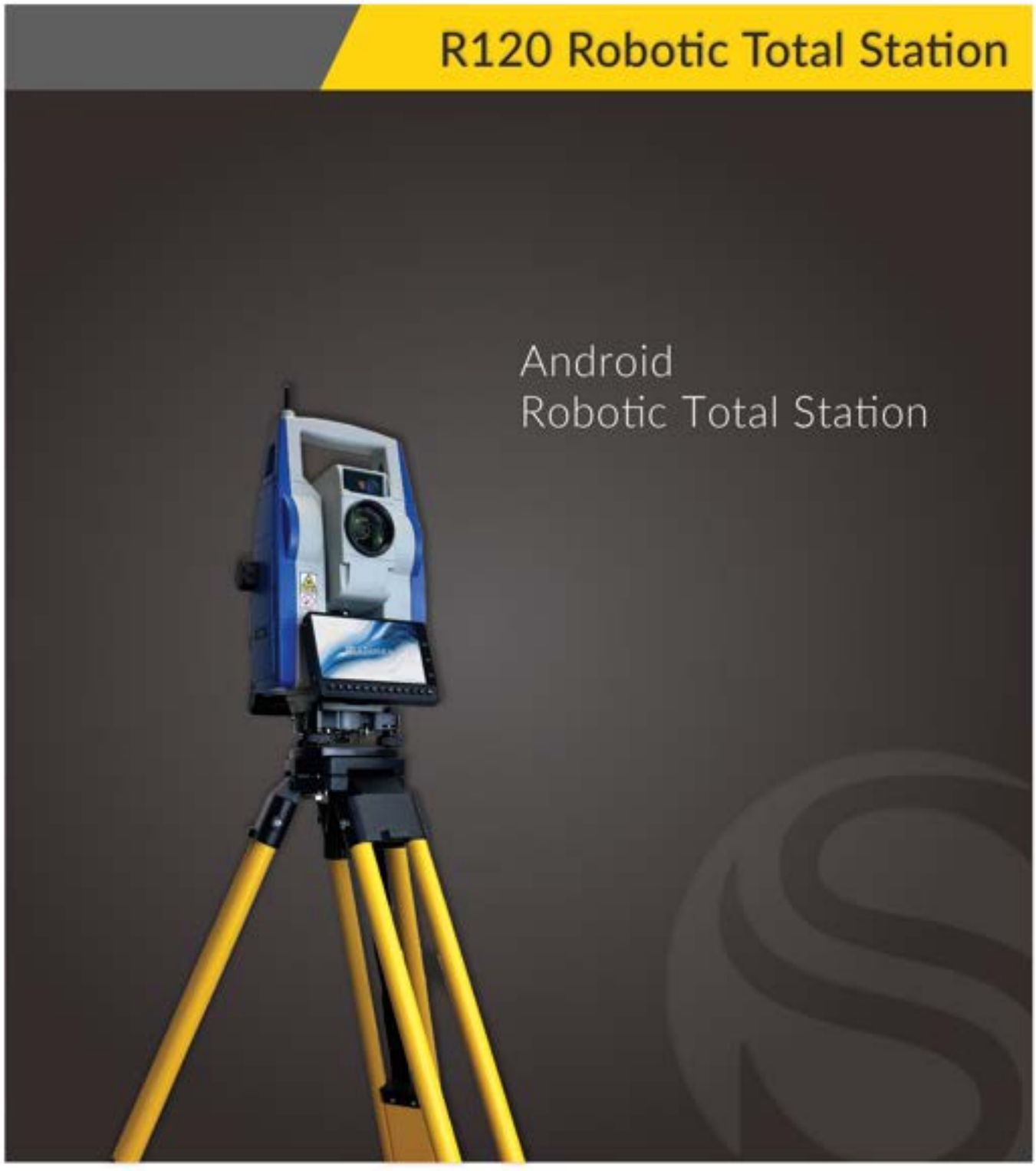
STONEX

R120 Robotic Total Station



suite cube

R120 Android Robotic Total Station

R120 is a robotic Android total station that provides exceptional precision with an angular accuracy of 1" (2" available) and an electronic distance measurement (EDM) accuracy of 1 mm + 1 ppm. It operates effectively up to 1000 m (800 m for 2" version) in reflectorless mode and features a rotation speed of 60° per second. This instrument combines the capabilities of a robotic station with excellent cost-effectiveness.

The R120 is designed with a 5.5-inch color touch screen and runs on the Android operating system, making it user-friendly and similar in interface to a smartphone, which enhances data exchange capabilities. The onboard Cube-a software allows operators to seamlessly integrate GNSS tasks with surveys performed using the total station.

Communication and data transfer between the station and the controller are facilitated via a Bluetooth connection. Additionally, the R120 has an integrated modem, enabling the operator to connect to the internet and send and receive topographic data.

APC | AUTOMATIC PRISM CENTERING

The R120 total station is designed with Automatic Prism Centering (APC) technology that precisely aims and centers the prism up to 1000 meters away. This allows for highly accurate distance measurements without the need for manual prism centering. The APC analyzes the received signal and can be configured by the user to automatically re-lock the prism if lost.

DC SERVO MOTOR

The R120 Robotic Total Station boasts maximum rotation speed of 60 degrees per second, ensuring accurate and controlled rotation. It can switch between Face 1 and Face 2 in just 2.9 seconds, enabling efficient and rapid measurements.

HIGH MEMORY CAPACITY

R120 has 4GB of RAM and 64GB of internal storage, providing a good balance of memory for multitasking and storing files.

LTE MODEM

R120 can fully utilize its SIM card port and integrated modem. The operator can connect to the internet to send and receive topographic data.

ANDROID AND CUBE-A ON BOARD

The Android System multiplies the possibilities for operators who can have touch management of jobs and work with convenient background maps. Thanks to this operating system, it is possible to use the total station in a simple and intuitive way, as if it were a smartphone.

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STONEX SURVEYING SYSTEMS

cube-a

The R120 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.
If the lock is lost, the total station, thanks to Fast360° technology, can quickly find the prism. This can be done through the Cube-a, simply by pressing a command, or by manually managing the search through an interface with joystick functionality.

APC

R120 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. Users can simply position the total station near their target and let the system take care of the rest. The automatic prism centering technology will quickly and accurately locate the prism and center it for the most precise measurements possible.

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 GPS 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.

R120 TECHNICAL FEATURES

ANGLE MEASUREMENT

Accuracy	1" - 2"
Reading system	Absolute, continuous four-quadrant
Display Resolution	0.1" / 1"
Angle Units	DEG 360°/GON 400/MIL 6.400

TELESCOPE

Magnification/ Field of view	30x /1° 30'
Tube length	154 mm
Minimum focus distance	1.2 m
Reticle	5 brightness levels adjustable
Objective aperture	Ø 45 mm (EDM: 50 mm)
Laser pointer[1]	Red laser dot

TILT SENSOR

Type	Dual axis, liquid photoelectric sensor
Compensation range/accuracy	±4'

DISTANCE MEASUREMENT RANGE[2]

Standard prism mode	3.500 m
Reflectorless[3]	1.000 m (800 m, for 2" version)

DISTANCE MEASUREMENT ACCURACY

Standard prism mode	±1 mm + 1 ppm
Reflectorless	D<500 m: ±2 mm + 2ppm D>500 m: ±5 mm + 2ppm

MEASUREMENT TIME

Standard prism mode (Tracking/Precise)	0.1 / 0.3 sec
Reflectorless	0.3 - 3 sec

DISTANCE MEASUREMENT

Distance Unit	m/US ft/INT ft
Display Resolution	1mm

MOTORIZATION

Technology		DC Servo Motor
Max rotation speed		60°/sec
Rotation time F1/F2		2.9 sec
APC	Centering range	3 – 1000 m
	Time	3 – 5 sec
	Search range	3 – 600 m
	AIM accuracy[2]	± 1 mm @ 100 m
Fast360	Search range	3 - 300 m
	Search time	Typically 90°: 3.5 s
	Angle[4]	H: 360° V: ±18°
Lock range		3 – 600 m

LASER PLUMMET

Laser type	Red laser dot, 635 nm
Accuracy	±1.5 mm at 1.5 m

LEVEL VIAL SENSITIVITY

Plate level	30"/2 mm
Circular level	8'

ENVIRONMENTAL CONDITIONS

Operating Temperature	-20°C to +50°C (-4°F to 122°F)
Storage Temperature	-40°C to +70°C (-40°F to 158°F)
Waterproof/Dustproof	IP55
Humidity	95% non-condensing

PHYSICAL SPECIFICATION

Dimensions	217 x 198 x 378 mm
Weight including battery and tribrach	7 Kg

POWER

Battery Voltage/Capacity	Li-ion rechargeable battery, 5400mAh
Operating time	Up to 6 hours
Battery charger	110/220V, charging time 4h

OTHER SPECIFICATIONS

CPU	MT6762
Display	5.5-inch, TFT LCD screen, 720 x 1280 px (2 displays)
Keyboard	13 keys
OS	Android 11
Memory	RAM: 4GB, ROM: 64GB
Interface	RS232 USB Type-C (OTG) Micro SIM TF Card
Data transfer	Bluetooth long-range 300 m WLAN USB-OTG Network 4G

ONBOARD FIELD APPLICATION PROGRAMS

Cube-a TS-GPS

1 A built-in rangefinder product equipped with a Class 3R laser has a hazardous distance of 1,000 meters (3,300 feet). Beyond this distance, the laser intensity is reduced to Class 1.

2 Standard conditions, clear, with no haze or overcast. Range and accuracy depend on atmospheric conditions.

3 With Kodak Gray Card White Side (90% reflective).

4 For a 64 mm round prism.

STONEX AUTHORIZED DEALER

STONEX®
Viale dell'Industria 53 - 20037 Paderno Dugnano (MI) - Italy
Phone +39 02 78619201
www.stonex.it | info@stonex.it

MK.1.1 - REV.02 - R120 - AUGUST 2024 - VER.02