Trimble TX8

LASER SCANNER

The Trimble® TX8 laser scanner sets new standards for performance and ease of use in high-speed collection of 3D data. Using a state-of-the-art blend of speed, long range and precision, the Trimble TX8 delivers high quality results in civil survey, industrial measurement, engineering and construction. It's the scanner of choice for high levels of productivity, accuracy and flexibility.

A Revolution in 3D Scanning

Using Trimble's patented Lightning technology, the Trimble TX8 can measure one million points per second while capturing precise data over its full measurement range. Because Trimble Lightning technology is less susceptible to variation in surface types and atmospheric conditions, you can capture complete datasets from each station. To colorize scans, an integrated camera can quickly take full field of view HDR images in just two minutes.

The Trimble TX8 streamlines work in the office as well. The scanner's clean, low-noise data reduces processing time and the data loads directly into Trimble RealWorks® and Scan Explorer, enabling easy project collaboration via Internet Explorer. RealWorks also provides efficient data flow into popular CAD programs and Trimble EdgeWise and SketchUp, for point cloud modeling.

High Performance for Demanding Applications

The Trimble TX8 is ideal for capturing detailed data on existing conditions. Making high-speed measurements without compromising range or precision, the Trimble TX8 delivers the high-density 3D point clouds design and analysis professionals need.

The Trimble TX8 provides a 360° x 317° field of view and captures full high density scans in only three minutes. The Trimble TX8 maintains its high precision over the entire range of 120 m with no need to reduce speed. Plus, it's available with an optional upgrade extending the range to an impressive 340 m.

Rugged, Flexible and Easy to Use

A color touchscreen display and one-button scanning make data capture easy and efficient. The intuitive interface lets you quickly manage scan resolution and define scan areas. Capture only the data you need and save time in the field and office. You can also operate the scanner remotely with a Trimble tablet or other mobile device via integrated WLAN.

The Trimble TX8 has a rugged design with an IP54 rating and protected mirror to capture data in demanding environments and bright sunlight. And its Class 1 eye-safe laser make it safe to use in busy public places.

Designed for mobility, the Trimble TX8 weighs just 11 kg and is powered by lightweight, long-life lithium ion batteries. The wheeled transportation case conforms to most airlines' checked luggage requirements enabling easy transport between job sites.

The Total Solution

The Trimble TX8 is designed for a broad array of uses and environments. Typical applications include:

- Civil engineering
- Surveying
- Plant and industrial measurement
- Mining and quarries
- Urban areas
- Preservation and restoration
- Building and commercial construction
- Deformation monitoring
- Quality control
- Public safety and forensics

The Trimble TX8's ability to capture precise high-density 3D data, combined with Trimble RealWorks software's advanced modeling, analysis and data management tools, make the Trimble TX8 laser scanner the complete scanning solution for geospatial professionals.

Key Features

- Increase field productivity with the fastest, high resolution scans on the market
- Confidence in data accuracy, clarity and richness
- True performance in real world environments
- Fast image capture to colorize scans with VISION™ technology
- Intuitive and easy to operate
- Data integrates with Trimble survey instruments and Trimble Realworks software

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PERFORMANCE

Overview

Scanning principle . . . . . Vertically rotating mirror on horizontally rotating base
Range principle . . . . . Ultra-high speed time-of-flight powered by Trimble Lightning technology
Scanning speed[7] . . . . . 1 million pts/sec
Maximum range . . . . . 120 m on most surfaces
340 m with optional upgrade
Range noise[5] . . . . . <2 mm on most surfaces with Standard scan modes
<1 mm with High Precision scan mode[2]

Range measurement

Laser class . . . . . 1, eye safe in accordance with IEC EN60825-1
Laser wavelength . . . . . 1.5 µm, invisible
Laser beam diameter . . . . . 6–10–34 mm @ 10–30–100m
Minimum range . . . . . 0.6 m
Max. standard range . . . . . 120 m on 18–90% reflectivity
100 m on very low reflectivity (5%)
Extended range[1] . . . . . 340 m
Range noise[5] . . . . . <2 mm from 2 m to 120 m on 18–90% reflectivity in Standard modes
<1 mm from 2 m to 80 m on 18–90% reflectivity in High Precision mode[2]
Range systematic error[5,6] . . . . . <2 mm

Scanning

Field of view . . . . . 360° x 317°
Angular accuracy[5] . . . . . 80 µrad

Scan Parameters	Preview	Level 1	Level 2	Level 3	Extended[1]
Max range	120 m	120 m	120 m	120 m	340 m
Scan duration (minutes)[3]	01:00	02:00	03:00	10:00	20:00
Point spacing at 10 m	15.1 mm	———	———	———	———
Point spacing at 30 m	———	22.6 mm	11.3 mm	5.7 mm	———
Point spacing at 300 m	———	———	———	———	75.4 mm
Number of points	8.7 Mpts	34 Mpts	138 Mpts	555 Mpts	312 Mpts

IMAGING

Integrated HDR camera . . . . . 10 megapixel resolution, full field of view
Image capture duration . . . . . 1 min for Standard, 2 min for HDR
External camera kits are available for higher resolution HDR images

OTHERS

Touchscreen display . . . . . TFT-LCD with 24-bit color
Size (mm) . . . . . 93 (H) x 55.8 (V), equivalent 4.3" diagonal
Resolution . . . . . 800 x 480 (WVGA)
Luminance resolution . . . . . 8 bits
Leveling . . . . . External bubble, onboard electronic bubble
Dual axis compensation . . . . . Selectable on/off
Resolution . . . . . 0.3"
Range . . . . . ±5'
Accuracy[5] . . . . . 1"
Data storage . . . . . USB 3.0 Flash Drive
Remote control . . . . . Operate with Trimble tablet or other mobile device via WLAN or with Windows 7 or higher PC or tablet via USB cable[4]

PHYSICAL

Dimensions . . . . . 335 mm W x 386 mm H x 242 mm D
(13.2 in W x 15.2 in H x 9.5 in D)
Weight . . . . . 10.7 kg (23.6 lb) with tribrach and no battery;
11.2 kg (24.7 lb) with tribrach and battery
Power supply . . . . . 76 mm W x 43 mm H x 130 mm D
(3.0 in W x 1.7 in H x 5.1 in D);
Weight: 0.66 kg (1.46 lb)
Battery dimensions . . . . . 89.2 mm W x 20.1 mm H x 149.1 mm D
(3.5 in W x 0.8 in H x 5.9 in D)
Battery weight . . . . . 0.46 kg (1 lb)
Power consumption . . . . . 72 W
Scan time per battery . . . . . >2 hours
Instrument case . . . . . 500 mm W x 366 mm H x 625 mm D
(19.7 in W x 14.4 in H x 24.6 in D)

ENVIRONMENTAL

Operating temperature range
(non-condensing atmosphere) . . . . . –0 °C to +40 °C (32 °F to 104 °F)
Storage temperature . . . . . –20 °C to +50 °C (–4 °F to 122 °F)
Operating humidity range . . . . . Non condensing
Lighting conditions . . . . . All indoor & outdoor conditions over entire range
(no lighting limitations)
Protection class IP54

CLASS 1
LASER PRODUCT

1 Optional upgrade increases range from 120m to 340 m.
2 Scan duration time is longer with High Precision scan mode.
3 Scan duration times for Standard scan modes.
4 Wired remote control requires optional USB cable PN 23704034.
5 Specification given as 1 sigma.
6 At distance of 1.5 m to 100 m for albedo >20%.
7 Effective scan speed for optimum scan quality.

Specifications subject to change without notice.

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