SATLAB GEOSOLUTIONS

ART1

Robotic Total Station

From Team To Solo.

UNLOCK YOUR MOBILITY

Made by Sweden

ART1 Robotic Total Station

ART1 Robotic Total Station revolutionizes engineering measurement with its innovative, user-focused design. It smoothly switches between robotic and conventional modes. In robotic mode, its pole control system enables single-operator workflows effortlessly. For traditional needs, manual operation remains intuitive.

Its advanced full-automatic tracking capabilities guarantee precision while drastically reducing the likelihood of human error. Designed for engineering measurement and monitoring, this versatile system excels in diverse settings, from construction sites to machinery operations, providing reliable high-accuracy solutions.

- 5.5-Inch Touch Screen
- Wireless Connection
- 2MP Camera
- Qualcomm CPU
- 3GB RAM, 32GB ROM
- STR
- Android System
- Guiding Light

Features

Faster Station Setup

Eliminate the complexity of conventional station setup with Image-based Instrument Height Measurement and Free Station Setup. By automatically measuring instrument height and supporting setup without nearby control points, ART1 significantly reduces setup time while improving accuracy and consistency. Surveyors can establish their first station faster, minimize repetitive adjustments, and begin productive fieldwork with greater confidence, even in unfamiliar environments.

AI Visual Tracking

ART1 combines AI-powered visual recognition, live video search, and GNSS-assisted positioning to create a smarter tracking experience. The system rapidly identifies the prism, automatically locks onto the target, and maintains stable tracking even when temporary obstructions occur. This intelligent workflow minimizes manual aiming, shortens search time, and allows a single surveyor to work more efficiently across large job sites.

Intelligent Control Point Recognition

Control point identification becomes faster and more intuitive through ART1's intelligent visual workflow. Surveyors can quickly recognize control points, backsight points, and prism targets directly on the screen, reducing unnecessary searching and repeated observations. The optimized workflow improves operational continuity, helping users complete station setup, control establishment, and measurement tasks with greater speed and reliability.

Dual Tilt Technology

Measure challenging points with greater flexibility and confidence. Powered by the SP10 Pro GNSS Controller with an integrated GNSS receiver and IMU module, the system combines GNSS Tilt Compensation and Optical Tilt Measurement in one seamless workflow. Whether working beside walls, under building overhangs, inside confined spaces, or around other obstructed areas, surveyors can switch intelligently between the two methods to maintain high accuracy, uninterrupted workflows, and outstanding field efficiency.

High-Performance Android Platform

Built on a powerful Android operating system, ART1 delivers smooth performance, responsive interaction, and reliable stability throughout demanding surveying tasks. The familiar Android interface shortens the learning curve for new users while providing a modern operating experience that supports efficient multitasking and future software expansion.

Lower Total Cost of Ownership

ART1 is designed to maximize long-term return on investment. With a one-time purchase, no recurring subscription fees, and continuous software upgrades, users gain access to advanced surveying capabilities without worrying about additional licensing costs. Lower operating expenses, combined with long-term software support, make ART1 an economical solution for professionals and organizations alike.

Pole Control System

GNSS + TS Hybrid Surveying System

Powered by advanced GNSS + Total Station hybrid technology, the ART1 One-Person Surveying System seamlessly combines the rapid positioning capability of GNSS with the millimeter-level accuracy of a robotic total station. This hybrid approach provides efficient long-range guidance for fast point location while ensuring precise measurements in complex and GNSS-challenged environments. By leveraging the strengths of both technologies, ART1 delivers a continuous, efficient, and highly accurate surveying workflow.

SP10 Pro Communication Box

PHYSICAL	
Dimension	102*95*128mm
Weight	406g
SYSTEM CONFIGURATION	
Operating System	LINUX
Processor	Dual-core 1.2 GHz
Memory	RAM：128MB ROM: 8GB
COMMUNICATION	
Interface	Type-C
Bluetooth	2.4G
WIFI	2.4G
Radio	900MHz~920MHz; 26dB
ENVIRONMENTAL	
Operation Temperature	-25°C~+65°C
Storage Temperature	-40°C~+65°C
ACCURACY	
RTK	H:8mm+1ppm RMS V:15mm+1ppm RMS
RTK Tilt Survey	±3cm(≤30°)
Optical Tilt Survey	3mm+0.6mm/°（2σ，0°~60°）
POWER SUPPLY	
Power Consumption	≤35.28Wh(Measurement mode)
Duration	≥10h (Measurement mode)

SP10 Pro

(UHF+GNSS+IMU)

SL87 Tablet

Android 13

Multi-Constellation Tracking

8200 mAh Battery

Professional RTK Engine

Touchable Screen

IP67

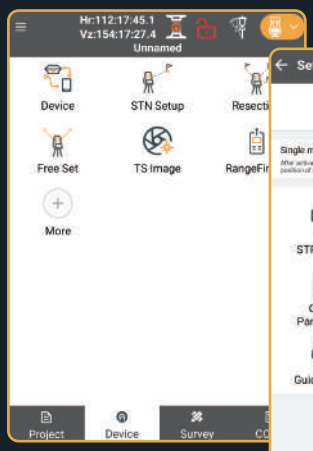
NFC

Software Control

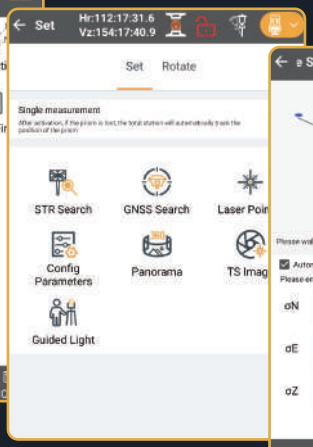
Satsurv — Powerful Field Surveying Software

Satsurv is a customized and easy-to-use Android software for field surveying tasks.

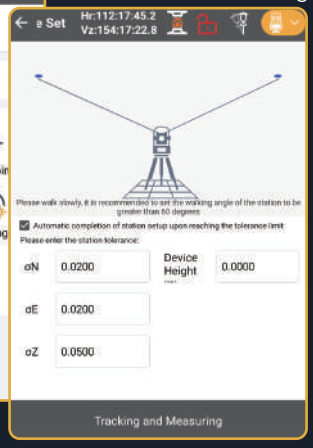
Device Interface



Total Station Setting



Free Station setting

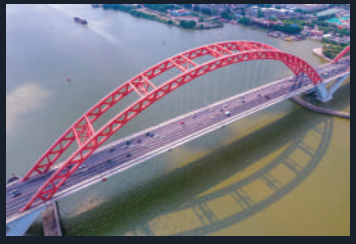


ST-Surv — Android Total Station Software

Effortlessly configures a range of scenarios with swift convenience and supports online updates.

Applications

Single-person Surveying



Bridge

Dam Measurement

Machine Control

SPECIFICATIONS

Angle Measurement[1]	
Angle Measuring Principle	Rotary absolute encoder
Accuracy	2″
Distance Measurement[2]	
Prism	1.5m to 3500m
Reflective Sheet	1.5m to 500m
Distance Accuracy[3]	
Prism	2mm+2ppm
Reflective Sheet	3mm+2ppm
Physical	
Dimension	226*227*423mm
Weight	8000g
Keyboard	Full keyboard (with backlighting, key beeps)
Display	5.5-inch (with touch function), braid rate: 720 * 1440, brightness ≥ 500cd/m²
Telescope	
Magnification	30X
Field View	1°30′
Minimum Focus	1.5m
Tilt Angle Compensation	
System	Dual-axis
Range of Compensation	≥6'
Accuracy of Compensation	≤1″
Rotation	
Max Revolving Speed	≥180°/sec
Max Change Direction Time	3.5 sec
Searching Time	Precise rotation to point to any target position time≤3.5s
STR(Super Target Recognition)	
Distance	1.5 to 600m
In-FOV Search Time	≤3s
Guide Light	
Visible Distance	5 to 150m
Communication	
Interface	Type-C, TF Card
Bluetooth	BT2.1+EDR/3.0/4.2 LE
WIFI	2.4G Hz Dual-Band, support AP mode and WIFI
Power Supply	
Power Consumption	70.56Wh (Measurement mode)
Duration[4]	≥4.5h (Measurement mode)
Power Source	Rechargeable battery
System Configuration	
Operating System	Android
Processor	Qualcomm CPU@ octa-core 1.8 GHz
Memory	RAM： 3GB ROM: 32GB
Environmental	
Operation Temperature	-30°C~+50°C
Storage Temperature	-40°C~+70°C
IP Rating	IP65

Reminders:
1. Good Conditions: good visibility of about 20km, the overcast sky without scintillation.
2. Under Kodak white board(90%), measuring distance may vary according to targets and the conditions.
3. Measuring time may vary with measuring distance and conditions. For the initial measurement, it may take a longer time.
4. Battery life performs best at 25 C. It might be shorter in low temperature or if the battery is old.

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