Trimble 4D Control

MONITORING SOFTWARE

POWERFUL AND EASY TO USE REAL-TIME STRUCTURAL MONITORING SOFTWARE

Trimble® 4D Control™ software reliably controls all measurement data for structural and earthen monitoring projects all over the world. It triggers alarms based on user defined thresholds, along with compiling and analyzing the data. With an easy to use web based interface Trimble 4D Control powerfully handles real-time, multi-sensor operations required for complex structural and earthen monitoring around construction excavations, in mines, dams and bridges globally.

Complete Sensor Management

Trimble 4D Control Version 5.0 software easily manages a wide variety of monitoring sensors; from total stations to piezometers and crack gauges to GNSS reference receivers on multiple project sites. The software measures and stores the data according to schedules that you define, including measurement cycles, communications and the flow of incoming data.

Fast Project Set-up

A streamlined sensor configuration workflow enables geotechnical instruments to be easily set-up at the beginning of the project enabling faster installation. This simplified sensor configuration is further enhanced by automatic detection of sensors including type and location which greatly reduces set-up errors.

Automated Measurements 24/7

With Trimble 4D Control software you can define groups of points to be measured and their observation schedule. For optical measurements, you simply 'train' the system by aiming the total station to each point when setting up your project. The system then automatically measures to the points

according to schedules that you have defined. For GNSS monitoring, you define measurement intervals, cutoff angles and other parameters required for processing GNSS data. To ensure the best results for your monitoring project, you simply choose the GNSS processing technique to ensure the best results for your monitoring project.

Advanced Data Analysis

Trimble 4D Control monitoring software uses sophisticated algorithms for network deformation analysis and reporting, providing detailed evaluations of the data including highlighting points that are moving. You can identify random or systematic measurement errors and spot movement in your points. Trimble 4D Control highlights cyclic movement, such as day/night or high/low temperatures, as well as sudden or unexpected changes in measurements. With Trimble 4D Control you can define the direction of movement expected for each point. The point's motion is computed along or across this axis as well as in the vertical plane. It's a powerful tool used for understanding the behavior of your monitoring project.

Key Features

► Ensure site safety with robust and powerful real-time monitoring software providing unparalleled movement analysis for a large range of monitoring sensors

► Collect the displacement data you require to mitigate risk and make informed decisions about the safety of the structure and surrounding environment in real-time

► Quickly connect and configure geotechnical sensors from a variety of manufacturers via compatibility with the Loadsensing wireless gateway

► Easily understand movement across multiple projects with advanced data analysis and visualization tools, and access this information anywhere using the web interface

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Visualizing Your Monitoring Projects

Trimble 4D Control has a Web interface so that you can visualize multiple monitoring projects providing an overview in real-time.
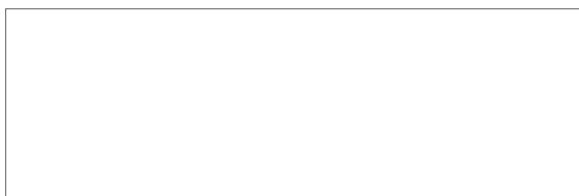
- ▶ Easy charting lets you plot and display the results of any sensors, either individually or as part of a set
- ▶ Tables deliver data from monitoring sensors for quick assessment of movement
- ▶ Powerful map and custom views identify sensors and measurement points
- ▶ Link to project webcams in real-time for visual inspection from any location
- ▶ Control access to stakeholders by assigning different access levels to ensure information is available to those who need it.
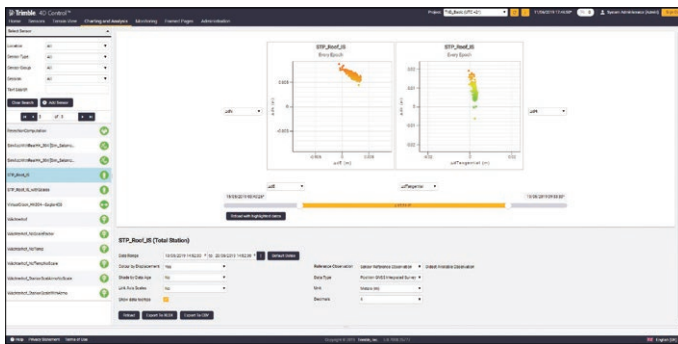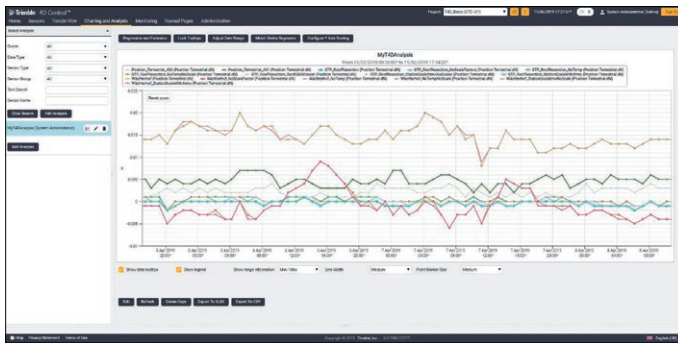
Software Components Overview

Every monitoring project requires customization. Trimble 4D Control Monitoring software has modules that best fit individual sites and instrument set-ups. These Core Modules can be added to existing installations anytime.

Frequently Used Modules	Description
Control Room Web	Enables you to monitor multiple Trimble 4D web installations.
Terrestrial	Controls total stations and provides real-time and post-processing engines to monitor the location of targets.
GNSS	Provides real-time and postprocessing engines to monitor GNSS reference stations.
Geotechnical	Provides continuous high precision measurements and rapid updates to monitor over long distances.

Specialized Modules	Description
Seismogeodetic	Uses an advanced Kalman filter to combine GNSS displacement and high frequency accelerometer data to produce 200 Hz displacement data in near real-time.
RTX	Trimble's advanced RTX™ technology performs absolute position estimation and coordinate integrity monitoring in real-time, removing the requirement for GNSS reference stations.
High Rise	Uses GNSS and inclination sensors to monitor high-rise structures during high-rise construction delivering precise and reliable coordinates on demand.