



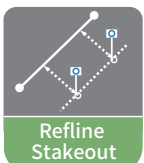
Remote Height



Resection



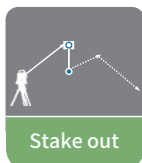
Point projection



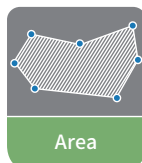
Refine Stakeout



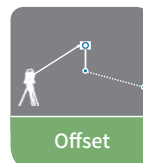
Coordinate measurement



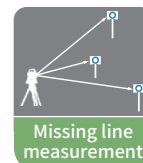
Stake out



Area



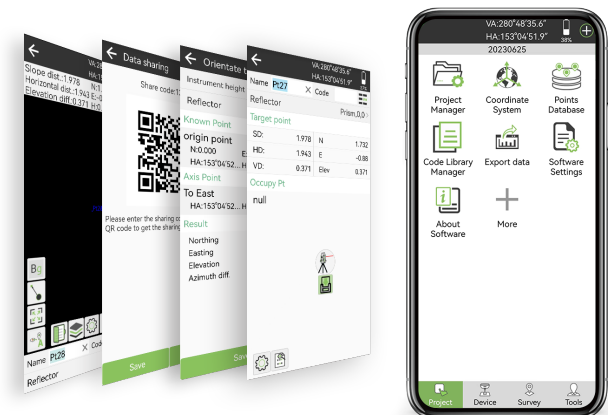
Offset



Missing line measurement

# Third-party APP Support

Alpha Ti supports Dimap Pro and other third party softwares. The involvement of cell phones gives an intelligent edge to the traditional engineering total station.



# Accuracy you can count on for high-grade engineering



## Tunnel

With unique angle measurement technology and Well operation under dust and condensation conditions; with laser indicator and keyboard backlight, Alpha Ti is fully qualified for tunnel measurement applications.



With anti-fouling code wheel design, the code wheel can still accurately measure angles when 70% of the code wheel is blocked.

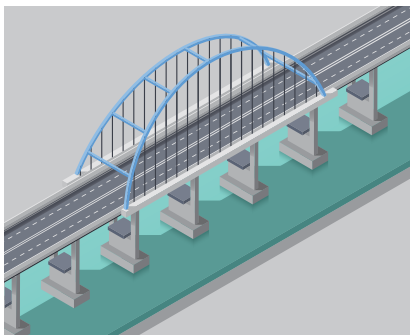


## Foundation Pit

Alpha Ti has an angle measurement accuracy of 1" and a distance measurement accuracy of up to 1+1, fully complying with foundation pit monitoring specifications.

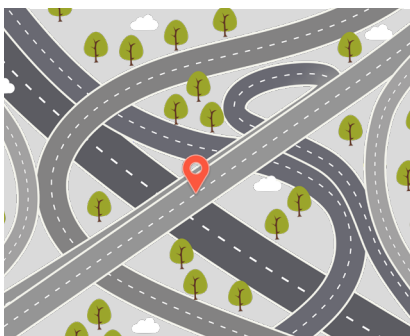


Configured online power supply and debugging functions makes Alpha Ti can be widely used for monitoring and system integration applications.



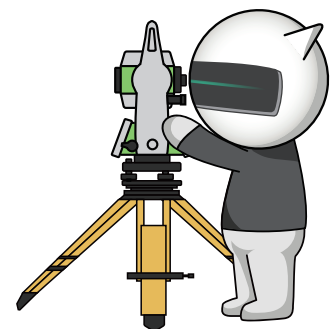
## Bridge

Alpha Ti has excellent distance measurement performance, with fast short-distance ranging speed and high long-distance accuracy, making it suitable for bridge installation and construction.



## Roadways

Alpha Ti has excellent angle measurement accuracy, distance measurement accuracy and compensator accuracy, and is suitable for highways and high-precision rail transit.





## Professional Set



|                 |    |
|-----------------|----|
| Total station   | X1 |
| Battery         | X2 |
| Charger         | X1 |
| Tool bag        | X1 |
| Manual          | X1 |
| Warranty Card   | X1 |
| Certificate     | X1 |
| USB flash drive | X1 |
| RP60 reflector  | X1 |
| RP30 reflector  | X1 |
| Objective cap   | X1 |

## Technical Specification

|                               | Alpha Ti                    | Alpha Tx               |  |       |
|-------------------------------|-----------------------------|------------------------|--|-------|
| <b>Telescope</b>              | Image                       | Right-reading          |  |       |
|                               | Magnification               | 30x                    |  |       |
|                               | Field Of View               | 1°30'                  |  |       |
|                               | Minimum Focus               | 1.7m                   |  |       |
|                               | Resolution                  | 2.8"                   |  |       |
| <b>Angle Measurement</b>      | Accuracy                    | 1.5"                   | 1"   |       |
|                               | Reading System              | Absolute Encoders      |  |       |
|                               | Minimum Reading             | 1"                     | 0.2"   |       |
| <b>Distance Measurement</b>   | Measuring                   | Non-Prism              | 1000m  | 1000m |
|                               |                             | Reflector              | 2000m  | 2000m |
|                               |                             | Single Prism           | 4000m  | 5000m |
|                               | Measuring Accuracy          | Non-Prism              | $\pm (3\text{mm} + 2 \times 10^{-6} \times D)$ |       |
|                               |                             | Reflector              | $\pm (3\text{mm} + 2 \times 10^{-6} \times D)$ |       |
|                               |                             | Single Prism(Ti)       | $\pm (2\text{mm} + 2 \times 10^{-6} \times D)$ |       |
|                               |                             | Single Prism(Tx)       | $\pm (1\text{mm} + 1 \times 10^{-6} \times D)$ |       |
| Time                          | Fine :0.7s                  | Rapid:0.5s             | Tracking:0.3s                                  |       |
| Minimum Display               | Fine/Tracking:0.1mm         |                        |  |       |
| <b>Compensator</b>            | Compensator Type            | Dual axis              |  |       |
|                               | Compensator Range           | $\pm 4'$               |  |       |
|                               | Compensator Resolution      | 1"                     |  |       |
| <b>Laser Plummet</b>          | Accuracy                    | 1.5mm@1.5m             |  |       |
|                               | Wavelength                  | 635nm                  |  |       |
|                               | Safety                      | Class2                 |  |       |
|                               | Output Power                | 0.7-1.0nw              |  |       |
| <b>Level Vial Sensitivity</b> | Tubular Level               | 30"/2mm                |  |       |
|                               | Circular Level              | 8'/2mm                 |  |       |
| <b>Keyboard</b>               | Screen                      | 3.2-inch colour screen |  |       |
|                               | Key                         | x26                    |  |       |
| <b>Communication</b>          | Backlight                   | Support                |  |       |
|                               | Port                        | USB、Bluetooth          |  |       |
| <b>Power</b>                  | Data Memory                 | 40000 points           |  |       |
|                               | Battery                     | 2600mAh Li-ion battery |  |       |
|                               |                             | Low voltage alert      |  |       |
| Working Time                  | 25 hours angle              |                        |  |       |
|                               | 20 hours angle and distance |                        |  |       |
| <b>Physical</b>               | Operating Temperature       | -20°C ~ +50°C          |  |       |
|                               | Storage Temperature         | -30°C ~ +55°C          |  |       |
|                               | Water/Dust Proof            | IP54                   | IP65   |       |

\*The above technical parameters are for your reference. The company reserves the right to change the design and planning of the product based on the actual product.

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