



Merlin CP System Manager Software

MERLIN CPSM is a database software package for displaying, archiving and exporting data from MERLIN TR and Test Post Monitors. It also provides full remote configuration of all units.

A CPSM package is required for every MERLIN monitoring network. However, monitors can be configured to send their data to two HQs - this can be useful where CP Engineers are located in different offices – or even in different countries! Each HQ requires its own copy of CPSM; changes made at one HQ are automatically updated at the other HQ with a full audit trail of all changes made to the system.

The CPSM Viewer allows third parties to view MERLIN data but without access to remote configuration of the monitors in the field.

CPSM and the Viewer are distributed uniquely by Abriox via our download website. Software updates are made freely available during the warranty (or service contract) period.

Installing & Configuring MERLIN Monitors

Once the CPSM software has been installed, MERLIN TR and Test Post Monitors are ready to be added to the database. This can be done in either of two ways:

- When installing monitors in the field, by sending them text messages from a cellphone
- Before installing the monitors in the field, from CPSM.

Both methods are easy. However, when there are many monitors to install, the CPSM Installation Wizard guides the user through the various set-up parameters and provides pull-down menus of existing pipelines and HQ telephone numbers to speed up configuration.

A pipeline and location ID is the basic information required for each monitor. Other parameters that can be configured (the software contains default values) include:

- Measurement and reporting times
- Measurement channel labels
- Shunt/coupon values
- Chainage distances.

To aid the user in setting measurement and reporting times, CPSM incorporates functions to:

- Set all monitors on a pipeline to take their readings at the same time
- Set all monitors on a pipeline to report at intervals of 2 minutes apart – this avoids excessive SMS traffic within a short period if there are many monitors in the system.

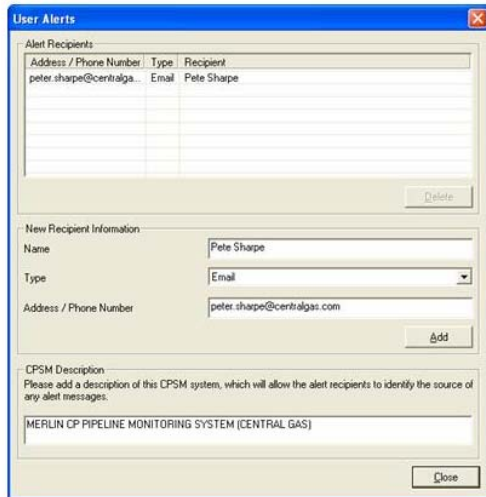
Alarms

High and low alarm thresholds can be set for each measurement channel. These define the acceptable range of values – as soon as a MERLIN unit takes a measurement outside this “window” it will send a system alarm to CPSM.

Monitor data entry

All alarms are automatically copied to a central System Alarm Folder. This provides users with a master list of MERLIN units requiring attention – either by rectifying the alarm condition or by changing the alarm threshold values.

CPSM can generate a User Alert in the event of an alarm. This can be either by email or by SMS (text message) to nominated supervisory staff.



Recipients of alarms can be alerted by email or SMS

Data Display

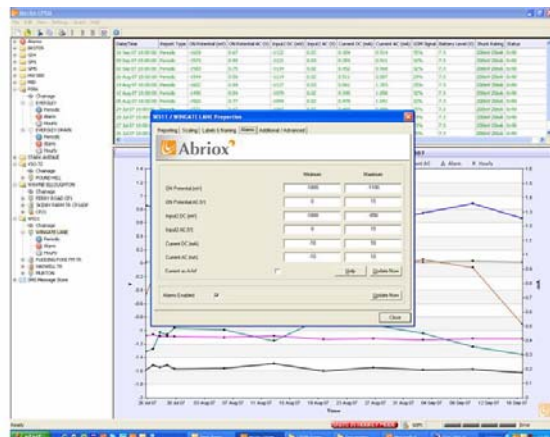
The CPSM screen is divided into three areas:

- LEFT: Pipeline folders with icons identifying MERLIN TR Monitors and Test Post Monitors
- TOP: Tabular data showing all values displayed in the graph
- BOTTOM: Graph of CP values with voltage shown on the left axis and, where displayed, current on the right axis.

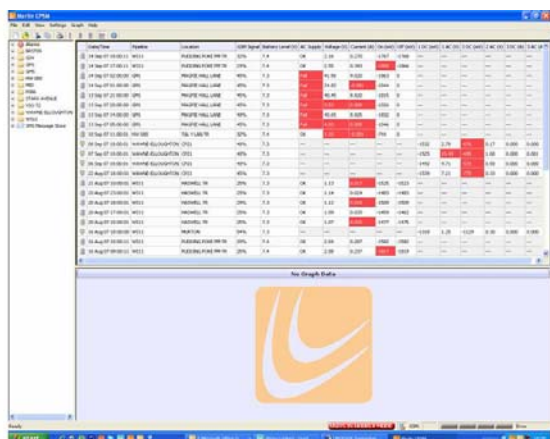
By clicking on the toolbar the user can view the most recent 30, 60 or 90 days' data – or all data stored for that monitor.

In normal operation a weekly report will be generated by each monitor showing the minimum, maximum and average values recorded in the week for each measurement channel.

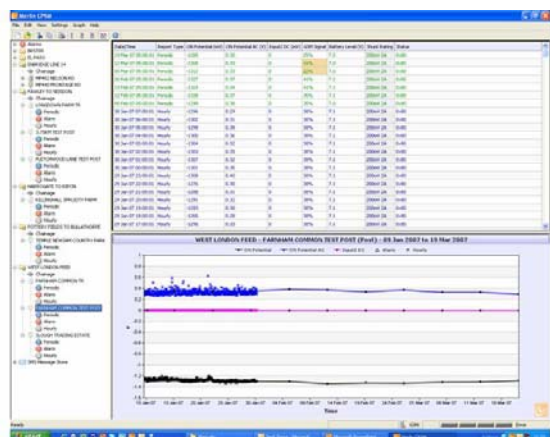
For short term problem-solving, a monitor can be switched to a diagnostic mode in which hourly readings are taken and reported daily. CPSM automatically notifies the user of monitors that are in this mode to avoid incurring unnecessary communication costs for the additional frequency of data.



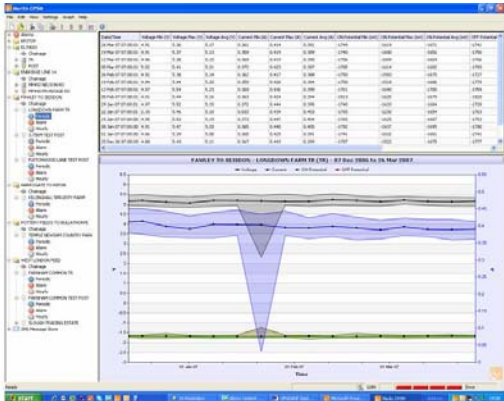
High and low alarms can be entered for each measurement channel



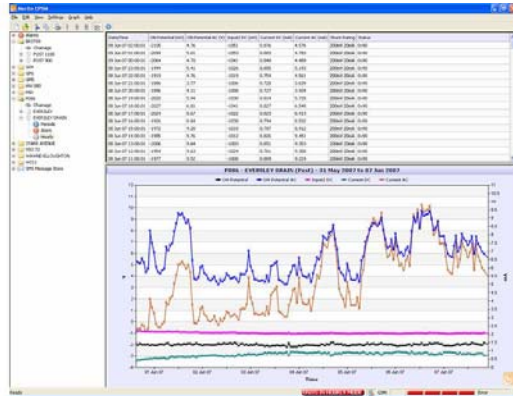
All alarms are copied to a central system folder



CPSM Data screen layout



Periodic (Weekly) Report of CP values from a Transformer Rectifier. There has been a temporary loss of AC supply during one week.

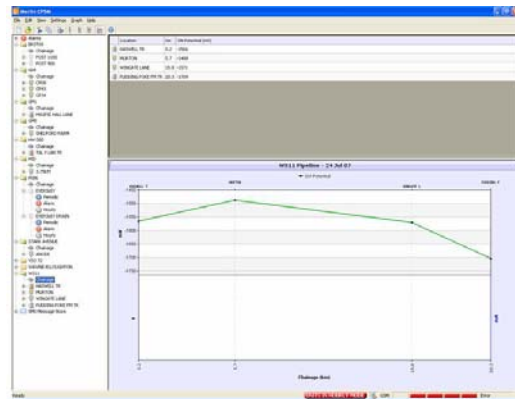


Hourly measurements can facilitate the identification of CP problems. This pipeline has fluctuating levels of AC but the cathodic protection system is working consistently

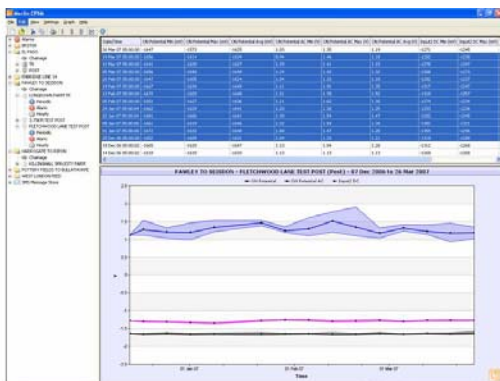
If the distance along the pipeline is entered for each monitor, a chainage graph can be generated for each reporting date, showing the profile of values for user-selectable channels.

Status information may be displayed for each monitor, including:

- Battery level
- GSM signal
- Self test & status information.



Chainage graph with the X-axis as the pipeline length and ON potential values from 2 TRs and 2 test posts taken at the same time



CP data may be cut and pasted into other applications or exported as a .CSV file

Data Management

CPSM includes comprehensive data management options:

- Printing tabular and/or graphical data
- Cut and paste into Excel
- Export to CSV file

CPSM data may be imported into asset management software.

A "Database Snapshot" feature enables the current database to be saved for distribution to third parties with access to the [CPSM Viewer](#) software.



Viewer

The CPSM Viewer allows third parties to view MERLIN data. This can be useful for management and reporting where there are several interested parties within an organisation. The Viewer has all the display and data manipulation functions of the full CPSM software but does not allow remote configuration of monitors.

The Viewer is PC-based, designed to run under Windows XP. CP data can be viewed, graphed, printed or exported into other applications. It also displays the system settings, though these cannot be modified.

Single-User and Corporate Licences are available for the Viewer software. The Corporate Licence allows unlimited copies to be distributed within an organisation.