Alpha Surveying

Alpha TR10

Robotic Total Station

1" Accuracy | ATR 1000m | Direct drive motor | Rotation speed 90°/s



ISO ISO9001

CE

Alpha TR10

Alpha TR10 Robotic Total Station

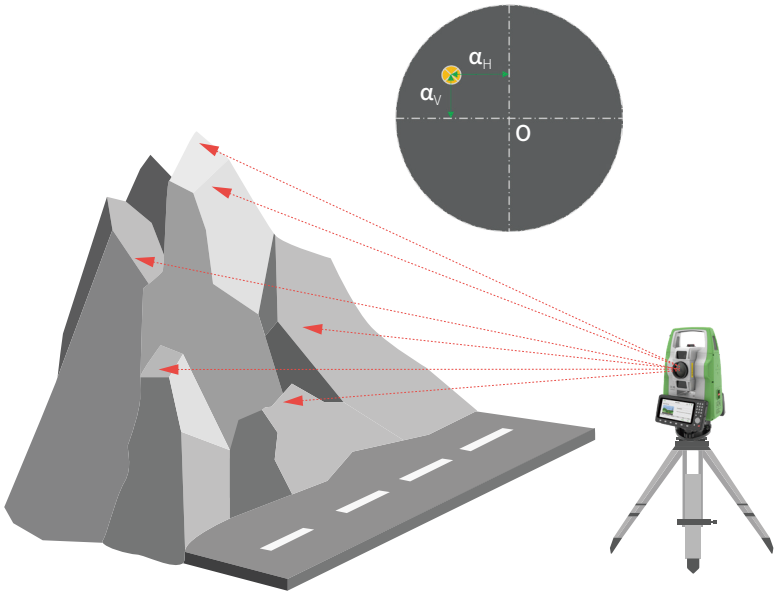


Alpha TR Series Robotic Total Stations are products meticulously developed by Alpha Surveying, based on its globally proven precision total station technology. It embodies more than 20 years of practical experience of the optoelectronic instrument team, including ten years of experience in European technology R&D and precision manufacturing. As Alpha's most sophisticated product to date, it adopts a modular functional design with more than 500 optomechatronic components, and as many as 8 MCUs.

- 1″ Angle Measurement Accuracy
- ATR 1000m
- Direct-drive Mechanical Motor
- Rotation Speed 90°/s
- Android 11.0

ATR (Automatic Target Recognition)

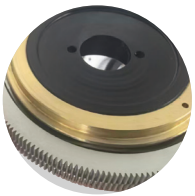
Alpha TR10 delivers outstanding optomechanical performance with reliability as the top priority. It adopts a stable and durable high-precision motor drive structure, and integrates a coaxial ATR module with advanced target recognition technology. On the basis of inheriting Alpha's traditional superior precision close-packed ball shaft system, central compensator, single-track anti-fouling encoder, sub-second high-order error compensation algorithm, and high-frequency phase laser ranging, it has upgraded the multi-coaxial optical path, dual 4CCD vertical and horizontal system, limitless fine adjustment, and electrical system architecture.



ATR System combined with AI target recognition and interference-resistant technology for fast, accurate target recognition at long range.



5-Coaxial Precision Optical System,excellent optical design, high-precision optical component processing, and multi-layer coatings deliver outstanding imaging, distance measurement, and ATR performance.



High-Speed Precision Brushless 24-Bit Servo Drive System.Classic Backlash-Free Precision Worm Gear and Gear Transmission System, with Precious-Metal Precision Slip Rings, ensuring stable operation over extended periods under a wide range of weather and temperature conditions.

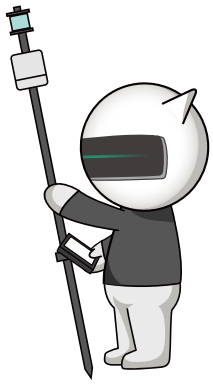


8-Pin LEMO Interface. Supports power supply and communication.



Global Popularization & Application

Alpha TR series is designed to provide simple and reliable products for high-end surveying scenarios, including dam and foundation pit monitoring, rail transit, bridge and super high-risebuilding construction, and single-person reflectorless surveying systems. It solves the problem of large-scale popularization of robotic total stations worldwide, and promotes the widespread application of surveying robots in urban monitoring.



Smart Tilt Pole & One-Person Surveying

The Alpha P200 Smart Tilt Pole features tilt compensation to detect and correct pole orientation, enabling accurate measurements with a tilted prism.

Professional Set



Total station	×1
Battery	×2
Charger	×1
Tool bag	×1
Manual	×1
Warranty Card	×1
Certificate	×1
Type-C flash drive	×1
RP60 reflector	×1
RP30 reflector	×1
Objective cap	×1
Data Cable	×1

Alpha TR Series



Alpha TR Series Robotic Total Station Models:
TR05 / TR10 / TR20

Technical Specification

Distance Measurement	Measuring	Non-Prism: 1000m, Reflector: 2000m, Single Prism: 5000m
	Accuracy	Non-Prism: ±(3mm + 2ppm)
		Reflector: ±(3mm + 2ppm)
		Single Prism: ±(1mm + 1ppm)
	Time	Fine: 0.7s, Rapid: 0.5s, Tracking: 0.3s
	Minimum Display	0.1mm
Angle Measurement	Accuracy	1″
	Reading System	Absolute Encoders
	Reading System	0.1″
	Detection Method	Horizontal Circle: 4CCD, Vertical Circle: 4CCD
ATR System	Measuring	Standard Prism: 3-1000m, Tracking Mode: 300m
	Search Area	Customize
Servo System	Transmission Structure	Worm Gear and Worm Shaft
	Max Speed	90°/s
Telescope	Erect Image	Right-reading
	Magnification	30×
	Field of View	1°30′
	Resolution	2.8″
	Minimum Focus	1.7m
Level Vial Sensitivity	Tubular Level	30″/2mm
	Circular Level	6′/2mm
System Comprehensive Parameters	Compensator	Dual-Axis Liquid Photoelectric Electronic Compensator (Compensation Range: ±4′, Resolution: 1″)
	Prism Constant Correction	Input the constants and auto-correct
	Meteorological Correction	Automatic Correction via Temperature and Pressure Sensors
Operating System/ User Interaction	Key	26
	Screen	5.5'' transflective touch screen, resolution: 720*1440
	OS	Android 11
	Memory	RAM: 4GB, ROM: 64GB
	Laser Plummet	Support
	Guide Light	Support
Hardware	Dimension	230*210*390mm
	Weight (with battery)	6.9kg
	Temperature	Operating Temperature: -20°C～60°C, Storage Temperature: -20°C～60°C
	Water/Dust Proof	IP65
Power	Power Supply	Lithium-ion
	Battery	Lithium battery×2, 6800mAh, 7.4V, Working time: 8h
Communication	I/O Port	USB-TypeC Port, TF slot, SIM slot:Micro-SIM
	Network	4G
	Extension Interface	LEMO 8-pin
	Bluetooth	Support
	WiFi	Support
	USB	Support OTG
	Mic/Loudspeaker	Support

*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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