GMS-Prism

The GMS-Prism (Geotech Monitoring Station) is a long-term, background and predictive monitoring tool designed to track areas of geotechnical movement that are difficult to monitor using Slope Stability Radars (SSR).

The GMS achieves this through the use of LiDAR to ensure highly accurate tracking and monitoring of physical prisms installed across areas of interest.

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

Whether choosing the GMS-Prism or its sister-model, the GMS-Dual; both systems are equipped with a range of hardware and software features that take them well beyond the capabilities of typical robotic total stations.

The system has undergone significant software and hardware updates, making it more user-friendly and versatile.

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Features and Benefits

HIGH ACCURACY POINT MEASUREMENTS

The GMS-Prism measures and displays deformation for prisms with high accuracy.

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

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

For additional accuracy, the vector movement in 3D is also measured, giving users a better understanding of ground conditions with the benefit of both readings.

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.

REMOTE, VISUAL INSPECTIONS, ON-THE-FLY

The GMS includes a zoom functionality with a digital zoom magnification of up to eight times.

It is also fitted with a five-megapixel wide-angle camera to capture entire areas of interest with ease.

This allows users to conduct remote, visual inspections of a slope or tailings dam - through MonitorIQ® Desktop - from the safety of the office.

MONITORING NEVER STOPS

With a built-in failsafe for increased robustness, the GMS will never miss a scan.

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.

TWO WAYS TO MONITOR

For ultimate flexibility, the GMS-Prism can also be used as 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 various active areas.

AUTOMATED GEO-REFERENCING AND DATA EXPORT

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

Any prism coordinates as well as the GMS device location itself can be nominated as reference points.

Data is fully geo-referenced, with coordinates updated and exportable on every scan.

DATA AND IMAGE CO-REGISTRATION

In MonitorIQ® Desktop, 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.

SUSTAINABLE, SOLAR POWER CAPABILITIES

Like many of our monitoring systems, the GMS is compatible with a myriad of solar set-up solutions.

This set-up involves solar panels which connect to the controller which is attached to the battery bank and the power supply unit.

This solar power integration demonstrates GroundProbe's commitment towards sustainable practices, especially with regard to energy and power sources.

SOPHISTICATED DATA VISUALISATION AND ALARMING

All data from the GMS is intuitively visualised in GroundProbe's patented software, MonitorIQ® Desktop.

These powerful visualisations include both 3D DTM View and Front View.

Working in conjunction with MonitorIQ® Desktop, GroundProbe's dedicated Alarm Centre application directly imports all GMS alarms set up in MonitorIQ® Desktop.

This provides users with an efficient way to handle and acknowledge alarms from multiple sensors on the one screen.

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