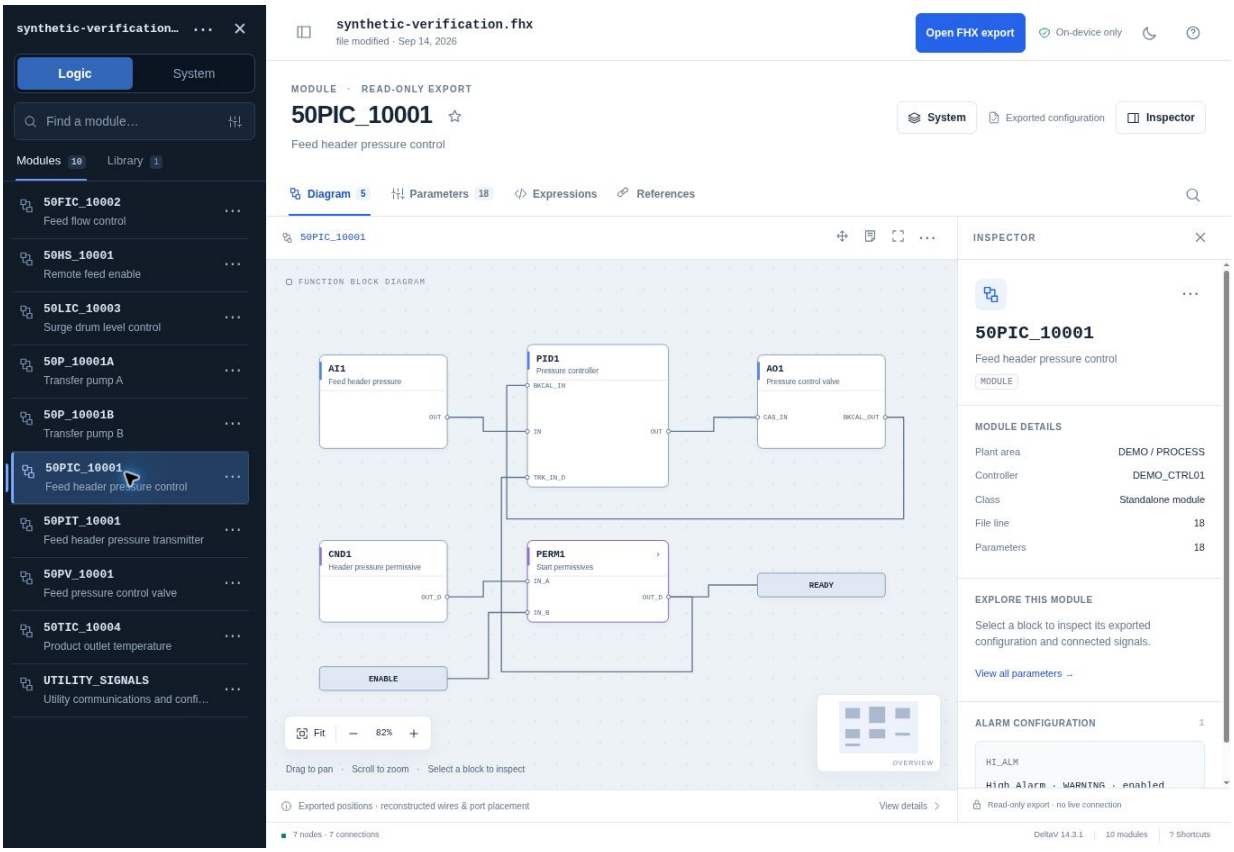
ILLUSTRATED USER MANUAL

FHX Studio

Understand the configuration. Follow the evidence.

A practical guide to investigating DeltaV exports, with genuine application screenshots and a guided first investigation.



Actual FHX Studio customer-view interface. All illustrated configuration is fictional.

Start with the public guided sample on page 2. Full application workflows begin on page 4. Access to the full application is arranged privately.

Edition 2 · 15 September 2026. Independent software by Landry Industrial. DeltaV is a trademark of Emerson; no affiliation or endorsement.

QUICK START · PUBLIC SAMPLE

Your first useful investigation

Choose a question from the example library. Cards cover permissives, tuning, overrides, physical I/O, device mappings, potential writers, and recording evidence. No file or account is required.

1. Choose Trace a permissive. Search for pressure and select 50PIC_10001, Feed header pressure control.

2. Select CND1 in the diagram. Choose Open expression reader. Read the complete condition, then try text sizing, wrapping, or Find text.

3. Follow 50HS_10001 / PV_D.CV. Notice the distinction: the module is present, but this sample supplies no PV_D value. Return to the pressure loop.

4. Select AI1 and choose Follow configured input. Inspect the signal's I/O node, CHARM slot, channel, and execution-controller assignment.

5. Choose Finish investigation in the guide. Download sample finding to keep the configuration facts and open checks together.

> Expected result: CND1 requires AI1/OUT.CV > 15 AND 50HS_10001/PV_D.CV = TRUE. The configured pressure channel is DEMO_IO01, slot 1, channel 1, assigned to DEMO_CTRL01. Current pressure and enable states remain unknown.

Hide guide lets you explore freely; Show guide brings the current step back. All examples returns to the cards and preserves each investigation's progress in this tab. Restart example clears only the current investigation; reloading or leaving the sample can clear all progress.

The sample uses curated records and representative controls. The screenshots elsewhere in this manual show the actual full application; its menus and navigation differ from the public sample.

After finishing, try the suggested related example or Request a workflow review. The inquiry remembers the selected workflow and offers an editable starter message; nothing is sent until you submit. The Fieldbook example is a fixed practice note, not the full application's note editor.

ACCESS & SCOPE

Choose the right workspace

FHX Studio helps engineers investigate exported DeltaV configuration: logic, parameters, known references, configured equipment, and investigation records.

Experience	What you can do
Public guided sample	Choose seven investigations across five curated fictional records. Inspect configuration, follow references, classify a practice note, and download findings.
Full application evaluation	Open supported FHX exports and investigate the available configuration. Access, compatible workflows, and support are arranged privately.
Owner troubleshooting view	The owner's raw-FHX troubleshooting interface is separate. It is not part of the public sample or customer instructions.

An export is a snapshot. FHX Studio does not execute logic, write to a controller, or prove current equipment condition. Use configuration evidence alongside approved engineering tools and current observations.

Arrange a private evaluation through the FHX Studio product page. Describe the engineering question and expected workflow without attaching plant exports, credentials, or confidential configuration to the initial inquiry.

Confirm access, supported export scope, data handling, and any price before payment. The public sample does not activate a subscription or unlock the full application.

This manual documents the customer-view evaluation interface captured with fictional data. It is a user guide, separate from the internal Development & Business Handbook. It does not establish universal DeltaV-version support, live connectivity, or a certified engineering replacement.

FULL APPLICATION · FILES

Open an export and establish its identity

Start each review by confirming which configuration snapshot is open. A correct answer about the wrong export is still the wrong answer.

1. Enter the separately arranged full application. Choose Open FHX export in the top bar or the Workspace actions menu, then select an authorized text FHX file.

2. Wait for indexing to finish. The application indexes configuration in the background and opens records on demand. Use Cancel if you chose the wrong file.

3. Check the system/file identity in the top bar. Open system and export details to inspect filename and timestamp information.

4. Check the available module and system records. Missing classes, definitions, or referenced records can limit what the application can resolve.

5. Record the filename, snapshot date and its source, and the relevant module or path in your investigation notes.

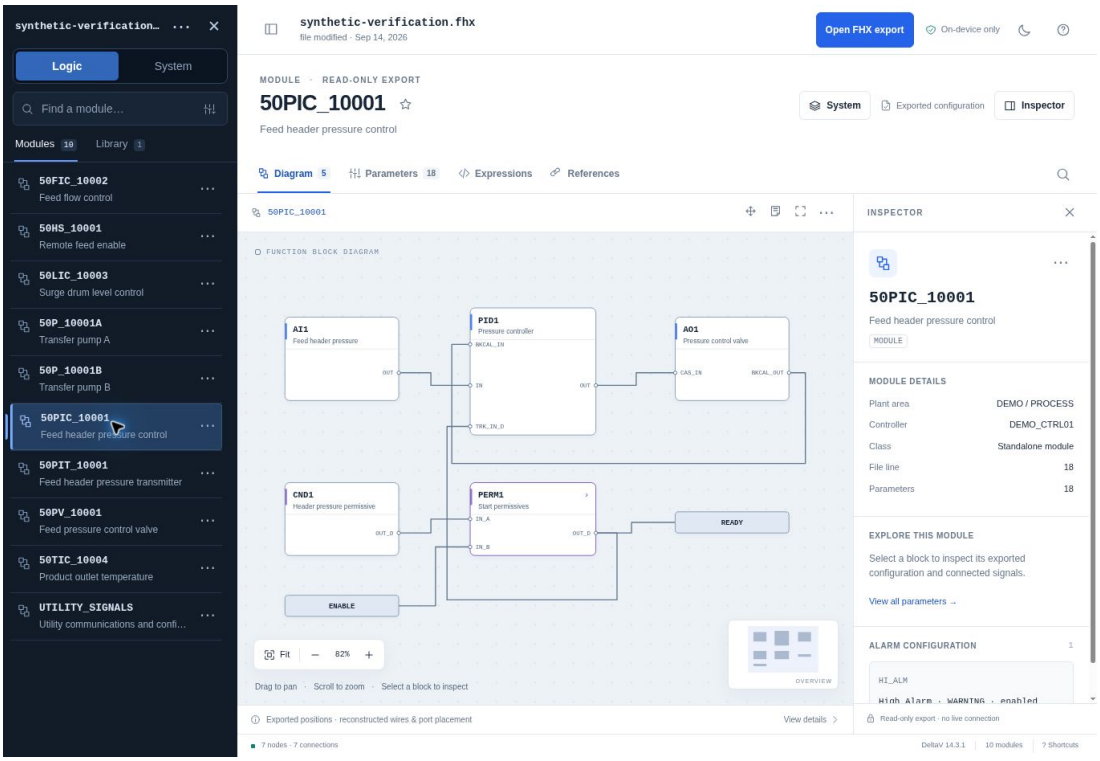
Label or condition	How to interpret it
Export timestamp	A date obtained from supported export metadata. Read the provenance label.
File modified	File metadata fallback; it is not necessarily the time the controller configuration was exported.
Demo / fictional data	Training configuration only. Values are examples, never current readings.
Partial or unsupported content	Results cover the supplied, supported records; absence is not proof that an object does not exist in the plant.

The full parser includes text-encoding handling for UTF-8 and UTF-16. Compatibility still depends on the record families and contents of the supplied export. Start with a representative file during evaluation.

Keep the original FHX under your normal project controls. Reloading the application requires reopening the export; it is not a cloud backup of that file.

FULL APPLICATION · LOGIC

Find your way around the logic workspace



Actual application: the module explorer is on the left, the connected diagram is in the center, and the selection inspector is on the right. All data shown is fictional.

1. Use Find a module to search tags and descriptions. Select the matching record; confirm its tag and description above the diagram.

2. Switch between Modules and Library in the explorer. Library definitions are not the same as a particular module instance.

3. Use Diagram, Parameters, Expressions, or References for the current task. The System button switches to equipment and configuration relationships.

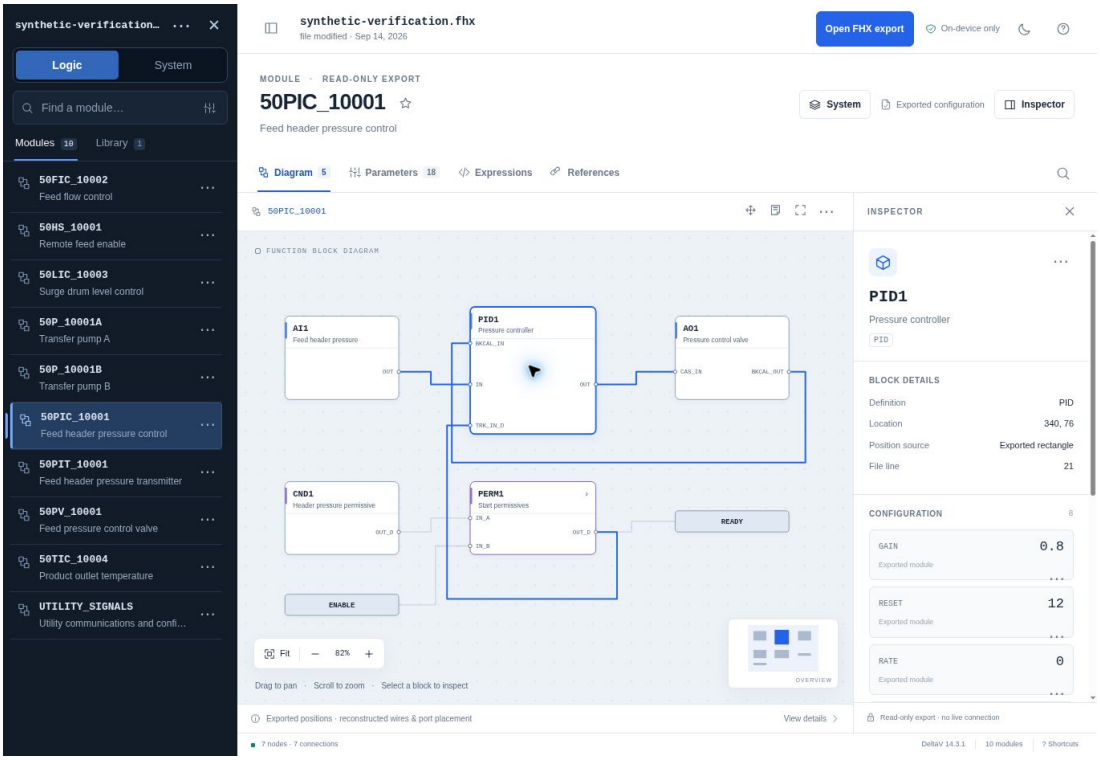
4. Select a block to inspect it. Use Fit if the diagram moves out of view, or close the inspector to give the diagram more room.

The illustrated pressure module contains AI1, PID1, AO1, CND1, PERM1, and module attributes ENABLE and READY. The full application displays exported layout information where available and reconstructs wires and port placement; the quality strip explains the layout evidence.

Star records for later return. Open the explorer's filter controls to narrow by plant area or starred records. Clear filters when a known record appears missing.

FULL APPLICATION · PARAMETERS

Inspect settings and their origins



Actual application: selecting PID1 reveals its configuration and connected signals. The fictional module exports GAIN 0.8 and RESET 12.

1. Select PID1 in the pressure-loop diagram. Read GAIN, RESET, RATE, and the origin label under each setting.

2. Choose Inspect all parameters, or open the Parameters tab, when the compact inspector does not show the whole set.

3. Use Search current view to narrow parameter names, values, or reference paths. Keep the module and composite context visible.

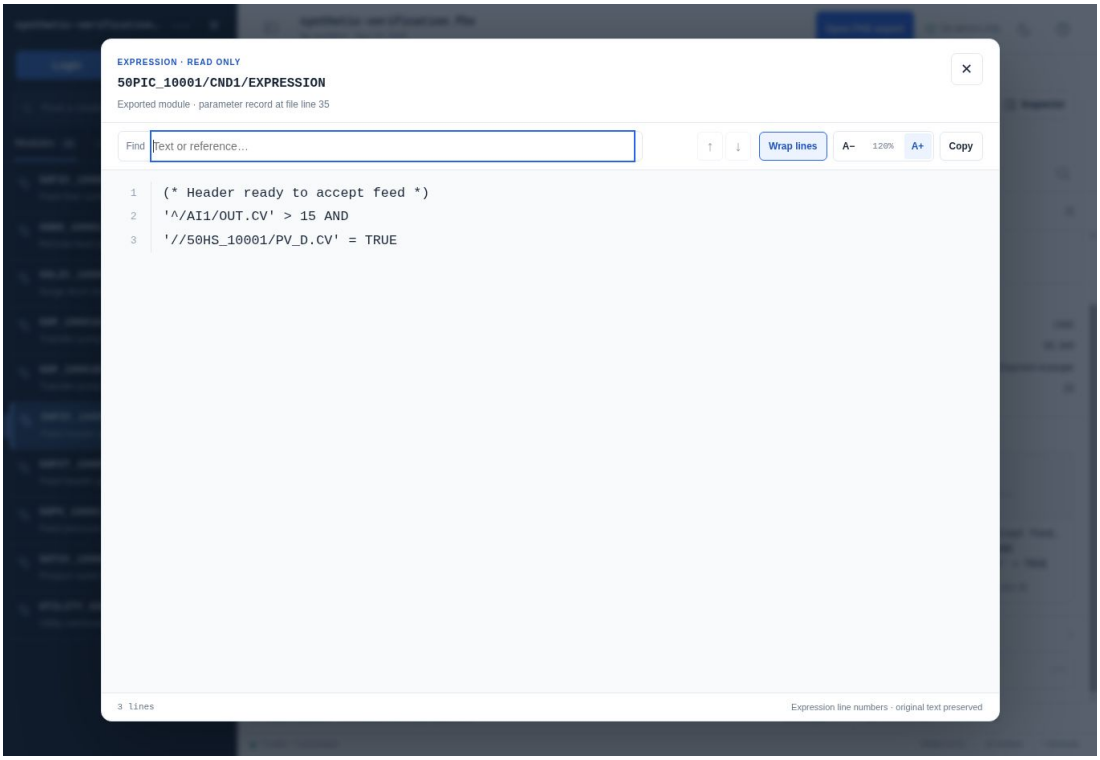
4. Use a parameter's actions menu for the available evidence and navigation actions. Include the exact parameter path in the finding.

> Origin matters. A class or composite definition can supply a default, while an instance can supply an override. An exported value does not establish the active runtime value, mode, or connected input state.

Do not infer units that the export or approved definition does not supply. Preserve the displayed number and its parameter context; confirm units and behavior in the appropriate engineering documentation.

FULL APPLICATION · EXPRESSION READER

Read complete expressions



Actual application: the dedicated reader preserves the condition text and shows expression line numbers. The header identifies the module, parameter, and value origin.

1. Select CND1, then Read expression. You can also open the same reader from an expression entry in the data views.

2. Use A- and A+ to change text size. Use the percentage control to reset. Toggle Wrap lines to fit long lines without changing the expression text.

3. Enter a literal term in Find, then move through matches with the previous/next controls. Copy copies the expression for an approved investigation record.

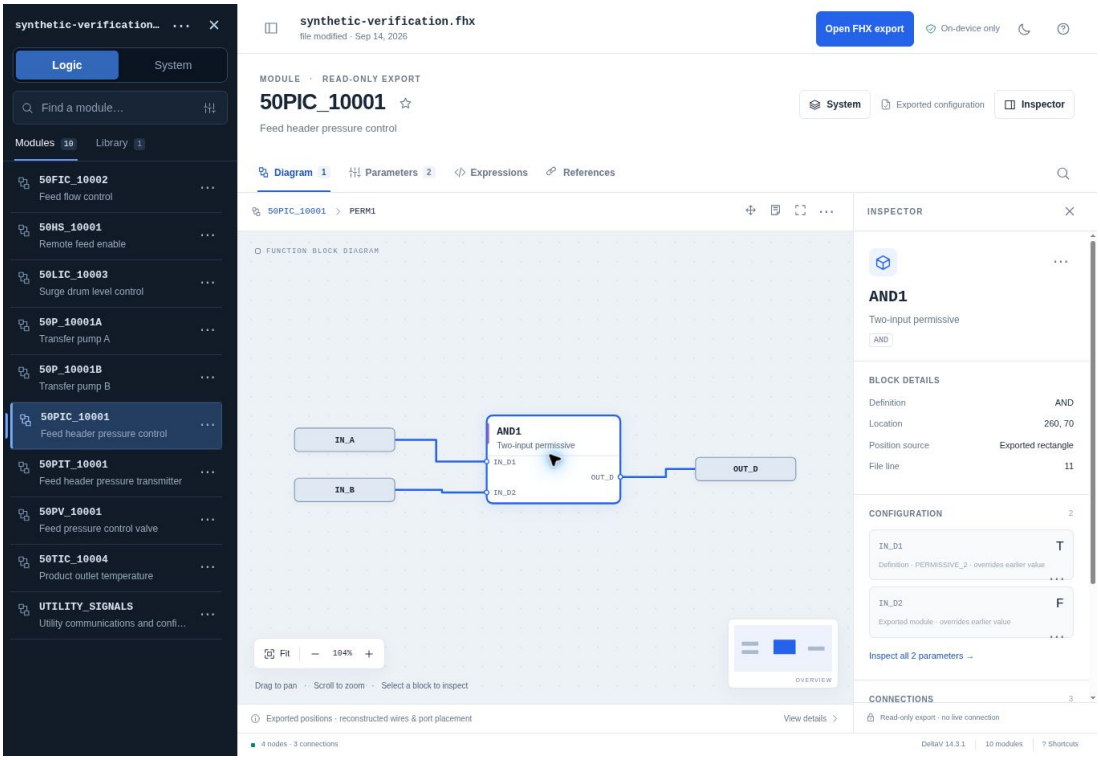
4. Close the reader to return to the module context. Investigate referenced tags through References, module search, or System rather than treating the expression as a live diagnosis.

> In the example, both conditions are required: AI1/OUT.CV > 15 and 50HS_10001/PV_D.CV = TRUE. The text alone does not tell you whether either condition is currently satisfied.

Reader line numbers refer to lines inside the expression. A parameter-record file-line label identifies a separate source location. Keep those two kinds of line references distinct.

FULL APPLICATION · INSTANCE CONTEXT

Navigate composite instances



Actual application: inside 50PIC_10001 / PERM1, AND1 receives the composite inputs. The inspector shows IN_D2 = F from an exported module override.

1. Return to the pressure module. Select PERM1 and choose Open composite.

2. Check the breadcrumb: the view is inside that module's PERM1 instance. Select AND1 to inspect its settings and connections.

3. Compare origin labels. The fictional PERMISSIVE_2 definition supplies T for IN_D2; the module instance overrides that configured value with F.

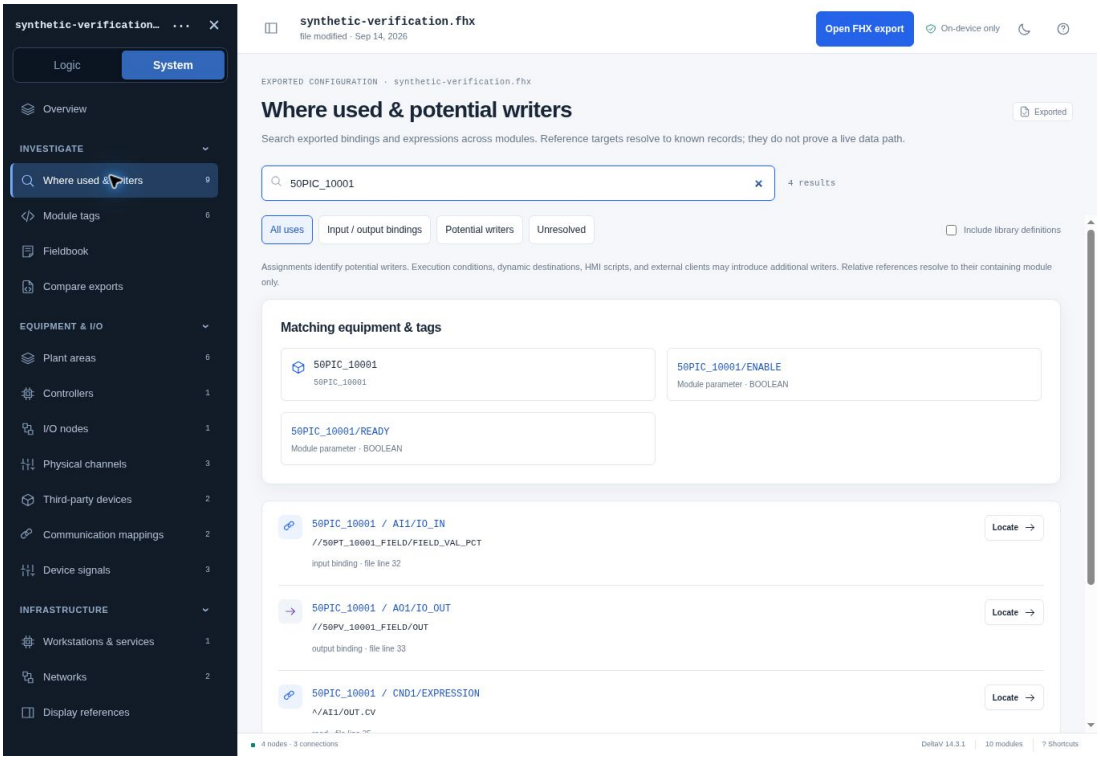
4. Use the module breadcrumb to move back out. Compare a library definition only when you deliberately want the reusable definition rather than this instance.

> A configured F on an input with an incoming connection is not proof of a current false signal or a stopped pump. Interpret connection behavior and execution in the approved engineering environment.

In the sample, CND1/OUT_D feeds PERM1/IN_A, ENABLE feeds PERM1/IN_B, and PERM1/OUT_D connects to READY and PID1/TRK_IN_D. This is a configuration relationship, not a claim that the sample evaluates the loop.

FULL APPLICATION · INVESTIGATION

Follow uses and potential writers



Actual application: Where used & potential writers lists reference paths with their owning parameters and reference classifications.

1. Open System, then Where used & writers. Search an exact tag, module name, or reference path.

2. Review the owning module and parameter, the target path, the classification, and the available source location. Input/output bindings and expression reads answer different questions.

3. Use Locate to follow a resolved target, or open the owning parameter to inspect its context. Use the Unresolved filter to review references with missing owners.

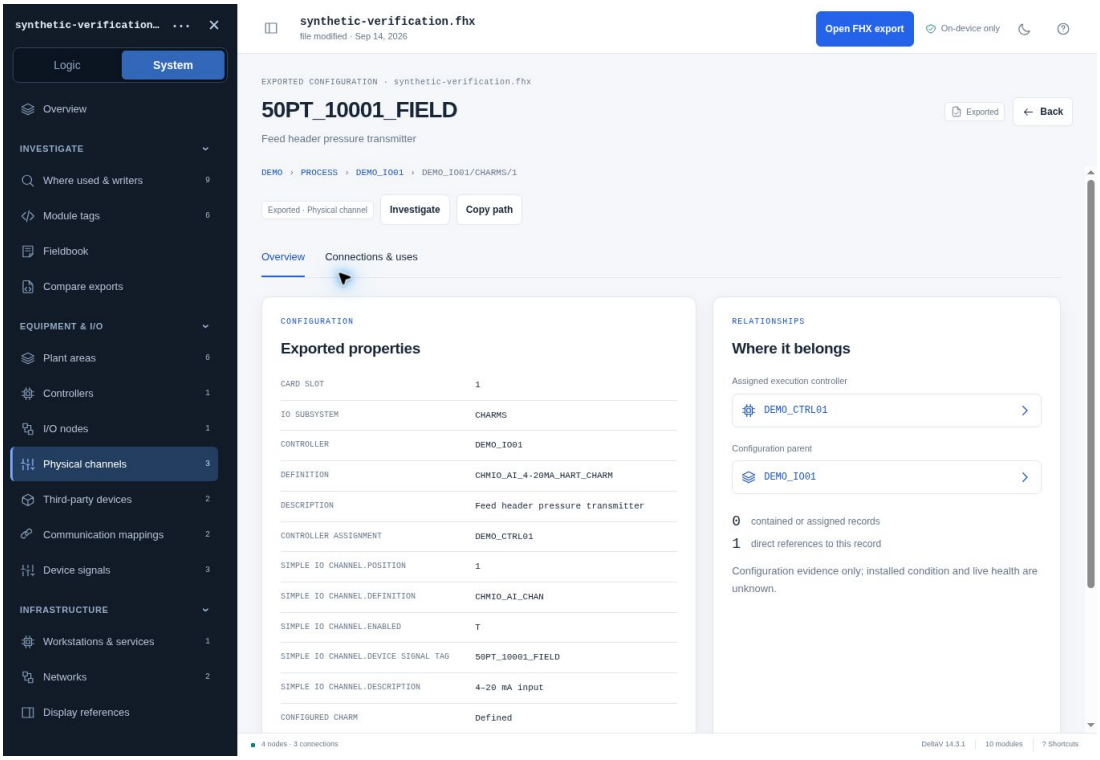
4. Use Potential writers to identify candidate assignment sites. Inspect their conditions before forming a conclusion about execution.

> A resolved owner does not guarantee that every referenced parameter value is present. The example 50HS_10001 module exists, but its referenced PV_D.CV value is not supplied. Zero missing owners is not proof of complete value resolution.

Diagram upstream/downstream trace actions are scoped to the current diagram level. Feedback and branches are configuration paths; tracing does not execute logic or prove a path is active. HMI scripts, external clients, dynamic references, or missing records may introduce additional writers.

FULL APPLICATION · SYSTEM EXPLORER

Trace a signal to configured I/O



Actual application: 50PT_10001_FIELD belongs to I/O node DEMO_IO01 and is assigned to execution controller DEMO_CTRL01.

1. Read the module input binding. For AI1, the fictional reference is //50PT_10001_FIELD/FIELD_VAL_PCT.

2. Open System, then Physical channels. Search the signal tag and select its channel record.

3. Read the I/O owner, controller assignment, slot, channel position, definition, and enabled field. Do not collapse those into a single healthy/unhealthy status.

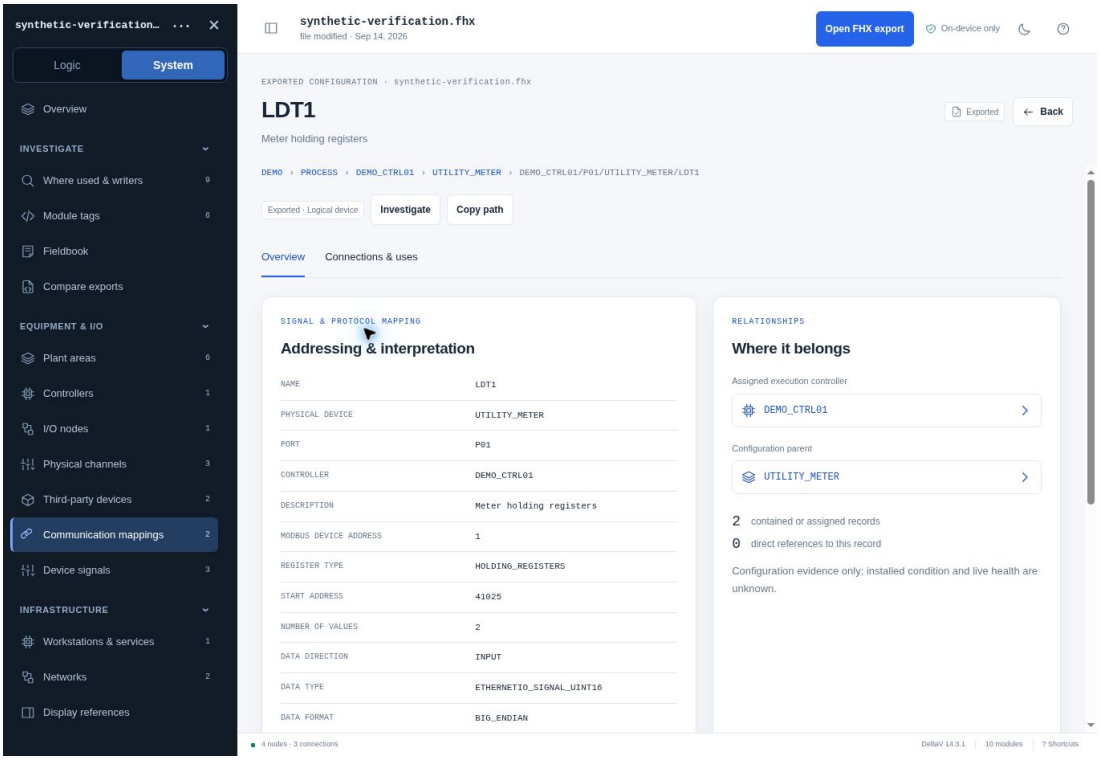
4. Open Connections & uses to inspect known relationships. Follow the parent I/O node or execution controller when that context matters.

> The example is CHARM slot 1, SIMPLE_IO_CHANNEL position 1, on DEMO_IO01, assigned to DEMO_CTRL01. The channel is defined and enabled in the export. Installed wiring, signal quality, and current pressure are not established.

The channel list also contains an undefined/spare example. A spare record is distinct from a disabled configured channel, an unassigned channel, or a missing definition. System counts are counts of exported records, not a physical inventory audit.

FULL APPLICATION · THIRD-PARTY DEVICES

Review communications mappings



Actual application: the fictional utility meter mapping exposes exported protocol fields alongside parent and controller relationships.

1. Open System, then Third-party devices or Communication mappings. Select the complete device path; different devices can have the same LDT name.

2. Read the protocol, direction, register type or tag, start address, data type, count, format, and word order where exported.

3. Open the mapped signal for its alias, full path, index, and byte/bit fields. Follow its known module bindings.

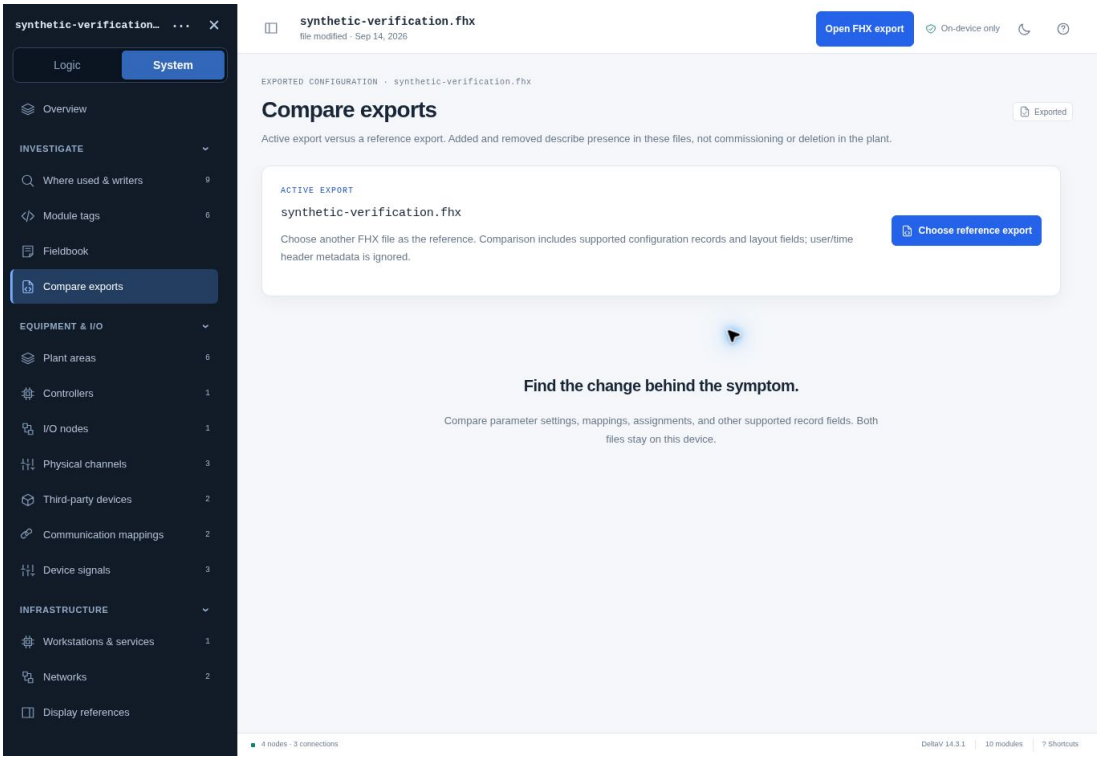
4. Record addressing exactly as exported and compare it with the device documentation before interpreting or implementing a communications change.

Fictional example: UTILITY_METER / LDT1 starts at exported address 41025, has two holding-register values, and uses INPUT / UINT16 fields. The viewer does not silently convert the address to a zero-based protocol offset.

An IP address or communications mapping is configuration evidence. It does not show that the device is reachable, that a register is responding, or that scaling and word order have been validated in the field.

FULL APPLICATION · COMPARISON

Compare two named snapshots



Actual application: comparison begins with the active export and a separately selected reference export. This capture shows setup, not a completed comparison result.

1. Open the intended active export. In System, choose Compare exports.

2. Choose reference export and select the file to compare against. Confirm both filenames before interpreting any differences.

3. Where comparison completes, inspect Added, Changed, and Removed records, filter the results, and open a record for Reference versus Active field differences.

4. Use Export summary to retain the supported-record comparison. Record the file identities and scope with the result.

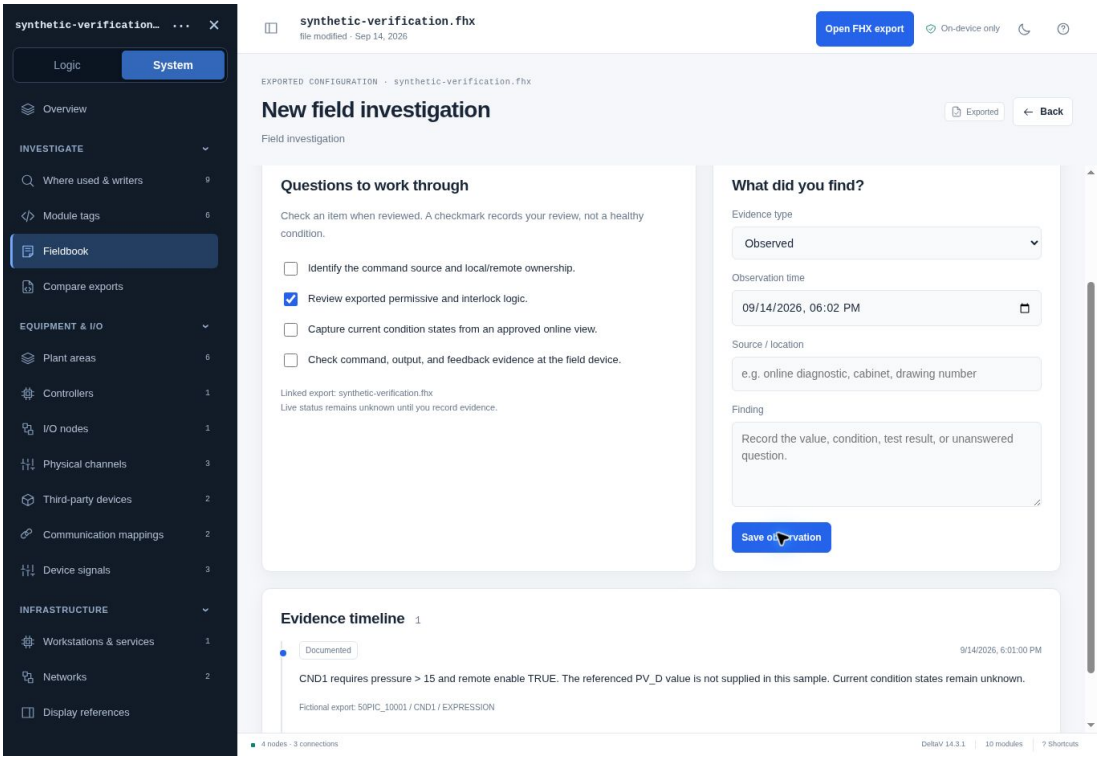
> Validation note for this edition: reference indexing did not complete in the captured browser session. Completed comparison output was not captured or browser-verified. Validate this workflow in the evaluation build supplied to you before relying on it.

Added and Removed describe presence in these two files, not commissioning or deletion in the plant. Different export scopes can create apparent changes. Unsupported record types and live state are outside the comparison.

If indexing fails, keep the active workspace, record the error, and check build access, file compatibility, and available memory. A failure is not a no-differences result.

FULL APPLICATION · INVESTIGATION RECORDS

Keep evidence in Fieldbook



Actual application: a fictional configuration finding is saved as Documented evidence. A reviewed checklist item records review activity, not healthy equipment.

1. Open System, then Fieldbook, and choose New investigation. Give the case a useful title and choose the relevant symptom.

2. For each entry, select the evidence type: Observed, Documented, Hypothesis, Open question, or Resolution. Enter the time, source/location, and finding.

3. Choose Save observation. Verify the entry appears in the evidence timeline. Keep exported facts separate from current field observations and your interpretations.

4. Use Export notes for the case or Export fieldbook for the collection. Keep related attachments with the project record separately.

Notes are stored in this browser's local storage. Attached file contents are available only during the session; exported notes retain filenames, not the attachment bytes. Save separate copies of the files you need.

A checklist tick means a question was reviewed. Resolved is a user-selected case status, not a system health determination. Do not label a configuration-only conclusion as an observed current condition.

FULL APPLICATION · PERSISTENCE

Save the right things before leaving

Local processing and local storage serve different purposes. Retain an explicit project record rather than assuming the browser is your archive.

Item	Behavior in the documented build	What to retain
Open FHX export	Indexed in the active browser session; reopen after reload.	Original approved FHX and snapshot identity.
Fieldbook notes and case metadata	Saved in local browser storage when available.	Export notes / Export fieldbook after meaningful work.
Evidence attachments	File bytes are session-only; filenames are retained.	Separate original files in the project record.
Moved diagram layouts	Session display changes; original FHX is unchanged.	Capture a useful view if needed; do not treat movement as a logic edit.
Comparison summary	Downloadable after a successful supported comparison.	Summary plus named reference and active files.
Public sample progress	In-memory demonstration state; Restart or reload clears it.	Download sample finding if useful.

Browser profiles and website origins have separate storage. Moving to another domain, changing browsers, clearing site data, or using private browsing can change what notes are available. A note export is not evidence of an implemented import/restore facility.

The captured full application processes configuration on-device. Access and data handling still need to match your organization's rules and the agreed evaluation arrangement. Do not put configuration details or secrets into a public inquiry form.

Keep the exported investigation, original attachments, snapshot identity, and verification actions together. Confirm files open in their intended destination before ending an important session.

REFERENCE · NAVIGATION

Desktop and phone controls

Use the visible controls first. Keyboard shortcuts speed up repeated desktop work when focus is outside an input or dialog.

Control	Action in the full application
Ctrl/Cmd + K	Open command search for modules and library records.
/	Focus the relevant module or system search.
O	Open an FHX export.
1 / 2 / 3 / 4	Diagram / Parameters / Expressions / References in Logic.
F; + / -	Fit the diagram; zoom in or out.
M	Toggle Move blocks. Display layout changes do not modify the export.
?	Open keyboard shortcuts and help.
Escape	Dismiss a dialog or leave applicable focused views/inspector.
Tab + Enter on a diagram block	Reach and inspect a block. Arrow keys move focus among blocks.

The public sample has its own compact controls and responsive layout. The full application's keyboard shortcuts above are not a promise that the sample implements every shortcut.

On phones, use Toggle explorer to open navigation. Select Logic or System, choose a destination, and return to the working surface. Use the dedicated expression reader for long text and its explicit size/wrap controls.

Right-click or the visible actions button opens contextual actions. Long-press support is intended to coexist with scrolling and pinching; use the visible menu when gestures are awkward.

Use Fit to recover the diagram after panning or zooming. Turn off Move blocks when you want ordinary navigation. Restore exported positions applies to the current layout scope.

Physical iPhone/Safari behavior has not been certified by these desktop captures. Test file selection, scrolling, long expressions, and gesture behavior on the actual device before a field visit.

REFERENCE · TROUBLESHOOTING

Recover without losing the question

What you see	What to do next
A known module is missing	Clear search, plant-area, and starred filters. Confirm Modules versus Library and verify the export identity.
No diagram structure	Open Parameters, Expressions, or References. The record may contain values without a supported diagram.
Unknown reference or endpoint	Keep the exact path. Check the export scope and required definitions; do not substitute a similar name.
Owner resolves but value is absent	Inspect the target parameter. Owner resolution is not full value resolution; record the missing value explicitly.
Diagram is off-screen	Use Fit. Check whether Focus diagram or Move blocks is active.
Long text is hard to read	Open Read expression, adjust text size, and toggle Wrap lines. Close to return to context.
Import or comparison fails	Record the exact error and file identity. Check authorized build access and compatible text FHX. Try a smaller authorized export if memory is a constraint.
Comparison shows no differences	Confirm the two filenames and supported record coverage. This is not proof the plant or every unsupported record is identical.
Notes or attachments are missing	Confirm browser, profile, and origin. Check exported notes and separately saved attachments; session-only bytes cannot be recovered from filenames.
A value looks wrong	Recheck module/composite instance, origin, override, type and units against trusted source interpretation before using the result.

For support, provide the application/build, browser/device, steps, expected versus actual result, and a fictional or approved minimized reproduction. Agree on a handling route before sending an actual customer export.

Do not infer that a parser error, empty search, or incomplete export means equipment was removed or configuration is safe. Preserve the uncertainty in your finding.

WORKED EXAMPLE & GLOSSARY

Write a finding another engineer can follow

A useful investigation record states what the export establishes, what you inferred, and what remains to be checked.

Term	Meaning in this guide
Snapshot	The configuration represented by one named export.
Module / block	A control record and a function block inside its diagram.
Definition / instance	Reusable configuration versus its use in a particular context.
Override / provenance	A context-specific setting and evidence of where a value came from.
Binding / reference	A configured path linking parameters or records.
Potential writer	A candidate assignment site; execution is not established.
I/O owner / execution controller	The configuration parent collecting I/O versus the controller assignment.
Unresolved	A relationship or value that available evidence cannot fully establish.

For an evaluation, bring one recurring engineering question and a representative authorized export. Agree on a successful outcome before expanding the workflow.

Question: What does the feed-header condition require, and where is its pressure input configured?

Exported facts: In 50PIC_10001, CND1/EXPRESSION requires AI1/OUT.CV > 15 AND 50HS_10001/PV_D.CV = TRUE. AI1/IO_IN references //50PT_10001_FIELD/FIELD_VAL_PCT. The physical-channel record identifies DEMO_IO01, CHARM slot 1, channel position 1, and controller assignment DEMO_CTRL01.

Open configuration question: the sample includes the 50HS_10001 module but supplies no exported PV_D.CV value. Keep that gap explicit.

Live checks: establish current pressure, remote enable state, loaded configuration, and installed wiring with approved observations. The export alone does not prove a READY state, successful logic execution, or the cause of a failure.