



Alpha Surveying

# Alpha **Ti**

## High-precision Total Station

2" Accuracy + 1000m | Coaxial compensator | Powful shaft system



# Alpha Ti High-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 2" angle measurement accuracy and the 1000m non-prism measuring range enable Alpha Ti to do various kinds of precision measurements.

## Lithium-ion Battery

Working time up to 20 hours.

## Touch Measurement

The touch trigger key helps mitigate the impact of jitter on the measurement.

## Handy Brake Wrench

User never feels tired with the ergonomic design which fits human fingers. Lock and unlock with a gentle press on the wrench.

## Coaxial Laser Plummet

Coaxial laser plummet makes it more convenient to track the targets.

## Advanced Optical System

Europe optical technology helps effectively suppress chromatic aberration and make clearer observation.

## BLE 5.0

Low energy enables more ways of measurement.

## Efficient Processor

Equipped with ARM architecture arm processor to lower energy and improve the stability of the total station.

## USB Flash Drive

Support data upload and download and update firmware.



## Precise Distance Measuring Technology

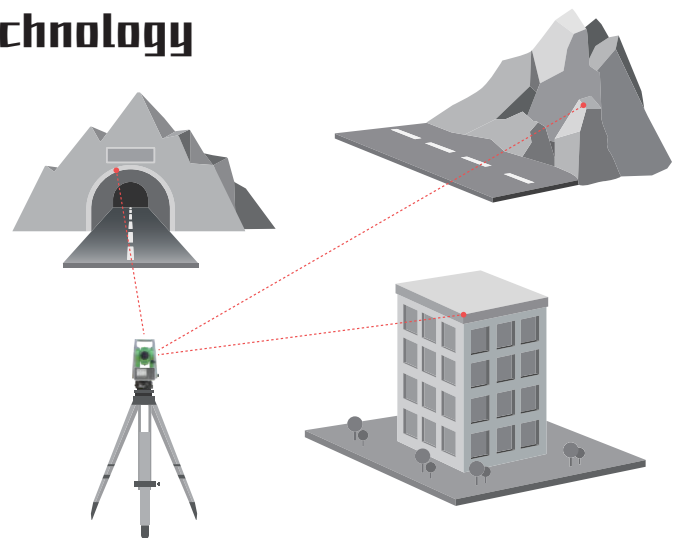
Alpha Ti can achieve fast and accurate distance measurement through built-in eight adaptive high-frequency measuring rulers and advanced phase laser ranging algorithms, meeting the accuracy requirements of various advanced engineering measurements.

# 1,000m

Non-Prism Distance measurement

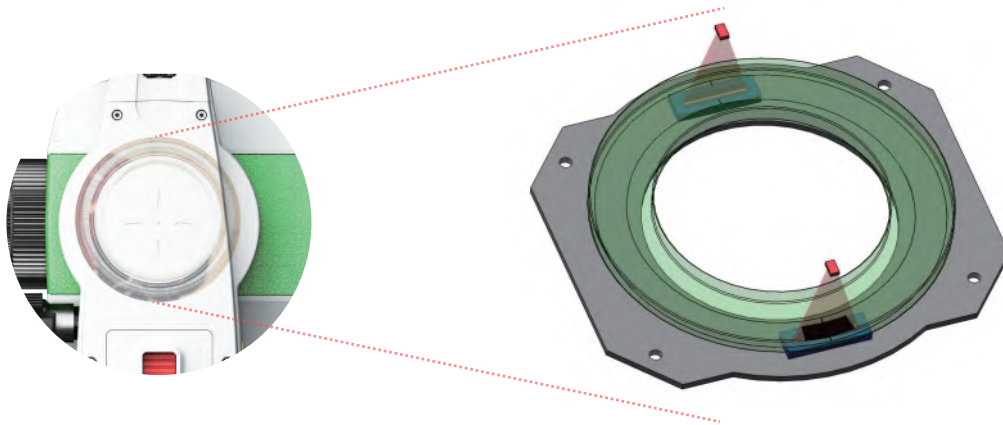
# 4,000m

Single Prism Distance Measurement



# Precise Angle Measuring Technology

It adopts a self-developed precision angle sensor architecture, adds a global sub-second high-order error compensation algorithm, and combines sub-pixel resolution photoelectric decoding and nano-level photolithography process absolute encoding code disk to bring stable and reliable angle measurement accuracy.



## Coaxial comprehensive compensation

The compensator is located directly above the vertical axis. It can quickly and accurately compensate during rotation. At the same time, CCD is used for precise calibration. The compensation range is up to 4', and the operation efficiency is extremely high.



## Special Grade Dense Bead Shaft System

Using customized ultra-high-precision grinder precision processing technology, the carefully selected top-grade G3 steel balls are processed through dozens of processes to create a special-grade dense ball shaft system that can meet the stringent requirements of 1"-level instruments.



## Strong Protection

Alpha Ti's excellent protective performance, powerful precision shafting electronic compensation technology and high redundancy. The angle measurement decoding algorithm allows the total station to be used in various extreme engineering environments, making measurements stable and reliable.



# Ease-to-use Interaction



Equipped with a full-featured operation panel, 3.2-inch bright color screen, and mute buttons with comfortable spacing. 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.

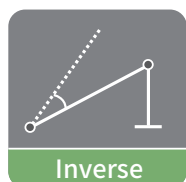
## Customized Fn Function Key

The customized function key for a personalized total station.

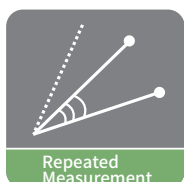
## One-touch Laser Fixed

One touch, rapid centring and leveling up for measurement.

# On-board Measurement Software



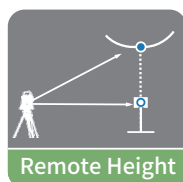
Inverse



Repeated Measurement



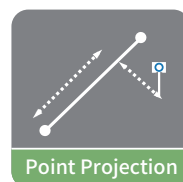
Road Measurement



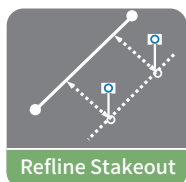
Remote Height



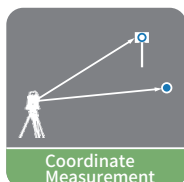
Resection



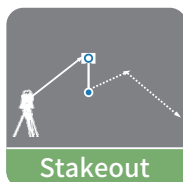
Point Projection



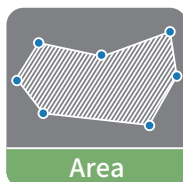
Reflines Stakeout



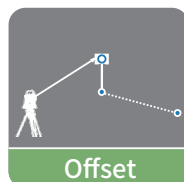
Coordinate Measurement



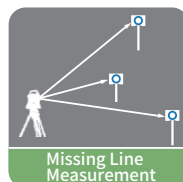
Stakeout



Area



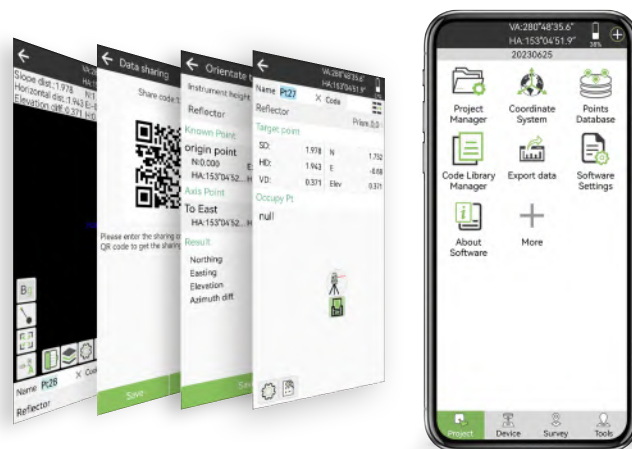
Offset



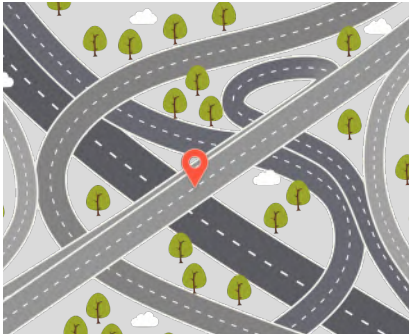
Missing Line Measurement

# Compatible with third-party APP

Alpha Ti supports mobile phone communication via Bluetooth with third parties APP such as DiMap Pro or Surveyor software to realize the function of intelligent total station.



# For high-class projects

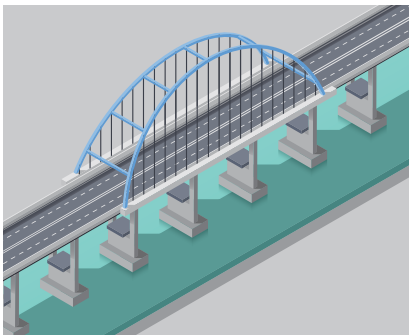


## Road

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



Unique coding design and highly fault-tolerant photoelectric decoding technology allow the code disc to accurately measure angles even when 70% of them are blocked, achieving accurate readings without fear of moisture and dust.



## Bridge

Alpha Ti has excellent distance measuring performance. It has fast short-distance measurement speed and high long-distance accuracy. It is suitable for bridge installation and construction.

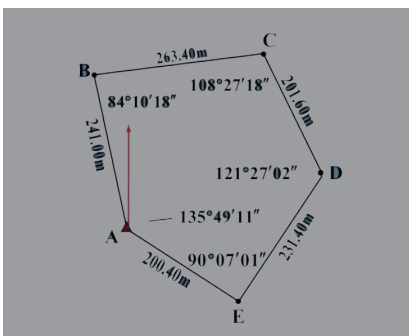


Online power supply and debug.



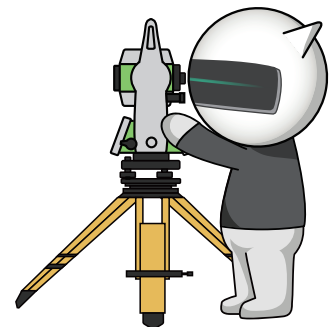
## Tunnel

Unique angle measurement technology, no fear of dust and condensation, with laser indicator and keyboard backlight, Alpha Ti is fully qualified for tunnel measurement.



## Traverse Survey

Alpha Ti has stable angle measurement accuracy and distance measurement accuracy, strong consistency, and is suitable for traverse survey.



## 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

<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	2"		
	Reading System	Absolute Encoders		
	Minimum Reading	1"		
<b>Distance Measurement</b>	Measuring	Non-Prism	1000m	
		Reflector	2000m	
		Single Prism	4000m	
	Accuracy	Single Prism	$\pm (2\text{mm} + 2 \times 10^{-6} \times D)$	
		Non-Prism	$\pm (3\text{mm} + 2 \times 10^{-6} \times D)$	
		Reflector	$\pm (3\text{mm} + 2 \times 10^{-6} \times D)$	
	Time	Fine :0.7s	Rapid:0.5s	Tracking:0.3s
<b>Compensator</b>	Minimum Display	Fine/Tracking:0.1mm		
	Compensator Type	Dual axis		
	Compensator Range	$\pm 4'$		
<b>Laser Plummet</b>	Compensator Resolution	1"		
	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		
	Backlight	Support		
<b>Power</b>	Battery	Type: 2600mAh Li-ion battery		
		Low voltage alert: Shut down in 10 mins		
	Working Time	Angle Measuring: 25h Distance + Angle Measuring: 20h		
<b>Physical</b>	Operating Temperature	-20°C ~ +50°C		
	Storage Temperature	-30°C ~ +55°C		
	Water/Dust Proof	IP54		

\*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.

## Alpha Surveying Technology Co.,Ltd.

📍 NO.9 Caipin Road, Science City Huangpu District, Guangzhou

☎ +86-20-82108930

🌐 [www.alpha-surveying.com](http://www.alpha-surveying.com)