POC Well Scan

User Guide - Web Dashboard

Version: Web dashboard, November 2026 build v1.0
Covers: The POC Well Scan web dashboard, poller service, and API
Companion product: POC Well Scan for Windows (separate guide)

The web dashboard gives you the well list, alert history, tools, and logs for your SMARTEN rod lift controllers in a browser window. The poller service does the polling in the background, the API serves the data, and the dashboard is where you work. This guide explains each tab, each tool, and the fixes for the problems you are most likely to run into.

> **Read this first.** The dashboard reflects data from the poller service only. It does not reflect the Windows app running in client mode. If the numbers look stale, check the poller before you check the dashboard.

Contents

1. What POC Well Scan is
2. Getting started
3. The Wells tab
4. Working with wells
5. Scanning and schedules
6. History and alerts
7. The Cards tab
8. The Tools tab
9. The Logs tab
10. The System tab
11. The Help tab
12. Data, files, and safety notes
13. Troubleshooting
14. Quick reference and support

1. What POC Well Scan is

POC Well Scan monitors Modbus-enabled well controllers, including SMARTEN variable speed drive and pump-off controller systems on rod lift wells. It polls each controller, decodes the well state and process values, watches the alert flags, and records the results so you can see at a glance which wells are running, which are idle, and which need attention.

The web version has three parts that work together:

Part	What it does
Poller service	Polls the wells on schedule and on demand, decodes alerts, writes results and alert history to the web database, and sends email and ntfy notifications. It runs in the background whether the dashboard is open or not.
API	Serves the well data to the dashboard at http://127.0.0.1:8000 on the same machine. It also handles scan requests, well edits, the scan schedule, logs, and cache actions from the dashboard.
Dashboard	The browser page you work in. It is a single file, dashboard.html, with seven tabs: Wells, History, Cards, Tools, Logs, System, and Help.

The web stack uses its own database, poc_ws_web.sqlite, separate from the Windows app database. Wells, scan results, and alert history in the dashboard come from that web database.

> **Do not poll the same wells twice.** Never run the Windows app scheduler and the poller service against the same wells at the same time. That causes double polling and duplicate alerts. Pick one polling source for a set of wells and stick with it.

2. Getting started

Starting the web app

1. Start the web app the way you normally do on the host laptop, using webapp.bat. That starts the API and the poller service.
2. Open dashboard.html in your browser. In normal use it sits in the web app folder and opens as a local file.
3. Look at the top of the page. Next to the POC Well Scan title you should see **API connected**. That confirms the dashboard can reach the API.
4. The Wells tab loads first, sorted by customer from A to Z, the same default view as the Windows app.

How the dashboard stays current

- The dashboard refreshes itself every 30 seconds. You do not need to reload the page to see new results.
- Timestamps are stored in UTC and shown in your local time, in the format HH:MM:SS MM-DD-YYYY.
- If a scan was due while the poller was stopped, the poller runs the missed scan shortly after it starts again.

> **If you see no data,** work through Section 13, Troubleshooting. The usual causes are the API not running, the poller not running, or the browser showing a cached copy of the dashboard.

3. The Wells tab

The Wells tab is the home view. Each row is one well, with the latest reading from the poller. The columns match the Windows app order:

Column	What it shows
Well	The well name.
Customer	The customer the well belongs to.
Status	The decoded well state, shown as a coloured badge (see below).
Elapsed Time	How long the well has been in its current run state.
SPM	Strokes per minute.
Pump Fillage %	Pump fillage from the controller, with the control mode context from the reading.
Y'day Run %	Runtime yesterday, as a percentage.
Message	The controller message, including any active alert text.
Last Update	When this well was last polled, in local time.

Status colours

Running Running wells are green. **Fault / Idle / Starting** Fault, idle, and starting states are yellow.
Malfunction Malfunction is red. **Unknown** Anything else, including a well the poller could not reach, is grey.
A well that fails to poll is shown as Unknown.

Sorting, filtering, and resizing

- Click any column header to sort by that column. Click again to reverse the order, from A to Z to Z to A.
- Use the filter box under a column header to narrow the list to matching rows.
- The Customer filter is a multi-select dropdown. Open it, tick the customers you want, and use Select All or Deselect All to change the whole list at once. The button above the table does the same for all customers.
- Drag the edge of a column header to resize the column. Widths are remembered.
- Only **Clear Filters** resets the view. It clears the filter criteria and the sort together. Scanning and refreshing never change your view.

Well detail

Choose View Details from the right-click menu to open the detail view for one well. It shows the latest reading, recent history for that well, and the five most recent alerts with their email and ntfy notification status. Use Back to well list to return.

4. Working with wells

The right-click menu

Right-click any well row for the actions for that well:

Action	What it does
Open Smarten UI	Opens the controller web interface at https://{IP}:{HTTPS port} in a new tab. Double-clicking the row does the same.
View Details	Opens the well detail view (Section 3).
Edit Well	Opens the well form with the current values filled in. Saving updates the same well, even if you rename it.
Scan Well	Asks the poller to scan that one well right away. A scan indicator marks the well until the new result lands.
Get Config	Asks the poller to download the controller configuration for that well on its next pass.
Copy IP / Copy Name	Copies the IP address or well name to paste elsewhere.
Delete Well	Archives the well (see below).

Start, Stop, Reset Malfunction, Open Current Card, Download Current Card, and Card Grabber also appear on this menu. In the dashboard today they are placeholders. The web stack is read-only for Modbus motor control, so use the Windows app for motor control.

Adding a well

1. Go to the Tools tab and choose **Add Well**.
2. Fill in the same fields as the Windows app well dialog: Well Name, Customer, Protocol (Modbus TCP or Modbus RTU over TCP), IP Address, Modbus Port, HTTPS Port, Unit ID, Modem Type (RV50, InHand, Microhard, or Other), Username, and Password.
3. Unit ID is required for Modbus RTU over TCP. Leave it blank for Modbus TCP unless the site needs one.
4. Save. The well appears in the list and the poller includes it from the next scan.

Editing a well: right-click it, choose Edit Well, change the fields, and choose Save Changes. Cancel closes without saving.

Deleting and restoring wells

- Delete a single well from its right-click menu, or delete several at once with **Delete Wells** in the Tools tab: tick the wells, then choose Delete Selected Wells.
- A deleted well is archived, not erased. It is no longer polled, shown, or selectable until restored, and all its data is kept.
- To bring a well back, use **Restore Deleted Wells** in the Tools tab and choose Restore next to the well. A restored well keeps all its data and gets a new ID. The dashboard and poller work from the well name, so it behaves normally after a restore.

5. Scanning and schedules

All polling is done by the poller service. The dashboard asks, and the poller does the work, usually within about 10 seconds of a request.

Scan Now

- In the Tools tab, open **Scan Schedule** and choose **Scan Now** to start an immediate scan of the wells in the schedule.
- While a scan is running, the button changes to **Cancel Scan**. Choose it to stop the scan.
- To scan one well only, use Scan Well on that well's right-click menu (Section 4). A single-well scan has its own priority and is not rolled into the next scheduled scan.

Setting the scan schedule

1. In the Tools tab, choose **Scan Schedule**.
2. Set the **Frequency (minutes)**. This is how often the scheduled scan runs.
3. Tick **Enable Schedule** to turn the schedule on. Unticking it turns the schedule off without losing the frequency or customer settings.
4. Under Scan Customers, tick the customers whose wells belong in the scheduled scan. Use Select All or Deselect All to change the whole list at once.
5. Choose **Save**. The settings are written to the web database and the poller reads them live, so there is no poller restart to do.

> **Missed scans catch up.** If the poller was down when a scheduled scan came due, it runs that scan at startup. You do not need to run a manual scan to catch up.

Alerts and notifications

Alerting is edge-triggered. When an alert flag on a controller changes, the poller writes one entry to Alert History, sends the configured email and ntfy notifications, and shows the alert text in the well's Message field. When the flag clears, a cleared entry is written. The same alert staying on for several polls does not create repeated entries.

> **One poller at a time.** Run exactly one copy of the poller service. Two copies, or the poller plus the Windows app scheduler on the same wells, will double up polling and alerts.

6. History and alerts

The History tab is the Alert History for every well. Each row is one alert event: an alert that fired, shown as "alert: ...", or an alert that cleared, shown as "cleared: ...".

- Columns are Timestamp, Well, Customer, and Status.
- The list opens newest first.
- Click a column header to sort. Use the filter box under a header to narrow the list, for example to one well or one customer.
- Choose **Clear Filters** to reset the filters and sort.
- Your Alert History view is remembered in the browser, so it comes back the way you left it.

For the alerts on a single well, open that well's detail view from the Wells tab. The Recent alerts list there shows the last five alerts for the well, with whether the email and ntfy notifications went out.

> **Why an alert appears once.** Alerting is edge-triggered and de-duplicated. A flag that turns on writes one alert entry and updates its timestamp while it stays on, instead of writing a new row on every poll. A second row for the same text means the flag cleared and fired again.

7. The Cards tab

Dynagraph cards in the web dashboard are coming soon. The Cards tab is in place, but card viewing has not been built into the dashboard yet.

For card work today, use the Windows app: Download Current Card and Open Current Card on the well right-click menu there, and the Dynagraph Reader for viewing cards. The Card Grabber, Dynagraph Reader, and card items on the dashboard menus are placeholders until that work lands.

8. The Tools tab

The Tools tab is a row of buttons. Each button opens its tool in the panel below the row.

Tool	Status	What it does
Scan Schedule	Working	Sets the scheduled scan frequency and customers, and holds Scan Now / Cancel Scan (Section 5).
Add Well	Working	Adds a well using the Windows app well fields (Section 4).
Delete Wells	Working	Archives one or more selected wells (Section 4).
Restore Deleted Wells	Working	Brings archived wells back (Section 4).
Import/Export	Working	Exports and imports wells, and exports and imports data files. Well export matches the Windows app format and works in POC Well Scan or Launcher JSON format, the same as the Windows app.
Config Schedule	Coming soon	Scheduled configuration downloads are planned, patterned after the scan schedule.
NREV Calculator	Coming soon	Use the NREV Calculator in the Windows app today.
Dynagraph Reader	Coming soon	Use the Dynagraph Reader in the Windows app today.
Card Grabber	Coming soon	Use card capture in the Windows app today.
Ping Test	Coming soon	Not yet built in the dashboard. The Windows app Ping Test is available today for checking connectivity to a controller.

Import and export

- **Import/Export Wells** moves well definitions in and out as JSON, in POC Well Scan or Launcher format.
- **Import/Export Data Files** moves the data files the dashboard works with.
- Use Select All and Deselect All to choose the wells, then Export or Import.
- Before a big import, export the current wells first so you have a copy to go back to.

9. The Logs tab

The Logs tab reads the log files from the host machine, in the same log folder the poller uses:

%LOCALAPPDATA%\POC_WellScan\logs\

- **poller_service.log** is the poller log: scans, per-well results, alerts, and notification activity.
- **api_service.log** is the API log: the same request lines you would see in the API terminal window.
- Older rotations of each file are listed too. Each log rotates at 1 MB and keeps five rotations.

Choosing which logs to see

1. Choose the **Poller Log** button to limit the File dropdown to the poller logs, or the **API Log** button to limit it to the API logs. The selected button is shown solid.
2. Pick the file in the **File** dropdown. The entry shows the file name, its size, and when it last changed.
3. Use **Show** to pick how much of the file to display: the last 100, 500, 1000, or 2000 lines.

Working with a log

- **Refresh** reloads the selected file. Tick auto-refresh to keep it updating on its own.
- **Download** saves the selected log file to your computer.
- **Email** sends the selected log. Enter the address in the Email log to box, or leave the default recipient, then choose Send Email.
- The viewer, Download, Refresh, auto-refresh, and Email all follow whichever file is selected, poller or API.

> **Which log answers which question.** A well that did not scan, an alert that did not fire, or a notification question belongs in the poller log. A dashboard action that did not take, or a page that will not load data, belongs in the API log.

10. The System tab

The System tab holds one maintenance action today:

- **Delete Cache** removes the __pycache_____folder next to the poller. Python rebuilds it automatically the next time the poller runs, so there is nothing to restore afterwards.

Deleting the cache is part of the standard fix when a freshly copied dashboard or module does not seem to take. See Section 13.

11. The Help tab

Item	What it does
Visit PLS Website	Opens posci.net in a new tab. The QR code beside it goes to the same site, so a phone camera can open it.
Open User Guide	Opens this guide, POC Well Scan UserGuide.pdf, in a new tab. The file lives in the sups folder next to the dashboard reference material.
Download PLS Catalog	Opens the Panhandle Lift Solutions catalog PDF from posci.net in a new tab.
Contact Us	Shows the PLS email address and phone number, with a Send Email button that starts a new email to info@posci.net.
Quick Tips	Shows the shortcut and usage tips collected in Section 14.
About POC Well Scan	Shows the product name, developer, and copyright information for the web application.

12. Data, files, and safety notes

Item	Location or rule
Web database	poc_ws_web.sqlite in %LOCALAPPDATA%\POC_WellScan. Separate from the Windows app database. Wells, results, schedules, alert history, and the deleted wells archive live here.
Logs	%LOCALAPPDATA%\POC_WellScan\logs\ - poller_service.log and api_service.log, plus rotations.
Dashboard	dashboard.html, a single file in the web app folder. Reference material, including this guide and the PLS QR code, lives in the sups folder beside it.
API address	http://127.0.0.1:8000, on the host machine only. The dashboard is a local tool, not a public website.
Timestamps	Stored in UTC, shown in local time as HH:MM:SS MM-DD-YYYY.

Safety notes

- The web stack is read-only for Modbus motor control. Start, Stop, and Reset Malfunction from the dashboard are placeholders. Use the Windows app for motor control.
- Deleting a well in the dashboard archives it in the web database. It does not delete the well from the Windows app, and restoring it in the dashboard does not change the Windows app.
- Controller usernames and passwords are stored with each well so scheduled work can run unattended. Treat the host laptop and its database as you would any file that holds site credentials.
- Close the Windows app in client mode when you are checking dashboard data. The dashboard reflects the poller service or the server-mode app only, never the client app.

13. Troubleshooting

Problem	What to do
The page does not say API connected, or no data loads	The API is not running or not reachable. Start the web app with webapp.bat and reopen the dashboard. Check api_service.log in the Logs tab once the API is up, or the API terminal window.
Wells are listed but results are old	The poller is not running, or a schedule is off. Confirm the poller service is running, check the scan schedule in Tools, and read the end of poller_service.log for the last scan.
A well shows Unknown	The last poll of that well failed. Check the controller, modem, and network path for that well, then use Scan Well on its right-click menu. The poller log line for that well gives the failure detail.
A new dashboard copy does not seem to take, or a button does nothing	The browser is showing a cached copy. Do all four steps: re-copy the file, delete __ pycache_____(the System tab Delete Cache button does this), restart webapp.bat, then reopen the dashboard tab. A hard refresh on its own may not be enough, because this dashboard caches aggressively.
Alerts are doubled	Two things are polling the same wells. Stop either the poller service or the Windows app scheduler for those wells, and confirm only one copy of the poller is running.
A deleted well is still being polled	Confirm the delete in the dashboard finished, and that you are looking at the poller that uses the web database. A restored or re-imported well will be polled again by design.
An email or ntfy alert did not arrive	Open the well detail view and check the notification status on the recent alert, then read poller_service.log around that timestamp. Notifications are sent by the poller, not by the dashboard.
The Smarten UI will not open for a well	The well needs an IP address and an HTTPS port. Edit the well and fill both in. The menu item is disabled when either is missing.

14. Quick reference and support

Quick tips

- Right-click a well to edit it, scan it, get its config, or open its Smarten UI.
- Double-click a well to open its Smarten web UI in a new tab.
- Click any column header to sort from A to Z or Z to A. Drag a column edge to resize it. Column widths are remembered.
- Use the filters above the well list to narrow it down. Clear Filters resets the view.
- Scan Now in the Tools tab starts an immediate scan. Cancel Scan stops it.
- Use Import/Export in the Tools tab to export wells in POC Well Scan or Launcher format.
- To access the SMARTEN demo, use user name admin and password cake.
- Make sure you have a solid internet connection before you judge a scan result. A weak link looks like a controller problem.

Everyday actions

Task	Where
Scan all scheduled wells now	Tools tab, Scan Schedule, Scan Now
Scan one well now	Right-click the well, Scan Well
Change the scan schedule	Tools tab, Scan Schedule
Add, edit, or delete a well	Tools tab, or the well right-click menu
Bring back a deleted well	Tools tab, Restore Deleted Wells
See why an alert fired	History tab, or the well detail view
Read or send a log	Logs tab, Poller Log or API Log, then Download or Send Email
Clear the Python cache	System tab, Delete Cache
Open a controller directly	Double-click the well, or right-click, Open Smarten UI

Support

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POC Well Scan (Web Application)
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For the Windows desktop application, including motor control, dynagraph cards, the NREV Calculator, and configuration downloads, see the POC Well Scan user guide for Windows.