

R20 Total Station

Precise, Efficient
and Easy



R20

Precise, efficient and easy Total Station

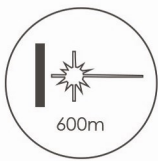
Stonex R20 combines functionality and reliability.

Optimal measure performances up to 5000m with prism, 600m reflectorless and 2" as angular accuracy.

The high performance telescope, with illuminated reticle, provides the best sighting quality at any environmental condition.

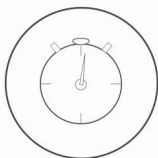
The onboard programs make it suitable for any construction site, cadastral, mapping and staking out work, through a user friendly interface.

As alternative, an external controller can be linked to Stonex R20 via bluetooth connection, giving the possibility to use a custom field software.



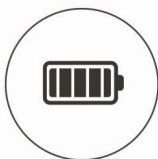
LIMITLESS DISTANCE MEASUREMENTS

By using digital phase laser ranging technology R20 guarantees high accuracy measurements: 600m in reflectorless mode and up to 5000m using a single prism, with millimeter accuracy.



FAST, ACCURATE, RELIABLE

Measuring distances in one second, with 2 mm accuracy, makes any job extremely cost effective and reliable. The wide range of application software allows to complete the Surveyor's tasks directly in the field.



ONE DAY OF CONTINUOUS FIELD WORK

Thanks to the low power consumption circuit design R20 gives the opportunity to continuously work for more than 22 hours.



TEMPERATURE PRESSURE SENSORS

Temperature and pressure changes have a negative impact on the accuracy of distance measurements. R20 monitors the changes and automatically adjusts the distance calculations.





R20

An easy and smart solution for your Survey

Whether the work is a basic survey or a stake out, R20 will always help you with a friendly interface and its intuitive field applications. The navigation menu drives the Surveyour into simple operations and the results are displayed in a clear way.



LOCK DRIVES & TRIGGER KEY

Ergonomic clamps and knobs to make target collimation fast and accurate using both the hands. Start the measure using the trigger key located on the side of the instrument.



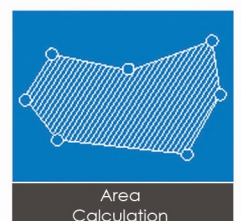
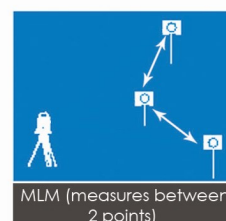
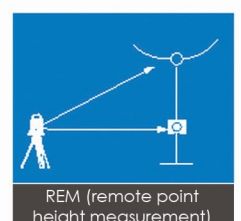
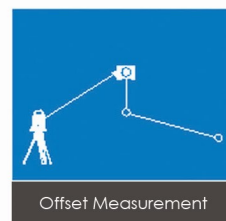
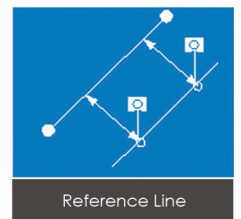
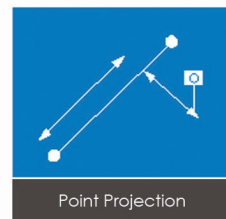
COLOR DISPLAY

R20 is equipped with 320x240 two color displays with well-designed icons which give a clear environment to the surveyor, even under full sun.



EASY CONNECTIVITY

Quick import & export of data through a USB dongle. A Bluetooth connection enables the R20 to communicate with a handheld device, giving the possibility to use a custom field software, such as Stonex Cube-a.



R20 TECHNICAL FEATURES

ANGLE MEASUREMENT

Accuracy ¹	2"
Reading system	Absolute encoder
Angle Units	DEG 360°/GON 400/ MIL 6.400
Display resolution (selectable)	1" /5" /10" 0.0001g/0.0005g/0.001g 0.01mil/0.05mil/0.1mil

TELESCOPE

Magnification / Field of view	30x / 1°30'
Tube length	160 mm
Minimum focus distance	1.7 m (5.6 ft)
Reticle illumination	4 levels
Objective aperture	φ 44 mm
Laser pointer	Red light, coaxial

TILT SENSOR

Type	Optoelectronic, dual-axis
Compensation range/accuracy	± 4.0°/3"

DISTANCE MEASUREMENT RANGE ²

Prism mode	5.000 m ³
Reflective sheet (6cm x 6cm)	800m ³
Reflectorless	600m ⁴

DISTANCE MEASUREMENT ACCURACY ⁵

Prism	2 mm + 2 ppm
Reflectorless	3 mm + 2 ppm

MEASUREMENT TIME

Prism (Track/Fast/Standard)	0.3/0.5/0.8 sec
Reflectorless	≥0.3 sec

DISTANCE MEASUREMENT

Distance Units	m / US-ft / INT-ft / ft-in ¹ / ₁₆
Display Resolution	0.001m/0.01ft

1 Standard deviation based on ISO 17123-3

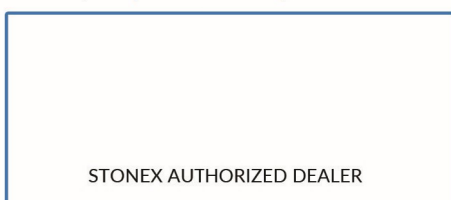
2 Good condition: cloudy, no haze, visibility about 40km, no heat shimmer, breeze. Under optimal conditions on Kodak Grey Card (90% reflective)

3 Class 1

4 Class 3R

5 Standard deviation based on ISO 17123-4

Illustrations, descriptions and technical specifications are not binding and may change



LASER PLUMMET

Carrier wave	635nm
Accuracy	± 1,5 mm @ 1,5 m
Spot	2,5 mm @ 1,5 m

LEVEL VIAL SENSITIVITY

Plate level	30"/2mm
Circular level	8'/2mm

ENVIRONMENTAL CONDITIONS

Operating Temperature	-20° C +50° C
Storage Temperature	-30° C +60° C
Waterproof/Dustproof	IP54

PHYSICAL SPECIFICATION

Dimensions	365 x 195 x 169 mm
Weight including battery and tribrach	5.6 Kg

POWER

Battery Voltage/Capacity/Type	7.4V/2600mAh/Li-ion
Operating time (angle measurement)	22 hours
Operating time (angle+dist. meas. every 30 s)	19.5 hours
Battery charger	100/240V, charging time 3h

OTHER SPECIFICATIONS

Display	Two sides, LCD 320×240 Dots/Alphanumeric
Memory	>80.000 points
Interface	USB 2.0/ Bluetooth 5.0
Sensors	Temperature/Pressure

ON BOARD FIELD APPLICATION PROGRAMS

Data recording and management, Stake out, Offset, MLM, Remote height, Area, Resection, Reference line



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