

GEDO GX50

KINEMATIC LASERSCANNER

Trimble GEDO GX50

The Trimble GEDO GX50 is a modern and flexible laser scanning system that is designed to operate with Trimble GEDO track measurement systems.

The Trimble GEDO GX50 is available in a single head configuration with one scanner and in a dual head configuration with two scanners. The modular system design allows the second scanner to be added later. Depending on application specific requirements, the scanners can be mounted in different positions and tilt angles. The scanner positioned perpendicular to the track axis provides an optimum of accuracy for high precision clearance analysis. In the butterfly configuration, objects that are perpendicular to the track become clearly visible.

The high-resolution three-dimensional data obtained with the system quickly and precisely can be used for clearance verification and as-built data collection. In terms of accuracy and resolution, the data provides an excellent basis for modeling in a BIM-compliant design and construction workflow.

Trimble GEDO Scan Systems

The Trimble GEDO GX50 can be combined with the Trimble GEDO CE 2.0 track measurement trolley to form various Trimble GEDO systems. The track measurement trolley measures the track gauge and cant in conjunction with the distance traveled.

The basic configuration, Trimble GEDO Scan, allows the acquisition of a purely relative or pseudo-absolute processed point cloud.

In the geodetic Trimble GEDO Rec-Scan configuration, the absolute track position is determined using a total station or GNSS receiver. This position is also used for absolute referencing of the point cloud.

The Trimble GEDO IMS-Scan and Trimble GEDO IMS-GNSS-Scan systems combine state-of-the-art inertial measurement technology and laser scanner into a multi-sensor system. The flexible processing allows different types of georeferencing for an absolute referenced point cloud.

APPLICATIONS

Planning, BIM and Construction

- ▶ Documentation of current track corridor state
- ▶ Spatial data for 3D design modeling
- ▶ Extensive clearance analysis for current track or new track to be designed
- ▶ Overhead power line planning
- ▶ As-built documentation after completion

Operation and Maintenance

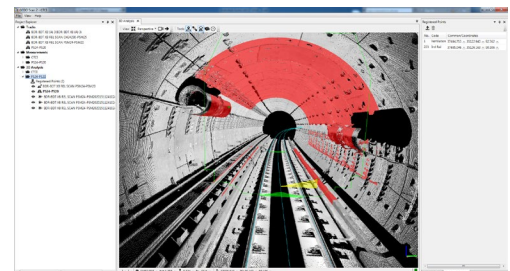
- ▶ Clearance analysis for extra-wide transports and cross-border rail traffic
- ▶ Narrow-gauge documentation for the track infrastructure owners (e.g. WinLUE for LIRA and Clearroute)

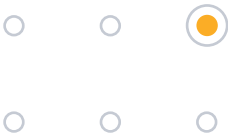
Asset Management

- ▶ Capturing rail asset objects for inventory documentation

Key Benefits

- ▶ Utilizing a universal track measurement trolley with modular expansion options
- ▶ Full 360° measurement provides visibility of all objects at the track
- ▶ Can be used with one or two scanners
- ▶ Flexible alignment of scanners for optimal visibility of objects
- ▶ High measuring frequency and rotation rate allows for fast trolley movement during recording
- ▶ Uniform power supply
- ▶ Combination with geodetic instruments for absolute point cloud referencing
- ▶ High-resolution live display for immediate on-site clearance checks
- ▶ High productivity and flexibility reduces personnel requirements and lowers costs

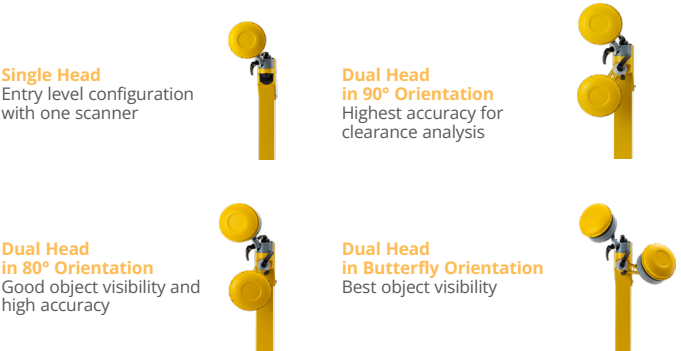




GEDO GX50

KINEMATIC LASERSCANNER

GENERAL	
APPLICATIONS	
	Survey of existing railway lines Main and branch railway lines, trams, metros and industrial tracks Clearance analysis Data acquisition for modeling and design
PERFORMANCE	
Lateral distance	< 5 mm
Height difference (at 5 m distance to object)	< 7 mm
In the direction of track ⁽¹⁾	10 mm to 20 mm
Accuracy, relative measurement (GEDO Scan) ⁽²⁾	5.000 m/h
Accuracy with total station (GEDO Rec-Scan) ⁽²⁾	600 to 1.200 m/h
Accuracy with IMU (GEDO IMS-Scan) ⁽²⁾	4.000 m/h



Specifications are subject to change without notice.

TRIMBLE GX50	
CONFIGURATION OPTIONS	
	Single Head / Dual Head 90° / 80° / Butterfly
SYSTEM	
Communication	WiFi or USB
Data storage	USB Flash Drive
POWER SUPPLY	
Internal	Two batteries
Type	Trimble S-Series Li-Ion, rechargeable
Operating time	Approx. 4,5 h for Single Head / approx. 3 h for Dual Head
External	12V
SCANNER	
Laser class	1 (eye-safe)
Maximum range	80 m (for surfaces with >80% ⁽³⁾ reflectivity)
Shortest measurement distance	0,6 m
Accuracy ⁽⁴⁾ / Precision ⁽⁵⁾	2 mm / 2,5 mm @ 30 m
Scanner calibration	Long-term stable, no individual calibration necessary
Measurement rate Single / Dual Head	500 kHz / 1 MHz
Scanning speed Single / Dual Head	120 Hz / 240 Hz
Field of view Single / Dual Head	345° / 360°
ENVIRONMENTAL	
Operating temperature	-20° C ⁽⁶⁾ to +50° C
Storage temperature	-40° C to +70° C
Relative humidity (operating)	20 % to 80 %
Relative humidity (storage)	20 % to 95 %
Protection against end penetration of dust and water	IP 65
WEIGHT AND SIZE	
Base module	5,8 kg
Scanner with fixture	2,5 kg
Transport case	35 x 54 x 82 cm

- ⁽¹⁾ Depending on the distance between synchronization points
⁽²⁾ Depending on desired resolution in chainage direction. Specifications refer to dual head system and profile spacing < 10 mm
⁽³⁾ Under typical environmental conditions
⁽⁴⁾ Accuracy is the degree of correspondence between a measured value and its actual (true) value
⁽⁵⁾ Precision is the degree to which further measurements show the same results
⁽⁶⁾ When using an industrial-grade USB flash drive



NORTH AMERICA
Trimble Inc.
10368 Westmoor Dr
Westminster CO 80021
USA

EUROPE
Trimble Railway GmbH
Korbacherstraße 15
97353 Wiesentheid
GERMANY
gedo.trimble.com

ASIA-PACIFIC
Trimble Navigation
Singapore PTE Limited
3 HarbourFront Place
#13-02 HarbourFront Tower Two
Singapore 099254
SINGAPORE

