SPECIFICATIONS

Angle Measurement

Accuracy..... 1" (0.5" is optional)
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.....154mm
Minimum focus distance..... 1.2m
Reticle..... 5 brightness levels adjustable
Objective aperture..... 45 mm (EDM: 50 mm)
Pointer..... Red laser dot

Tilt Sensor

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

Distance Measurement Range

Standard prism mode..... 3500m
Reflectorless..... 1000m

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

APR

Centering range..... 3-1200m
Time..... 3-5sec
Search range..... 3-600m
AIM accuracy.....±1 mm @ 100 m

PS

Search range..... 3-300m
Search time.....Typically 90°: 3.5 s
Angle..... H: 360° V: ±18°
Lock range..... 3-600m

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.....

Environmental

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

Physical

Dimensions..... 217 x 198 x378 mm
Weight (battery and tribrach inclusive) .....7 kg

Electrical

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

Others

CPU.....MT6762
Display.....5.5-inch, TFT LCD screen, 720 x1280 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 Program

RTK-GO

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www.ruideinstrument.com
export@ruideinstrument.com
ruideinstrument
RUIDEPositioning

RUIDE

RTS1

Robotic Total Station

- ONE-MAN SURVEY & LAYOUT
- 0.5" -1"ANGLE ACCURACY OPTIONAL
- 1200M APR, 300M PRISM SEARCH
- AUTOMATED MONITORING (OPTIONAL)
- NEXT GENERATION RTK-GO APP

(V.202504)

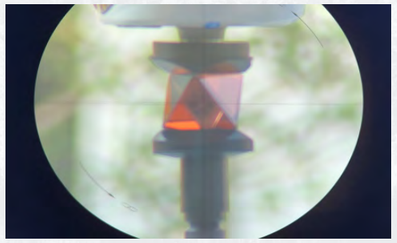
Smart Survey, Work With Ease

300m Search and Track: Stable and Smooth

RTS1 is able to actively search for a prism in 300m, and follow prism's movement constantly. The range is Horizontally 360°, Vertically ±18°.So when the prism-man has moved to a new target point, there is no need to re-aim and reset from the total station. It ensures the continuity of the measurement work and decrease the down time.

1200m Prism Recognition: Accurate and Easy

RTS1 is able to recognize prism within 1200m line of sight, operators don't need to frequently adjust instrument by their hands. It improves the efficiency and make the work easier.



Advanced Hardware: Superb Experience

4+64GB Memory & LTE Support

Data file storing and sharing is convenient.

Zigbee or Long-range BT

Provide a stable connection between total station and data logger in maximum 600m range.

5.5 Inches touch screen

With 13 shortcut keys enables intuitive viewing of measurement results and quick function execution, eliminating menu - based searching and boosting work efficiency.

Multiple Data Logger Options

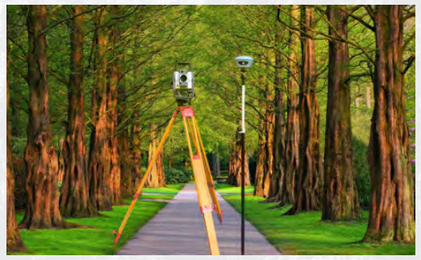
Supports various external devices like tablets, smartphones, and controllers. Choose suitable device combinations and working modes based on different measurement tasks and scenarios.

More Innovation, More Possibility

One-man Survey: More Intelligence, More Creativity

Traditional Mode (without RTK)

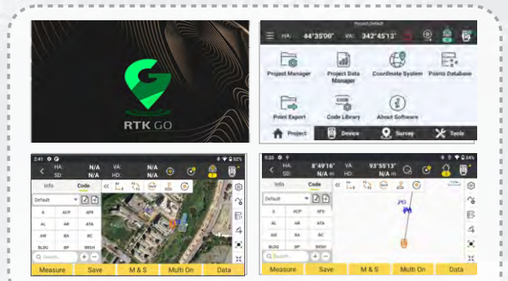
Under Traditional mode, RTS1 is able to achieve functions like Prism Search, APR, and LocknTRack. Also Long-range data link offers a flexible and agile remote control for One Person Survey system.



Prism Plus Position Mode (with RTK)

Now RTS1 is allowing surveyors to combine their GNSS RTK into total station measurement, by installing RTK receiver above the prism. When the prism is temporarily getting out of the line-of-sight,RTS1 can use RTK positioning data to find the prism. Once the prism is moving out from the obstacle, total station can re-sight at it immediately. It saves a lot of time of prism re-searching.

Onboard APP RTK



RTK-GO 2025

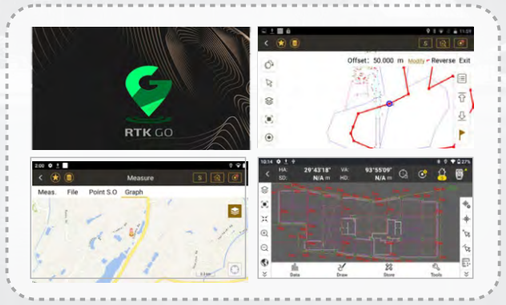
Previously, RTK-GO can be used with RUIDE GNSS receiver, manual total station, now it comes to Robotic Total Stations.

Graphical and iconic guidance - helps you collect data and conduct staking out efficiently.

Map-driven workflow - provides you intuitive guidance and real-time feedback.

RTK-GO 2025

High performance CAD - We can survey, stakeout, draw and edit CAD seamless switching between Survey and CAD modules. Also optimized algorithm makes RTK -GO load big size CAD files faster.



Code Library Survey - We can give Code and Graphic features to surveying points, which makes mapping and road survey easier.

In later 2024, a few update have been done: CAD function is available in all of measurement and stakeout program; Point picking on CAD drawing is much more precise; A new user interface is available; User is able to choose portrait display or landscape display according to their work need.

Automated Monitoring

By delivering exceptional angular and distance measurement accuracy, RTS1 enables precise detection of minor displacement changes at monitoring points. The wireless communication function on board allows users to perform remote control and data management at anytime.
Automated measuring and data recording also can reduce labor cost and improve accuracy.