DATASHEET

TRIMBLE CX SCANNER

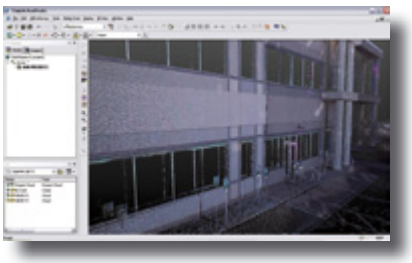
KEY FEATURES

Designed for performance in facilities management, architectural, and other applications

Trimble WAVEPULSE™ technology that maintains high accuracy over operating range

Large 360° x 300° field of view

Data integration with Trimble Access software



3D data inside Trimble RealWorks software

The Trimble® CX Scanner is an advanced 3D laser measurement instrument designed to provide highly accurate data acquisition capabilities. Integrating the flexible processing capabilities of Trimble Access™, the Trimble CX system provides a series of advantages for your project management, starting with the ability to perform QA/QC in the field by providing station-based reporting and 3D point cloud visualization.

The Trimble CX Scanner provides unique Trimble WAVEPULSE technology that allows constant high accuracy over the entire operating range. This is achieved by combining the low-noise sensitivity and high-distance discrimination afforded by Time-of-flight technology, with the high, short-range accuracy of phase shift technology.

With WAVEPULSE, users can acquire the clean 3D data needed for applications such as facilities management and BIM, architectural/facade documentation, tunnel and bridge surveying, archeological recording, accident investigation etc., allowing you to realize increased productivity gains and reduced operating costs. By requiring fewer setups and enabling faster processing time in challenging environments, the Trimble CX Scanner can contribute to improved worker safety.

BUILT FOR EFFICIENCY IN THE FIELD

The Trimble CX Scanner is built for efficient data capture in the field. With reliable scanning at 54,000 points per second, an 80 meter range and a 360 degree x 300 degree field of view, the solution provides efficient data capture from a single setup.

Rugged design, IP64 environmental rating, and a protective covering for the rotating mirror allow the scanner to deliver continuous and reliable results even in challenging and constricted environments.

An integrated camera collects additional image information that can improve the visualization, postprocessing, and communication of the captured data.

The Trimble CX Scanner is supported by Trimble Access™ software providing survey workflow on the Trimble Tablet rugged PC. Powerful and built for extreme field conditions, the Trimble Tablet controller combines a large, daylight readable display, IP67 environmental rating, and long battery life that can easily withstand the demands of the outdoor environment. With intuitive and streamlined Trimble Access software, capturing data with the Trimble CX Scanner requires a very short learning curve and data can be seamlessly transferred to the Trimble RealWorks® office software.

With a single, pre-programmed push-button operation, the Trimble CX can also capture data in controller-less mode. This represents a potential productivity gain in terms of on-site time constraints.

PRODUCE THE DELIVERABLES YOU WANT

The Trimble CX 3D scanner is just one advanced component of a superior surveying and Spatial Imaging solution that lets you capture, extract, and analyze spatial data. By combining the Trimble CX Scanner with Trimble Access general scanning software on a Trimble Tablet controller, and Trimble RealWorks office software, the complete system enables surveyors and geospatial professionals to generate compelling deliverables for clients.

Trimble RealWorks full-featured software enables you to visualize, explore, and manipulate the rich scan and image data of an as-built scene. It incorporates a set of useful tools and the popular step-by-step approach that so many users have come to appreciate. It also allows surveyors and engineers to produce compelling intermediate or final deliverables for direct output or export to industry standard CAD platforms.

TOTAL SOLUTION

Data from the Trimble CX Scanner can be used alone in Trimble RealWorks or it can be combined with data from other Trimble surveying instruments such as the Trimble FX and GX™ 3D scanners, the Trimble VX™ Spatial Station and other optical and GNSS instruments. Users can integrate information from past projects into Trimble RealWorks in order to augment deliverables to meet customers needs.

Trimble®

TRIMBLE CX SCANNER

PERFORMANCE

WAVEPULSE technology . . . . . combined time-of-flight, phase shift
Range (typically, under 80 m to 90% reflective surface[3]
standard clear conditions[1,2] . . . . . 50 m to 18% reflective surface[3]
Scanning speed . . . . . .54,000 pps
Standard deviation[4] . . . . . .1 mm @ ≤30 m;
1.25 mm @ ≤50 m; 1.8 mm @ ≤80 m;
Single point accuracy[4] . . . . . position = 4.5 mm @ 30 m; 7.3 mm @ 50m
distance = 1.2 mm @ 30 m; 2 mm @ 50m
Hz angle = 15" (70 µrad): Vt angle = 25" (120 µrad)
Modeled surface precision . . . . . .± 3 mm (depending on method)[2]
Luminance resolution . . . . . 16 bits
Leveling . . . . . circular level in tribrach: 8'
dual-axis compensator (user selectable);
resolution 0.005°; operating range ±10°
Data integrity . . . . . vertical compensation
Spot size . . . . . .8 mm @ 25 m; 13 mm @ 50 m
Scan grid . . . . . .minimum angular step (hor & vert): 0.002°
scan row (hz): 180,000 points ; scan row (vt): 150,000 points

SYSTEM SPECIFICATIONS

Laser . . . . . .type: 660 nm, red
Class: IEC 60825-1 – Class 3R
beam divergence: 0.2 mrad, 3 mm at exit
Field of view . . . . . 360° x 300°
Optics . . . . . .separate channel emission/reception
Data transfer . . . . . .USB flash drive; Ethernet
Digital imaging . . . . . .real-time integrated color video
Status indicators (power supply) . . . . . multiple

PHYSICAL

Instrument . . . . . dimensions: 120 D x 520 W x 355 H mm
weight: 11.8 kg (26 lb); power consumption: 50 W
Power supply . . . . . Integrated unit: AC 90–240 V, 50–60 Hz;
DC 24 V nominal; 2 integrated batteries (chargers separate)
dimensions: 200 D x 320 W x 230 H mm; weight: 12.6 kg (28 lb)
Instrument case . . . . . rugged, rolling;
dimensions: 795 D x 518 W x 394 H mm; weight: 12 kg (26.5 lb)
Environmental . . . . . operating temp: 0 °C to 40 °C;
storage temp: –20 °C to 50 °C
light: operational under dark and ambient light conditions
sealing: IP64 (I.E.C.); shock: IEC 60721-3-2: 2M2 (scanner)
2M3 (scanner in case)
humidity: 20% to 85%, non-condensing
Standard accessories . . . . . .rolling instrument case;
integrated power supply pack; Trimble tribrach;
50 adhesive flat targets; USB flash drive;
data transfer cable, WLAN antenna
Optional accessories . . . . . Trimble Tablet
Target Kit, Trimble Tri-Max tripod

FIELD SOFTWARE

Trimble Access for Spatial Imaging[5] is control software that runs on a Trimble Tablet to control the Trimble CX scanner.

Efficient in-field registration:
Station setup and resection routines
- Electronic leveling
- Dual-axis compensation
- Automatic target recognition
- Target re-check

Intuitive framing capabilities:
- Fast framing on point cloud or video
- Video-based remote instrument control

Scanning advantages:
- Full dome scanning
- Autonomous scanning mode
- Scan time estimation and resolution control

Sophisticated display:
- Real-time 3D visualization, pan and zoom, even while scanning
- Live video streaming
- Intensity mapped point cloud display
- Simulated surface rendering and environmental lighting
- Visualization of instrument location

Standard accessories
- Rolling instrument case
- Trimble tribrach
- Data transfer cable
- USB flash drive
- Adhesive flat targets
- Power supply unit
- Batteries/chargers

Optional accessories
- Target kit
- Trimble Tri-Max tripod

1 Standard clear: No haze. Overcast or moderate sunlight with very light heat shimmer.
2 Range and precision depend on atmospheric conditions, size of targets and background radiation.
3 Kodak Gray Card, Catalog number E1527795.
4 Figures (typical values at 99% albedo) given for standard data capture, single shot, on distance measurement.
5 Trimble Access also includes specialized applications; these are not currently supported by the Trimble CX scanner.

Specifications subject to change without notice.

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