

R80 Cube-h²⁴ Solution

Monitoring Solution



R80 Solution for Monitoring

Stonex R80 is a Motorized Total Station for classic jobs for survey and stakeout and perfect for high precision surveying areas, such as rail traffic monitoring, control of structures, bridges, dams and landslide areas.

R80 adopts up to date automatic prism recognition and positioning technology and has a high accuracy of 0.5"-1".
R80 has a distance measurement accuracy of 1 mm + 1 ppm (Prism) and a 1.000 m long range reflectorless distance measurement.

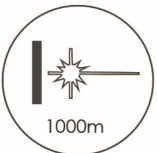
This motorized Total Station runs Windows CE 7.0 operating system and each user can choose the software that best suits own needs. It supports also SDK and external control protocol for software developing.

R80 is the perfect solution for monitoring because through the remote control software is possible turning the instrument on and off and have a tool of survey management of difficult and complex areas.



HIGH PRECISION SURVEYING

Angle measurement accuracy 0.5"-1"
Distance measurement accuracy 1 mm + 1 ppm (Prism)



LONG DISTANCE REFLECTORLESS

By using digital phase laser ranging technology, R80 guarantees high accuracy long range measurements: up to 1.000 m in reflectorless mode and up to 5.000 m using a single prism, with millimeter accuracy.



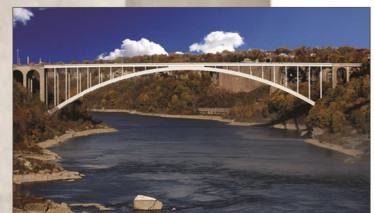
BLUETOOTH LONG RANGE

Use R80 built in Bluetooth for data transfer or to control the TS remotely.



HIGH QUALITY SOFTWARE

Windows CE 7.0 operating system. Supports SDK and external control protocol for software developing





Cube-h²⁴

Windows Software



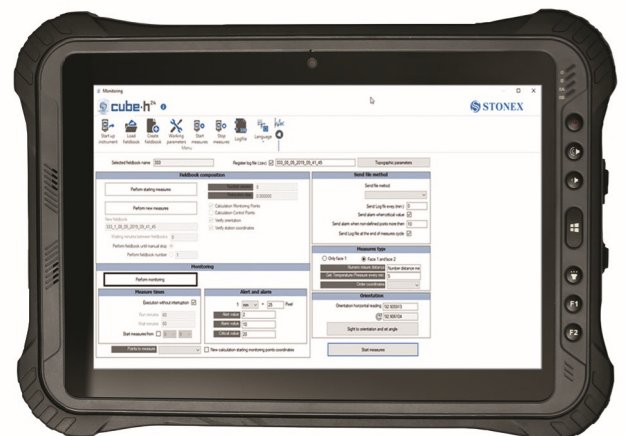
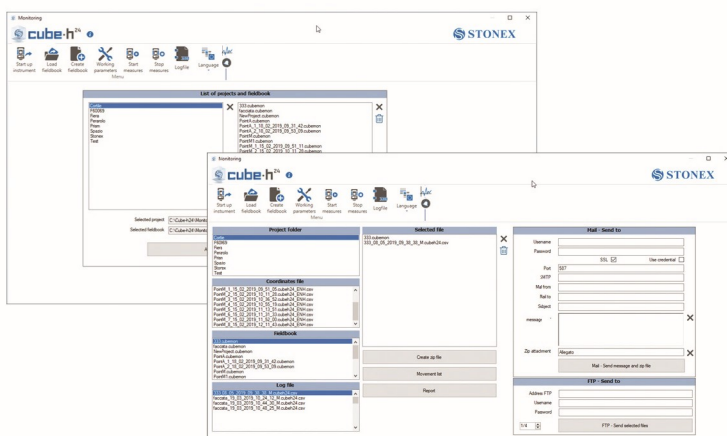
Cube-h²⁴ has been designed to perform operations to check movements of points in natural places or artificial structures, considered to be at risk of stability. In general, the materialization of the points is made with prisms used for topography, in order to determine the real distances from a station point. It is however possible to use points marked on a reflecting surface.

Cube-h²⁴ allows to:

- Set up surveys and calculation procedures, in order to compare the coordinates of the points subject to control in subsequent interventions
- Check either in real time or in scheduled time the displacements of the points

Main features:

- Cube-h²⁴ is a vertical solution for monitoring with motorized TS
- TS communication management
- Project management
- Continuous or periodic acquisition
- Graphical reports of the results
- Alerts and alarms generated in a range of critical values defined by user
- Sending log files and alerts or alarms to office by FTP or email



R80 TECHNICAL FEATURES

ANGLE MEASUREMENT

Accuracy ¹	0.5"-1"
Reading system	Absolute, continuous four-quadrant
Display Resolution (selectable)	0.1" / 0.5" / 1"
Angle Units	DEG 360°/GON 400/MIL 6.400

TELESCOPE

Magnification/ Field of view	30x/1°20'
Tube length	156 mm
Minimum focus distance	1.5 m
Reticle	10 brightness levels adjustable
Objective aperture	φ 45 mm
Laser pointer	Red light, coaxial

TILT SENSOR

Type	Electronic, quadruple-axis
Compensation range/accuracy	± 3.0°/1"

DISTANCE MEASUREMENT RANGE²

Standard mode prism	2.500 m ³
Long mode prism	5.000 m ⁴
Reflective sheet (6cm x 6cm)	800 m ⁴
Reflectorless ⁵	Up to 1.000 m ⁴

DISTANCE MEASUREMENT ACCURACY⁶

Standard mode prism	1 mm + 1 ppm
Long mode prism	4 mm + 2 ppm
Reflective sheet (6cm x 6cm)	2 mm + 2 ppm
Reflectorless	3 mm + 2 ppm

MEASUREMENT TIME

Standard mode/Prism (Tracking/Fine)	0.4/ 0.8 sec
Reflectorless	1.5±3 sec

DISTANCE MEASUREMENT

Distance Unit	m/US ft/INT ft
Display Resolution (selectable)	0.0001m/0.001m 0.001ft/0.01ft

MOTORIZATION

Technology	Gear motor drives
Max rotation speed	35°/sec
AIM accuracy	±1.5", ±1.5 mm @ <100 m
AIM range	1000 m at round prism
Search range	800 m at round prism
Lock range	600 m at round prism
Max lock speed	50 km/h at 100 m

LASER PLUMMET

Laser type	635nm semiconductor laser
Accuracy	1mm/1.5 m
Spot	± 1.5mm/1.5 m

LEVEL VIAL SENSITIVITY

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

ENVIRONMENTAL CONDITIONS

Operating Temperature	-20° C +50° C
Storage Temperature	-40° C +70° C
Waterproof/Dustproof	IP55
Humidity	95% non-condensing

PHYSICAL SPECIFICATION

Dimensions	220 x 225 x 380 mm
Weight including battery and tribrach	7.9 Kg

POWER

Battery Voltage/Capacity	7.4V/5.800mAh Li-ion
Operating time	5-8 hours
Battery charger	110/220V, charging time 4h

OTHER SPECIFICATIONS

CPU	ARM Cortex A8
Display/Keyboard	Two sides, 3.5" color TFTLCD 320x240 pixel touch screen
OS	Windows CE 7.0
Memory	4Gb internal
Interface	RS-232C/standard USB/ mini USB/Bluetooth long range
Guide Light	100 m
Sensor	Temperature/Pressure

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

1 Standard deviation based on ISO 17123-3

2 Good condition: 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 Under optimal conditions on good surface

6 Standard deviation based on ISO 17123-4



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