CRT
Robotic TS

High precision Robotic Total Station

The **Carlson CRT** is a highly accurate and fast Android-based robotic total station. It features a rotation speed of 180°/sec and an EDM accuracy of 1 mm + 1 ppm, with a range of up to 1000 m without a prism (800 m for 2" model). The CRT is available in two versions, 1" and 2". Both models are noted for their quiet, smooth prism searches and rotations.

Equipped with the Android operating system, the CRT includes onboard software enabling users to navigate online and interact with the easy and familiar touch screen interface.

With the ability to work in hybrid mode in Carlson SurvPC field software, the CRT also offers a GPS Search routine, the possibility of measuring the prism on a tilted pole, and other advanced hybrid functionality.

- **TDRIVE MOTOR–FAST AND SILENT** The CRT Robotic total station boasts a rotation speed of 180°/sec, making it one of the fastest in its product category. Not only is it speedy, but it is also impressively quiet, with noise levels among the lowest in its class. Additionally, the Tdrive technology, with a very high speed motor, allows for high-speed pursuit, even with a prism installed on moving vehicles. Not using gear technology ensures frictionless movement, greater durability, and reduced maintenance.

- **HIGH ACCURACY AND PROFESSIONAL RESULTS** This instrument is top-of-the-line. Its detailed engineering allows for exceptional performance, achieving an accuracy of 1 mm + 1 ppm with a prism, at a measurement speed of significantly less than one second.

- **LONG DISTANCE REFLECTORLESS CRT** guarantees high accuracy long range measurements: up to 1000 m in reflectorless mode (800 m for 2" model) and up to 6000 m using a single prism, with millimeter accuracy.

ANGLE MEASUREMENT

Accuracy[1]	1" or 2"
Reading system	Absolute four-quadrant
Display Resolution	0.1"-
Angle Units	DEG 360°/GON 400/ MIL 6.400

TELESCOPE

Magnification/ Field of view	30x / 1°30'
Tube length	164.5 mm
Minimum focus distance	1.5 m
Objective aperture	ø 45 mm
Laser pointer	Red light, coaxial

TILT SENSOR

Type	Dual-axis liquid-electric sensor
Compensation range/accuracy	$\pm$ 3.0'/1"

DISTANCE MEASUREMENT RANGE[2]

Standard prism mode	6000 m[3]
Reflectorless[5]	1000 m[4] (800 m for 2" version)

DISTANCE MEASUREMENT ACCURACY[6]

Standard prism mode	1 mm + 1 ppm
Reflectorless	2 mm + 2 ppm

MEASUREMENT TIME

Standard prism mode (Tracking/ Single)	<0.3 l 0.7 sec
Reflectorless	Typically 0.8 sec (>500 m, >5 sec)

DISTANCE MEASUREMENT

Distance Unit	m/USft/INTft
Display Resolution	0.0001 m/ 0.001 m 0.001 ft/ 0.01 ft

MOTORIZATION

Technology	Tdrive
Max rotation speed	180°/ sec
APC-Target Aiming Range	1.5-1000 m
APC-Measurement Time	<10 sec
Fast360°-Target Aiming Range	1.5 - 600 m
Fast360°-Angle	H: 360° - V: 20°
AIM accuracy	$\pm$ 1 mm@100 m[2]

LASER PLUMMET

Laser type	635 nm semiconductor laser
Accuracy	1 mm/ 1.5 m
Spot	$\pm$ 1.8 mm/ 1.5 m

LEVEL VIAL SENSITIVITY

Circular level	8'/2 mm

ENVIRONMENTAL CONDITIONS

Operating Temperature	-20°C +50°C (-4°F to 122°F)
Storage Temperature	-20°C +60°C (-4°F to 140°F)
Waterproof / Dustproof	IP65 / IP66[8]
Humidity	95% non-condensing

PHYSICAL SPECIFICATION

Dimensions	430 x 255 x 235 mm
Weight including battery and tribrach	9.3 Kg

POWER

Battery Voltage/ Capacity/ Type	14.4 V / 6400 mAh / Li-ion
Batteries number	2
Operating time	6 hours (one internal battery)[7]
Battery charger	100/240 V, charging time 4h

OTHER SPECIFICATIONS

CPU	MSM8953
Display	Two sides, 6" color LCD 720x1280 pixel touch screen
OS	Android
Memory	RAM: 3GB, ROM: 32GB
Interface	RS-232/ Micro USB/ Bluetooth long range
Data transfer	4G (build-in), Bluetooth, WLAN, Hotspot
Guide Light	Yes
Sensor	Temperature/ Pressure

WARRANTY

12 Month Limited Warranty

1 Standard deviation based on ISO 17123-3
2 Good condition: no haze, visibility about 40km, no heat shimmer, breeze
3 Class 1
4 Class 3R
5 Under optimal conditions on good surface
6 Standard deviation based on ISO 17123-4
7 Battery duration depends also on display brightness
8 On request when ordering

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