



+ GMS-Dual

The GMS-Dual (Geotech Monitoring Station) is a long-term, background monitoring tool designed to track and monitor both prisms and virtual points.

The system allows for measurement of areas that are difficult, dangerous or even impossible to reach using prisms.

MAKING MINING SAFER

It specialises in monitoring open cut pits and highly vegetated slopes, and detecting and measuring deformation on tailings dams, dumps and cuttings.

The GMS-Dual delivers all the same features as its sister model, the GMS-Prism, plus many more.

Both systems are equipped with a range of features that take them well beyond the capabilities of typical robotic total stations, including smart data capture, intuitive visualisations and a powerful camera suite.

Features and Benefits

PRISM AND PRISMLESS MONITORING

The GMS-Dual monitors using both prisms (Prism Points) and virtual points (Pixel and Precision Points) placed directly on the rock.

Prism Points are highly accurate, can be scanned from long ranges, and are the fastest to scan.

Pixel Points require no prisms, are fast to scan, and can be placed in as many locations as required.

Precision Points are ideal for pinpointing and observing key areas of concern, especially on rough, jagged rock faces and areas on the wall with a low incidence angle to the laser.

Although taking longer to scan, the resultant accuracy in these scenarios is unmatched.

FLEXIBLE POINT SELECTION AND INTERLACING

Users can create wall folders using any types of points in any combination.

Prism, Pixel and Precision Points can be selected and interlaced in a single scan to suit the required accuracy and scan time.

Existing prism locations can be imported, or points can be selected using the on-board cameras.

HIGH ACCURACY POINT MEASUREMENTS

The GMS-Dual measures and displays deformation for all types of points with high accuracy.

Multiple streams of deformation data are collected, with different atmospheric timeframe processing.

All measurements are processed and ready for analysis at the end of each scan, enabling the early detection of movement.

For additional accuracy, the vector movement in 3D is also measured for prisms, empowering users to better understand ground conditions and get the benefits of both readings.

Users can analyse individual points, or average groups of points in any configuration.

AUTOMATIC GRID SCAN

The GMS-Dual can be rapidly deployed using the automatic grid scan feature.



The software automates a grid of Pixel Points once the scan area is specified, allowing for immediate scanning.

Using up to 1000 Pixel Points with dense pixel spacing, the system ensures that no point of interest is overlooked.

POWERFUL DATA VISUALISATION AND ALARMING

No longer relying on basic spreadsheets, all data from the GMS is intuitively visualised in GroundProbe's patented software, SSR-Viewer.

Users are given access to its entire suite of charting, analysis and alarming tools, gaining the full benefits that our radar customers are accustomed to on top of a range of features developed specifically for the GMS.

DUAL CAMERA IMAGING

The GMS is equipped with dual cameras offering three levels of zoom.

The wide-angle camera captures broader scope images of the points while monitoring occurs.

SSR-Viewer then automatically aligns all photographs into one panoramic scene to produce a vivid, high definition image.

With the second camera attached to the telescope, users can not only precisely see and control the location of their points, but also capture its details.

REMOTE VISUAL INSPECTIONS

Users can control the unit from the software to carry out a visual inspection in real time.

The GMS laser uses a high-power telescope that is also used for camera imaging, with an extreme level of zoom not found in traditional cameras.

This allows customers to remotely inspect areas from their desk, at a level often not possible in a standard pit inspection.

DATA AND IMAGE CO-REGISTRATION

In SSR-Viewer, high-definition images are co-registered with the data generated by the GMS.

The data is visualised as a deformation heatmap and draped directly over the image, providing spatially co-located information of every point.

By clicking on any part of the image, movement can be reviewed and assessed live.

AUTOMATIC PRISM COLLIMATION

Prism Points are automatically tracked and located at every scan.

There are two lasers on board; one for measuring deformation and one dedicated to prism collimation.

This ensures that even if a prism is moving, its location is never lost, without ever relying on historical data for coordinate information.

The GMS hunts for, finds and locks Prism Points into their exact position with each and every scan.

MONITORING NEVER STOPS

With a built-in failsafe for increased robustness, the GMS will never miss a scan, much unlike other systems on the market.

Through its on-unit processing and our software's trusted data sync feature, the GMS will continue to collect data, even if the Wi-Fi is lost or the Primary Monitoring Point is shut down.

MULTI-SENSING MONITORING

All data collected can also be directly imported into data aggregation software MonitorIQ, allowing users to visualise GMS and other geotechnical sensor data in a standardised format to run analysis, discover trends and generate powerful reports.

TWO WAYS TO MONITOR

For ultimate flexibility, the GMS-Dual can also be used a periodic monitoring tool to suit differing site needs. Multiple areas can be scanned at regular intervals using the one device, allowing periodic coverage of typically active areas.

AUTOMATED GEO-REFERENCING

The GMS has fully automated geo-referencing capabilities, needing only two reference points with known coordinates.

Any prism coordinates and/or the GMS device location can be nominated as reference points. Data is fully geo-referenced, and coordinates are updated and exportable on every scan.



