Altas Web-Based Monitoring

Atlas Monitoring Software provides a fast, reliable, and cost-effective way to process and distribute data collected from sensors at a site. Atlas runs on a web server and looks like a web site. It is hosted at a data center with excellent connectivity and security.

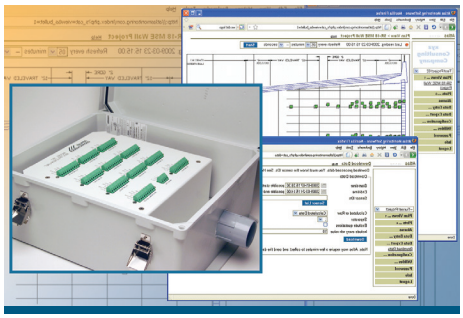
Users work with Atlas via their web browsers and click on links to access data and graphs.

Certain users have rights to set up Atlas projects, graphs, reports, and alarms. Once a project is set up, Atlas is ready for data.

In most cases, a PC, either on site or remote, will retrieve readings from the loggers at the site and forward data files to the Atlas site. Data that is not logged automatically can be entered manually using a web browser.

Atlas scans incoming readings for alarm conditions and then stores the readings in the project database.

Now Atlas is ready to present data. When users log on, graphs and reports are just a few clicks away.



DATA PRESENTATION

Plan Views let users see at a glance the status of every sensor at the site. Created from site drawings or photographs, plan views have an overlay of small colored boxes, each indicating the location of a sensor and its current reading. The boxes change color to indicate alarms. Plan views are refreshed automatically.

Time Plots show sensor data against time. All plots generated by Atlas can be printed or saved for use in documents. It is also possible to download the data used in the plots.

Correlation Plots show one series of data values plotted against another series of data values.

Profile Plots show displacement data from inclinometers and beam sensors.

Reports include a cover page and selected data, graphs, and remarks. Reports can be emailed to users on a daily, weekly, or monthly schedule.

Data Downloads lets users specify one or more sensors, a date range, and the data separator needed for their spreadsheets.

Alarm Notifications are sent by email, which can be fowarded by fax, cell phone text messaging, pager, and voice mail, where these services are available.

ADVANTAGES

Atlas never sleeps: Atlas is at work 24 hours a day. It scans for alarm conditions, processes data on demand, and always presents the most current information available.

Atlas is web-enabled: With Atlas, data and graphs are available anywhere there is an internet connection: at work, at home, at the client's office, or half-way around the world.

Atlas is efficient: Atlas automates and standardizes data processing and presentation, so results are fast, reliable, and immediately available.

Atlas is familiar: Most users need no training at all, since they already know how to use web browsers.

Atlas provides continuity: Atlas keeps sensor calibrations, processing routines, and data in a secure, central location. Services that depend on Atlas are not affected by workplace events such as computer crashes or changes in personnel.

Atlas is affordable: Atlas is a web service with monthly plans sized to match your projects.

ATLAS MONITORING SOFTWARE

Atlas Monitoring Software is specially designed to process and distribute data collected from geotechnical sensors. Atlas runs on a web server and users access Atlas with their web browsers.

DATA INPUT

Automatic Import: Atlas automatically imports data files that are sent to its input folder. In a typical scenario, a PC automatically retrieves readings from data loggers at the site and forwards them to Atlas via the internet. Data files can also be copied to the input folder when Atlas is operating on a local area network or a standalone computer.

Atlas currently supports the Atlas format, Campbell Scientific's CR10 and CR1000 formats, and a simple geodetic format for total station data. Custom input filters can be programmed on request.

Manual Entries: Atlas allows users to enter data manually using their web browsers. This is useful for values that are not normally logged, such as fill height or standpipe water levels.

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PDF Uploads: Atlas can store and display PDF graphics generated by other programs, such as DigiPro inclinometer software.

Logbook Entries: Atlas provides a logbook in which users can enter observations and photographs of site activities and incidents. Each entry is time stamped and can be included with the automated reports.

DATA PROCESSING

Processing Overview: Atlas always stores raw (unprocessed) readings in the project database. When it receives a request for data, Atlas processes readings on the fly. This ensures that any corrections to calibration factors, processing methods, or data values are always included in the results that Atlas presents.

Atlas performs the same on-the-fly calculations when it first imports the readings. This allows Atlas to scan for alarm conditions.

Conversions and Calculations: Atlas converts raw readings to data in engineering units as specified in an equation stored for each channel of each sensor. Equations can reference datum readings and also readings from other sensors. This allows Atlas to calculate changes, perform corrections for temperature or atmospheric pressure. It also allows for cumulative calculations required for beam sensors or in-place inclinometers.

Filters: Atlas can automatically calculate and report average, maximum, and minimum readings for any sensor. It can also reduce the number of readings reported, which is useful when readings are acquired rapidly for alarm purposes, but are not needed otherwise. Atlas can also filter out bad readings, such as out-of-range readings cause by transient electrical noise, etc.

Exports: Atlas can export ASCII data formatted appropriately for spreadsheets.

DATA PRESENTATION

Atlas organizes data presentation by project. A project can have its own logo and front page, and any number of plan views, trend plots, and reports. All data presentation features can be configured by users. No high-level administration is required.

Plan Views: Plan views show a background image with an overlay of sensors. If space permits, sensors are represented by data boxes, which show measurement values. Otherwise sensors are represented by small graphics that display values when the cursor passes over them. The boxes or marks are colored green, yellow, or red to indicate alarm status. Clicking on a measurement value displays a trend plot, allowing the user to quickly evaluate whether the alarm condition is the result of a trend or just a onetime event.

Trend Plots: Three types of trend plots are available: time plots, correlation plots, and profile plots. Trend plots are generated as graphic files, so they can be saved and attached to emails or used in documents. Trend plots can be zoomed or sized for browsing, which results in a new graphic being generated. Also, users can download the data values shown in the plots.

PDF Reports: Reports start with a cover page, which has some fixed text and an optional logo and project photo. The body of the report can include up to four sections. Each section can contain up to three pre-configured graphs as well as tables of alarms, data, and sensor remarks. Reports can be generated daily, weekly, or monthly and automatically emailed to a group of users.

ALARMS AND NOTIFICATIONS

Alarm Detection: Atlas scans incoming readings for alarms conditions. Alarm thresholds can be based on fixed values or the results of a calculation and may be set for any channel of any sensor. Watchdog alarms can be set to warn if no readings are received.

Alarm Warnings: When Atlas detects an alarm condition, it generates on-screen warnings that appear in plan views and also in an alarm window. Both views update automatically while they are on screen. A persistence filter helps eliminate alarm warnings caused by spurious events.

Alarm Notifications: Atlas sends out alarm notifications by email to selected users. Emails can be forwarded to text messaging services, pagers, fax machines, and even voice messages, where such third-party services are available. To avoid flooding email boxes with alarms, Atlas sends out just one notification per alarm condition. In addition, Atlas provides a variety of filters that can be used to consolidate notifications or to suppress them until certain conditions have been met.

Alarm Logging: Atlas stores a record of all alarms and all alarm acknowledgements.

ADMINISTRATION

User Levels: Atlas supports three user levels. Administrators can set up projects, sensors, graphs, and other users. Users can view data, download data, enter data, edit data, and set up one-time graphs. Guests can only view data.

Passwords: Atlas emails passwords to each user that administrators enter. Users can modify their passwords as required.

Email Groups: Administrators assign users to an email groups and then assign email groups to receive PDF reports and alarm notifications.

Backup & Archives: Administrators can create backups and archives from data in the database. Archived data is removed from the project database but can be re-imported as required.

ATLAS WEB SERVICE

Atlas is offered as a web service with monthly fees based on the number of sensors to be monitored. Each plan includes an unlimited number of projects, graphs, reports, and users. Data are stored at a secure data center that provides automatic backups and multiple connections to the internet.

The web service is not only easy to use, but also cost effective. There is no hardware or software to install and maintain, so the IT department is normally not involved. In addition, there is no long-term commitment required.

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140 Chestnut St.
San Francisco CA, 94111
T: 1+415-364-3200
F: 1+415-861-1448
Geomechanics.com

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