

# "ROBUST" TS-R10

## Precision Total Station

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



CE ISO 14001:2015



Standard Compliance



# Precision Total Station

Originated from European optical technology, TS-R10 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 ROBUST TS-R10 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.

**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.

## High-precision Ranging Technology

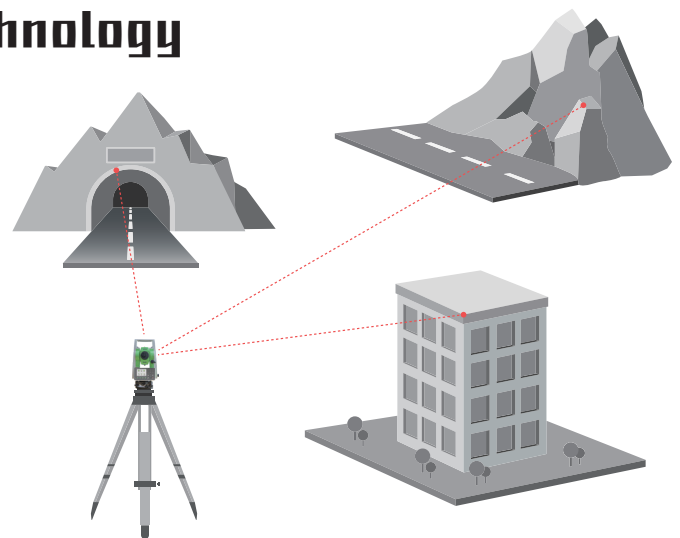
ROBUST TS-R10 can achieve fast and accurate ranging through built-in eight adaptive high-frequency measuring rulers and advanced phase laser ranging algorithm, meeting the accuracy requirements of various advanced engineering measurements.

**1,000m**

Without Prism

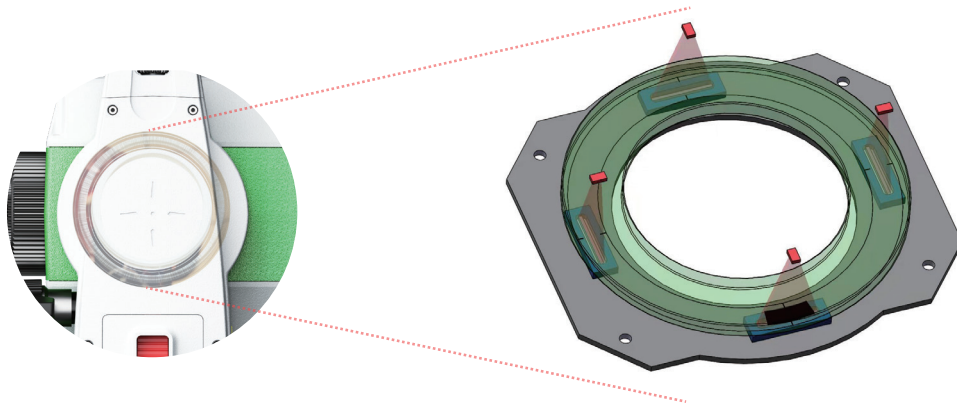
**5,000m**

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. ROBUST TS-R10 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.

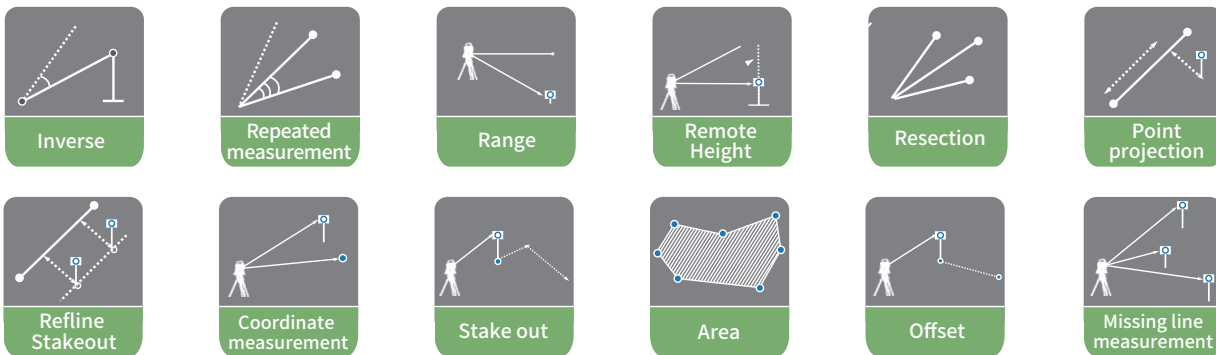
## Customized Fn Function Key

The customized function key for a personalized total station.

## One-touch Laser Fixed

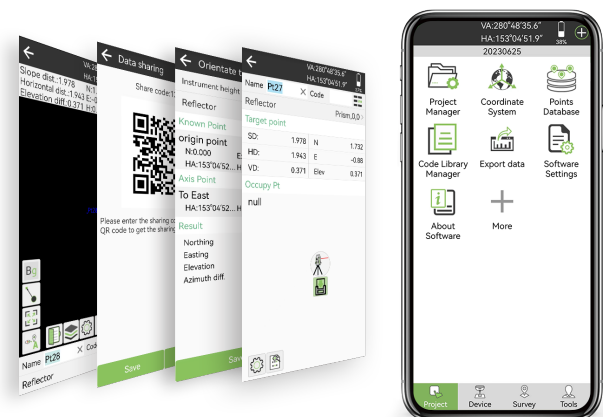
One touch, rapid centring and leveling up for measurement.

# On-board Measurement Software



# Third-party APP Support

ROBUST TS-R10 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, ROBUST TS-R10 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.

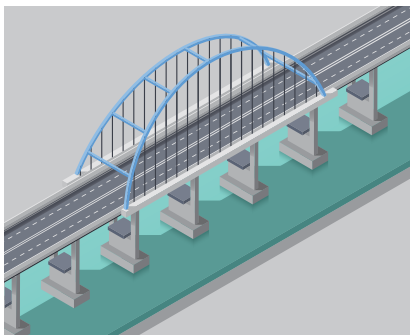


## Foundation Pit

ROBUST TS-R10 has an angle measurement accuracy of 1" and a distance measurement accuracy of up to 1+1, fully complying with foundation pit monitoring specifications.

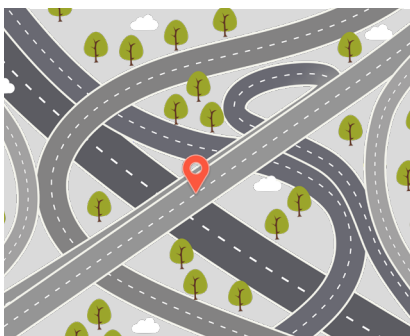


Configured online power supply and debugging functions makes ROBUST TS-R10 can be widely used for monitoring and system integration applications.



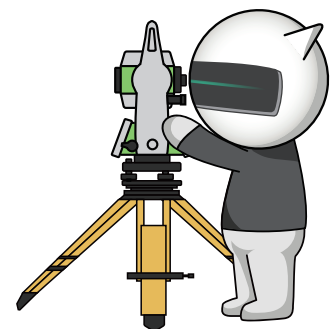
## Bridge

ROBUST TS-R10 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

ROBUST TS-R10 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

## ROBUST TS-R10

<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	5000m	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		
<b>Level Vial Sensitivity</b>	Output Power	0.7-1.0nw		
	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	80000 points		
	Battery	3400mAh Li-ion battery		
		Low voltage alert		
	Working Time	30 hours angle		
25 hours angle and distance				
<b>Physical</b>	Operating Temperature	-20°C ~ +55°C		
	Storage Temperature	-30°C ~ +65°C		
	Water/Dust Proof	IP65	IP66	

\*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.