

R180 Robotic Total Station



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R180 Robotic Total Station

- The R180 is a highly accurate and fast **Android robotic station**. It features a rotation speed of **180°/sec**.
- The R180 is available in two versions, **0.5" and 1" second**.
- The instrument has an **accuracy of 1 mm + 1 ppm**, with a range of up to 1000 m without a prism.
- Equipped with the Android operating system, the R180 has **Cube-a as onboard software**. This enables users to navigate online and interact with the touch screen in an easy and familiar way.



Technical Specification

R180 - Technical Specifications

ANGLE MEASUREMENT	R180 0.5" 1000 m	R180 1" 1000 m
Accuracy	0.5"	1"
Reading system	Absolute four-quadrant	
Display Resolution	0.1 "	
Angle Units	DEG 360° / GON 400 / MIL 6.400	

TELESCOPE	R180 0.5" 1000 m	R180 1" 1000 m
Magnification/ Field of view	30x / 1°30'	
Minimum focus distance	1.5 m	
Effective aperture	Ø 45 mm	
Laser pointer	Red light, coaxial	



R180 - Technical Specifications

DISTANCE MEASUREMENT RANGE	R180 0.5" 1000 m	R180 1" 1000 m
Standard mode prism	6.000 m	
Reflectorless	1000 m	

MEASUREMENT TIME	R180 0.5" 1000 m	R180 1" 1000 m
Prism (Track/Single)	<0.3 / 0.7 sec	
Reflectorless	Typically 0.8 sec (>500 m, >5 sec)	

DISTANCE MEASUREMENT ACCURACY	R180 0.5" 1000 m	R180 1" 1000 m
Standard mode prism	1 mm + 1 ppm	
Reflectorless	2 mm + 2 ppm	



R180 - Technical Specifications

MOTORIZATION	R180 0.5" 1000 m	R180 1" 1000 m
Technology	Tdrive	
Max rotation speed	180°/sec	
APC-Target Aiming Range	1.5 - 1000 m	
APC-Measurement Time	<10 sec	
Fast360°-Target Aiming Range	1.5 - 600 m	
Fast360°-Angle	H: 360° - V: 20°	
AIM accuracy	± 1 mm @ 100 m2	



R180 - Technical Specifications

OTHER SPECIFICATIONS	R180 0.5" 1000 m	R180 1" 1000 m
CPU	MSM8953	
Display/Keyboard	Two sides, 6" color LCD 720x1280 px touch screen	
OS	Android	
Memory	3GB+32GB	
Interface	RS-232/Micro USB/ Bluetooth long range	
Guide Light	Yes	
Camera	Yes	
Guide light	Yes	
Laser plummet	Yes	
Sensor	Temperature / Pressure	



R180 - Technical Specifications

POWER	R180 0.5" 1000 m	R180 1" 1000 m
Battery Voltage/Capacity	14.4 v / 6400 mAh	
Operating time	6 hours (one internal battery)	
Battery charger	4 hours	

PHYSICAL SPECIFICATION	R180 0.5" 1000 m	R180 1" 1000 m
Dimensions	430 x 255 x 235 mm	
Weight including battery and tribrach	9.3 kg	
IP	55	
Operating Temperature	-20° C +50° C (-4°F to 122°F)	



R180 – Tdrive Motors



R180 Robotic total station boasts **a rotation speed of 180°/sec**, making it one of the fastest in its product category. Not only is it speedy, but it is also **impressively quiet**, with noise levels among the lowest in its class.

Additionally, the very high motor speed allows for high-speed pursuit, even with a prism installed on moving vehicles. Not using gear technology ensures frictionless movement, greater durability, and less maintenance.



180°/sec



No Noise



Accuracy

Fast360°

The state-of-the-art robotic total station features a **cutting-edge 360° prism search technology** that allows users to locate their target quickly and accurately from any angle.

This advanced capability enables surveys to be completed with greater speed and precision, all while enjoying the convenience of a fully automated system. If the lock is lost, the total station, thanks to Fast360° technology, can quickly find the prism.



R180 – APC – Automatic Prism Centering



The innovative robotic total station is designed with automatic prism centering technology that takes the guesswork out of surveying. With this advanced system, users can **easily and quickly center their prism with minimal effort.**

Thanks to the total station's automatic centering feature, surveying processes can be streamlined and made more efficient.

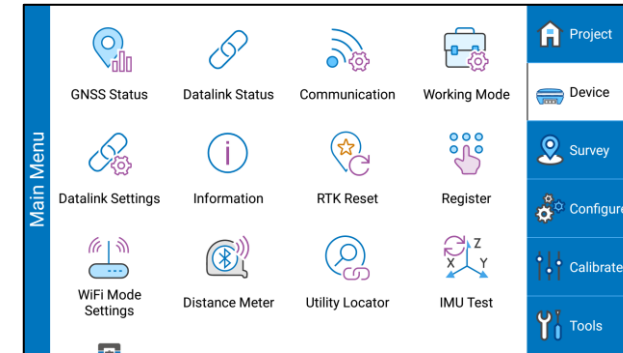
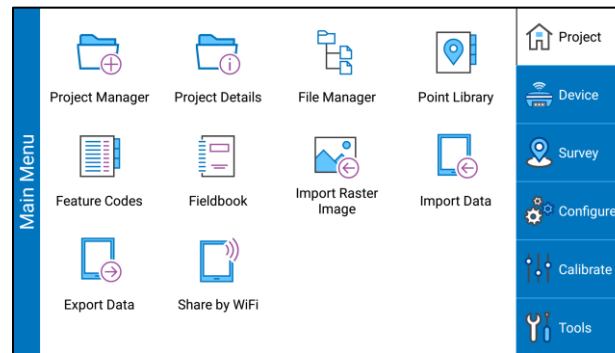


Onboard Cube-a Software

R180 – Cube-a TS-GPS

This onboard software allows operators to easily integrate data from GNSS and surveys conducted with the total station. Communication and data exchange between the station and the controller (GNSS) is made simple with a Bluetooth connection.

This means that with the total station, surveys carried out with GNSS, can be loaded through an external controller via Bluetooth. These surveys then can be completed within the total station.





The OnePole Solution is a surveying system that combines the high accuracy of prism measurements with the ability to measure points that are not visible from the Total Station (TS) using GNSS technology.

The OnePole Solution allows for the **simultaneous use of TS and GNSS and can easily switch between the two with a simple tap** on a button. Additionally, the system reduces prism search times through auto-aiming to the current GNSS position.



Marketing

R180 - Product pictures



R180 – Brochures

R180 TECHNICAL FEATURES

ANGLE MEASUREMENT	
Accuracy ¹	0.5"/1"
Reading system	Absolute four-quadrant
Display Resolution	0.1"
Angle Units	DGC 360°/GON 400°/ML 6.400
TELESCOPE	
Magnification/Field of view	30x / 1°30'
Tube length	144.5 mm
Minimum focus distance	1.5 m
Objective aperture	Ø 45 mm
Laser pointer	Red light, coaxial
TILT SENSOR	
Type	Dual-axis liquid-electric sensor
Compensation range/accuracy	± 3.0°/1"
DISTANCE MEASUREMENT RANGE²	
Standard prism mode	6000 m ³
Reflectorless ⁴	1000 m ⁴
DISTANCE MEASUREMENT ACCURACY⁵	
Standard prism mode	1 mm + 1 ppm
Reflectorless	2 mm + 2 ppm
MEASUREMENT TIME	
Standard prism mode	<0.3 / 0.7 sec
(Tracking/Single)	
Reflectorless	Typically 0.8 sec (>500 m, >5 sec)
DISTANCE MEASUREMENT	
Distance Unit	m/US FT/INT ft
Display Resolution	0.0001 m/0.001 m 0.001 ft/0.001 ft
MOTORIZATION	
Technology	Drive
Max rotation speed	180°/sec
APC Target Aiming Range	1.5 - 1000 m
APC Measurement Time	<5 sec
Fast360° Target Aiming Range	1.5 - 600 m
Fast360° Angle	H: 360° - V: 20°

1 Standard deviation based on ISO 17123-3
2 Good conditions: no haze, visibility about 40km, no heat shimmer, breeze
3 Class 1
4 Class 3R
5 Under optimal conditions on good surface
6 Standard deviation based on ISO 17123-4
7 Battery duration depends also on display brightness

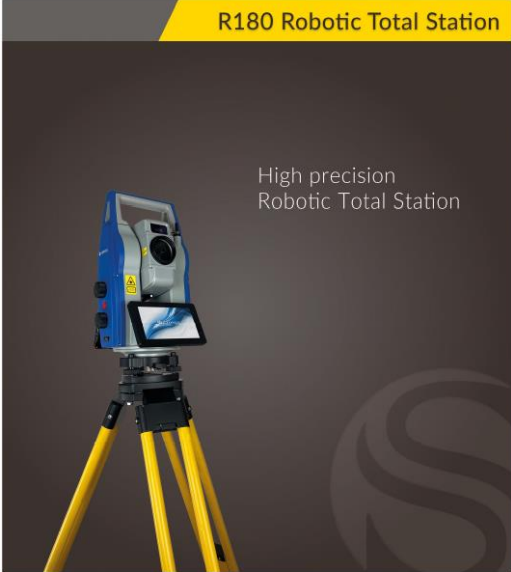
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R180 Robotic Total Station

High precision
Robotic Total Station



ONBOARD FIELD APPLICATION PROGRAMS

Cube-a TS-GPS

High precision Robotic Total Station

Very accurate and fast EDM robotic station. It features a 180°/sec and an EDM accuracy of 1 mm + 1 ppm, with a 30 m without a prism. The R180 is available in two versions, S and T. For both models, the quietness and smoothness in prismations are among the most observed and appreciated.

With the Android operating system, the R180 has Cube-a as its onboard software. This enables users to navigate online and interact with it in an easy and familiar way.

Onboard software includes all the classic functions of the total station, as well as the integration of jobs done with GNSS and surveys at station. This allows operators to achieve complex and accurate measurements in a short time and with high accuracy. The R180 has a camera and a light guide to further facilitate the work.



DRIVE MOTOR, FAST AND SILENT

R180 Robotic total station boasts a rotation speed of 180°/sec, making it one of the fastest in its product category. Not only is it speedy, but it is also impressively quiet, with noise levels among the lowest in its class. Additionally, the Drive technology, with a very high-speed motor, allows for high-speed pursuit, even with a prism installed on moving vehicles. Not using gear technology ensures frictionless movement, greater durability, and less maintenance.



HIGH ACCURACY AND PROFESSIONAL RESULTS

Instrument is top-of-the-line. Its detailed engineering allows for exceptional performance, achieving an accuracy of 1 mm + 1 ppm in prism mode, or a measurement speed of significantly less than one second.

LONG DISTANCE REFLECTORLESS

R180 guarantees high accuracy long range measurements: up to 600 m in reflectorless mode and up to 3000 m using a single prism, millimeter accuracy.

BUILT-IN CAMERA

R180 is further enhanced by the addition of a built-in camera. It can be utilized thanks to the presence of two 4-inch screens. The camera allows you to view the points operator have surveyed on the large screens, or to use the image to help with collimation.

ANDROID AND CUBE-A ON BOARD

R180 is equipped with an Android operating system and has Cube-a installed on board. The 4-inch touch screens allow you to have complete control of the station.

Cube-a

The R180 is equipped with the Android operating system and comes pre-installed with the powerful Cube-a program. This onboard software allows operators to easily integrate data from GNSS and surveys conducted with the total station. Communication and data exchange between the station and the controller (GNSS) is made simple with a Bluetooth connection. This means that with the total station, surveys carried out with GNSS, can be loaded through an external controller via Bluetooth. These surveys then can be completed within the total station. With Cube-a, users can navigate the program easily and efficiently, accessing all the classic functions of a total station while enjoying the added benefits of the Android operating system. This integration allows for seamless and streamlined workflows, saving time and effort while achieving the highest level of accuracy.

Fast360

The state-of-the-art robotic total station features a cutting-edge 360° prism search technology that allows users to locate their target quickly and accurately from any angle. This advanced capability enables surveys to be completed with greater speed and precision, all while enjoying the convenience of a fully automated system.

APC

The innovative robotic total station is designed with Automatic Prism Centering technology that takes the guesswork out of surveying. With this advanced system, users can easily and quickly center their prism with minimal effort. Thanks to the total station's automatic centering feature, surveying processes can be streamlined and made more efficient.

OnePole

The OnePole Solution is a surveying system that combines the high accuracy of prism measurements with the ability to measure points that are not visible from the Total Station (TS) using GNSS technology. While a TS requires reference points that must be visible from the station, an RTK-GNSS receiver can quickly determine its position with centimeter-level accuracy using data from satellites. The OnePole Solution allows for the simultaneous use of TS and GNSS, and can easily switch between the two with a simple tap on a button. Additionally, the system reduces prism search times through auto-aiming to the current GNSS position.



Configuration

R180 0.5” – Standard Configuration

PRODUCT CODE	DESCRIPTION	QUANTITY
B20-220119	Stonex R180, Robotic Total Station, 1000m, 0.5", Android	1
	Tools bag	1
	Target sheet	1
	Battery Li-64	2
	Adapter + Cable EU and US	1
	Strap of carrying case	2
	Carrying case	1
	Silica gel	2
	Rain cover	1
	Targets	1
40-450668	Software Stonex Cube-a TS+GPS on board v6.x	1



R180 1"– Standard Configuration

PRODUCT CODE	DESCRIPTION	QUANTITY
B20-220118	Stonex R180, Robotic Total Station, 1000m, 1", Android	1
	Tools bag	1
	Target sheet	1
	Battery Li-64	2
	Adapter + Cable EU and US	1
	Strap of carrying case	2
	Carrying case	1
	Silica gel	2
	Rain cover	1
	Targets	1
40-450668	Software Stonex Cube-a TS+GPS on board v6.x	1



R180 – Accessories

PRODUCT CODE	DESCRIPTION
30-350692	R180 Rain cover
30-350693	R180 Strap for carrying case
30-350694	R180 Carrying Case
30-350695	R180 Power Cable (EU type)
30-350696	R180 Power Cable (US type)
30-350697	R180 Battery Case
30-350698	R180 LI-64 battery
30-350699	R180 Charger





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