

R20 Total Station

Precise, Efficient
and Easy



R20

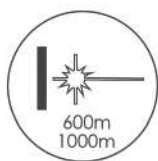
Highly accurate and efficient Total Stations

The R20 range is composed of 3 versions, the R20 1000 m model with 2" angular accuracy, the R20 1000 m model with 1" angular accuracy and the R20 600 m model with 2" angular accuracy. The three models offer optimum performance up to 5000 m with prism and 1000 m or 600 m reflectorless.

The entire R20 range is equipped with a high-performance, illuminated reticle telescope that provides the best quality of observation, whatever the environmental conditions.

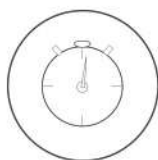
The programs on board of these models of total stations make them suitable for any work in construction, cadastral, mapping and staking, through a user-friendly interface.

Thanks to the presence of Bluetooth connection, it is possible to connect an external controller, giving the possibility to use a customized field software.



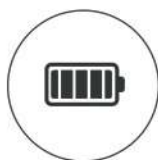
LIMITLESS DISTANCE MEASUREMENTS

By using a digital phase laser ranging technology, R20 guarantees high accuracy measurements: 1000 m or 600 m (depending on the model) in reflectorless mode and up to 5000 m using a single prism, with millimeter accuracy.



FAST, ACCURATE, RELIABLE

Measuring distances with high angular accuracy make 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

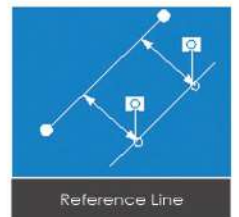
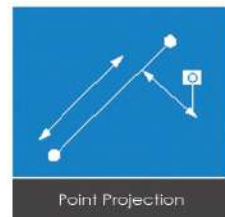
An easy and smart solution for your Survey

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.



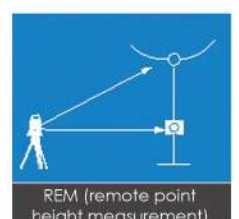
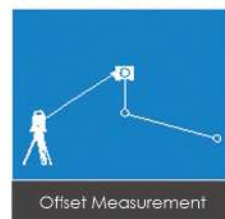
LOCK DRIVES & TRIGGER KEY

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.



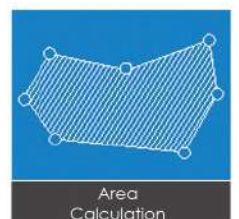
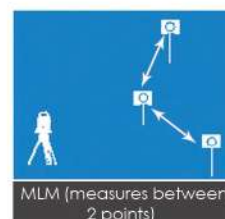
COLOR DISPLAY

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

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 RANGE²

Prism mode	5.000 m ³
Reflective sheet (6cm x 6cm)	800 m ³
Reflectorless	600 m / 1000 m ⁴

DISTANCE MEASUREMENT ACCURACY⁵

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 ^{$\frac{1}{16}$}
Display Resolution	0.001 m / 0.01 ft

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" / 2 mm
Circular level	8' / 2 mm

ENVIRONMENTAL CONDITIONS

Operating Temperature	-20°C +50°C
Storage Temperature	- 30°C +60°C
Waterproof/Dustproof	IP54 IP65 ⁶

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
--

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

⁶ Available for all versions on request

