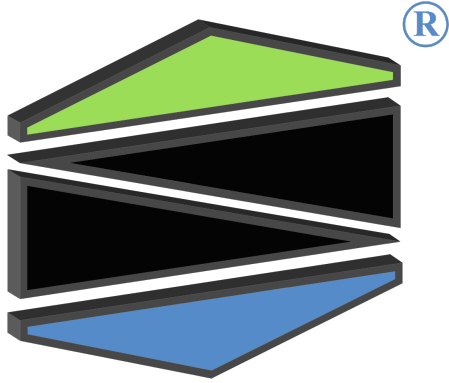




DM Series Guide

Pythia Technologies DM, SPDM, SPIGM and SPAC4

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How to use this guide USE

This guide is written to be read by an AI assistant for you. You don't need to read it cover to cover. Give it to an AI assistant and ask your question in plain words. The assistant answers from these pages and can walk you through each step.

Quick start USE - 1

1. **Get the guide** from pythiatech.com/pythia-dm. The text-file version ("DM Series Guide for AI Assistants") works best with AI assistants; the PDF is for reading.
2. **Open an AI assistant**, such as Claude, ChatGPT, Microsoft Copilot or Google Gemini.
3. **Give it the guide**. Attach the text file to a new conversation (look for a paperclip, **+** or **Attach**). Or, if your assistant can browse the web, ask it to read the "DM Series Guide for AI Assistants" from pythiatech.com/pythia-dm.
4. **Ask your question**, and ask follow-up questions as you would with a knowledgeable colleague.

The **Help** button in the DM console points to the same page ([GS-7](#)).

Questions you can ask USE - 2

- "How do I add a new location, group and unit?"
- "What does the red COMMUNICATIONS status on a unit mean, and what should I check?"
- "Set me up to email the on-call team, but only for critical alarms, and not overnight."
- "How do I bring a Smart Panel leak sensor into an alarm?"
- "Why didn't I get an email for this alarm?"
- "How do I give a coworker View-only access?"
- "How do I connect Claude to my DM with the AI Connector?"
- "Give me the Modbus register list for our BMS integrator."
- "What does this message mean: (paste the message)?"

Tips USE - 3

- **Be specific:** name the page, unit or message you're looking at.
- **Ask for step-by-step instructions** when you want to follow along.
- **Say which product you have** (DM, SPDM, SPIGM or SPAC4) if it isn't a plain DM.
- **Paste the exact message** you see on screen.

Important: Don't paste passwords, tokens, SNMP communities, customer names or IP addresses into a public AI tool unless your organization allows it. You don't need them to get help: this guide contains no site secrets.

If your question isn't answered here, contact Pythia Technologies: **support@pythiatech.com**.

Task index

MAP

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Sign in / sign out	GS-3 , GS-6
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Control what AI assistants may change	AIC - 3
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Use SPAC4	SPA
Demonstrate the DM without equipment	APX - E . 2
Understand a message on screen	APX - A
Fix a problem	APX - D
Look up a term	APX - C

Introduction INT

What a DM does INT-1

A Pythia Technologies **DM** (Data Monitoring appliance) watches the equipment that keeps a site running: UPS systems, generators, power distribution and meters, cooling units, leak and environmental sensors, servers and switches. It then tells people when something needs attention. It:

- **polls** each piece of equipment over its own protocol (SNMP, Modbus, BACnet, Liebert IGM and others) every few seconds;
- shows everything live in a **web console** and on an **Alarm View** wall display;
- raises **alarms** when conditions are met, and sends **email** and **SNMP traps**;
- records **history** (alarm history and trends);
- lets authorized people **command** equipment (for example start a unit or change a setpoint);
- **publishes** all of its data to building-management and network-management systems over SNMP, Modbus/TCP and BACnet/IP;
- lets **AI assistants** read the site, and act on it only where an administrator allows (**AIC**).

The DM is delivered preconfigured on Pythia hardware.

The product family INT-2

Product	What it is	Covered in
DM	The core monitoring appliance	Part 1
SPDM / SPIGM	A DM with a built-in Smart Panel input module (SPIGM is a different physical build of the same software)	Part 1 + SPD
SPAC4	A Smart Panel that controls a team of air-conditioning units	SPA (and Part 1 where it applies)

How the DM organizes a site INT-3

```

Site (the DM)
├── Locations    e.g. Powell Office
│   ├── Groups  e.g. Power Rack 1, Environmentals
│   │   ├── Units e.g. UPS-21A, Office TH1
│   │   │   ├── Data    readings (Temperature, Output Load...)
│   │   │   ├── Controls writable points (Unit On, Temperature Setpoint...)
│   │   │   └── Alarms   alarm settings (High Temperature...)

```

- A **unit** is one piece of equipment, polled by a **driver** for its make and model (**DRV**).

- **Alarm settings** on a unit define *when* an alarm fires. The resulting **alarm events** appear under **Alarms** ([ALM](#)).
- **Status rolls up**: a unit in alarm turns its group, location and the tree red. **Disabled** items are gray and raise no alarms.

What happens when something goes wrong INT-4

1. The unit's driver polls the equipment. A reading crosses a threshold, a status switches on, or the equipment stops answering.
2. After the alarm's **Fail Count** of polls in a row, the alarm fires. It appears in **Alarms > Active**, turns the tree red, and shows on the Alarm View.
3. Every **automation** whose categories include the alarm's category sends email and/or SNMP traps, unless it's in a quiet time ([AUT](#)).
4. Someone **acknowledges** it to show it's being handled ([ALM-3](#)).
5. When the condition ends, the alarm clears by itself, a CLEAR notification goes out, and the occurrence is kept in **History**.

Who can do what INT-5

- **Admin**: everything.
- **View**: see everything, change nothing (except their own password).
- **API**: AI assistants through the AI Connector, with limits the Admin sets.

Details: [USR](#) and [APX-B](#) .

How this guide is organized INT-6

- **Part 1 — Core Platform** (every product): [GS](#) Getting started · [CON](#) Working with the console · [MON](#) Monitoring your site · [UNIT](#) Units in detail · [EQP](#) Equipment dashboards · [ALM](#) Alarms · [AUT](#) Automations and notifications · [TRD](#) Trends · [USR](#) Users and accounts · [SET](#) System settings · [INTG](#) Integrations · [CUS](#) Custom pages
- **Part 2 — DM AI Connector**: [AIC](#)
- **Part 3 — SPDM and SPIGM**: [SPD](#)
- **Part 4 — SPAC4**: [SPA](#)
- **Part 5 — Equipment catalog**: [DRV](#)
- **Appendices**: [APX-A](#) Messages · [APX-B](#) Access rights · [APX-C](#) Glossary · [APX-D](#) Troubleshooting · [APX-E](#) Tools and demo driver · [APX-F](#) What changed · [APX-G](#) About this document

PART 1

CORE PLATFORM (all DM-family products)

Getting Started GS

APPLIES TO all DM-family products · all users

This chapter covers what you see when you first open the DM, how to sign in, how the console is laid out, and how to find your way around. Everything later in this guide assumes you know the parts named here.

Opening the DM GS-1

Type your DM's address into a web browser, for example `https://dm.example.com/`. Your administrator or Pythia Technologies gives you the address.

- On a **DM**, **SPDM** or **SPIGM**, the address opens the **Alarm View** (GS-2), a live alarm board that needs no sign-in.
- On an **SPAC4**, the address opens the panel display instead (SPA).

To reach the full console, click **Launch DM** on the Alarm View, or go to `https://<your DM>/default.asp`. Either way you arrive at the sign-in page (GS-3).

Browser requirements: any current browser (Chrome, Edge, Firefox or Safari) with JavaScript turned on. The console uses a dark theme only. The Alarm View also works on phones and tablets.

The Alarm View GS-2

APPLIES TO DM, SPDM, SPIGM · no sign-in required

The Alarm View is a single page built for wall screens and quick checks. It shows the DM's active alarms and updates every 2 seconds.

Note: Anyone who can reach the DM's address can open the Alarm View without signing in. It shows active alarms, alarm history, and who acknowledged an alarm, including their note. It cannot change anything.

Top of the page:

Control	What it does
Launch DM	Opens the console sign-in page in a separate browser tab.
Active / History	Switches between current alarms and past alarms.
Flash	When on (the default), the browser tab flashes when a new unacknowledged alarm arrives. Your choice is remembered on this browser.

Control	What it does
Refresh	Reloads the list immediately.
Status dot and Updated:	Green when the page is receiving data; shows the time of the last update.

Active mode (title **Active Alarms**): - Columns: **Severity, Time, Location, Group, Unit, Type, Text**. A legend shows the four severities: **CRT** Critical, **MAJ** Major, **MIN** Minor, **WAR** Warning (**ALM-1**). - An alarm someone has acknowledged shows a green **ACK** badge next to its severity and appears dimmed (**ALM-3**). - The subtitle counts active alarms, and unacknowledged ones when some are acknowledged: "3 Active Alarms · 1 unacknowledged". - With nothing active: "No active alarms — all systems normal." - The browser tab's icon turns the color of the worst **unacknowledged** alarm. When every active alarm is acknowledged, the normal icon returns, even though alarms are still active. - Tab flashing stops when you look at the tab, after 30 seconds, or when no unacknowledged alarms remain. The first load never flashes.

History mode (title **Alarm History**): - Columns: **Time Start, Time Stop, Location, Group, Unit, Type, Text**. - **Show: Last 4h** (default), **Last 8h, Last 12h, Last 24h, All**. - History does not refresh by itself. Click **Refresh**.

In both modes you can search the list, sort by clicking a column heading, and export the list with **PDF** or **Excel**. Exports do not include acknowledgment details.

The Alarm View is read-only. To acknowledge or clear alarms, sign in to the console (**ALM**).

Signing in GS-3

1. Open the sign-in page (**Launch DM**, or <https://<your DM>/default.asp>).
2. In **User:**, type your sign-in name. This is usually your email address; capital letters don't matter.
3. In **Password:**, type your password. Click **Show** to see what you typed (**Hide** hides it again). "Caps Lock is on." appears if it is.
4. Press **Enter** or click **Sign On**. The button reads **Signing in...** for a second or two while your browser prepares a secure sign-in. Your password itself is never sent to the DM.
5. The console opens (**GS-4**).

If sign-in fails, the page shows the reason, clears the password box and lets you try again:

Message	Meaning	What to do
"Invalid credentials"	Wrong sign-in name or password, or the account is disabled. The DM deliberately does not say which.	Check both; ask an administrator to check the account.
"Nonce expired"	Too much time passed between starting the sign-in and completing it.	Try again.

Message	Meaning	What to do
"JavaScript is required to sign in to this system."	JavaScript is turned off in your browser.	Turn it on and reload the page.

Note: AI accounts (Access **API**) cannot sign in to the console. They connect through the AI Connector (**AIC**).

First sign-in with an older login name GS-3.1

APPLIES TO accounts whose sign-in name is not an email address

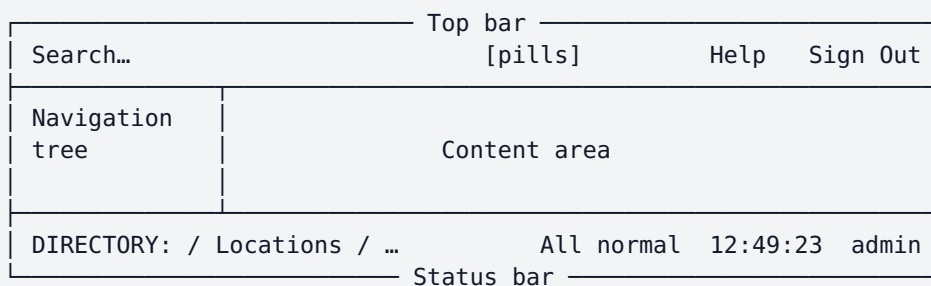
Sign-in names must now be email addresses. If yours isn't, the DM shows **Update Your Login** after you sign in: "Please update your account to use an email address as your login. This is required before you can continue."

1. Enter your email address in **New email** and click **Change Email**.
2. When **Email Updated** appears, click **OK, Sign In** and sign in with the new email address and your existing password.

Cancel signs you out; you will see this page again next time. The built-in **Admin** account is exempt.

The console layout GS-4

The console has four areas:



Navigation tree (left) GS-4.1

The tree is how you move around the DM. The top row shows the logo and your site's or product's name; click it to return to the **Site Overview**. Below it are the main areas:

Tree item	What it holds	Chapter
Alarms	Active alarms, information events, alarm history	ALM
Automations	Email and SNMP-trap notifications, heartbeats	AUT
Locations	Your sites: locations > groups > units	MON , UNIT

Tree item	What it holds	Chapter
Logs	Service logs and the Logins log	SET
Settings	System settings, policies, mappings, network, time, updates	SET , INTG
Smart Panel	The Smart Panel (SPDM/SPIGM only)	SPD
Trends	Trend buckets and history	TRD
Users	User and API accounts	USR
Views	Fleet views such as sensors and branch circuits	INTG

Your DM may show fewer or more items depending on its product and installed features.

- Click an item's **name** to open its page (and expand it). Click the **chevron** (>) to expand or collapse it without opening it.
- Icons and names change color with status: **red** = in alarm, **dimmed gray** = disabled.
- The tree remembers which branches you expanded while the browser tab stays open.
- View users see only their own account under **Users**.

Note: Always move around the console with the tree, the status bar, or the rows in a page. If you open a console page by typing its address, it opens on its own without the tree and navigation.

Top bar GS-4.2

Item	What it does
Search box	Finds units, locations, groups and points by name (GS-5).
Reset to default page	Appears only while a custom page is showing (CUS-4).
Update available — Refresh	Appears when the DM's software or custom pages have changed. Click it to reload all four areas (CON).
Help	Opens the console help document in a new tab.
Sign Out	Signs you out immediately, with no confirmation.

Status bar (bottom) GS-4.3

- **DIRECTORY:** where you are, for example / Locations / Powell Office / Power Rack 1 . Click any part to go there, or / for the Site Overview. A colored dot shows the current item's status.
- **Alarm badge:** "All normal" (green) or "N active alarms" (red). Click it to open **Alarms > Active** (ALM).
- **Connection warnings:** "Disconnected – retrying" when the DM has not answered for 12 seconds; "Session expired" when you have been signed out (GS-6).
- **Clock:** time and date from **your computer's** clock, not the DM's.
- **You:** your sign-in name and role badge (**Admin** in blue, **View** in gray).

Content area GS-4.4

Everything else appears here: lists, unit pages, dashboards, settings. The common controls used on every page (Cards/Table, refresh indicators, Properties dialogs, Add and Delete) are in **CON**.

Searching GS-5

1. Click the search box in the top bar ("Search units, groups, points, alarm settings... (press Enter)").
2. Type at least 2 characters, then press **Enter** or click the arrow button at the right end of the box. With fewer than 2 characters, nothing happens.
3. The **Search** page opens in the content area. It lists matches grouped as **Units**, **Locations**, **Groups**, **Alarms**, **Controls** and **Data Points**, each with a status dot, its location path, and a type badge.
4. Refine the search in the box at the top of the results; the list updates as you type. Click a result (or press **Enter** for the first one) to open it.

Search looks at the names and descriptions of locations, groups and units, and at each unit's alarm settings, controls and data points. Under **Alarms** it finds a unit's **alarm settings**, not alarms that are currently active; use **Alarms › Active** for those (**ALM**). It shows at most 40 results: "Showing the first 40 of N matches — refine your search."

Sessions, connection loss and signing out GS-6

Session expired. If you are signed out after **20 minutes** without activity, or because the DM restarted, the page shows **Session expired**: "Your session ended after a period of inactivity." (or "The server was restarted or unreachable, and your session has ended."). Click **Sign in now**, or wait 5 seconds, to go to the sign-in page. After you sign in again, the console reopens the page you were on.

Connection lost. If the DM stops answering (network problem, DM rebooting), pages show a yellow "Connection lost — reconnecting..." pill and keep trying. They recover on their own when the connection returns; you do not need to sign in again unless your session also ended.

Signing out. Click **Sign Out** in the top bar. You return to the sign-in page. Closing the browser tab without signing out leaves your session open until it times out.

Help GS-7

Click **Help** in the top bar. The **Help and Documentation** window opens over the current page:

- "The DM Series Guide is on the Pythia Technologies website, as a PDF for humans and a text file for AI assistants:" followed by the address **pythiatech.com/pythia-dm**. Click it to open the page in a new tab, or click **Copy** to copy the address.
- "If this computer cannot reach the internet, type that address on another device."

- "Tip: ask your AI assistant to read the "DM Series Guide for AI Assistants" from that page, or download the text file and attach it to your chat." (`USE`)
- "Questions? Contact Pythia Technologies support at support@pythiatech.com."

Close it with **×**, the **Esc** key, or a click outside the window. If your browser blocks copying, the button reads **Select and copy**; select the address and copy it yourself.

Working with the Console CON

APPLIES TO all DM-family products · all users (editing is Admin only)

Every console page is built from the same small set of controls: a Cards/Table switch, an auto-refreshing data area, a **Properties** dialog for editing, an **Add** dialog for creating, and a confirmation for deleting. This chapter describes each one once. Later chapters say "open **Properties**" or "use the rename pencil" and only list the fields each page offers.

Cards and Table views CON-1

Most list pages (locations, groups, units, settings and other containers) can show their contents two ways:

- **Cards:** a grid of tiles. Each shows the item's icon, name and, when there is one, its description. Click a card to open the item.
- **Table:** one row per item, with columns specific to the page. Click a row to open the item.

Switch with the **Cards** and **Table** buttons at the right of the section header. The active one is solid blue.

Your choice is remembered on this browser and applies to **every** list page until you switch back. An empty page shows "No items in this container."

Auto-refresh and the status dot CON-2

Pages keep themselves up to date. You never need the browser's reload button.

- **Live pages** (equipment dashboards, alarm lists) refresh every **2 seconds**.
- **List pages** refresh at the site's **list-view refresh rate**. An Admin sets it under **Site Properties** ([CON-2.1](#)). The page footer shows the current rate, for example "auto-refresh every 5 seconds", or "No auto-refresh" when it is 0.
- Some pages load once and don't refresh, such as property pages, alarm history and log viewers. They say so in their footer.

At the top right of each page:

- **Status dot:** green and pulsing = healthy; amber = loading; red = the last update failed; gray = the item is disabled.
- **Updated: HH:MM:SS** (or **Last Update:**): the time of the last successful update. If it keeps advancing, the data is live.
- **Refresh** button (on many pages): update now.

Site Properties CON-2.1

APPLIES TO Admin

On the **Site Overview** (click the site name at the top of the tree), click **Properties**:

Field	Meaning
Site Identifier	The DM's site code.
List View Refresh Rate in Seconds. 0 = No Refresh	How often list pages refresh: 0, 2, 5, 10, 15, 30, 60 or 120 seconds. Default 10.
Site Image	The picture on the Site Overview. Change image... replaces it immediately, without Save (MON).

The Properties dialog CON-3

APPLIES TO Admin (View users see the same values read-only)

Properties is the console's single way of editing. A location, a unit, a data point, an email recipient or a system setting is always edited in a dialog with the same layout.

Open it with: 1. the blue **Properties** button in a page's header, which edits the item whose page you are on; or 2. on some pages, an item's name or row, which edits that item without leaving the list.

Simple items (a single email recipient, an allowed address) have their own page with a **Property | Value | Description** table and a **Properties** button above it. The dialog is the same.

Fields you will see CON-3.1

You see	It means
Text or number box	Type a value. Number boxes accept whole numbers or decimals as the field requires.
Toggle switch	Yes/No. Green and to the right = Yes. Tables show Yes / No .
Dropdown	Pick one value. A blank first entry clears the value.
Checkbox list	Tick every option that applies (for example several alarm categories).
Password box	Always empty, with "Leave blank to keep current". Leave blank to keep the stored value; type to replace it. The stored value is never shown.
Image or page field	A box with ✕ (clear) and Choose... (pick or upload a file) (CUS-3).
Small table	Read-only information made of several name/value pairs.

Grayed fields are read-only (live readings, system-assigned values); empty read-only fields are hidden. "Property type N not yet editable in this dialog" marks a value you can see but not change here.

Saving CON-3.2

- **Save** stays disabled until you change something.
- Click **Save** to write all changes at once. On success the dialog closes and the page shows the new values.
- **Close** (or ✕) leaves without saving.
- If the DM rejects a value, the reason appears in red at the bottom of the dialog and nothing is changed. Common reasons:
 - "<Field> must be a number"
 - "<Field> is below the minimum of <n>" / "<Field> is above the maximum of <n>"
 - "<Field> value "<v>" is not one of the allowed options"
 - Field "<name>" cannot contain a pipe character (|). No value anywhere may contain |.

Renaming with the pencil CON-3.3

Where a name can be changed, the dialog shows it at the top with a **pencil**. Renaming takes effect on its own, separately from **Save**.

1. Click the pencil. The name becomes an edit box with a green ✓ and a gray ✕. **Enter** confirms and **Esc** cancels.
2. Type the new name and click ✓. The name changes at once in the dialog, the tree and the page address. Everything under the item keeps working.

If the name is refused, a red message appears next to the box: - "Name is required" / "Name must be 1-100 characters" - "Invalid characters: \ & % # ? " , " - "That name already exists" - For items named by an address: "Must be a valid IPv4 address (e.g. 192.168.1.10)" or "Must be a valid email (e.g. user@example.com)"

Names that cannot change appear grayed with no pencil.

Note: Whether a unit, data point, control or alarm can be renamed depends on the unit's driver. Units using a **generic** driver allow renaming. Most equipment-specific drivers use fixed point names, which you cannot rename, because the driver and its dashboard identify each point by its name (EQP).

Note: Renaming a unit, data point or alarm keeps its trend history, but systems outside the DM that refer to it by name (for example a BMS reading its SNMP/Modbus/BACnet mapping, or an AI assistant) may need updating (INTG).

Adding items CON-4

APPLIES TO Admin

Pages that accept new items have a blue **Add** button. It opens **Add to <name>**, with the same field types as Properties.

- Required fields are marked *****.
- Problems are shown in red under the field before anything is sent, for example: "IP Address" must be a valid IPv4 address (e.g. 10.251.0.0) -- check for an extra dot or space.
- Click **Save**. After a brief **Saving...** overlay (CON-6), the console opens the new item so you can continue setting it up.

Deleting items CON-5

APPLIES TO Admin

Delete is never a toolbar button. It is the red **Delete** button at the bottom left of the **Properties** dialog.

1. Open **Properties** and click **Delete**.
2. A confirmation names exactly what will be removed and says "This action cannot be undone."
3. Click the red **Delete** to proceed, or **Cancel**.

Caution: Deleting is permanent: there is no undo or recycle bin. When the confirmation says "and everything inside it", everything under the item is deleted too, including its settings and history.

Some items must be emptied first. The DM refuses and says what is still inside, for example:

The location "Powell Office" contains 6 group(s). Delete all group(s) before deleting this location.

After a delete, the console shows **Saving...** briefly and opens the parent page.

The "Saving..." overlay CON-6

After you add, rename or delete something, the screen dims under **Saving...** while the DM finishes the change. It usually clears in a second or two, then the console opens the right page by itself. There is nothing to click.

Working alongside other users CON-7

Several people can use the console at once.

- **Someone deletes what you are viewing:** your page shows "Redirecting to <parent> in 3 second(s)..." and then opens the parent page. Click **Go now** to go immediately.
- **Update available — Refresh:** a pill in the top bar tells you the console has changed since you opened it. This happens when new DM software is installed, a custom page or image is uploaded, or a page is reset to its default. Your pages keep working; click the pill when convenient to reload all four areas of the console.

Connection problems CON-8

- **"Connection lost — reconnecting..."** (yellow pill at the bottom of the page): the DM stopped answering. The page keeps retrying and clears the pill by itself when the DM answers again. A page first opened during an outage shows "Connection lost — attempting to reconnect..." and "This page will refresh on its own once the connection is back."
- **"Disconnected – retrying"** in the status bar: no answer for about 12 seconds.
- **"Session expired":** you have been signed out ([GS-6](#)).
- **Rebooting Gateway:** after an Admin restarts the DM ([SET](#)), the console waits and returns to the sign-in page when the DM is ready.

If a connection warning does not clear, check the DM's power and network connection.

Exports CON-9

Pages with reportable data (alarm lists, readings, mappings, logs) have export buttons, usually **PDF** and **Excel**; some offer more formats. Exports are created in your browser from the data on screen and download directly. No internet connection is needed. The chapter for each page says what its export contains.

What View users see CON-10

View users see all information the same way: views, refresh, status, property tables, connection indicators, the update pill and exports. They do not get **Add**, **Delete** or the rename pencil; property dialogs, where shown, are read-only. Where an Admin's footer reads "Use Properties to edit or delete this item.", a View user's reads "Property values shown in read-only mode."

Monitoring Your Site MON

APPLIES TO DM, SPDM, SPIGM (SPAC4 has its own overview — SPA) · adding, changing and deleting is Admin only

The DM organizes everything it monitors in three levels:

- **Locations:** a site or building, for example **Powell Office**.
- **Groups:** a set of related equipment within a location, for example **Power Rack 1** or **Environmentals**.
- **Units:** one piece of monitored equipment, for example **UPS-21A** or **Office TH1**. Each unit has data points, alarm settings and, for some equipment, controls ([UNIT](#)).

Status rolls upward. A unit in alarm puts its group and its location in alarm, and the tree, lists and status badges all show it. Items can be **Normal** (green), **Alarm** (red) or **Disabled** (gray; not being monitored).

This chapter covers the pages for each level and how to add, change and remove locations, groups and units.

Site Overview MON-1

Click the site name at the top of the tree. The **Site Overview** is the console's home page.

- **Top half:** the site image. The standard image is the Pythia "Data Monitoring Application" graphic. An Admin can replace it with a site photo or plan ([MON-1.1](#)).
- **Bottom half: Locations**, one row or card per location with its **Status** and **Description**. Click a location to open it.
- **Last Update:** the page refreshes every 30 seconds.

The location list here can't be searched or filtered. For that, use the **Locations** page ([MON-2](#)).

Change the site image MON-1.1

APPLIES TO Admin

1. On the Site Overview, click **Properties** (**Site Properties** opens).
2. Under **Site Image**, click **Change image....**
3. Pick an image already on the DM, or **Upload new image...** (PNG, JPG or GIF).

The new image appears at once for everyone, with no Save needed. The same dialog holds the site identifier and the list refresh rate ([CON-2.1](#)).

Locations MON-2

Click **Locations** in the tree.

- **Summary: Total Locations, Normal, Alarms** ("N location(s) in alarm" or "All locations normal").
- **Search locations...** matches name, code and description.
- **Table columns: Location, Status, Code, Enabled, Description.** Cards show the same, with the code as a small badge. Disabled locations appear faded.

Add a location MON-2.1

APPLIES TO Admin

1. On the **Locations** page, click **Add**.
2. Enter **Location Name** (required, up to 100 characters; not \ & % # ? " ,).
3. Leave **Enable for monitoring** ticked, unless you want to set the location up before monitoring starts.
4. Optionally enter a **Code** (a short site code, e.g. SITECODE) and a **Description** (up to 200 characters).
5. Click **Save**. The console opens the new, empty location.

"A location with that name already exists." means the name is taken.

Change or delete a location MON-2.2

APPLIES TO Admin

Open the location and click **Properties (Location Properties)**:

Field	Meaning
Location Name	Use the pencil to rename (CON-3.3).
Enable Location for Monitoring	Off = the location and everything in it show Disabled and raise no alarms.
Location Code	Optional site code.
Location Description	Shown in lists and under the name on the banner.
Overview Image	Optional banner picture for this location's page (MON-5).
Page URL	Which page opens for this location: the standard Groups page, or a custom page (CUS).

To delete: **Delete** > confirm. A location that still has groups can't be deleted: "The location "<name>" contains N group(s). Delete all group(s) before deleting this location."

Groups (a location's page) MON-3

Click a location in the tree or in a list.

- **Summary: Total Groups, Normal, Alarms.**
- **Overview banner** (if the location has an **Overview Image**) (MON-5).
- **All Groups: Group, Status, Enabled, Description. Search groups...** matches name, status and description.
- Buttons: **Add** (Admin), **Properties** (edits the location), **Cards / Table**.

A location can instead open a custom page (CUS).

Add a group MON-3.1

APPLIES TO Admin

1. Open the location and click **Add**.
2. Enter **Group Name** (required; same character rules as locations) and an optional **Description**.
3. **Type** is **Generic**.
4. Leave **Enable for monitoring** ticked.
5. Click **Save**. The console opens the new group.

Change or delete a group MON-3.2

APPLIES TO Admin

Open the group and click **Properties (Group Properties)**:

Field	Meaning
Group Name	Rename with the pencil.
Enable Group for Monitoring	Off = the group and its units show Disabled and raise no alarms.
Group Type	Read-only.
Column Header 1 ... Column Header 5	Up to five extra columns on the group's Units list. Enter the name of a data point (for example <code>Temperature</code> , <code>Humidity</code>) and the list shows each unit's current value in that column.
Group Description	Shown in lists and on the banner.
Overview Image	Optional banner picture (MON-5).
Page URL	Standard Units list, the environmental gauge view (MON-4.1), or a custom page (CUS).

To delete: **Delete** > confirm. A group that still has units can't be deleted: "The group "<name>" contains N unit(s). Delete all unit(s) before deleting this group."

Units (a group's page) MON-4

Click a group.

- **Summary: Total Units, Normal, Alarms** ("N unit(s) in alarm" or "All units normal").
- **Overview banner** (if the group has an **Overview Image**).
- **All Units: Unit, Status**, then the group's custom columns (for example **Temperature, Humidity**), then **Description**. **Search units...** also matches the custom column values.
- Buttons: **Add** (Admin), **Properties** (edits the group), **Cards / Table**.

Click a unit to open its page (**UNIT**) or its equipment dashboard (**EQP**).

Environmental gauge view MON-4.1

A group of temperature/humidity sensors can show its units as gauges instead of a list. The page is the same as the Units page, but in **Cards** view each unit shows a red thermometer gauge for temperature and a blue droplet gauge for humidity. The values come from the group's first column headers containing "temp" and "humid".

To switch a group to this view (Admin): **Group Properties** > **Page URL** > type `PTJ_units_environmentals.html` > **Save**. To switch back, set **Page URL** to `PTJ_units.html`.

Caution: In the gauge view's own Properties dialog, don't clear **Page URL** to return to the standard list; type `PTJ_units.html` instead. Clearing it can leave the group unreachable from the tree.

This view has no overview banner.

Add a unit MON-4.2

APPLIES TO Admin

1. Open the group and click **Add (Add New Unit)**.
2. Enter **Unit Name** (required; not \ , / or |).
3. Choose the **Network** the equipment is reached on, for example **LAN (NET)**.
4. Choose the **Driver** for the equipment. Its description appears under the list. The list shows every driver installed on your DM; see **DRV** for what each supports.
5. Click **Save**. The console opens the new unit.

The driver must suit the network: an Ethernet driver (NET) needs an Ethernet network, and a serial driver (COM) needs a serial port. Otherwise the DM refuses: "Driver type (<T>) does not match Network type (<T>)".

Next steps: open the unit's **Properties** to enter its address (IP address, port, community and so on) and to turn on its **Data, Alarms** and **Controls** (**UNIT**).

Drivers that come with an equipment dashboard open it automatically for new units and fill in the unit's description. Other units open the standard unit page (**EQP**).

Overview banners MON - 5

APPLIES TO setting a banner is Admin only · everyone sees it

A location or group can show a picture across the top of its page, such as a building photo, rack elevation or floor plan. Its name and description appear in the corner.

1. Open the location's or group's **Properties**.
2. In **Overview Image**, click **Choose...** and pick an image, or **Upload new image...** (PNG, JPG or GIF).
3. Click **Save**.

To remove it, click **×** in **Overview Image** and **Save**. Banners appear on the standard Groups and Units pages only, not on the gauge view or custom pages.

Enabling, disabling and status MON - 6

- **Disable** a location, group or unit to stop monitoring it, for maintenance or while it is being set up. It shows **Disabled** (gray), raises no alarms, and does not count toward its parent's alarm status.
- **Status colors** everywhere: green **Normal**, red **Alarm** (pulsing on cards), gray **Disabled**.
- A **location with no groups** shows **Normal**, but nothing there is actually being monitored yet.
- **Service alarms** come from the DM itself, not from your equipment. One example is "Polling Failed", when a unit's driver cannot run. They appear in **Alarms > Active** and on the Alarm View with **Location** = the site identifier, **Group** = **PTI Service**, and **Unit** = the DM's computer name. They count in the status bar's alarm badge but do **not** change any location's, group's or unit's status. So the status bar can show "1 active alarm" while every location shows **Normal** (**ALM**).

Units in Detail

UNIT

APPLIES TO all DM-family products · viewing: all users · configuring and commanding: Admin

A unit is one piece of monitored equipment. It has up to three kinds of points:

- **Data points:** readings the DM polls from the equipment, such as temperature, load or voltage.
- **Controls:** values the DM can write to the equipment, such as an on/off command or a setpoint.
- **Alarm settings:** the conditions the DM watches, such as "temperature above 90".

Note: Alarm settings on a unit are **configuration**: they define what to watch. When a condition trips, the resulting **alarm event** appears site-wide under **Alarms**, where it is acknowledged and cleared (ALM). This chapter covers setting the rules.

Many units open an **equipment dashboard** (a picture of the equipment with live values) instead of the standard unit page described here. See [EQP](#). The Data, Controls and Alarms pages below work the same for every unit.

The unit page

UNIT-1

Click a unit in the tree or in its group's list.

Status

UNIT-1.1

The page title is the unit's name, with its description underneath. At the top right, one status block summarizes the unit:

Status	Meaning
ALARM ACTIVE + "N Active" (red)	At least one of the unit's alarms is active.
COMMUNICATIONS (red)	No alarm is active, but at least one data point or control failed to update on the last poll.
ALL NORMAL + "0 Active" (green)	Running, no alarms, every poll succeeding.
DISABLED (gray)	The unit is not being monitored (its Enable is off).

An active alarm takes precedence over a communications problem. A disabled unit shows no counts.

What's on the page UNIT-1.2

- **Live Data** (left): every data point with its value and description. Click a point for its detail page, or the **Live Data** title for the full list. A point name in red means its last poll failed; a value in red means the point reports a problem.
- **Alarm Status** (right): one card per alarm setting with an **ACTIVE**, **NORMAL** or **DISABLED** pill, active ones first. Click a card for that alarm's page.
- **Controls** (below, only on units that have controls): **Setpoint** (what was commanded), **Value** (what the equipment reports) and **Description**. A yellow **OVR** badge means the control is in override.
- **Open Device** button: opens the equipment's own web page in a new tab. It appears only if the unit's **URL to Open Unit in Browser** is set.

The page refreshes every 2 seconds.

Unit Properties UNIT-1.3

APPLIES TO Admin

Click **Properties (Unit Properties)**. Fields depend on the driver; typical ones:

Field	Meaning
Unit Name	Rename with the pencil, if the driver allows (CON-3.3).
Enable Unit for Monitoring	Off = not polled, shows Disabled , raises no alarms.
Virtual Monitoring Network	The network the unit is reached on.
Unit Interface Driver	The driver (read-only).
Unit IP Address	The equipment's address.
Protocol fields	For example SNMP community and port, or Modbus unit address. Blank fields are filled with the driver's defaults when you save.
Unit Code	Optional code.
Add Data Container / Add Alarms Container / Add Controls Container	Tick and Save to add that section to the unit (UNIT-1.4).
Unit Description	Shown under the name and in lists.
URL to Open Unit in Browser	Address for the Open Device button.
Universal Identifier	A unique ID the DM assigns automatically. Other systems (mappings, AI assistants) use it to recognize the unit even after a rename.

Delete removes the unit and everything under it: "This action cannot be undone. All data points, alarms, and controls under this unit will also be removed."

Adding the Data, Alarms and Controls sections UNIT-1.4

A new unit starts with no points. To add them:

1. Open **Unit Properties**.
2. Tick **Add Data Container**, **Add Alarms Container** and/or **Add Controls Container**.
3. Click **Save**.

The DM creates each section. For equipment-specific drivers, it also adds the driver's standard points. Doing this again later puts back any standard points you deleted, without duplicating the rest. The boxes appear unticked the next time you open the dialog.

Note: Unticking a box does **not** remove a section. To remove a whole section, use **Delete** at the bottom of that section's **Properties** grid ([UNIT-2.3](#) , [UNIT-3.3](#) , [UNIT-4.3](#)).

Data points UNIT-2

The Live Data list UNIT-2.1

Click the unit's **Data** node in the tree, or the **Live Data** title on the unit page.

- Columns: **Data**, **Enable**, **Value**, **Description**, in the driver's order.
- Gray name = point disabled; red name = last poll failed.
- A red banner appears when points are failing: "Communications issue — N data points failed to update on the last poll". It is hidden while the unit is disabled.
- Refreshes at the site's list rate ([CON-2](#)).

Add a data point UNIT-2.2

APPLIES TO Admin

Click **Add (Add New Data Point)**. Fill in the name, **Description**, **Enable**, **Format**, the scaling values (Gain, Offset, Addend), and the driver's address fields (for example a Modbus register or an SNMP OID). Click **Save**.

A duplicate name is refused: "A data point with that name already exists". Names cannot contain \ , / or | .

Tip: End a description with the unit of measure in parentheses, such as Supply Air Temperature (F) . The console, exports and AI assistants all use it as the unit of measure.

The Data Point Properties grid UNIT-2.3

APPLIES TO Admin

Properties on the Live Data list opens a grid of every point: **Description**, **Enable**, **Value Format**, **Trend Data**.

- **Every change saves immediately.** There is no Save button. A green "✓ Saved" flashes after each change; on failure the grid names the field and point, for example 'Could not update Enable for "Temperature".', and puts the old value back.
- **Set all** → at the top applies one value to a whole column (not Description).
- **Trend Data** assigns the point to a trend bucket so its history is recorded (**TRD**).

Caution: Setting **Trend Data** to **— Off —** stops trending the point and **deletes its recorded trend history**. Moving it to a different bucket keeps the history.

- **Delete** (bottom left, when the driver allows) removes the whole Data section and all its points.

The data point page UNIT-2.4

Click a data point's name.

- **Live value:** large, with the unit of measure from the description. **--** means no reading. A red value and a **△ COMM ISSUE** badge mean the last poll failed.
- **Live chart:** starts empty ("Collecting data...") and fills while the page is open, sampling every 2 seconds. It shows this viewing session only. For stored history, use trends (**TRD**).
- **Chart:** **Line** (default), **Bar**, **Gauge**, or **Step** (on/off-type points only).
- **Window:** **Last 1 minute**, **Last 5 minutes** (default), **Last 15 minutes**.
- Hover over the chart to see the exact value and time.
- Your chart type and window are remembered for each point on this browser.
- **Gauge zones:** in Gauge mode, **Min**, **Max**, **Warn Low** and **Warn High** color the dial.

Caution: Gauge **Min / Max / Warn Low / Warn High** only color the dial on your screen. They are stored in your browser, are not sent to the DM, and do **not** raise alarms or send notifications. Real alarm thresholds are set in the unit's alarm settings (**UNIT-4**).

- **Trend:** (Admin) assigns the point to a trend bucket, the same setting as in the grid. The same caution about **Off** applies.
- **Export:** **PDF** (a snapshot of the chart) and **Excel** (the samples collected so far).
- **Properties** (Admin): all the point's settings. Cleared Gain, Offset, Addend or Description are reset to 1, 0, 0 and the point's name. **Delete** removes the point.

Controls UNIT-3

A control writes to the equipment: an on/off command, a mode, or a setpoint.

Caution: Commands are sent to the equipment without asking for confirmation. Clicking **On** or **Off**, clicking **Apply** on a setpoint, pressing **Enter** in a setpoint box, or changing a setpoint cell in the Control Properties grid acts at once. The DM sends the value on its next poll and keeps re-sending it whenever the equipment's actual value differs.

The Controls list UNIT-3.1

Click the unit's **Controls** node, or the **Controls** title on the unit page.

Column	Shows
Control	Name (red if its last poll failed).
Enable	Yes / No . A control must be enabled before anyone, including an AI assistant, can command it.
Status	Normal , Fault (enabled but the last poll failed), or Disabled .
Setpoint	The commanded value (— when none).
Value	The value read back from the equipment.
Description	Free text.

A red banner appears when controls are failing to update.

Command a control UNIT-3.2

APPLIES TO Admin

1. Click the control's name.
2. The **COMMAND** panel shows **Commanded** → **Actual**.
3. Send the command: - **On/off controls**: click **On** or **Off**. One click sends the command. - **Numeric controls**: type a value and click **Apply** (or press **Enter**). - Controls with an **Override** row: use it to force the output independently of the normal setpoint.
4. A message confirms: "Setpoint → ON sent." (or shows the error).
5. **Commanded** changes at once. **Actual** follows within a poll or two. If it never does, check the control's **Status** and the unit's communications.

View users see the **Commanded** → **Actual** readout but no command buttons.

Add controls and the Control Properties grid UNIT-3.3

APPLIES TO Admin

- **Add (Add New Control)**: enter a name, choose the **Type** the driver offers (for example **Control**, **Control On/Off** or **Control On/Off Override**), then fill in that type's fields. **Save** is available once a Type is chosen.

- **Properties** opens the **Control Properties** grid (**Enable**, **Setpoint**, **Value**, **Description**). Every change saves immediately, and a setpoint change **commands the equipment**.
- **Clear Setpoints** (in the grid's top row) asks "Clear the setpoint on all N control(s)? Each is re-read fresh from the unit on the next poll." It clears every stored setpoint, so the DM stops pushing old values and adopts what the equipment actually reports.
- **Delete** (bottom left, when the driver allows) removes the whole Controls section.

Alarm settings UNIT-4

Each alarm setting defines a condition, how serious it is, and how long it must last before it fires.

The alarm list UNIT-4.1

Click the unit's **Alarms** node, or the **Alarm Status** title on the unit page. The list shows **Alarm**, **Enable**, **State** (**ACTIVE** / **NORMAL** / **UNKNOWN**), **Category** and **Description**, active ones first.

Add an alarm setting UNIT-4.2

APPLIES TO Admin

Click **Add** (**Add New Alarm**). The form comes from the driver. Typically: - the alarm's name, **Severity**, **Count**, **Category**, **Description**; - the condition: what to read (for example a register or OID), a **Comparison Operator** and an **Alarm Threshold**.

For some drivers (for example DIRS and the SNMP families) the **Add New Alarm** dialog asks only for the **Alarm Identifier** and **Alarm Type**: **ALARM** (follow an on/off status), **LOGIC** (combine several conditions) or **VALUE** (compare a reading to a threshold). The type decides which fields the alarm's **Properties** then offers (SPD-2.3). Set the threshold and other details afterwards in the alarm's **Properties** if the Add form doesn't show them.

The Alarm Properties grid (all alarms at once) UNIT-4.3

APPLIES TO Admin

Properties on the alarm list opens a grid of every alarm setting:

- **Global Alarm Test** (top): turns on a test alarm for **every** alarm on the unit, to check the whole notification chain without waiting for a real event. Turn it off afterwards.
- **Category**: — **None** — or **Category 01–Category 25** (or the driver's own list). Automations use categories to decide who is notified (AUT).
- **Severity**: **INFORMATION**, **WARNING**, **MINOR**, **MAJOR**, **CRITICAL** (ALM-1).
- **Fail Count** (1–5): how many polls in a row the condition must hold before the alarm fires. Raise it to ignore brief blips.
- **Enable**: off = the alarm is not evaluated (**UNKNOWN**).

Every change saves immediately. **Set all...** changes a whole column after asking to confirm, for example "Are you sure you want to set severity to 'CRITICAL' for all 8 alarms?". **Delete** (bottom left) removes the whole Alarms section.

One alarm's page UNIT-4.4

Click an alarm setting's name.

- **State:** **NORMAL** (green), **UNKNOWN** (gray), or, while firing, the severity word (**CRITICAL**, **MAJOR**, **MINOR**, **WARNING**, **INFORMATION**) in its color. It updates every 2 seconds.
- **History:** **Time Start**, **Time Stop**, **Duration**, **Text**, newest first. A firing alarm has a live row whose duration counts up.
- **Export:** **PDF** / **Excel** of the history.
- **Properties** (Admin): all fields, including the condition. Typical fields:
- **Enable Alarm for Monitoring**
- **Alarm Severity**
- **Count Before Generating Alarm** (1–5)
- **Alarm Category**
- **Latch Alarm** (on some drivers): **Latch** keeps the alarm active after its condition clears, until someone sets it to **Unlatch**
- **Gain Value**, **Offset Value**, **Gain-Offset Calculation Order**, **Additional Value to Add**
- **Comparison Operator** (AND, NAND, >, <, =, !=), **Alarm Threshold**
- **Alarm Description**
- **Generate Software Alarm Test**

This is where real alarm thresholds live. - **Delete** removes the alarm setting. Its recorded history stays until cleared. - **Clear History** (Admin): "Permanently delete N record(s) for this alarm?". It cannot be undone, and the records also disappear from the site-wide history. Export first if you need them.

Note: An Admin who sees ⚠ **Not editable — re-add this alarm** instead of **Properties** is looking at an older alarm setting that can no longer be evaluated. Delete it and add it again.

What View users see UNIT-5

View users see every page in this chapter: the unit page, the Live Data list, data point pages with charts, gauges and exports, the Controls list and **Commanded** → **Actual** readouts, and alarm settings with their history and exports. They do not see **Add**, **Properties**, the bulk grids, **Trend** selectors, **Clear History**, or any command buttons, and the DM refuses any change they attempt.

Equipment Dashboards EQP

APPLIES TO all DM-family products · viewing: all users · properties: Admin

Many units open an **equipment dashboard** instead of the standard unit page ([UNIT-1](#)): a live drawing of the equipment, such as a UPS power path, a cooling unit or a server faceplate, with its readings placed where they belong. Dashboards come with the unit's driver. Which ones you see depends on your equipment. [DRV](#) lists the standard drivers and whether each has a dashboard.

Dashboards are for **watching**. Except for the cooling units noted in [EQP-4](#) , you change settings and send commands on the unit's **Controls** page ([UNIT-3](#)).

What every dashboard has EQP-1

- **Header:** the unit name, its description, and a status pill:
- **ALARM ACTIVE** + "N Active" (red)
- **COMMUNICATIONS** (red): readings failed on the last poll. Not shown on IGM-driver dashboards.
- **ALL NORMAL** + "0 Active" (green)
- **DISABLED** (gray)
- **Updated:** time and status dot. Dashboards refresh every 2 seconds (sensor dashboards every 2.5 seconds).
- **Open Device:** opens the equipment's own web page, if the unit has one configured ([UNIT-1.3](#)).
- **Properties** (Admin): the unit's Properties dialog. Its **Delete Unit** button removes the unit and everything under it. Refresh pauses while the dialog is open.
- **The drawing:** the equipment with live values, an operating-mode badge (for example **ONLINE**, **ON BATTERY**), and animated power or air flow.
- **Live Data** and **Alarm Status** lists below the drawing. Click a reading for its data point page, or an alarm for its alarm page. The section titles open the full Data and Alarms lists.

When the equipment stops answering EQP-1.1

- Most dashboards freeze the drawing in gray and show a **NO COMMS** mode badge, keeping the last values on screen.
- Some show a red banner instead: "N data point(s) did not respond on the last poll."
- Values that have never been read show -- .

Note: Status and mode text on dashboards is shown exactly as the equipment reports it, including the manufacturer's spelling.

Which units open a dashboard EQP-2

- **Opens automatically for new units:**
- the SNMP drivers for CyberPower UPS, Liebert GXT4 UPS, Liebert CRAC (ENV1), Supermicro X12 server and Cisco Business 250 switch;
- the Liebert IGM drivers L00, LAM, MM2, MM4, PMP, PMP2, SC4, SM4, ST2, STS, WDU, WDU2 and XDC.

These drivers also fill in the unit's description. - **Other drivers with a dashboard** (for example the Vertiv GXT5 and EXM UPS, the Liebert battery monitor, the generic UPS driver, and the temperature/humidity sensor page): Pythia assigns the dashboard to the unit during the DM's initial configuration. Pythia is updating more drivers to assign their dashboards automatically. A unit that opens the standard unit page is working normally. If you'd like an equipment dashboard for a unit that doesn't have one, let Pythia Technologies know. - **Units without a dashboard** always use the standard unit page ([UNIT-1](#)).

Setting up a unit with a manifest driver EQP-2.1

The CyberPower UPS, Liebert GXT4, Liebert CRAC (ENV1), Supermicro X12 and Cisco CBS250 drivers carry their own standard list of points. After adding the unit ([MON-4.2](#)):

1. Enter the unit's IP address and SNMP settings in **Properties**.
2. Tick **Add Data Container**, **Add Alarms Container** and **Add Controls Container**, then **Save**. The button shows **Seeding points...** while the DM adds the standard points.

"Seeding: N added, N already existed, N FAILED. Save again to retry the failed points." means some points failed; **Save** again.

The equipment's SNMP access list must allow the DM's IP address.

Dashboard gallery EQP-3

UPS EQP-3.1

Dashboard	Shows	Mode badge
Vertiv GXT5 / Liebert GXT4	Power path: AC in > rectifier > DC bus > inverter > static switch > load, with static bypass; Input , Battery , Output panels; battery status	ONLINE, ON BATTERY, BYPASS, DISABLED, NO COMMS
Vertiv EXM (three-phase)	As GXT5, with per-phase values and a generator input	adds MAINT BYP
CyberPower UPS	Power path and battery	ONLINE, ON BATTERY, ON BOOST, ON BUCK, OVERLOAD, OUTPUT OFF

Dashboard	Shows	Mode badge
Generic UPS (any UPS with the standard UPS MIB)	One-line diagram with gauges	• NORMAL , • ON BATTERY , • ON BYPASS , • OUTPUT OFF , • COMMS LOST
Liebert Multi-Module / Single-Module UPS (IGM MM4, SM4)	UPS module with battery	ONLINE , ON BATTERY , OUTPUT OFF (SM4 adds ON BYPASS); battery CHARGED , CHARGING , DISCHARGING , LOW
Liebert System Control Cabinet (IGM SC4)	Up to six parallel UPS modules	System ONLINE , ON BYPASS , OUTPUT OFF ; module tiles ONLINE , ALARM , OFFLINE , N/A

Batteries EQP-3.2

Liebert battery monitor (two strings): per-string state **FLOAT**, **DISCHARGING**, **EQUALIZING**, **STR OFFLINE**, **RUNAWAY**, with an alarm count per string.

Cooling EQP-3.3

Dashboard	Shows
Liebert CRAC (SNMP)	Unit with fans, coils and air flow; overlays such as SMOKE DETECTED , LOSS OF POWER , UNIT SHUTDOWN , FIRE DETECT , FIRE ALARM , REMOTE SHUTDOWN ; editable setpoints (EQP-4).
Liebert Deluxe System/3, Mini-Mate2, Level 0 controller (IGM LAM, MM2, L00)	Unit drawing, readings, and a read-only setpoint table: "Setpoints (read-only — change on the Controls page)".
Liebert XD chiller (IGM XDC)	Mode ON , OFF , DISABLED , with its setpoints read-only.

Power distribution and switching EQP-3.4

Dashboard	Shows
Liebert Precision Power Center (IGM PMP, PMP2)	One-line power distribution; PMP2 adds power-quality values (THD, K-factor, crest factor).
Liebert static transfer switch (IGM STS, ST2)	Two sources feeding the load, tagged PREFERRED and ON LOAD .
CyberPower ATS	SOURCE A , SOURCE B or NO SOURCE ; "Active: Source A", "Source A Failed", Redundant / Not Redundant .

Leak detection EQP-3.5

Liebert leak detection (IGM WDU single cable, WDU2 dual cable): cable state **OK**, **LEAK** or **CABLE FAULT**, and leak distance in feet or meters.

Generators EQP-3.6

Generac generator (H100 controller): engine, alternator and fuel base, with a transfer switch showing **UTILITY** or **GENERATOR** feeding the load. Mode **STANDBY**, **CRANKING**, **WARMING UP**, **RUNNING**, **EXERCISING**, **COOL DOWN**, **SHUTDOWN** (emergency stop), **POWER LOSS** ("● ON GEN" is added while the generator carries the load). A yellow strip warns "Generator is NOT IN AUTO — automatic start on power loss is disabled".

IT equipment EQP-3.7

Dashboard	Shows
Supermicro X12 server	Front faceplate (power, drive, network and ID LEDs, drive bays) and an inside view with fan speeds and component temperatures. Mode ONLINE , ALARM , POWERED OFF , NO COMMS , DISABLED . The server's power controls are installed disabled because they can power-cycle the server.
Cisco Business 250 switch	Faceplate with a link light per port, and a health strip (CPU, temperature, power supply, uptime, firmware). Mode ONLINE , ALARM , NO COMMS , DISABLED . "Port n Link Down" alarms are installed disabled; enable the ones for ports you care about.

Sensors EQP-3.8

Temperature / humidity sensor: semicircular gauges for **Temperature** (°F, default 32–120) and **Humidity** (% , 0–100). The colored zones come from the unit's **Low/High Temperature** and **Humidity** alarm thresholds. Status word **NORMAL**, **HIGH TEMP**, **LOW TEMP**, **HIGH HUMIDITY** or **LOW HUMIDITY**.

Equipment managers EQP-3.9

Pythia's manager units coordinate a team of cooling units: lead/standby rotation, failover and staging. See [DRV-3](#).

Dashboard	Shows
Unit Team Manager (two units, lead/standby)	Roles LEAD / STANDBY / DISABLED , FAILOVER ARMED / FAILOVER OFF , "SWITCHING — Ns" during a changeover, last changeover time.
CRAC Manager (three units, two running)	Mode NORMAL · 2 RUN , STAGING · 3 RUN , FAILOVER · N RUN , OVERRIDE · N RUN , DEGRADED · 1 RUN , ALL RUNNING , ALL OFF ; roles LEAD / DUTY / STANDBY ; notes such as "fewer than 2 units running — check overrides / unit enables".

Manager dashboards only display commands. Operate the manager from its **Controls** page. Deleting a manager unit does not delete the units it manages.

Dashboards that change settings EQP-4

APPLIES TO Admin

The **Liebert CRAC** dashboards (SNMP) have a **Controls** table where an Admin can type a new setpoint directly. The change is sent **as soon as you leave the box**, and the result shows ✓ or ✗.

Caution: Setpoints typed on these dashboards go to the equipment **immediately, with no confirmation**, just like the Controls page (UNIT-3).

A few dashboards built for particular installations also have editable controls; they carry the same caution. All other dashboards are read-only.

Group dashboards EQP-5

A group can also open a dashboard showing all its units together. For example:

Group dashboard	Shows
UPS Systems	A small UPS panel per unit (NORMAL, ON BATTERY, ON BYPASS, OUTPUT OFF), with runtime under 15 minutes in amber.
Branch Circuits	Per-panel phase currents, total, imbalance and highest breaker.
Alarm Panels / Generator Systems	A wall of status panels with one light per alarm.

Group dashboards have the group's **Properties** and often **Add Unit**. They are set up through the group's **Page URL** (MON-3.2). Custom dashboards for your own layout are covered in CUS .

Alarms ALM

APPLIES TO all DM-family products · viewing: all users · acknowledging and clearing: Admin

An **alarm** is an event: a condition on a unit that is true right now, or was true in the past. Alarms come from the unit alarm settings described in [UNIT-4](#). This chapter covers working alarms site-wide: seeing what is active, acknowledging and clearing, and reviewing history. For a wall display that needs no sign-in, see the **Alarm View** ([GS-2](#)).

Buckets and severities ALM-1

Alarms in the tree has three buckets:

Bucket	Holds	Refresh	Removed when
Active	Alarms that are firing now	every 2 seconds	the condition ends, an Admin clears it, or it has not been refreshed for 24 hours
Information	Notices that aren't faults (severity INFORMATION)	every 2 seconds	an Admin clears them
History	Every past alarm, with start and stop time	when you click Refresh	an Admin deletes records

Severities (set in each alarm setting, [UNIT-4.3](#)):

Badge	Severity	Color
CRT	Critical	red; the row pulses
MAJ	Major	orange
MIN	Minor	yellow
WAR	Warning	teal
INFO	Information	blue (Information bucket)

Active alarms turn their unit, group and location red in the tree and lists, and the status bar shows "N active alarms" ([GS-4.3](#)).

Service alarms ALM-1.1

Some alarms come from the DM itself rather than your equipment, for example "Polling Failed" when a unit's driver cannot run. They show **Location** = the site identifier, **Group** = **PTI Service**, **Unit** = the DM's computer name. They count in the status bar but don't change any location's status.

The Active list ALM-2

Click **Alarms** › **Active** (or the red alarm badge in the status bar).

- **Title and counts:** "5 Active Alarms", plus " · 3 unacknowledged" when some are acknowledged.
- **Filters:** click **CRT**, **MAJ**, **MIN** or **WAR** to show only those severities, or **ACK Unacknowledged only** to hide acknowledged alarms. **Search alarms...** matches any text, including who acknowledged it.
- **Columns** (click to sort): **Severity** (worst first by default), **Ack**, **Time**, **Location**, **Group**, **Unit**, **Type**, **Text**. Location, group, unit and type are links.
- **Acknowledged alarms** show a green **ACK** badge and appear dimmed; a Critical one stops pulsing. Hover the badge for who acknowledged it, when, and their note.
- **Details:** click an alarm's **Time** to open **Alarm Details**: time, location, group, unit, type, message, and the acknowledgment if any, with **Open full page** ↗.
- **Export:** **PDF** or **Excel** of the rows shown, including the acknowledgment text.
- With nothing active: "No active alarms — all systems normal."

Acknowledging and clearing ALM-3

APPLIES TO Admin

Acknowledge means "someone has seen this and is handling it." **Clear** removes the alarm.

	Acknowledge	Clear
Alarm stays active?	Yes , still red, still counted	No , removed from Active
Written to History?	No	Yes, with the clear time as its stop time
Sends notifications?	No	Yes: automations send a CLEAR message (AUT)
Can be undone?	Yes (Un-acknowledge)	No. If the condition still exists, the equipment raises it again as a new alarm on the next poll.
Logged in Logins log	Yes	No

Acknowledge ALM-3.1

- **One alarm:** open **Alarm Details** (click its time) › **Acknowledge** › optionally type a note › **OK**.
- **Several:** tick their checkboxes › **Acknowledge Selected** › optional note (applies to all) › **OK**.
- **On the full alarm page:** **Acknowledge** ("Acknowledge this alarm? It stays active; the acknowledgment records who took it and when.").

The note can be up to 255 characters. Acknowledging again replaces the previous note. To remove an acknowledgment, use **Un-acknowledge** on the full alarm page ("Remove the acknowledgment from this alarm?").

Note: An acknowledgment lasts only while the alarm is active. When the alarm clears, the acknowledgment is not kept in History. If the alarm's severity changes, it stays acknowledged. Acknowledging does not stop repeated SNMP traps.

Note: Only Admins can acknowledge in the console. AI assistants can acknowledge or clear only if an Admin allows it (AIC-3).

Clear ALM-3.2

- **Several:** tick them > **Clear Selected** > confirm "Clear N selected active alarm(s)? This cannot be undone."
- **On the full alarm page:** **Clear** > confirm.
- **In Alarm Details:** **Clear Alarm**.

Caution: **Clear Alarm** in the **Alarm Details** window clears the alarm **immediately, without asking for confirmation**.

Use Clear for alarms that are stuck (the condition is gone but the alarm remains) or no longer relevant. Clearing an alarm whose condition still exists only makes it come back on the next poll.

The full alarm page ALM-4

Click an alarm's timestamp in the tree, or **Open full page** ↗. The title is the severity (for example **Critical Alarm**). It shows **Severity**, **Started**, **Location**, **Group**, **Unit**, **Type**, **Description**, **Category** and **Acknowledged** ("No", or who and when with their note). Admins get **Acknowledge** / **Un-acknowledge** and **Clear**. The page doesn't refresh on its own.

Information ALM-5

Click **Alarms** > **Information**. Information events are notices rather than faults. The list shows **Time**, **Location**, **Group**, **Unit**, **Type**, **Text**, with **Search events...**, details, exports, and (Admin) **Clear Selected** or **Clear Event**. They cannot be acknowledged.

Caution: **Clear Event** in the details window acts immediately, without confirmation.

History ALM-6

Click **Alarms › History**. It shows the newest 1000 records: **Time Start**, **Time Stop**, **Location**, **Group**, **Unit**, **Type**, **Text**. Click a row for details. **Search history...** filters the list. It doesn't refresh on its own.

APPLIES TO Admin

- **Keep last [30] days — Delete Older Records:** deletes history older than the number of days you enter, after confirmation.
- **Clear All History:** "Delete ALL alarm history? This deletes every record from the ALARMS table and cannot be undone."

Caution: Deleted history cannot be recovered. Export first if you need it.

One alarm setting's own history, with durations, is on its alarm page under the unit ([UNIT-4.4](#)).

Testing an alarm ALM-7

APPLIES TO Admin

To check that an alarm and its notifications work without waiting for a real event:

1. Open the alarm setting under the unit (**<unit> › Alarms › <alarm>**) and click **Properties**.
2. Turn on **Generate Software Alarm Test** and **Save**. The alarm fires within a poll or two and appears in **Active**. Automations for its category send **real** notifications to their recipients. That is the point of the test: it proves the whole chain from alarm to email or trap ([AUT](#)). Warn recipients first if needed.
3. When finished, turn **Generate Software Alarm Test** off and **Save**. The alarm clears by itself and is recorded in History.

To test every alarm on a unit at once, use **Global Alarm Test** in the unit's Alarm Properties grid ([UNIT-4.3](#)).

Note: While a test is on, clearing the alarm only makes it come back on the next poll. Turn the test off instead.

What View users see ALM-8

View users see all three buckets, filters, details, the full alarm page, exports and acknowledgment badges. They cannot acknowledge, clear or delete anything.

Automations and Notifications AUT

APPLIES TO all DM-family products · viewing: all users · changing: Admin

Automations send news out of the DM. An **Alarm** automation sends email and SNMP traps when alarms fire and clear. A **Heartbeat** automation sends scheduled "still alive" emails, so that silence from the DM is never mistaken for health.

All DM email goes out through the DM's built-in **SMTP Relay**. The sender (**From**) address and outgoing mail server are set there (**SET**), not on the automations.

How an alarm notification is decided AUT-1

For every alarm that fires or clears, the DM checks each **Alarm** automation in turn. It notifies that automation's recipients only if **all** of these are true:

1. The automation is **enabled**.
2. The automation's **Alarm Category** includes the alarm's category. Alarm settings use **Category 01–Category 25** (**UNIT-4.3**). The DM's own alarms use three system categories: **Service** (DM service alarms such as "Polling Failed", **ALM-1.1**), **Communications** (a unit stopped answering) and **Disabled** (monitoring was turned off). Tick these too if you want to be told about them.
3. The current time is **not** inside one of the automation's time exceptions for today (**AUT-5**).

Then:

- **Email** goes to each **enabled** recipient, once when the alarm fires and once when it clears (subject ending "- CLEAR").
- **SNMP traps** go to each **enabled** destination, once when the alarm fires and once when it clears. **Persistent** destinations also get the trap again on every poll while the alarm stays active.
- Information events are notified the same way.

The Automations list AUT-2

Click **Automations** in the tree. The list shows **Name**, **Type** (**Alarm** or **Heartbeat**), **Enabled**, **Category** and **Description**. It loads once and has no search.

- **Enable or disable** (Admin): in **Table** view, click the **Enabled** switch. Disabling stops an Alarm automation from sending, but keeps everything configured. Heartbeat rows show a dash instead of a switch ("Heartbeats have no Enable setting: they send for as long as they exist") (**AUT-6**).
- Disabled automations appear faded.

Add an automation AUT-2.1

APPLIES TO Admin

1. Click **Add**.
2. Enter an **Automation Name** (required, up to 100 characters, e.g. `CRITICAL ONLY`).
3. Choose **Type: Alarm** (default) or **Heartbeat**. You cannot change it later.
4. Optionally enter a **Description**, then click **Add**.

The DM creates the automation's fixed lists: **Email**, **SNMP Trap** and **Time** for Alarm; **Interval** and **Period** for Heartbeat. It then opens the new automation.

Caution: A new Alarm automation starts **disabled and with no categories**, so it sends nothing yet. Open its **Properties**, tick the **Alarm Category** values it should notify for, turn on **Enable Automation**, and **Save**.

Messages: "Automation name is required.", "Name and description cannot contain the pipe character (|).", "An automation with that name already exists".

Change or delete an automation AUT-2.2

APPLIES TO Admin

Open the automation and click **Properties (Automation Properties)**:

Field	Meaning
Automation Name	Rename with the pencil.
Enable Automation	On = sends notifications.
Alarm Category	Tick every category this automation notifies for: Category 01–Category 25, Service, Disabled, Communications .
Type of Automation	Alarm or Heartbeat (read-only).
Automation Description	Free text.

The dialog also has **Delete**, **Cancel** and **Save**. A heartbeat's **Heartbeat Properties** has only Name, Type and Description.

Deleting removes the automation and everything in it: "Are you sure you want to delete the automation "<name>" and everything inside it (all recipients, trap destinations, and time exceptions)? This action cannot be undone." To stop an Alarm automation temporarily, disable it instead.

Email recipients AUT-3

Open an Alarm automation and click **Email**. The list shows each recipient's **Email**, **Enabled**, **Short Format**, **Test** and **Description**, with search.

Flag	Meaning
Enabled	Receives notifications. Off = paused.
Short Format (badge Text)	A compact message for SMS or pager gateways: the subject is just the alarm type, and the body is one line.
Test	Sends one test email ("DM Console Test") within a few seconds of saving, then turns itself off. It does not limit what the recipient receives: a test recipient still gets real alarm emails.

Add a recipient (Admin): **Add** > **Email Address** (required) > optional **Description** > flags (**Enabled** is ticked) > **Add**. Messages: "Email address is required.", "Must be a valid email (e.g. user@example.com).", "A recipient with that email already exists".

Change or remove: click the recipient > **Properties** (flags, description, **Delete**). The address is the recipient's name; change it with the pencil.

What the emails look like AUT-3.1

- **Subject:** <Location> - <Group> - <Unit> - <Type> - <SEVERITY> , for example `Powell Office - Environmental - Office TH1 - Low Humidity - CRITICAL` . When the alarm clears, the last part is `CLEAR` .
- **Body:** Time, Location, Location Code, Group, Unit, Unit Code, Type, Category and Severity, then the alarm text, ending "Message from Pythia Technologies DM Console."
- **Short Format:** subject = the alarm type; body = the full subject line above.
- **From:** the SMTP Relay's **From Address** (`SET`).

SNMP trap destinations AUT-4

Open an Alarm automation and click **SNMP Trap**. The list shows **IP Address**, **Enabled**, **Port**, **Persistent**, **SNMP v2**, **Test** and **Description**.

Setting	Meaning
Port	162 (standard) or 8162 .
Persistent	Re-send the trap on every poll while the alarm is active , not only when it fires. Acknowledging the alarm does not stop this.
SNMP v2	Send SNMPv2c traps; otherwise SNMPv1. Match the receiving system.
Test	Sends one test trap, then turns itself off.

Add (Admin): **Add** > **IP Address** (required, e.g. 192.0.2.10) > **Port** > **Description** > flags > **Add**.

Messages: "IP address is required.", "Must be a valid IPv4 address (e.g. 192.168.1.10).", "A destination with that IP already exists".

Trap contents (OIDs and variables) for integrators: `INTG`.

Time exceptions (quiet times) AUT-5

Open an Alarm automation and click **Time**. Time exceptions are **quiet times**: while the current time is inside one of today's ranges, this automation sends **nothing**. Outside them, and on days with no entry, it sends as normal. With no time entries at all, the automation sends at all times.

Example: a daytime-only pager automation. Add quiet ranges for the hours you don't want pages, such as 00:00–08:00 and 17:00–24:00 on weekdays, plus full-day ranges on weekend days.

1. **Add a day:** **Add** > choose `1 - SUNDAY ... 7 - SATURDAY` > **Add**. Each day can be added once ("That day is already added to this automation").
2. **Add a range:** open the day > **Add** > **Start Time** (00:00–23:00) and **Stop Time** (01:00–24:00, on the hour) > optional **Description** > **Add**. - "Stop time must be after start time." - Ranges in one day can't overlap: "This time range overlaps the existing range 08:00 - 12:00". - Two ranges can't start at the same time.
3. **Change or delete:** a day's **Properties** moves it to another day or deletes it with its ranges. A range's **Properties** changes its stop time or deletes it.

Times are the DM's local time.

Heartbeat automations AUT-6

A heartbeat sends "system is alive" emails on a schedule. If they stop arriving, the DM, its network or its mail path has a problem.

Note: A heartbeat automation cannot be disabled. As long as it exists, its schedules send. To stop heartbeats, remove the recipients, delete the period, or delete the heartbeat automation.

Open a Heartbeat automation. It has two schedule types:

Schedule	Sends	Managed how
Interval	Around the clock: 01 (5-Minutes) , 02 (15-Minutes) , 03 (1-Hour) , on the clock's even marks (e.g. :00, :05, :10...)	Fixed; they can't be added, renamed or deleted
Period	Once a day at a chosen hour, <code>00:00 – 23:00</code>	Add any hours you need ("That period is already added to this automation")

Each interval and period has **its own recipient list**. Click it and add recipients as in AUT-3 . A slot with no recipients sends nothing.

Caution: A heartbeat recipient's **Enabled** switch is currently **not** honored; the recipient still receives heartbeats. To stop heartbeats going to someone, remove them from the list. **Test** works as for alarm recipients.

The emails: - **Subject:** DM Console Heartbeat - <Site> - <YYYYMMDDHHMM>.<Interval|Period> - **Body:** Heartbeat message from DM Console - <Site> - <same> - **Short Format:** subject Heartbeat , body = the full subject. - **From:** the SMTP Relay's **From Address**.

Heartbeats also stop if the DM's license check fails.

Delete: heartbeat **Properties** › **Delete:** "Are you sure you want to delete the heartbeat automation "<name>" and everything inside it (all interval and period schedules)? This action cannot be undone." Before deleting a heartbeat or a period, tell whoever watches for it, or the silence will look like an outage.

Testing notifications AUT-7

- **One recipient:** tick **Test** on it and **Save**. One test email or trap goes out within a few seconds.
- **The whole chain from alarm to message:** raise a test alarm (ALM-7). It follows the same rules as a real alarm.
- **The mail path itself:** use **Send Test** on **Settings** › **SMTP Relay**, and check its Recent Activity for delivery (SET).

What View users see AUT-8

View users can browse all automations, recipients, trap destinations, time exceptions and heartbeat schedules. **Enabled** appears as "✓ Yes" / "— No". They see no **Add**, **Properties** or **Delete**.

Trends TRD

APPLIES TO all DM-family products · viewing: all users · choosing what to trend and deleting: Admin

Trends record a data point's value over time so you can chart it later: days of UPS load, a week of room temperature, a month of power use. The live chart on a data point's page ([UNIT-2.4](#)) shows only the time you've had the page open. Trends are stored on the DM.

How trending works TRD-1

- **Five buckets**, each with its own recording rate:

Bucket	Records every	Chart window choices
01 (5-MINUTES)	5 minutes	24, 48, 72, 120 (default) or 168 hours
02 (15-MINUTES)	15 minutes	24, 48, 72, 120 (default) or 168 hours
03 (30-MINUTES)	30 minutes	30, 60, 90, 120 (default) or 180 days
04 (1-HOUR)	1 hour	30, 60, 90, 120 (default) or 180 days
05 (1-DAY)	1 day	30, 60, 90, 120 (default) or 180 days

- **A point is in one bucket at a time.** Assigning a point to a bucket starts recording; its trend appears in that bucket shortly afterwards.
- **History is kept for 6 months.** Older records are removed automatically.
- **Renaming** a location, group or unit keeps the history.
- **Moving a point to another bucket** keeps its history, which continues in the new bucket.

Caution: Turning trending Off for a point deletes all of its recorded history within a few seconds. There is no "pause". If you may want the history later, export it first ([TRD-4](#)) or leave the point trending.

Choosing what to trend TRD-2

APPLIES TO Admin

For one point: on the point's page, use **Trend:** ([UNIT-2.4](#)), or set **Trend Data** in the unit's Data Point Properties grid ([UNIT-2.3](#)).

For many points: **Trends** > **Configure Points** opens **Configure Trended Points**. It lists every trendable point under **Locations**, grouped by location > group > unit.

- The subtitle counts them: "N trendable points · M trended".
- **Search:** "Filter by point, unit, group, or location...". Tick **Trending only** to see just the trended points.
- **Trend bucket** column: pick **Off** or a bucket. The change saves immediately ("✓ Saved").
- **Bulk:** tick points (or the header box for everything matching the filter), choose a bucket at the bottom left, and click **Apply**. The DM asks to confirm when you turn points **Off** ("Turn OFF trending for N point(s)?"), or when you set more than 20 points. The result reads "Saved N point(s)." or lists the failures, which stay ticked.

Caution: The confirmation for **Off** does not mention it, but turning points off **deletes their history** (TRD-1).

Smart Panel points are trended from their own properties, not from this list (SPD , SPA).

Configure Points is shown to Admins only.

Reading a trend TRD-3

1. Click **Trends**, then a bucket. The bucket lists its trends, named `<Location>_<Group>_<Unit>_Data_<Point>`, for example `Powell Office Environmentals Office TH1_Data_Temperature`.
2. Click a trend to open its chart.

The subtitle shows the bucket, the window and the number of plotted values, for example "Trend in 01 (5-MINUTES) — 120 Hours — 1416 buckets". When a window has more values than fit, the DM combines them: the line shows the average and a shaded band shows the minimum and maximum ("with min/max band").

Control	What it does
Refresh	Reload the data (the chart doesn't refresh on its own).
Chart:	Line, Area, Bar or Step .
Window:	How far back to show (TRD-1).
Y-Min: / Y-Max:	Fix the vertical scale, or leave on auto .
Theme:	Line color: Blue, Cyan, Green, Amber, Magenta, Mono.
Zoom	Drag across the chart to zoom in; Reset Zoom returns to the full window.
Hover	Shows the exact time and value.

Your chart choices are remembered per trend on this browser. Times are the DM's local time. "No trend data in this window" means nothing was recorded in that period.

Exporting TRD-4

Export: on the chart page: - **CSV** and **Excel:** the time and average value for each plotted point. - **PNG** and **PDF:** a picture of the chart as shown.

The file is named after the trend and bucket.

Deleting a trend TRD-5

APPLIES TO Admin

On the chart page: **Properties** (shows the trend's name and ID) > **Delete Trend** > confirm:

"All historical data values collected for this trend will be permanently deleted. The data point will also stop being trended (you can re-enable it from the data point properties). This action cannot be undone."

The chart's **Properties** button is shown to Admins only.

Trends and AI assistants TRD-6

An AI assistant connected through the AI Connector can list trended points and read trend history for charts and summaries ([AIC-7.2](#)). If the administrator allows it, it can also assign or remove a point's trend bucket. The caution in [TRD-1](#) applies there too.

Users and Accounts USR

APPLIES TO all DM-family products · managing accounts: Admin

Everyone who signs in has an account under **Users**. There are three kinds:

Access level	Can sign in to the console	Can do
Admin	Yes	Everything: view, configure, command equipment, manage users.
View	Yes	Look at everything they are allowed to see; change their own name, sign-in email and password. No changes to the DM.
API	No	Used only by AI assistants through the AI Connector, with a token instead of a password (AIC-2).

What each level can do, page by page, is in [APX-B](#) .

The Users list USR-1

Click **Users** in the tree. The list shows **ID** (the sign-in email, or the AI system's name for API accounts), **Enable**, **First Name**, **Last Name** and **Access**.

- **Admins** see every account and can switch **Enable** on or off directly in the list. A disabled account cannot sign in, and a disabled API account's token stops working.
- **View users** see only their own account: "You can edit your own account. Other accounts are managed by an administrator."

Note: Disabling or deleting an account takes effect immediately. Someone already signed in with it is signed out the next time they click anything.

Add a user USR-2

APPLIES TO Admin

1. **Users > Add User**.
2. Fill in: - **User Identifier (Email Address)**: their email address, used to sign in. - **User's First Name** and **User's Last Name** (required). - **User's Password** and **User's Password Confirmation**. - **Access Level**: **Admin** or **View** (for an AI assistant choose **API**, see [AIC-2.1](#)). - **Enable User Account** (ticked).
3. Click **Add User**.

Messages: "User Identifier must be a valid email address.", "Passwords do not match.", "A user with that ID already exists".

Tip: Give each person their own account. Use **View** for anyone who only needs to watch. Shared accounts make the **Logins** log useless for knowing who did what.

An account's page and Properties USR-3

Click an account. The page lists its properties. An Admin can click **Properties** to:

Item	Notes
ID + pencil	Change the sign-in email (CON-3.3). From then on the user signs in with the new address.
Enable User Account	Allow or block sign-in.
User's First Name / User's Last Name	
Access Level	Admin or View . An API account's level can't be changed.
Change Password	Set a new password for the user: Reset Password for <id> > New / Confirm > Set Password .
Delete	Delete the account. There is no undo.

The built-in Admin account USR-3.1

Every DM has a built-in **Admin** account for recovery. Nobody can delete, rename, disable or demote it, and it has no **Delete** button. Keep its password safe, and don't use it for everyday work.

Deleting your own account: an Admin may delete their own account. The confirmation warns "This is your own account. You will be signed out immediately", and you are then returned to the sign-in page. View users can't delete accounts.

Account deletions, renames, and enabling or disabling an account are recorded in the **Logins** log.

Your own account USR-4

APPLIES TO everyone

Every user can change their own **first name**, **last name**, **sign-in email** and **password**. Click your account under **Users**, then **Properties**.

- **Name:** edit **User's First Name / User's Last Name** and **Save**.

- **Sign-in email:** use the pencil next to your ID ([CON-3.3](#)). You are then signed out; sign in again with the new address.
- **Password: Change Password › Current password, New password, Confirm new password › Change Password.** "Password changed. Use your new password the next time you sign in."

"Current password is incorrect." means the current password didn't match. The new password must be different from the current one.

Passwords USR-5

- Passwords are checked in your browser in a way that never sends the password itself to the DM ([GS-3](#)).
 - **Settings › Policies › Passwords** holds password rules (minimum length, maximum age, history, lockout), but they are **not currently enforced** ([SET-6.1](#)). Choose long passwords, change them when people leave, and review the **Logins** log for failed sign-ins ([SET-10](#)).
 - Forgotten password: an Admin sets a new one ([USR-3](#)). A forgotten **Admin** password with no other Admin account needs Pythia Technologies.
-

What is recorded USR-6

The **Logins** log ([SET-10](#)) records: - sign-ins and failed sign-ins (including attempts to sign in with an API account); - password changes and sign-in email changes; - new accounts; - alarm acknowledgments; - policy changes; - AI Connector account events: token viewed or regenerated, API Access and Allowed IPs changes.

It keeps 7 days.

System Settings SET

APPLIES TO all DM-family products · viewing: all users · changing: Admin

Settings in the tree holds the DM's system configuration. Your DM shows the areas installed on it; a typical DM has:

Settings area	Covered in
Access Control (Access Control List)	SET-2
Backups (Listing of System Backups)	SET-3
Communication Ports (Listing of Communication Ports)	SET-4
Mappings (Listing of Protocol Mappings)	INTG
Monitoring (Listing of Monitoring Settings)	SET-4
Network Interfaces (Listing of Network Interfaces)	SET-5
Policies (System Policies)	SET-6
SMTP Relay (SMTP Relay Settings)	SET-7
SNMP Settings (Listing of SNMP System Settings)	INTG
Time (Time Settings)	SET-8
Updates (Listing of System Updates)	SET-9

Logs, a separate branch of the tree, is in SET-10 . Site-wide options (site identifier, list refresh rate, site image) are in **Site Properties** (CON-2.1).

System information and restarting SET-1

APPLIES TO Admin

Click **Settings**, then **Properties**. The dialog shows read-only system information: **Service Status**, **System Serial Number**, **System Version**, **System Installation Date**, **Security Key Status**, **Console IP Addresses**, **Console Gateway IP Addresses**, **Operating System**.

Restart the DM SET-1.1

1. In the same dialog, tick **Reboot Gateway** and click **Save**.
2. Confirm: "Reboot the gateway now? This restarts the system. You will lose this connection — the page will wait while it restarts and return you to the sign-in screen automatically once the gateway is back online." Click **Reboot Now**.

- The page shows "Waiting for the gateway to come back online... (this can take a few minutes on some hardware)" and opens the sign-in page when the DM is back.

Monitoring, alarms and notifications pause while the DM restarts. If it isn't back after 5 minutes, the page says so; refresh after another minute, and contact Pythia Technologies if it still doesn't answer.

Access Control (allowed addresses) SET-2

APPLIES TO Admin

Access Control lists the computers and networks allowed to reach the DM. **While the list is empty, every address is allowed.**

What it restricts	Which entries count
Modbus/TCP and BACnet/IP clients (BMS, SCADA) reading or writing the DM's mappings	Every entry
The web console, the Alarm View and the AI Connector	Only entries with Apply ACL to DM Console turned on. If no entry has it on, the console is open to every address.

Add an entry: **Add** > - **Allowed IP Address or Network Address** (e.g. 192.0.2.0); - **Network Subnet in Slash Notation** (32 = one address; 24 = the whole 192.0.2.x network); - **Apply ACL to DM Console**; - **Description of IP Address or Network Address**;

then **Save**.

The DM itself (127.0.0.1 and the DM's own addresses) is always allowed.

Caution: Before turning on **Apply ACL to DM Console** for any entry, add an entry, also with the switch on, that covers **your own computer**. Otherwise your next request is refused and you are locked out of the console.

Refused console requests show "0001 - IP Address not allowed: <address>". SNMP access has its own list under **SNMP Settings** (**INTG**).

Backups SET-3

APPLIES TO viewing: all users · creating, downloading, deleting and scheduling: Admin

A backup saves the DM's **configuration only**: locations, groups, units and their points, automations, users, mappings and settings. It does **not** include trend history, alarm history or logs.

- **Backup Now:** "Create a backup now? This will save the current configuration." > **Backup Now**. Wait for "Backing up..." to finish.

- **Scheduled backups: Properties** › **Enable Daily Backup Schedule** and **Time of Backup** › **Save**.
- **File names:** manual backups are `DT_Backup_<n>.bk` and scheduled ones `<DM name>_<n>.bk`, where `<n>` is the weekday (0 = Sunday ... 6 = Saturday). So the DM keeps one of each per weekday, and **each file is overwritten a week later**.
- **Download** (keep a copy off the DM): open a backup › **Download**.
- **Delete:** tick backups › **Delete Selected** › confirm "This action cannot be undone. The files are removed immediately."

Note: The console has no restore button. To restore a backup, contact Pythia Technologies with the .bk file.

Tip: Download a backup after any significant configuration change and keep it somewhere safe. The DM keeps only the last seven days of scheduled backups.

Communication Ports and Monitoring SET-4

APPLIES TO viewing: all users · changing: Admin

- **Communication Ports:** the DM's serial ports (for example **COM5**, "FTDI - USB Serial Port (COM5)") with **Baud Rate** and **Parity**. Serial (COM) drivers use these (`DRV`).
- **Monitoring** › **Drivers:** the drivers installed on this DM (`DRV`).
- **Monitoring** › **Networks:** the **virtual monitoring networks**. Each is a polling process that reads its units in turn. The list shows **Network**, **Type** (NET or COM), last **Start Time / Stop Time**, **Total Time** (seconds per polling pass), **Process ID** and **Description**. Open one to see each device address it polls and how long each took.
- **Properties: Network Type**, **Poll Rate in seconds** (how often it polls, e.g. 15) and **Network Description**.
- **Add** creates another network. Spreading units across networks lets slow equipment be polled separately from fast equipment. Choose a unit's network in its **Virtual Monitoring Network** property (`UNIT-1.3`).

Note: A unit is polled at its network's **Poll Rate**. Alarm **Fail Count** (`UNIT-4.3`) counts these polls. With a 15-second poll rate and a Fail Count of 3, a condition must last about 45 seconds before the alarm fires.

Network Interfaces SET-5

APPLIES TO viewing: all users · changing: Admin

Settings › Network Interfaces › 0, 1, Each interface shows its **Name**, **MAC**, **Status**, **Link Speed** and **Current IP**, and lets an Admin set:

- **Obtain an IP address automatically (DHCP)** (interface 0 only), or
- one or more static **IP Address / Subnet Mask / Gateway (optional)** rows (+ **Add IP**, up to 16), and
- **DNS Server**.

Nothing changes until you click **Apply & Restart**: "Apply the network configuration and restart the system? ... If you changed the IP of the interface you're connected through, you will lose this connection and must reconnect at the new address." The DM restarts. For a static address, the page takes you to the new address when the DM is back. **Cancel** discards your edits.

Caution: A wrong address, mask or gateway can make the DM unreachable over the network. Check the values with your network team before applying. If the DM is also reached by a DNS name (for HTTPS or the AI Connector), update the DNS record too.

Policies SET-6

APPLIES TO viewing: all users · changing: Admin

Settings › Policies groups system-wide rules into categories. Open a category to see its policies. Toggle **Enable** in the list, or click a policy to change its value and **Save**. Every policy change is recorded in the **Logins** log.

Passwords SET-6.1

Policy	Default value	Allowed range	Default state
Admin Maximum Age — Maximum age of Admin password in days	60	0–3650	Disabled
History — Block reuse of the last number of previous passwords	5	0–100	Disabled
Lockout — Lock account after number of consecutive failed sign-ins	5	1–100	Disabled
Minimum Length — Minimum password length in characters	8	1–128	Disabled
User Maximum Age — Maximum age of user password in days	90	0–3650	Disabled

Note: The password policies are **not currently enforced**, even when enabled. Until they are, set strong passwords by hand and remove accounts that are no longer needed (**USR**).

AI Connector SET-6.2

Present only on DMs with the AI Connector. Six policies decide what AI assistants may change. All install **Disabled** except **Redacted Properties**. Full table: [AIC-3](#).

SMTP Relay (outgoing email) SET-7

APPLIES TO viewing: all users · settings and tests: Admin

Every email the DM sends (alarm notifications, heartbeats, tests) goes through its built-in **SMTP Relay**. The relay queues each message and delivers it, retrying if needed.

The relay page SET-7.1

Settings › **SMTP Relay** refreshes every 5 seconds. It shows: - **Status**: "Listening" / "Not Listening", the delivery mode ("Direct MX", or "Smart Host <server>:<port> ...") and the HELO name. - Counters, the last error, the **Message Queue** (messages waiting or retrying) and **Recent Activity** (**QUE** queued, **OK** delivered, **FAIL** failed, **EXP** expired).

"Queue is empty — delivery is normally immediate; messages appear here only while delivery is pending or retrying."

Settings SET-7.2

Properties (SMTP Relay Properties):

Field	Meaning
Smart Host	Your organization's mail server (e.g. <code>smtp.example.com</code>). Blank = deliver directly to each recipient's mail server ("Direct MX").
Smart Host Port	25 when blank; 587 for STARTTLS or 465 for SMTPS is typical.
Smart Host TLS	Default — auto when a user is set, None — plaintext, STARTTLS (typically port 587), SMTPS — implicit TLS (port 465), Auto — STARTTLS when offered.
Smart Host Certificate	Validate (default) or Accept self-signed .
Smart Host User / Smart Host Password	Sign-in for the mail server. The password is stored encrypted and never shown. Leave it blank to keep it; - clears it. Clearing Smart Host User also deletes the password.
From Address	Sender for all DM email. <code>noreplies@pythiatech.com</code> when blank.

Field	Meaning
HELO Name , Message Limit MB (25), Queue Alarm Depth (50; 0 = off), Queue Limit (5000), Queue Limit MB (500), Expire Days (1), Keep Undeliverable (Badmail) , Badmail Keep Days (1)	Queue and delivery limits; the defaults suit most sites.
Bind Address(es) / Listen Ports	Which of the DM's addresses and ports the relay accepts mail on (default port 25). Remove 25 only if you know nothing on the DM needs it.

Click **Save Settings**. Changes apply within about 5 seconds.

Connection Allow List: other computers allowed to send mail through the relay. "No entries — only 127.0.0.1 may connect." is normal: the DM only relays its own mail.

Tip: Microsoft 365, Google and similar services only accept mail whose **From Address** is the signed-in account or an alias of it. Otherwise messages fail (a 553 error in **Recent Activity**).

Test email SET-7.3

Type an address in **Send test email to...** and click **Send Test**. "Queued." means the relay accepted it; watch **Recent Activity** for **OK** (delivered) or **FAIL**. The test email's subject is "PTI SMTP Relay Test".

Reset clears the counters and recent activity immediately, without asking for confirmation.

Time SET-8

APPLIES TO viewing: all users · changing: Admin

Settings > Time shows **Enable** (Enable Time Management), **Timezone**, **DST** (Enable Daylight Savings Time), **NTP** (Synchronize with Network Time Server), **NTP Server**, and the current **Date** and **Time**.

To change them: **Properties > Enable Time Management > Timezone Setting > Enable Daylight Savings Time > Synchronize with Network Time Server** and **Network Time Server**, or set **Date** and **Time** by hand when NTP is off > **Save**.

With **Synchronize with Network Time Server** on, the DM keeps Windows' time service running and synchronizes with the NTP server regularly. The DM must be able to reach that server.

The timezone list covers the Americas, the Atlantic, UTC and GMT.

All times the DM records (alarms, history, trends, logs) use the DM's time and timezone.

Software updates SET-9

APPLIES TO viewing: all users · uploading and applying: Admin

Pythia Technologies supplies DM updates as `.upd` files.

1. **Settings > Updates:** drag the `.upd` file onto "Drag .upd files here", or click **Choose Files** (up to 100 MB each). The update is listed as **PENDING**.
2. Tick it and click **Apply Selected**, or open it and click **Apply Now**.
3. Confirm: "The update will modify the existing configuration. This action cannot be undone - there is no rollback."
4. The status becomes **APPLIED** (with an Applied time and the update's own description) or **FAILED** (with its **Last Error**; **Re-Apply** retries).

Caution: Updates cannot be rolled back. Take and download a backup first ([SET-3](#)), and apply updates only as instructed by Pythia Technologies.

Deleting an update from the list removes the file; "This does NOT roll back the effects of any previously-applied update." When an update changes the console, every user sees the **Update available — Refresh** pill ([CON-7](#)).

Logs SET-10

APPLIES TO viewing: all users · enabling and clearing: Admin

Logs in the tree lists the DM's logs with **Log Name**, **Enabled** and **Description**:

Log	Records
Logins (Console Login Log)	Sign-ins, failed sign-ins, account and password changes, alarm acknowledgments, policy changes, AI Connector account and token events. Enabled by default.
AI Connector	AI Connector refusals and writes (AIC-4)
Alarms, Automations, DM, DT, DTC DM, Smart Panel, SMTP Relay, Trends, Update, Views	Service diagnostics, mainly for Pythia support

Open a log to see its newest 500 entries (**Time**, **Text**), newest first, with **Search log...**, **Refresh**, and **PDF / Excel** export. Logs don't refresh on their own.

- **Logging Enabled / Logging Disabled** (Admin) turns a log on or off. View users see only the log's state.
- **Clear Log** (Admin): "Delete all entries from the <name> log? This cannot be undone."

Note: The **Logins** log keeps entries for 7 days. The service logs keep only the **last 15 minutes**; they are live diagnostic windows. Turn one on only when Pythia support asks, and export it promptly if you need to keep it.

Integrations: SNMP, Modbus/TCP and BACnet/IP

INTG

APPLIES TO all DM-family products · viewing and exporting: all users · settings and write permissions: Admin · audience: integrators connecting a BMS, SCADA or network-management system

The DM publishes everything it monitors on three standard protocols at once, so other systems can read it and, where you allow, write setpoints:

Protocol	The DM acts as	Default port
SNMP v1/v2c	SNMP agent	UDP 161 (traps sent to 162)
Modbus/TCP	Modbus server (slave)	TCP 502
BACnet/IP	one BACnet device	UDP 47808

You don't build these maps by hand. The DM builds and updates them from your locations, groups and units every 60 seconds. **Settings › Mappings** shows the result and lets you export it.

Note: SNMPv3 and BACnet/SC are not available on the DM today. There is no BACnet PICS document or BTL listing.

How the mapping numbers work

INTG-1

Every unit and point gets a **mapping ID** automatically. All three protocol addresses come from the same IDs:

Item	Mapping ID
Unit	1–254, lowest free number across the DM
Alarm point	2–999 within its unit (1 = the unit's communications status)
Data point	2–999 within its unit (1 = the unit's status)
Control	odd numbers 1–999 within its unit (the next even number is its read-back value)

Item (unit ID U , point ID p)	SNMP OID (base 1.3.6.1.4.1.38801.4)	Modbus/TCP (unit ID = U)	BACnet/IP Analog Value instance
Unit communications (0 = normal, 1 = lost)	.U.1.1	coil 00001	$U \times 10000 + 1001$

Item (unit ID U, point ID p)	SNMP OID (base 1.3.6.1.4.1.38801.4)	Modbus/TCP (unit ID = U)	BACnet/IP Analog Value instance
Alarm p (0 = normal, 1 = alarm)	.U.1.p	coil p	$U \times 10000 + 1000 + p$
Unit status (0 = disabled, 1 = normal, 2 = alarm)	.U.2.1	input register 30001	$U \times 10000 + 3001$
Data point p	.U.2.p	Integer: $30000 + p$ · Float: $30000 + 2p - 1$ and $30000 + 2p$	$U \times 10000 + 3000 + p$
Control p (odd): setpoint, read/write	.U.3.p.1	holding register $40000 + p$	$U \times 10000 + 4000 + p$
Control p: current value, read-only	.U.3.p.2	holding register $40000 + p + 1$	$U \times 10000 + 4000 + p + 1$

Consequences for integrators: - A unit's IDs stay the same while it exists, and renaming keeps them. - New units and points appear on the protocols within about 1–2 minutes. - **Deleting a unit or point frees its number, and the next one added reuses it.** After deleting and adding equipment, re-export the map and check your client's configuration. - Only the first 254 units are published. Each unit can publish up to 998 alarms, 998 data points and about 500 controls.

The Mappings pages INTG-2

Settings > Mappings lists **BACnet/IP**, **Modbus/TCP** and **SNMP**. Each protocol page lists the mapped units, and you can drill down to every register, OID or object. The protocol pages do not refresh on their own; click **Refresh**.

Page	Columns
Modbus/TCP	Device Id (the Modbus unit ID), Mapped Unit (Location\Group\Unit), Points
SNMP	OID , Unit Id , Mapped Unit
BACnet/IP	Device Id (the unit's instance prefix, not a separate BACnet device), Mapped Unit , Objects

Drill-down pages list each item with **Enable** (writable items only), **Type** (**Readonly** / **Read/Write**) and **Description**.

Exports INTG-2.1

Every protocol page has **Export: CSV, PDF, Excel, HTML and JSON**. The SNMP page adds **MIB** and the BACnet page adds **EDE**. The files are generated in your browser and named, for example, `Modbus_TCP_Mapping_YYYYMMDD_HHMM.csv`.

- **Modbus** exports in a Float format show each value's register pair as one row (e.g. `30001-30002`) and state the word order.
- **MIB**: an SNMPv2 module `PYTHIA-DM-MIB`. Object names are numbered in export order, so re-export the MIB after adding or removing points.
- **EDE**: the standard BACnet engineering-data exchange CSV for BMS import.

ALC URL opens the ALC / WebCTRL integration list ([INTG-7](#)).

Allowing writes INTG-2.2

APPLIES TO Admin

External systems can write **control setpoints only**. Readings, alarms and statuses are always read-only. A write is accepted only when: 1. the unit is enabled, **and** 2. that setpoint's mapping entry is enabled for writing: **Enable Register for Write** (Modbus), **Enable Object Identifier for Write** (SNMP) or **Enable Instance for Write** (BACnet).

New setpoint mappings are not writable until you enable them. Enable one on its properties page (drill down, click it, **Properties**), or all of a protocol's setpoints at once with **Enable All R/W** ("Enable ALL read/write (setpoint) points for this protocol?"). There is no "disable all"; disable individual points on their properties pages.

Caution: A setpoint written by an external system acts on the equipment just like a command from the console ([UNIT-3](#)). Enable only the setpoints the external system actually needs.

On/off controls accept only 0 (off) and 1 (on).

Modbus/TCP INTG-3

Settings › Mappings › Modbus/TCP › Properties:

Field	Meaning
Format for Data Point Values	Float LoHi (default), Float HiLo or Integer
Modbus Port	TCP port (default 502)

"Changing the format rebuilds the Modbus register map. After saving, allow 1-2 minutes for the service to update the registers before exporting."

Formats (for data points and unit status; alarms are always coils and controls always single 16-bit registers): - **Float LoHi**: a 32-bit IEEE-754 float in two consecutive input registers, **low word first** (CDAB, "word-swapped"). - **Float HiLo**: the same, **high word first** (ABCD). - **Integer**: one 16-bit register per point, the value $\times 10$ (one implied decimal). Negative values are not supported. - Bytes within each word are big-endian in all formats. If values look like nonsense, the client's word order doesn't match the Format; switch one of them.

Wire details: - The **unit identifier** in each request = the **Device Id**. - Register numbers are 1-based: coil 00001 = FC01 address 0; input register 30001 = FC04 address 0; holding register 40001 = FC03 address 0. - Function codes: **01** read coils (alarms, communications), **04** read input registers (status, data), **03** read holding registers (odd = setpoint, even = current value), **06** write single register (setpoints only), **16** write multiple registers (one register only). Coils can't be written. - Exceptions: **01** unsupported function; **02** unmapped address or unknown unit, no value yet (for example a disabled unit), or write not allowed; **03** malformed request. - Several clients can connect at once. Idle connections are closed after 15 minutes. - Only clients allowed by **Settings > Access Control** can connect ([SET-2](#)). - A changed **Modbus Port** takes effect when the DM's Modbus service restarts; restarting the DM ([SET-1.1](#)) does this.

SNMP INTG-4

Settings > Mappings > SNMP > Properties > Format for Data Point Values: - **String** (default): the value as the console shows it, as text. On/Yes/Closed values are sent as INTEGER 1, and Off/No/Open as 0. - **Integer**: a whole number (the value, scaled by the point's scale factor).

Alarms, unit status and controls are always INTEGER.

Agent: SNMP **v1** and **v2c** on UDP 161, enterprise **38801** (Pythia Technologies), data under 1.3.6.1.4.1.38801.4 . It supports GET, GETNEXT (walks) and SET. SET works only on control setpoints ([.3.<p>.1](#)), with a Read-Write community and the write permission from [INTG-2.2](#) ; otherwise it returns readOnly or badValue.

SNMP Settings (communities and managers) INTG-4.1

APPLIES TO Admin

Settings > SNMP Settings: - **Community Strings**: add each community (**SNMP Community String**) with **Access Right Read-Only** or **Read-Write**. A Read-Write community is needed for SET. - **IP Addresses**: the management stations allowed to query the DM (**IP Address Allowed**, **IP Address Description**). This is separate from **Access Control**, which covers Modbus, BACnet and the console. - **Properties**: **SNMP System Contact** and **SNMP System Location**.

Caution: Treat community strings like passwords. Don't use `public` for a Read-Write community.

SNMP traps INTG-4.2

Traps are sent by Alarm automations to their **SNMP Trap** destinations ([AUT-4](#)), as SNMPv1 or SNMPv2c (per destination), with community `public` .

	SNMPv1	SNMPv2c
Trap identity	enterprise 1.3.6.1.4.1.38801.1.1.1 , generic 6, specific 1	1.3.6.1.4.1.38801.1.2.1.<severity>
Variables	...38801.1.1.2.1 – .10	...38801.1.2.2.1 – .10

The 10 variables, in order: Location, Location Code, Group, Unit, Unit Code, Type, Text, Severity (text), Severity (number: 1 Information, 2 Warning, 3 Minor, 4 Major, 5 Critical), Category.

SNMPv3 traps and INFORMs are not available.

BACnet/IP INTG-5

The DM is one BACnet device. Every mapped point, from every unit, is an **Analog Value** object in that one device.

Settings › Mappings › BACnet/IP › Properties:

Field	Meaning
BACnet Device Instance	The DM's device instance (default 1). Must be unique on the BACnet network.
BACnet Port	UDP port (default 47808). Takes effect when the DM's BACnet service restarts.

Device: Vendor **Pythia Technologies** (ID 617), Model "DT09", Description "Pythia Technologies BACnet Gateway", Protocol Revision 14, no segmentation.

Services: ReadProperty, ReadPropertyMultiple, WriteProperty, Who-Is/I-Am. There is **no COV, no segmentation, and no alarm/event services**, so poll the values instead. Large object lists must be read by index (index 0 = count).

Objects: - Object_Name Location\Group\Unit\Point . - Units "no-units"; the unit of measure is in the point's description. - A point with no value (for example a disabled unit) reads **–32768** with the FAULT flag set.

Writes: - Present_Value of setpoint objects only (odd 4xxx), subject to INTG-2.2 . - Priority is ignored (there is no priority array). - Refused writes return write-access-denied.

Discovery: - Replies go straight to the requester. - The DM does not act as a BBMD or register as a foreign device. A BMS on another subnet must reach the DM directly (for example with a static device binding).

Only clients allowed by **Settings › Access Control** get answers (SET-2).

Views INTG-6

Views in the tree shows data collectors that feed fleet dashboards such as **Sensors** and **Branch Circuits**. The page refreshes every 5 seconds and shows "Views: N Running: N Stopped: N Errors: N" and a card per view: **Normal** / **Error** / **Disabled**, collector running or stopped, **Poll Rate**, and start and stop times. Click a view for its data or dashboard. Views are set up by Pythia Technologies. A DM without views shows "No views configured."

ALC / WebCTRL integration URLs INTG-7

On any protocol page, **ALC URL** opens a window listing a ready-made ALC WebCTRL point address for every mapped point:

Protocol	Address pattern	Example
SNMP	snmp://1/s<n>/<OID after 1.3.6.1.4.1.38801>	snmp://1/s5/.4.1.1.1
BACnet	bacnet://0:<DM IP>/2:<instance>	bacnet://0:192.0.2.10/2:13001
Modbus/ TCP	mtcpip://<Do uint FLOAT>/<register>/<unit ID>/<DM IP>	mtcpip://FLOAT/30001/7/ 192.0.2.10

- **SNMP:** choose the **SNMP OID Table Index (S1–S80)** and enter `1.3.6.1.4.1.38801` into that index of WebCTRL's SNMP OID Table.
- **BACnet / Modbus:** choose the **Server IP Address** (the DM address WebCTRL uses).
- **Modbus Float:** set WebCTRL's "Reverse order of High and Low Words for FLOAT Data Type" to match the Modbus Format ([INTG-3](#)).
- **Copy** copies one address; **Copy All URLs** copies all addresses shown. Search with "Filter URL, unit, type, or description...". **Export:** CSV, PDF, Excel.

AI assistants and the mappings INTG-8

An AI assistant connected through the AI Connector can read the same maps (without communities or other credentials) and produce register lists or EDE-style tables on request ([AIC-7.2](#)).

Custom Pages CUS

APPLIES TO DM, SPDM, SPIGM and SPAC4 · attaching and uploading pages is Admin only

A custom page is your own dashboard inside the DM console, such as a UPS redundancy view, a rack elevation, a one-line diagram or a floor plan. It is a single HTML file that you upload to the DM and attach to a **Location** or a **Group**. When anyone clicks that location or group in the tree, the custom page opens in the content area instead of the standard list. The tree, top bar and status bar stay the same.

You do not need to be a web developer. An AI assistant can write the page for you ([CUS-2](#)).

Note: Equipment dashboards for individual units are not custom pages. They come with the unit's driver ([EQP](#)) and cannot be replaced by upload.

How custom pages work CUS-1

- **Where a page can go:** on a Location or a Group. Each Location or Group shows either its standard page or one custom page.
- **Where files are kept:** uploaded pages and images are stored in the DM's site folder and served by the DM itself. A custom page needs nothing from the internet.
- **What the page can show:** anything the console can read: unit status, live data points, alarms and controls, from any location on the DM. The page shows data with the permissions of the person viewing it, so a View user sees nothing through a custom page that they could not see in the console.
- **What the DM passes to the page:** the path of the Location or Group it is attached to, so one page file can be attached to several groups and show each group's own units.
- **Everyone sees the change:** when a page is uploaded, replaced or attached, other signed-in users get the **Update available — Refresh** pill in their top bar ([CON](#)).

Getting a page written CUS-2

The DM publishes an authoring guide that tells any AI assistant exactly how to write a page that works the moment it is uploaded.

With any AI assistant CUS-2.1

APPLIES TO DMs with the DM AI Connector installed

1. In a browser, open `https://<your DM name>/ai_pages.asp`.
2. Copy the entire page and paste it into your AI assistant.

3. In the same message, describe the page you want. For example: "A page for the Power Rack 1 group showing each UPS's load, with a warning if either UPS in a pair could not carry the other's load."
4. Save the HTML file the assistant produces, with a simple file name: letters, digits, `_`, `-` and `.` only, no spaces.
5. Upload and attach it (CUS-3).

An assistant connected through the AI Connector can read the same guide itself with its `get_page_guide` tool (AIC-7.2).

Tip: Give the assistant the exact names of the units and data points you want shown. Point names differ between equipment drivers, even for the same measurement. You can see them on each unit's **Live Data** page (UNIT).

Without the AI Connector CUS-2.2

If `ai_pages.asp` is not available on your DM, give your AI assistant CUS-6 of this guide as its instructions.

Uploading and attaching a page CUS-3

APPLIES TO Admin

1. In the tree, open the Location or Group that should show the page, and click **Properties**.
2. Find the **Page URL** field and click **Choose...** next to it. The **Choose a page** window lists every page already uploaded to the DM.
3. Do one of the following: - Click an existing page to select it. - Click **Upload new page...** and choose your `.html` or `.htm` file. If a file with the same name already exists, the DM asks: ""<name>" already exists. Replace the existing file with this new version?" - Use **Replace** on an existing page's tile to upload a new version under the same name. This does not ask for confirmation.
4. **Page URL** now shows `site/<your file>.html`. Click **Save**.
5. Click the Location or Group in the tree. Your page appears.

Uploading alone does not attach a page: you must **Save** the Properties dialog. Replacing a file that is already attached takes effect for everyone at once, with no Save needed.

Note: The DM's web server caches pages aggressively. After replacing a page, press **Ctrl+Shift+R** to see the new version.

Images for your pages CUS-3.1

Images such as floor plans or photos are uploaded the same way, through any **Choose...** button on an image field (for example **Overview Image**). Supported types are **.png**, **.jpg/.jpeg** and **.gif**; SVG is not accepted. A page refers to an uploaded image as `/Custom/site/<image name>`.

Other page choices CUS-3.2

Page URL also accepts the DM's standard pages:

Page URL	Shows
<code>PTJ_groups.html</code>	A Location's standard Groups list (the default for a location)
<code>PTJ_units.html</code>	A Group's standard Units list (the default for a group)
<code>PTJ_units_environmentals.html</code>	A Group's units as temperature/humidity gauges (<code>MON</code>)

Only `.html` pages are accepted. Anything else gives "URL must point at an `.html` page, or be cleared to use the default view."

Returning to the standard page, and changing properties CUS-4

APPLIES TO Admin

While a Location or Group shows a custom page, its standard page — and the **Properties** button on it — is not shown, unless the custom page itself includes a **Properties** button.

To return to the standard page:

1. Open the Location or Group in the tree so its custom page is showing.
2. Click **Reset to default page** in the top bar.
3. Confirm "Reset this container to its standard view (<page>)?". The standard page opens.

The uploaded file stays on the DM. To change the Location's or Group's properties (name, description, column headers, and so on) and keep the custom page: reset it as above, make your changes in **Properties**, then attach the page again with **Page URL › Choose...** and **Save** (CUS-3).

Caution: For a group using the environmental gauge view, do not clear **Page URL** from that view's Properties. Set it to `PTJ_units.html` instead. [Pending fix — BUGS #9]

Limits and troubleshooting CUS-5

- **No delete:** the console has no way to delete an uploaded file. Replace it with a new version, or ask Pythia Technologies to remove it.

- **One file per page:** CSS and JavaScript must be inside the HTML file. No separate `.js` or `.css` uploads, no external scripts, fonts or images.
- **Locations and Groups only.** Units show their driver's dashboard.

Symptom	Likely cause	Fix
Page shows but no live data, or "POLL FAILED"	The page asks the AI Connector (<code>ai.asp</code>) or uses a token, or has a host name written into it	Have it rewritten to follow <code>CUS-6</code>
Some units show as dead or blank	The page uses a point name that unit's driver doesn't have	Check the unit's Live Data names; have the page try the alternatives
Page returns to the sign-in screen	Your console session expired	Sign in again; the page is working correctly
Old version still showing	Browser or server cache	Ctrl+Shift+R
"Upload failed: Only .html pages allowed"	Wrong file type	Save the file as <code>.html</code>
"Upload failed: Invalid filename"	Name contains <code>\ / . . :</code>	Rename the file
"Upload failed: Admin access required"	Signed in as View	Sign in as an Admin

Rules a custom page must follow CUS-6

1. **One self-contained file.** Inline CSS and JavaScript. `<meta charset="utf-8">` first in `<head>` . No CDN scripts, web fonts, analytics or internet images, because DMs are usually on isolated networks. Use system fonts. The console's own `/Custom/ptj-pythia-base.css` and `.js` may be included by those exact paths (optional).
2. **Read data from the console API with the viewer's session:** `fetch('/json.asp?CMD=<COMMAND>&DIR=' + encodeURIComponent(path), { credentials: 'same-origin', cache: 'no-store' })` Use a relative URL: **no host name, no token, no API key, no password.** Never call `ai.asp` or `mcp.asp` .
3. **Commands:**

Command	DIR	Returns
GETGRPUNITS	<code>\Locations\<loc>\<grp></code>	the group's units (use to discover them)
GETUNIT	<code>\Locations\<loc>\<grp>\<unit></code>	everything about one unit: <code>status</code> , <code>data[]</code> , <code>alarms[]</code> , <code>controls</code> (preferred)
GETUNITDATAS	<code>...\<unit>\Data</code>	data points only
GETUNITALMS	<code>...\<unit>\Alarms</code>	alarms only

Command	DIR	Returns
GETTREE	any container path	one level of the tree

1. **Read the page's own location from `?dir=`** in its URL, which the DM appends. Normalize doubled backslashes; treat paths as case-insensitive.
2. **Interpret values correctly:** every `value` is a **string** (parse numbers and check they are finite). A blank value means no successful poll yet. `cstate "2"` means the last poll failed: show the value as **stale**, not current. Unit `status` 1 = normal, 2 = alarm, anything else = disabled.
3. **Use exact point names** from the real unit. Where drivers differ, try a list of candidates (for example `Output Watts X`, then `Watts`, then `Output KW X × 1000`).
4. **Poll every 5 seconds** (never faster than 2). Request all units in parallel, never start a poll while one is still running, and abort any request after 8 seconds. On failure, keep the last good value on screen marked STALE.
5. **Session expiry:** on HTTP 401, stop polling and send the whole window to `/PTJ_logon.html`.
6. **Safety:** escape every server string before inserting it as HTML. Put no secrets in the page. Pages display data; changes belong in the console's own screens.
7. **Offline test switch:** support `?demo=1` with simulated values so the page can be previewed without a DM.



PART 2

DM AI CONNECTOR

The DM AI Connector AIC

APPLIES TO DM, SPDM, SPIGM and SPAC4 with the DM AI Connector installed · setup is Admin only

The DM AI Connector lets an AI assistant — Claude, ChatGPT, Copilot, or any tool that speaks MCP or plain HTTPS — read your DM's live data and, only if an administrator allows it, make a small set of carefully limited changes. You ask questions in plain language ("Is anything in alarm right now?", "Chart the UPS load for the last week") and the assistant answers from the live site.

This chapter is written for three readers: administrators who set up access, people who connect an assistant, and the AI assistant itself, which can use [AIC-7](#) as its reference.

What the AI Connector does AIC-1

Reads and writes AIC-1.1

The connector offers 15 functions. Eleven only **read**; four can **change** something.

Kind	What the assistant can do
Read	Describe the site, list locations/groups/units with their status, read a unit's live data, alarms and controls, read configuration properties, list active/information/history alarms, read one alarm's history, list trended points and read trend history, read the SNMP/Modbus/BACnet mappings, and read the custom-page authoring guide.
Write	Change a control's setpoint · assign or remove a data point's trend bucket · acknowledge an active alarm · clear one stuck active alarm.

The assistant **cannot**: see or change user accounts, passwords, tokens, SNMP communities or other credentials; change system settings, policies, network, time, backups or updates; add, rename or delete locations, groups, units or points; create automations; or reach anything outside the DM.

How a write is allowed AIC-1.2

Every write must pass **all** of these checks. If any one fails, the DM refuses and says which one:

1. The assistant's **API account** is enabled and its token is valid.
2. The request comes from an address the account allows (**Allowed IPs**, if set).
3. The account's **API Access** is **Read-Write** (new accounts are **Read Only**).
4. The matching **AI Connector policy** is enabled on the DM (every write policy is **Disabled** by default — see [AIC-3](#)).
5. For a control setpoint: that control's own **Enable** is on. An operator must enable a control before any assistant can write it.
6. The value passes the control's own limits or option list.

Reads need only checks 1 and 2 (plus the rate limit, if enabled).

What you need AIC-1.3

- The DM AI Connector installed on your DM. If **Settings > Policies** has no **AI Connector** category, it is not installed — contact Pythia Technologies.
- The DM reachable by **HTTPS using its DNS name** (for example `https://dm.example.com`), with a trusted certificate. Pythia configures this when the DM is delivered. The connector refuses plain HTTP, and AI clients reject untrusted certificates and bare IP addresses. For certificate options — your own certificate authority, a public certificate, or a self-signed certificate — and for making AI clients trust a private certificate, ask Pythia Technologies for the **DM TLS Certificates** guide.
- An AI client running on a computer that can reach the DM. Most DMs sit on a private network, so **cloud-hosted AI websites cannot reach them**; use a desktop or command-line assistant on a computer on that network.

Giving an assistant access: API accounts AIC-2

APPLIES TO Admin

Each AI system gets its own **API account**. It has no password and **cannot sign in to the console**; it authenticates with a **token**, a 64-character secret the DM generates.

Create an API account AIC-2.1

1. In the tree, click **Users**, then **Add User**.
2. Set **Access Level** to **API**. The password fields disappear and the name field becomes **API Account Name (the AI system it serves)**.
3. Enter a name for the AI system (for example `Claude`). First and last name are optional.
4. Click **Save**. The dialog changes to show the token: "API account created. Copy the bearer token now. An administrator can also retrieve it later from the account's page."
5. Click **Copy Token** and give the token to the person connecting the assistant (see [AIC-5](#)).

The new account starts **Read Only** with no address restriction. Creating it is recorded in the **Logins** log.

Note: The token is shown once in this dialog, but an Admin can copy it again at any time from the account's Properties ([AIC-2.2](#)).

Manage an API account AIC-2.2

Open **Users > <account>** and click **Properties**. The **ID Properties** dialog has:

Control	What it does
Enable User Account	Off = the token stops working on the next request. The quickest way to cut an assistant off. Saved with Save .

Control	What it does
Access Level	Shows API . It cannot be changed; to make a human account, delete this one and create a new one.
API Access	Read Only or Read-Write . Takes effect immediately when changed (no Save needed). Choosing Read-Write asks you to confirm: "Allow this AI account to WRITE?" — the dialog lists what Read-Write allows. Below it: "Token last used: <date time> (DM time)" or "Token never used."
Allowed IPs	Addresses allowed to use this token. Blank = any address. Accepts IPv4 addresses (10.0.0.5), IPv4 ranges (192.0.2.0/24) and exact IPv6 addresses, comma-separated. The hint shows your own browser's address. Saved with Save , after a confirmation.
Copy Token	Copies the current token to the clipboard ("API token copied to the clipboard.").
Regenerate Token	Asks "Regenerate this account's API token? The current token stops working immediately." then copies the new token. Every assistant using the old token must be reconfigured.
Delete	Deletes the account; its token stops working.

Tokens never expire. To rotate a token, use **Regenerate Token**. Viewing a token, regenerating it, and changing API Access or Allowed IPs are all recorded in the **Logins** log.

Caution: Read-Write unlocks **all four** kinds of write for this account — control setpoints, trend-bucket assignment, alarm acknowledgment and alarm clearing — each still subject to its own AI Connector policy ([AIC-3](#)). A control setpoint also needs that control's own Enable.

Note: An assistant that is already connected may need to **reconnect** before a newly allowed write tool appears in its tool list.

Cut off an assistant AIC-2.3

Each of these takes effect on the assistant's next request:

To stop...	Do this
everything this assistant does	turn off Enable User Account , or Regenerate Token , or delete the account
only its writes	set API Access to Read Only
one kind of write for every assistant	turn off that policy (AIC-3)
use from other computers	set Allowed IPs

AI Connector policies AIC-3

APPLIES TO Admin · Settings › Policies › AI Connector

These DM-wide switches decide which kinds of write any assistant may make, plus two protections. **All install Disabled except Redacted Properties**, which is a protection rather than a permission and installs Enabled. Click a policy name to open it; toggle **Enable** inline in the list, or on the policy's page (**Save**).

Policy	Default	What it controls
Alarm Acknowledgment	Disabled	Lets assistants acknowledge active alarms. The alarm stays active; the acknowledgment records who owns it.
Alarm Clearing	Disabled	Lets assistants clear (remove) one active alarm at a time. Irreversible — intended for stuck alarms.
Configuration Writes	Disabled	Master switch for point-configuration changes. Each kind of change is an item under it; today there is one item, Trend Bucket (assign or clear a data point's trend bucket). Both the master and the item must be enabled.
Control Writes	Disabled	Lets assistants write control setpoints. Each control still needs its own Enable.
Rate Limit	Disabled; value 600	Maximum requests per minute per AI account (allowed range 10–100000). Extra requests are refused, not queued.
Redacted Properties	Enabled ; empty list	Extra property names to hide from assistants, comma-separated, * as a wildcard (e.g. PIN, *Access Code*).

Credentials are **always** hidden from assistants, whatever this policy says: any property named Community, Read/Write/Trap Community, Password, Passphrase, Auth/Priv Password, Auth/Priv Passphrase, Secret, Shared Secret, API Key or Token, or whose name contains "password", "passphrase" or "secret". Hidden values appear to the assistant as `*****`.

Records and audit AIC-4

- **Logins log** (always on): failed tokens, refusals because of Allowed IPs, attempts to sign in to the console with an API account, account creation, token viewed or regenerated, API Access and Allowed IPs changes.
- **AI Connector log** (**Logs › AI Connector**, disabled by default): every refused request and every successful write — setpoint changes (old → new value), trend-bucket changes, acknowledgments and clears (with the note). Successful reads are never logged.

Note: Logs other than **Logins** keep entries for 15 minutes. The AI Connector log is a live diagnostic window, not a long-term audit trail.

Acknowledgments made by an assistant show in the console's alarm pages exactly like an operator's, with the API account's name.

Connecting an assistant AIC-5

All methods use the same token. None of the DM's download pages contain your token; you enter it yourself.

The two facts every AI client needs:

- **Endpoint (MCP):** `https://<your DM name>/mcp.asp` — Streamable HTTP, JSON-RPC 2.0, stateless.
- **Header:** `Authorization: Bearer <token>` on every request. There is no OAuth sign-in.

Any AI assistant — the guided way AIC-5.1

1. In a browser, open `https://<your DM name>/ai_setup.asp`.
2. Copy the entire page and paste it into your AI assistant, then ask it to connect you to your DM.
3. The assistant walks you through: getting the token, testing the connection before changing anything, configuring your particular client, and a final test.

Claude Desktop on Windows — the scripted way AIC-5.2

1. Open `https://<your DM name>/ai_connect.asp`. It downloads a PowerShell script with your DM's address already filled in.
2. Run the script. It checks that Claude Desktop and Node.js are installed (and offers to install Node.js), asks for your token, tests the connection, backs up your Claude Desktop configuration, and adds an entry named `dm-ai-connector` without disturbing other servers.
3. Fully quit Claude Desktop from the system tray and start it again.
4. Ask: "What equipment is being monitored, and is anything in alarm?"

Caution: The script stores the token in Claude Desktop's configuration file on that computer, as Claude Desktop does for every connector. Treat the file like the token itself.

Note: If the script reports a certificate-trust failure, your DM uses a certificate from a private certificate authority or a self-signed certificate. Ask your administrator for the CA certificate file and run the script again with `-CaFile <path to the file>`.

Note: Install Claude Desktop from Anthropic's website (claude.ai/download), not from the Microsoft Store. The Store version keeps its settings in a different place, so the script may not find them. If Claude Desktop doesn't show the DM connector after running the script, set it up manually ([AIC-5.3](#)) or contact Pythia Technologies.

Claude Code and other MCP clients AIC-5.3

- **Claude Code:** `claude mcp add dm-ai-connector https://<your DM name>/mcp.asp --transport http --header "Authorization: Bearer <token>"`
- **Claude Desktop on macOS or manual setup:** Claude Desktop cannot send headers itself, so use the `mcp-remote` bridge (Node.js 18 or later). The exact configuration block is on `ai_setup.asp`.
- **Other MCP clients:** point them at the endpoint with the header. Clients that only support local (stdio) servers can use the same `mcp-remote` bridge.

Scripts and other tools (REST) AIC-5.4

The same functions are available as plain HTTPS GET requests:

GET `https://<your DM name>/ai.asp?CMD=<command>&DIR=<path>` with the `Authorization: Bearer <token>` header.

Commands and paths are listed in [AIC-7](#).

If the connection fails AIC-5.5

What you see	Meaning	Fix
HTTP 401, or "Invalid token"	Token wrong, regenerated, or account disabled	Get the current token from your administrator
Code 21009 "Source address not allowed for this account" (also HTTP 401)	Token is fine; this computer's address is not in Allowed IPs	Administrator adds the address
HTTP 403 "HTTPS required"	Connected with <code>http://</code>	Use <code>https://</code>
HTTP 403 "IP Address not allowed"	The DM's own address restrictions block this computer	Contact your DM administrator
HTTP 404 on <code>/mcp.asp</code>	The AI Connector is not installed on this DM	Contact Pythia Technologies
Certificate error	Connected by IP address, or the certificate is not trusted	Use the DM's DNS name; if it persists, contact Pythia
Timeout / cannot reach	This computer cannot reach the DM's network	Run the AI client on a computer on the DM's network
"AI interface not licensed"	The DM's system license is missing	Contact Pythia Technologies

Using it: what you can ask AIC-6

Once connected, ask in your own words. Examples:

- "Give me an overview of this site. Is anything in alarm?"
- "What alarms fired last night, and have they cleared?"

- "Show the live readings for UPS-21A."
- "Chart the UPS load for the past week."
- "Which data points are being trended, and which bucket is each in?"
- "Export the Modbus register map as a CSV for our BMS integrator."
- "Write me a custom dashboard page for the Power Rack 1 group." (see `cus`)
- "Acknowledge the high-temperature alarm on CRAC-01 and note that facilities is on it." (needs Read-Write and **Alarm Acknowledgment**)
- "Set the supply-air setpoint on AHU-11 to 68." (needs Read-Write, **Control Writes**, and that control enabled)

Reference for AI assistants and integrators AIC-7

Reading the data correctly AIC-7.1

1. Values are delivered exactly as stored, already scaled. The unit of measure is the parenthetical in the point's description, e.g. `(F)` , `(kW)` . Trust it even when a value looks surprising.
2. All timestamps are DM-local time. `get_site` reports the DM's time zone and current UTC offset.
3. Point, alarm and control names are the exact registered names, typos included. Use them byte-for-byte.
4. Many alarms are status annunciations (for example "Load On Battery"), not faults.
5. A location with no groups is not configured yet; its "Normal" does not mean "monitored and healthy".
6. For a control, `setpoint` is what was commanded and `value` is what the equipment reports. After a write, `value` catches up on the unit's next poll.
7. `commsOk: false` means some points did not answer the last poll; treat their values as stale. A **Disabled** unit is not a communications problem.
8. `capped: true` means more than 1000 rows exist; the list is not complete.
9. Hidden (redacted) properties show `*****` with `"redacted": true` . Do not ask anyone to read them to you.
10. In `get_info` , trust `configurationWriteItems` rather than `configurationWrites` (the latter reports the master switch only).

Functions AIC-7.2

MCP tool names are shown with their REST command. `DIR` paths use single backslashes; optional arguments follow a `|` .

MCP tool	REST command	Kind	DIR / arguments	Returns
<code>get_info</code>	<code>AIGETINFO</code>	read	—	This account's permissions, conventions, command list

MCP tool	REST command	Kind	DIR / arguments	Returns
get_site	AIGETSITE	read	—	Site name, counts of locations/groups/units, active alarm count, time zone, UTC offset, connector version
get_tree	AIGETTREE	read	none, \Locations\ <loc> or \ Locations\<<loc>\ <grp>	Locations > groups > units with status, description, and the group's summary values
get_unit	AIGETUNIT	read	\Locations\<<loc>\ <grp>\<unit>	Status, comms health, data points, alarms (active/normal/disabled), controls (setpoint and value)
get_props	AIGETPROPS	read	a node under \ Locations, \Trends or \Alarms	Configuration properties (credentials hidden)
get_alarms	AIGETALARMS	read	none, or \Alarms\ Active, \Alarms\ Information, \ Alarms\History	Bucket counts, or the bucket's alarms (History: newest first, up to 1000)
get_alarm_history	AIGETALARMHISTORY	read	\Locations\<<loc>\ <grp>\<unit>\ Alarms\<<alarm> window=<days 1– 3650>	Past occurrences; if currently firing, an active.dir to use with acknowledge/clear
get_trends	AIGETTRENDS	read	none, or a location/ group/unit path	Trend buckets and trendable points; historyDir for trended points
get_trend_history	AIGETTRENDAHISTORY	read	a point's historyDir window=<N>	Up to 2000 time buckets with min/max band. Window: days (1–3650) or hours (1–87600) depending on the bucket; default 120
get_mappings	AIGETMAPPINGS	read	none, or \Settings\ Mappings\Modbus/ TCP, ...\BACnet/IP, ...\SNMP	Register / object / OID map for integrators (no credentials)
get_page_guide	AIGETPAGEGUIDE	read	—	The custom-page authoring guide (cus)

MCP tool	REST command	Kind	DIR / arguments	Returns
set_control	AISETCONTROL	write	\Locations\<loc>\<grp>\<unit>\Controls\<control> value=<v> (empty value clears)	Previous and new setpoint
set_trend_bucket	AISSETTRENDCKET	write	\Locations\<loc>\<grp>\<unit>\Data\<point> value=<bucket> (empty stops trending)	Previous and new bucket
acknowledge_alarm	AIACKALARM	write	\Alarms\Active\<time> note=<text ≤255>	The acknowledgment; the alarm stays active
clear_alarm	AICLEARALARM	write	\Alarms\Active\<time> note=<text ≤255> (note required over MCP)	The cleared alarm; its History record is kept

Write-tool availability: `set_control` needs Read-Write + **Control Writes**; `set_trend_bucket` needs Read-Write + **Configuration Writes** and its **Trend Bucket** item; `acknowledge_alarm` needs Read-Write + **Alarm Acknowledgment**; `clear_alarm` needs Read-Write + **Alarm Clearing**. Write tools the account cannot use are left out of the MCP tool list.

Caution: Stopping trending on a point (empty trend bucket) deletes that point's stored trend history. Moving it to another bucket keeps it. See [TRD](#).

Note: If the condition behind a cleared alarm still exists, the equipment raises it again on its next poll. Acknowledgments are removed when the alarm clears and are not kept in History.

Protocol details AIC-7.3

- REST: GET `/ai.asp?CMD=<command>&DIR=<url-encoded path>`; header `Authorization: Bearer <token>` (or `X-API-Token: <token>`). `CMD` is not case-sensitive. Every reply is one JSON object; errors are `{"error": "<message>", "code": <n>}`. Invalid arguments are refused, never silently corrected.
- MCP: POST `/mcp.asp`, JSON-RPC 2.0, stateless, no server-sent events. Protocol versions 2025-06-18, 2025-03-26, 2024-11-05. Methods `initialize`, `ping`, `tools/list`, `tools/call`. A tool result's text is the same JSON the REST command returns; `isError: true` marks an error.
- MCP HTTP status: 200 normal reply · 202 notification accepted · 401 token refused or Allowed IPs refusal · 403 HTTPS required or DM address restriction · 404 connector not installed · 405 not a POST.

- The rate limit, when enabled, counts every request that passes the token and license checks; MCP `initialize`, `tools/list` and `ping` are not counted.

Error codes AIC-7.4

Code	Message	Meaning
21001	Unknown command: <cmd>	Command name not recognised
21002	AI interface not licensed	DM system license missing
21003	Invalid token	Wrong, regenerated, or disabled account
21004	HTTPS required	Plain HTTP used
21005	AI interface not installed	Connector not installed
21006	(connector could not be loaded)	Contact Pythia Technologies
21007	PTJ.dll does not support the AI interface - upgrade PTJ_CORE	DM software too old — contact Pythia
21008	Rate limit exceeded: this account is allowed <N> requests per minute -- retry when the minute rolls over	Rate Limit policy
21009	Source address not allowed for this account	Allowed IPs
21010– 21033	DIR must be ..., ... does not exist, window must be ..., Database connection/query failed	Bad path, missing item, bad window, or database problem — the message states which
21034– 21039	Control write errors	Bad path (21034), control does not exist (21035), "Control is not enabled -- a DM operator must enable it before an AI may write it" (21036), value missing / not an allowed option / not a number / below minimum / above maximum (21038), write failed (21039)
21037	This account is Read Only -- the DM administrator must set its API Access to Read-Write	Any write from a Read Only account
21040	Control writes are disabled by policy on this DM (Settings > Policies > AI Connector > Control Writes)	Policy off
21041– 21046	Trend bucket write errors	Bad path, point does not exist, point not trendable, policy off (21044), not a valid bucket, write failed
21047– 21048	Mapping errors	Unknown protocol, or that mapping is not installed

Code	Message	Meaning
21049– 21056	Acknowledge / clear errors	Bad path or argument (21049), "That alarm is no longer active (it has cleared) -- re-read get_alarms" (21050), policy off (21051 ack, 21055 clear), only Active alarms (21052), note too long or has control characters (21053), write/removal failed (21054, 21056)
21059	ai_pages.txt is missing on this DM -- reinstall the DM AI Connector	Page guide file missing — contact Pythia

Refusals are checked in this order, so the first problem found is the one reported: HTTPS → DM address restriction → connector installed → token → Allowed IPs → license → rate limit → Read Only → the command's own checks.

PART 3

SPDM AND SPIGM

SPDM and SPIGM — the Smart Panel SPD

APPLIES TO SPDM and SPIGM (identical software; SPIGM differs only in the physical panel build) · viewing: all users
· configuring: Admin

An SPDM is a DM with a built-in **Smart Panel**: a Pythia CM06P input/output module wired directly to the DM over a serial connection. Dry contacts, run signals, leak sensors and temperature probes are wired to the panel. Everything in Part 1 applies to an SPDM. This part adds the Smart Panel page, and explains how to turn panel inputs into monitored units with the **DIRS** driver, so they get alarms, notifications, trends and protocol mappings.

The two steps, in order: 1. **Map the input on the Smart Panel** ([SPD-1](#)), so the DM reads it. 2. **Bring it into a unit** as a data point, an alarm, or both ([SPD-2](#)), so the DM can monitor it.

Note: A Smart Panel input raises alarms only when a unit alarm watches it ([SPD-2.3](#)). The same goes for notifications, trends and protocol mappings.

The Smart Panel page SPD-1

Click **Smart Panel** in the tree. Its inputs are listed under it in the tree.

- **Header:** the panel name ("Smart Panel"), a status badge (**Normal** with a green border when the DM is talking to the panel; red when it isn't), and "N data points".
- **Table:**

Column	Shows
Data	Input name, e.g. Input 01 , Temperature 1 . Red = its last read failed; gray = disabled.
Description	What is wired to it, e.g. "Input 1", or "(F)" for a Fahrenheit temperature.
Register	The module register it reads, e.g. <code>1001</code> .
Type	How the register is read, e.g. INT (whole number, 0/1 for contacts) or FLOAT32LOHI (a temperature).
Value	The latest reading.
Enable	Yes / No .

- "Communications issue — N data point(s) failed to read on the last poll" appears while any input fails. If every input is red and the badge is red, check the panel's serial connection and **Properties**.
- The page refreshes at the site's list rate ([CON-2](#)).

Panel settings SPD-1.1

APPLIES TO Admin

Properties (Smart Panel Properties):

Field	Meaning
Enable/Silence Buzzer	Enables or disables the panel's buzzer, or silences it while it is sounding.
Alarm Delay in Seconds	How long the DM waits, while an alarm is active, before sounding the buzzer.
Alarm Category	The buzzer sounds only for active alarms in the ticked categories. This applies to any alarm on the DM, not just panel inputs (UNIT-4.3).
Module Network	The serial port the module is on, e.g. COM5 (SET-4).
Module Modbus Address	The module's address on that port.

The panel itself can't be deleted.

Map an input SPD-1.2

APPLIES TO Admin

1. **Add**: enter a name (e.g. Input 07 , Leak Room 2), **Description**, **Modbus Register** and **Type**. **Save**.
2. Check that a live **Value** appears. A red name usually means a wrong register.

To edit an input, click its name (**Edit "<name>"**). **Delete** removes the mapping only: "This removes the mapping from the panel. The module input itself is unaffected."

Messages: "Data point name required", "Data point name cannot contain backslash, slash, or pipe", "A data point with that name already exists".

Bringing panel inputs into a unit (DIRS) SPD-2

The **DIRS** driver makes a unit that talks to no equipment. Each of its data points and alarms has a **Directory**: the path of something else on the DM, normally a Smart Panel input. On every poll the unit copies or checks that value. The unit then works like any other: status, alarms, notifications, trends, dashboards and SNMP/Modbus/BACnet mappings.

Example on the Pythia demo DM: Powell Office › Panel Inputs › Smart Panel is a DIRS unit. Its alarm **Input 01** watches `\Smart Panel\Input 01` and is described "Leak Detected".

Create the DIRS unit SPD-2.1

APPLIES TO Admin

1. Open or create a group for the panel's equipment, e.g. **Panel Inputs** (MON-3.1).
2. **Add** a unit (MON-4.2): - **Unit Name**, e.g. `Room Contacts`. - **Network**: the DM's internal network for the Smart Panel (on the demo DM, **NET-SPDM**). - **Driver**: **DIRS (NET)**.
3. Open **Unit Properties**. **Unit IP Address** is `127.0.0.1` (the DM itself); leave it. Tick **Add Alarms Container** and/or **Add Data Container** and **Save** (UNIT-1.4).

Show an input as a data point SPD-2.2

Use this for readings you want to see, trend or publish, such as temperatures.

1. Open the unit's **Data > Add** (UNIT-2.2).
2. Name it, e.g. `Room Temperature`. End the **Description** with the unit of measure, e.g. `Room Temperature (F)`.
3. Set **Directory** to the input's path: `\Smart Panel\<input name>`, typed exactly as the input is named, e.g. `\Smart Panel\Temperature 1`.
4. Make sure it is enabled, and **Save**.

On the next poll the point shows the input's value. A blank value means the Directory doesn't match an input, the input has no value yet, or the point is disabled.

Alarm on an input SPD-2.3

Use this for contacts and sensors that should raise an alarm and notify people.

1. Open the unit's **Alarms > Add (Add New Alarm)**. Enter the **Alarm Identifier** (the alarm's name) and choose the **Alarm Type**. The fields you set next depend on the type:

Type	Alarm is active when...	Use for
ALARM	the source (by Alarm Property , below) is on or in alarm	Dry contacts and on/off sensors (leak, smoke, door, run/fail)
VALUE	the source's number meets the Comparison Operator and Alarm Threshold , e.g. <code>> 85</code>	Temperatures and other analog inputs
LOGIC	a combination of several sources (AND / OR) is true	Advanced; ask Pythia for help setting it up

1. Open the new alarm's **Properties** and set: - **Alarm Directory**: the input, e.g. `\Smart Panel\Input 01`. - **Alarm Property** (ALARM type), one of three:
 - **Value**: active when the source reads **ON**, **YES** or **1**; normal at OFF, NO or 0. Use this for panel inputs.
 - **Current State**: active when the source is itself in alarm.
 - **Communications**: active when the source has lost communication.

- For a **VALUE** alarm, the **Comparison Operator** and **Alarm Threshold**.
- **Alarm Severity**, **Alarm Category** (this decides who is notified, `AUT-1`) and **Count Before Generating Alarm**.
- **Alarm Description**: what the alarm means, e.g. `Leak Detected`. It appears in alarm lists and emails.

2. **Save**. Test it with **Generate Software Alarm Test** (`ALM-7`) or by operating the real contact.

Note: An **ALARM**-type alarm has no invert option; with **Value** it is active when the input reads 1. You decide the logic: for a contact that reads 1 when normal (normally closed), use a **VALUE** alarm with **Comparison Operator** `NAND` (or `!=`) and **Alarm Threshold** `1`. For normally open, use `AND` (or `=`) with `1`.

Other sources SPD-2.4

A **Directory** can point to anything on the DM, not only the Smart Panel, for example `\Locations\Powell Office\Power Rack 1\UPS-21A\Data\Output Load X`. This lets a DIRS unit gather readings from several units into one place.

For cooling-team managers built on DIRS (lead/standby, failover, staging), see `DRV-3`.

What View users see SPD-3

View users see the Smart Panel page, its values and status, and the DIRS units like any other units. They can't add, edit or delete inputs or change panel settings.

PART 4
SPAC4

SPAC4 — Smart Panel AC-4 Controller SPA

APPLIES TO SPAC4 only · viewing: all users · settings and units: Admin

A plain DM **monitors** equipment. A SPAC4 **controls** it: it drives a Smart Panel AC4 that turns air-conditioning, fan and air-handler units on and off. It handles lead/standby rotation, failover and temperature staging itself.

What carries over from Part 1: alarms ([ALM](#)), automations and notifications ([AUT](#)), trends ([TRD](#)), users ([USR](#)), system settings ([SET](#)), the AI Connector ([AIC](#)) and the console basics ([GS](#) , [CON](#)) work as described there.

What is different: a SPAC4 has no **Locations** tree to build. It has a **fixed layout** created at installation, and its settings are edited on SPAC4's own pages with a **Save / Cancel** model ([SPA-6](#)).

The fixed layout SPA-1

Smart Panel	(the whole panel; one, permanent)
└ Group 1	(always present; can be renamed)
└ Group 2	(always present; can be renamed)
Units: Unit 1, Unit 2, Unit 3, Unit 4	(four in total, each in either group)

- The panel has **four units in total**, not four per group. Each of **Unit 1–Unit 4** can be assigned to either group, and a unit name can be used only once across both groups.
- Adding and deleting units is the only structural change you can make ([SPA-7](#)).
- **Settings** holds the panel's fixed wiring (inputs such as *Unit N Fail*, group sensors, the acknowledge button, outputs and LEDs) and the protocol mappings. These are set at installation; you normally don't change them.
- Every SPAC4 page draws a unit as a **cabinet with a fan**. The fan spins while the unit runs, turns red on alarm, and is gray when the unit is off or disabled.

The panel display (no sign-in) SPA-2

Opening the SPAC4's address (for example <http://<panel address>/>) shows the **panel display**. It is a read-only, full-screen view for the tablet supplied with the panel or any browser on the panel's network, and it needs no sign-in. It updates every 2 seconds.

- **Top strip:** "Smart Panel AC4 Status and Settings", the time and date, and the panel status: **NORMAL**, **ALARM**, **DISABLED** or **NO COMMS** ("Connecting to panel..." while starting).
- **One bay per group**, with the group status (**NORMAL**, **ALARM**, **DISABLED**) and:
- each assigned unit's fan, name, role (**PRIMARY**, **STANDBY**, **STBY SCHED**, **ON**) and state (**RUNNING**, **OFF**, **ALARM**, **DISABLED**);

- **FAILOVER** (Yes/No);
- **AUTO SEQUENCING** (the schedule, e.g. "Days - 1" or "Day of Week - Saturday", or Disabled);
- **LAST CHANGEOVER** and **RUN HOURS**;
- **UNIT HOLD** (a countdown in seconds, or **Inactive**);
- **STAGING** (mode or Disabled), the group's sensor reading (e.g. "82.34 F"), and the current stage. "STAGE n — EXCEEDED" in red means the sensor is above the top setpoint.
- **Lamps along the bottom: ALARM** (red when any alarm is active), **ACK** (orange while the panel's acknowledge input is active), **POWER** and **COMMS** (red when the panel isn't communicating).
- **Console** (bottom right) opens the signed-in console in a new tab.

If the DM loses the panel, the display dims, freezes and shows **NO COMMS**. The values on screen are then out of date.

The console overview SPA-3

After you sign in, the top of the tree opens the **Smart Panel Overview**: - a live picture of the panel face; - a link to the **Smart Panel** page ("group settings & configuration"); - a **Groups** section with a card per group, for example "Units: 2 (1 running) · Failover: Yes · Sensor: 82.38 F", with "Staging: On" added when staging is enabled, and a red **STAGING EXCEEDED** while the group's temperature is above its top staging setpoint.

The tree on a SPAC4 has **Alarms**, **Automations**, **Logs**, **Settings**, **Smart Panel**, **Trends** and **Users**, and no **Locations**.

Click a group card to open that group.

The panel page — group settings SPA-4

Click **Smart Panel** in the tree. It shows one card per group, refreshing every 2 seconds:

- the **group title** and status pill (**Normal**, **ALARM**, **Disabled**); click the title to open the group;
- a **units strip** (mini fans with each unit's mode);
- **live chips: Sensor**, **STAGE n**, **STAGING EXCEEDED**, **Unit Hold** (countdown or **Inactive**);
- **Group Settings**, editable in four sections.

Failover SPA-4.1

A standby unit takes over when the primary fails. - **Failover**: on/off. - **Latch Primary Alarm**: stay on the standby after the primary's alarm clears, until someone intervenes. - **Latch Primary On**: keep the primary running once it has been brought on.

With both unlatched, the group returns to its normal lead as soon as the primary is healthy.

Auto Sequencing SPA-4.2

Rotates which unit leads, to share run hours and wear. - **Auto Sequencing**: the rotation schedule, from hourly through day-of-week and day-of-month options to every N days, or Disabled. - **Auto Sequencing Hour / Auto Sequencing Minute**: the time of the changeover. - **Auto Sequencing Rotate**: rotate now. Tick it and **Save**; the box clears itself.

Staging SPA-4.3

Brings more units on as the temperature rises, and off as it falls. - **Staging**: **Disabled**, **Staging Up Enabled** or **Staging Down Enabled**. - **Staging Sensor**: **10K F** or **10K C** (a 10K thermistor read in °F or °C). - **Staging Setpoint 1–4**: the temperatures at which each additional unit starts. The range is **45–95** for °F or **7–35** for °C. - **Staging Range**: how far the temperature must fall below a setpoint before that unit stops. This prevents rapid cycling. - **Staging Alarm**: raise an alarm when the temperature is above the top setpoint and no more units are available (**STAGING EXCEEDED**). - **Sensor Source**: **Local Sensor**, or **Use Other Group Sensor if Not Detected**. - **Sensor Status** (read-only): **Detected**, **Not Detected**, or **Using Group N Sensor**. The other group's sensor is used after 10 polls in a row without this group's sensor, and this group's own sensor takes over again as soon as it returns. The reading is converted to this group's °F/°C setting.

General SPA-4.4

Description and any other group settings.

Unit Hold (anti-short-cycle) SPA-4.5

After a unit stops, it is **held off** for a minimum time before the panel may start it again, to protect compressors. The **Unit Hold** chip counts down; **Inactive** means no hold is running. The hold length is **Unit Cycle Hold Time in Minutes** in the panel's Properties (SPA-8). You can't clear a hold by hand.

Group and unit pages SPA-5

Group page (click a group): live chips as on the panel page, plus **Failover**, **Auto Seq**, and while auto sequencing is on **Last** (last changeover) and **Hours**. **Add** and **Properties** are at the top right. It shows one card per assigned unit, with a delete icon and its own **Cancel / Save**, and: - the fan and run state (**RUNNING**, **OFF**, **ALARM**, **DISABLED**); - **Mode**, **Connection**, **Schedule**, **Schedule Hour**, **Schedule Run Time** and **Description**, editable in place. A **UID** field holds the unit's mapping ID; leave it as it is.

A group with no units shows "No units assigned to this group — use Add Unit to create one."

Unit page (click a unit): - A fan picture with the run state, a **Mode badge** (**PRIMARY**, **STANDBY**, **STBY SCHED** or **ON**) and a **Connection badge** (e.g. **NORMALLY OPEN**). **Cancel**, **Save** and **Delete Unit** are at the top right. - **Unit Settings**: - **Mode**: **Off**, **On**, **Standby** or **Primary**. - **Connection**: the unit's control relay wiring, **Normally Open** or **Normally Closed**. - **Schedule**: an optional scheduled run for a standby unit: **Disabled**, a **Day of Week**, a **Day of Month**, or every N **Days**. - **Schedule Hour** (0–23) and **Schedule Run Time** in minutes. - **Description**. - **Summary Alarm**: the unit's one alarm: **Enable**, live

State and **Value**, **Severity**, **Count**, **Category**, **Description** (UNIT-4). - **Data Point — Unit On**: the unit's run value (**Value**), **Trend** (TRD) and **Description**. **UID**, **UID Type** and **UID Scale** are mapping settings; leave them as they are.

Editing settings: Save and Cancel SPA-6

APPLIES TO Admin

Every SPAC4 setting is edited the same way: 1. Change a field. An amber dot marks it as pending, and **Save** / **Cancel** light up. Nothing is written yet. 2. Check the allowed range shown beside the label (e.g. "0–59 min"). Some ranges depend on another field; changing **Staging Sensor** to °F or °C changes the setpoint limits. 3. **Save**: "Saved ✓" appears and the panel's stored values are re-read. **Cancel** discards every pending change.

A rejected value is marked in place with the reason, for example "Staging Setpoint 1 is above the maximum of 95". The other messages are "... must be a number", "... is below the minimum of <n>", "... value "<x>" is not one of the allowed options" and "<field> cannot contain the | character." Fix the value and **Save** again.

View users see every setting but can't change it; **Save**, **Cancel**, **Add**, **Delete**, **Properties** and **Restore Defaults** are hidden.

Adding and deleting units SPA-7

APPLIES TO Admin

- **Add**: on a group page, **Add** > choose a free **Unit** (only names not used in either group are offered) > fill in its settings > save. When all four are assigned: "All four unit positions are assigned (units are unique across both groups)." A failure reads "Add failed (is the unit name unique across both groups?)."
- **Delete**: **Delete** on the unit's card, or **Delete Unit** on its page > confirm "Delete <Unit> and all of its alarms and data?"

Caution: Deleting a unit removes its alarm and data history, and cannot be undone.

Panel Properties and Restore Defaults SPA-8

APPLIES TO Admin

Smart Panel Properties (panel page > **Properties**):

Field	Meaning
Enable/Silence Buzzer	Enable the panel buzzer, or silence it.
Acknowledge Alarm and Unlatch	Acknowledge the panel's current alarm and clear any latched failover.
Alarm Delay Time in Seconds	How long an alarm must be active before the panel alarms (buzzer, lamp).
Unit Cycle Hold Time in Minutes	The minimum off-time before a unit may restart (SPA-4.5).
Panel Status	Read-only current state.

Restore Defaults is in a group's **Properties** dialog (on the group page): "Restore <Group> to its default configuration? This resets EVERY group setting to defaults and REMOVES ALL UNITS assigned to this group."

Caution: **Restore Defaults** resets every setting in the group and removes all of its units. It cannot be undone.

SPAC4 and building-management systems SPA-9

A SPAC4 publishes its status over Modbus/TCP, BACnet/IP and SNMP using a **fixed point map, the same on every SPAC4 panel**. It does not use the DM numbering described in INTG-1 . The mapping pages, exports and ALC URLs work as described in INTG-2 and INTG-7 .

Modbus/TCP SPA-9.1

The panel is Modbus unit ID **1** (Device Id **001**). All values are holding registers (read with function code 03):

Register	Meaning
40001	Panel communications (0 = normal, 1 = loss of communications)
40002	Panel state (0 = disabled, 1 = normal, 2 = alarm)
41001	Group 1 state (0 = disabled, 1 = normal, 2 = alarm)
41002	Group 1 sensor value. Float format: IEEE pair 41002–41003 in engineering units. Integer format: value × 0.01.
41101 / 41102 / 41103	Group 1 Unit 1 state (0 = not assigned, 1 = normal, 2 = alarm) / unit on (0 = off, 1 = on) / mode (0 = off, 1 = on, 2 = standby, 3 = primary)
41201–41203, 41301–41303, 41401–41403	The same for Group 1 Units 2, 3 and 4
42001, 42002	Group 2 state and sensor value (Float pair 42002–42003)

Register	Meaning
42101–42103 ... 42401–42403	Group 2 Units 1–4, as for Group 1

Writes: only the unit **mode** registers (41103, 41203 ... 42403) can be written (function code 06), with 0 = off, 1 = on, 2 = standby, 3 = primary. This is the same as changing **Mode** on the unit page ([SPA-5](#)).

Caution: Writing a mode register switches the real unit.

BACnet/IP SPA-9.2

The panel is one BACnet device, device name "Smart Panel", model "SPAC4". The device instance is set in the BACnet/IP mapping **Properties** (default 1). Each point above is an **Analog Value** whose instance is its map number (1, 2, 1001, 1002, 1101–1103 ... 2401–2403). The unit mode objects (1103, 1203 ... 2403) are **Read/Write**; everything else is **Readonly**. The object descriptions match the Modbus table above (e.g. 1002 "Group 1 sensor value. (engineering units)").

SNMP SPA-9.3

Published through the DM's SNMP agent; export the OIDs from **Settings › Mappings › SNMP** ([INTG-4](#)).



PART 5

EQUIPMENT CATALOG

Equipment Catalog — Standard Drivers

DRV

APPLIES TO all DM-family products

A **driver** is the part of the DM that knows how to talk to one kind of equipment. When you add a unit, you pick its driver from the **Driver** list ([MON-4.2](#)). This chapter lists the standard drivers Pythia supplies.

- The **Driver** list shows each driver's identifier and network type, for example **SNMP (NET)** or **MBR (COM)**. The description appears underneath when you select it. The **Add Unit name** column below shows the identifier.
- **NET** drivers reach equipment over the network. **COM** drivers use a serial port.
- **Your DM may list more or fewer drivers** than shown here, depending on the equipment it was delivered for. Pythia also supplies drivers for other equipment on request; ask Pythia Technologies if your equipment isn't listed.

Generic protocol drivers

DRV-1

Use these for any equipment that speaks the protocol. You add the data points, controls and alarms yourself ([UNIT](#)). All use the standard unit page and allow renaming points.

Add Unit name	Description shown	Use for
SNMP (NET)	Generic SNMP Driver	Any SNMP v1/v2c device. Points are addressed by OID.
SNMP3 (NET)	Generic SNMP3 Driver	SNMP v3 devices.
MBT (NET)	Generic Modbus/TCP Driver	Modbus TCP devices. Points are addressed by function and register.
MBT2 (NET)	Generic Modbus/TCP2 Driver	Modbus TCP, when points on one unit come from different addresses: each data point, alarm and control can override the unit's IP address and Modbus address.
MBR (COM)	Generic Modbus/RTU Driver	Modbus RTU over a serial port.
MBR2 (COM)	Generic Modbus/RTU 2 Driver	Modbus RTU, second-generation driver.
BIP (NET)	Generic BACnet/IP Driver	BACnet/IP devices.
BIP2 (NET)	Generic BACnet/IP2 Driver	Currently the same as BIP . Kept so older systems can be upgraded easily. Use BIP for new units.

Add Unit name	Description shown	Use for
HTTP (NET)	Generic HTTP Driver	Reads values from a device's URL.
XML (NET)	Generic XML Driver	Reads the XML page from a device, such as a small web sensor.
PYT (NET)	Generic Pythia Driver	Reads values from another DM server.
DIRS (NET)	Generic Directory Driver	Copies values from elsewhere on the same DM into a unit. Used to bring Smart Panel inputs into units (SPD).

Equipment-specific drivers DRV-2

These drivers come with the equipment's points already defined; tick the containers in **Unit Properties** to add them (UNIT-1.4). Point names are fixed by the driver and usually cannot be renamed (CON-3.3).

"Dashboard" says whether the driver has an equipment dashboard (EQP): **Auto** = opens automatically for new units; **Yes** = available, assigned to the unit separately; **—** = standard unit page.

SNMP equipment DRV-2.1

Add Unit name	Description shown	Equipment	Dashboard
SNMP_LBT2	Liebert2 SNMP Driver	Liebert/Vertiv equipment with a Liebert SNMP card: GXT5 and EXM UPS, battery monitor, Liebert DS CRAC	Yes (per model)
SNMP_LBT2_GXT4	Liebert GXT4 UPS	Liebert GXT4 UPS	Auto
SNMP_LBT2_ENV1	Liebert CRAC	Liebert precision cooling unit	Auto
SNMP_CYB_UPS1	CyberPower UPS	CyberPower UPS with network card	Auto
SNMP_RFC_UPS	UPS RFC SNMP Driver	Any UPS that supports the standard UPS MIB (RFC 1628)	Yes
SNMP_SMC_X12DPI	Supermicro X12 Server	Supermicro X12 server, read from its management controller (BMC)	Auto
SNMP_CSCO_CBS250	Cisco Business 250 Switch	Cisco Business 250 network switch	Auto
SNMP_GST_WD15	UPS Geist WD15 Driver	Geist Watchdog 15 environmental monitor	—

Add Unit name	Description shown	Equipment	Dashboard
SNMP_LBT	Liebert Environmental SNMP Driver	Older Liebert cooling equipment	—
SNMP_LBT_PWR	Liebert Power SNMP Driver	Older Liebert power equipment	—

Note: **SNMP_LBT** and **SNMP_LBT_PWR** are being retired in favor of **SNMP_LBT2**. For new units, use **SNMP_LBT2**. Changing an existing unit's driver means deleting it and adding it again.

Liebert / Vertiv IGM equipment DRV-2.2

The IGM drivers talk to Liebert equipment's IGM interface through a serial-to-network adapter. The **PTT_LBTIGM_Tools_GUIC** tool identifies which IGM model a unit is (**APX-E**).

Add Unit name	Equipment	Dashboard
IGM_EM_LAM	Liebert Deluxe System/3 (DX) cooling	Auto
IGM_EM_MM2	Liebert Mini-Mate2 ceiling-mount cooling	Auto
IGM_EM_L00	Liebert precision cooling, Level 0 control	Auto
IGM_EM_L10	Liebert precision cooling, Level 10 control	—
IGM_EM_XDC	Liebert XD refrigerant chiller	Auto
IGM_EM_MM4	Liebert Multi-Module UPS (Series 600/610)	Auto
IGM_EM_SM4	Liebert Single-Module UPS with static bypass	Auto
IGM_EM_SC4	Liebert UPS System Control Cabinet	Auto
IGM_EM_SMS	Liebert UPS	—
IGM_EM_NPR	Liebert NPower UPS	—
IGM_EM_PMP	Liebert Precision Power Center	Auto
IGM_EM_PMP2	Liebert Precision Power Center with power-quality metering	Auto
IGM_EM_STS	Liebert Static Transfer Switch	Auto
IGM_EM_ST2	Liebert STS2 Static Transfer Switch	Auto
IGM_EM_WDU	Liebert leak detection, single cable	Auto
IGM_EM_WDU2	Liebert leak detection, dual cable (LiquiText LDS5000)	Auto
IGM_EM_RCM8	Liebert RCM8 remote contact monitor	—
IGM_EM_UVM8	Liebert UVM8 universal monitor	—

The driver descriptions read "IGM/TCP <model> Driver".

Generators DRV-2.3

Add Unit name	Description shown	Equipment	Dashboard
MBT_GEN_H100	Generac H100 Modbus/TCP Generator Driver	Generac generator with H100 controller	Yes

Pythia equipment managers DRV-3

Manager drivers don't talk to equipment directly. A manager unit watches its sibling cooling units in the same group and commands them. It handles lead/standby rotation, failover when a unit fails, and staging (running extra units when the temperature rises).

The **Driver** list describes every manager as "Pythia Directory <name> Driver". What each one does is in the unit description it fills in:

Add Unit name	Default unit description	Dashboard
DIRS_PYT_AC21FA	Pythia Autochangeover Manager - 2 Units 1 Run Failover 2 Run Staging 2 Run	—
DIRS_PYT_AC21FA1	Pythia Autochangeover Manager - 2 Units 1 Run Failover 1 Run Only No Staging	Yes (Unit Team Manager)
DIRS_PYT_AC31FA	Pythia Autochangeover Manager - 3 Units 1 Run Failover 2 Run Staging 3 Run	—
DIRS_PYT_AC32FA	Pythia Autochangeover Manager - 3 Units 2 Run Failover 3 Run Staging 3 Run	Yes (CRAC Manager)

Read a description as: how many units the manager controls, how many run normally, how many run after a failover, and how many run while staging. "Autochangeover" managers rotate the lead unit automatically.

Set up a manager DRV-3.1

APPLIES TO Admin

1. Put the cooling units and the manager in the **same group**. Each managed unit must have: - data points **Unit On** and **Temperature**; - controls **Unit On** and **Temperature Setpoint** (and **Humidity Setpoint** where used), enabled.
2. Add a unit with the manager driver (**MON-4.2**) and open its **Unit Properties**.
3. In **AC1 Name**, **AC2 Name** (and **AC3 Name** for three-unit managers), type the names of the managed units exactly as they appear in the tree.
4. Set the options:

Field	Meaning
Enable Failover	Start a standby unit when a running unit fails.
Failover Alarm Category	Which alarm category on a managed unit counts as a failure (for example Category 01) (UNIT-4.3).
Enable Temperature Staging	Start extra units when the temperature rises.
Staging Setpoint Temperature	Temperature at which staging starts (for example 80).
Staging Temperature Range	How far the temperature must fall below the setpoint before staged units stop (for example 2).
Unit On/Off Delay in Seconds	Pause between starting or stopping units, so they don't all switch at once (for example 15).

1. Turn on **Enable Unit for Monitoring** and **Save**.

Operate the manager (for example overrides) from its **Controls** page ([UNIT-3](#)). Deleting a manager does not delete the units it manages.

Demo driver DRV-4

The **SIM** driver (Generic Simulator Driver) creates simulated equipment for demonstrations and training. See [APX-E](#) .

APPENDICES

Message reference APX-A

APPLIES TO all DM-family products · all users

This appendix lists the messages the DM console shows, by their **exact text**, grouped by area. Find the message you see, then read what it means and what to do. Each row points to the section that explains the feature.

- `<placeholders>` in angle brackets stand for the part that changes, such as a name, a number or a reason.
- Some messages carry a number in front, such as "0003 - Access denied", or a code in the reply. The same number can mean different things in different places, so always look a message up by its **text**.
- Where the fix is to contact Pythia Technologies, write to **support@pythiatech.com** and include the exact message.
- Messages that an AI assistant receives through the AI Connector are listed in [AIC-5.5](#) (connection problems) and [AIC-7.4](#) (all error codes), not here.

Sign-in, sessions and connection APX-A.1

Message	Meaning	What to do
"Invalid credentials"	Wrong sign-in name or password, a disabled account, or an API (AI) account. The DM deliberately does not say which (GS-3).	Check both entries. Ask an Admin to check that the account exists and is enabled. API accounts cannot sign in to the console (AIC-2).
"Nonce expired" / "Nonce signature invalid"	The sign-in exchange from this page is too old or was not accepted, usually because too much time passed between opening the sign-in page and clicking Sign On (GS-3).	Reload the sign-in page and sign in again.
"Enter your email or username." / "Enter your password."	A sign-in box is empty (GS-3).	Fill in both boxes.
"Caps Lock is on."	Caps Lock is on while you type the password (GS-3).	Turn Caps Lock off if your password isn't in capitals.
"JavaScript is required to sign in to this system."	JavaScript is turned off in the browser (GS-3).	Turn JavaScript on and reload the page.
"Crypto module failed to load. Please reload the page."	Part of the sign-in page did not load (GS-3).	Reload the page. If it keeps happening, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Server secret not provisioned" / "Crypto error"	The DM cannot check passwords (GS-3).	Contact Pythia Technologies (support@pythiatech.com).
"Sign in failed." / "Challenge request failed (HTTP <n>)" / "Login request failed (HTTP <n>)"	Sign-in did not complete, usually a network or server problem (GS-3).	Try again. If it persists, check the connection to the DM (CON-8).
"Please update your account to use an email address as your login. This is required before you can continue."	Your sign-in name is not an email address yet (Update Your Login) (GS-3.1).	Enter your email address in New email and click Change Email .
"Enter an email address." / "That does not look like a valid email address." / "Email length invalid" / "Email contains invalid characters" / "New email is the same as your current login."	The New email entry is empty, not a valid email address of up to 100 characters, or the same as your current sign-in name (GS-3.1).	Type your full email address, such as user@example.com .
"That email is already in use by another account"	Another account already signs in with that address (GS-3.1).	Use a different address, or ask an Admin.
"The update did not run. Your sign-in identity is unchanged." / "Could not reach the server. Reload the page to try again."	Changing the sign-in email did not complete (GS-3.1).	Reload the page and try again.
"Your session ended after a period of inactivity." / "The server was restarted or unreachable, and your session has ended." (Session expired ; the status bar also shows "Session expired")	You were signed out, because the console was idle or because the DM restarted or could not be reached (GS-6).	Click Sign in now , or wait to be taken to the sign-in page. The console reopens the page you were on.
"Disconnected – retrying"	The DM has not answered for about 12 seconds (CON-8).	Wait; it clears by itself. If it doesn't, check the DM's power and network connection.
"Connection lost — reconnecting..." / "Connection lost — attempting to reconnect..." / "This page will refresh on its own once the connection is back."	A page lost contact with the DM, or was opened while the DM could not be reached, and keeps retrying (CON-8).	Wait; the page recovers by itself. If it doesn't, check the DM's power and network connection.
"No response from the server - check the connection and try again."	A save or command got no answer (CON-8).	Check the connection, then repeat the action.

Message	Meaning	What to do
"0001 - IP Address not allowed: <ip address>"	Your computer's address is not on the DM's Access Control list for the console (SET-2).	Use an allowed computer, or ask an Admin to add your address. If no Admin can reach the console, contact Pythia Technologies (support@pythiatech.com).
"0003 - Access denied" / "Access denied"	This action requires an Administrator (APX-B).	Ask an Admin to do it.
"Admin access required"	This upload, download or setting requires an Administrator (APX-B).	Ask an Admin to do it.
"Not logged in"	The request reached the DM without a signed-in session (GS-6).	Sign in again.
"0002 - Unknown command: <command>"	The page in your browser is older or newer than the DM's software, usually just after an update (CON-7).	Click Update available — Refresh , or press Ctrl+Shift+R . If it persists, contact Pythia Technologies (support@pythiatech.com).

Console: properties, adding, renaming, deleting APX-A.2

Message	Meaning	What to do
"<Field> must be a number"	The field needs a number (CON-3.2). Nothing was saved.	Enter a number.
"<Field> is below the minimum of <min>" / "<Field> is above the maximum of <max>"	The value is outside the field's allowed range (CON-3.2). Nothing was saved.	Enter a value within the range.
"<Field> value "<value>" is not one of the allowed options"	The value is not in the field's list (CON-3.2). Nothing was saved.	Pick a value from the list.
"Property "<name>" cannot contain the character." / "Value for "<field>" cannot contain a pipe character ()." / "Field "<name>" cannot contain a pipe character ()."	No value may contain the \ character (CON-3.2).	Remove the \ and save again.
"<label>" must be a valid IPv4 address (e.g. 10.251.0.0) -- check for an extra dot or space."	The address typed in an Add dialog is not a valid IPv4 address (CON-4).	Correct the address.

Message	Meaning	What to do
"Property type <n> not yet editable in this dialog"	You can see this value but not change it in the dialog (CON-3.1).	None. If it must change, contact Pythia Technologies (support@pythiatech.com).
"No submitted field exists in schema <object>\<interface> -- rejected: <fields>"	The DM does not recognize the fields of this item, so it refused the save (CON-3.2).	Contact Pythia Technologies (support@pythiatech.com).
"Name is required" / "Name must be 1-100 characters"	The new name is empty or longer than 100 characters (CON-3.3).	Enter a name of 1 to 100 characters.
"Invalid characters: \ & % # ? " , " / "Name contains invalid characters"	Names cannot contain \ & % # ? " , , (CON-3.3).	Remove those characters.
"That name already exists"	Another item at the same level already has this name (CON-3.3).	Choose a different name.
"Must be a valid email (e.g. user@example.com)" / "Must be a valid IPv4 address (e.g. 192.168.1.10)"	The item is named by an address, and the new name is not a valid one (CON-3.3).	Enter a valid email or IPv4 address.
"Container does not exist"	The item was deleted or renamed, possibly by someone else (CON-7).	Open the parent page and find the item again.
"Container has no schema registration" / "Container is not schema-registered"	The item is not set up correctly on the DM (CON-3).	Contact Pythia Technologies (support@pythiatech.com).
"This action cannot be undone." (Delete confirmation)	You are about to delete the item named in the confirmation (CON-5).	Click Delete to proceed or Cancel to keep it.
"Container holds <n> child container(s). Remove children before deleting."	The item still contains other items (CON-5).	Delete what is inside first.
"Redirecting to <page> in 3 second(s)..."	Someone else deleted the item you were viewing (CON-7).	Wait, or click Go now .

Message	Meaning	What to do
"Update available — Refresh" (top-bar pill)	The DM's software or custom pages changed since you opened the console (CON-7).	Click the pill when convenient.
"Property values shown in read-only mode."	You are signed in as a View user, so values cannot be changed (CON-10).	Ask an Admin to make changes.
"Save failed." / "Add failed." / "Delete failed." / "Rename failed." / "Could not load properties." / "Could not load schema."	The action failed and the DM gave no reason (CON-3.2).	Try again. If it keeps failing, note what you did and contact Pythia Technologies (support@pythiatech.com).

Locations, groups and units APX-A.3

Message	Meaning	What to do
"Location name is required." / "Group name is required."	The name box is empty (MON-2.1 , MON-3.1).	Enter a name.
"Name must be 100 characters or less." / "Name must be 1-100 characters."	The name is too long (MON-2.1).	Shorten it to 100 characters or fewer.
"Name cannot contain: \ & % # ? " ,"	Location and group names cannot contain these characters (MON-2.1).	Remove them.
"Code must be 250 characters or less." / "Description must be 200 characters or less."	The code or description is too long (MON-2.1).	Shorten it.
"A location with that name already exists."	The location name is taken (MON-2.1).	Choose a different name.
"A group with that name already exists under this location." / "A group with that name already exists"	The group name is taken in this location (MON-3.1).	Choose a different name.
"1807 - Location could not be created" / "1907 - Group could not be created" / "1808 - Location schema registration failed" / "1908 - Group schema registration failed"	The DM could not create the location or group (MON-2.1 , MON-3.1).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Are you sure you want to delete the location "<name>"?" / "Are you sure you want to delete the group "<name>"?"	Confirmation before deleting a location or group (MON-2.2 , MON-3.2).	Click Delete to proceed or Cancel .
"The location "<name>" contains <n> group(s)." / "Delete all group(s) before deleting this location."	A location that still has groups can't be deleted (MON-2.2).	Delete its groups first.
"The group "<name>" contains <n> unit(s)." / "Delete all unit(s) before deleting this group."	A group that still has units can't be deleted (MON-3.2).	Delete its units first.
"Location deleted by another user" / "Content deleted by another user" / "1902 - Location does not exist" / "Group does not exist" / "Source location does not exist" / "Source group does not exist"	The location or group was deleted or renamed meanwhile, possibly by someone else (CON-7).	The page opens the parent by itself (click Go now to go at once). Find the item again from Locations .
"⚠ Error Loading Data" / "Unable to load location data. Check the API connection."	The Site Overview could not load its location list (MON-1).	Check the connection to the DM (CON-8) and reload.
"Unit name is required." / "Unit name cannot contain backslash, slash, or pipe."	The Unit Name box is empty, or contains \ , / or \ (MON-4.2).	Enter a valid name.
"Please select a network." / "Please select a driver."	Network or Driver is not chosen (MON-4.2).	Choose both.
"A unit with that name already exists in this group" / "A unit with that name already exists"	The unit name is taken in this group (MON-4.2).	Choose a different name.
"Driver type (<type>) does not match Network type (<type>)"	An Ethernet (NET) driver was paired with a serial (COM) network, or the other way round (MON-4.2).	Choose a network of the same type as the driver.
"Network does not exist: <network>" / "Network has no Type configured: <network>" / "Driver does not exist: <driver>" / "Driver has no Type configured: <driver>" / "Driver has no Schema Object configured: <driver>"	The chosen network or driver is missing or not fully set up (SET-4 , DRV).	Choose another network. For a driver problem, contact Pythia Technologies (support@pythiatech.com).
"Could not create unit container" / "Could not register unit schema"	The DM could not create the unit (MON-4.2).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Could not load networks/drivers list."	The Add New Unit dialog could not load its lists (MON-4.2).	Close the dialog and try again.
"Delete this unit "<name>"?" / "This action cannot be undone. All data points, alarms, and controls under this unit will also be removed."	Confirmation before deleting a unit (UNIT-1.3).	Click Delete to proceed or Cancel .
"Unit container does not exist"	The unit was deleted or renamed meanwhile (CON-7).	Go back to its group and find it again.
COMMUNICATIONS (unit status)	No alarm is active, but at least one point failed to update on the last poll (UNIT-1.1).	Check the unit's address settings, the network path and the equipment.
"<n> data point(s) did not respond on the last poll."	An equipment dashboard lost contact with some of the unit's points (EQP-1.1).	Check the equipment and its network connection.
"Seeding: <n> added, <n> already existed, <n> FAILED. Save again to retry the failed points."	Some of a new unit's standard points were not created (EQP-2.1).	Click Save again.
"Containers saved, but point seeding needs the updated ptj-pythia-base.js on this server." / "Containers saved, but the embedded driver manifest could not be read."	The unit's sections were created, but its standard points could not be added (EQP-2.1).	Contact Pythia Technologies (support@pythiatech.com).

Data points, controls and alarm settings APX-A.4

Message	Meaning	What to do
"Communications issue — <n> data points failed to update on the last poll"	Some of the unit's points did not answer the last poll (UNIT-2.1).	Check the equipment and its connection. Point names in red are the ones failing.
△ COMM ISSUE (data point page)	The point's last poll failed; the value shown may be stale (UNIT-2.4).	Check the equipment and its connection.
"Data name required" / "Data name cannot contain backslash, slash, or pipe" / "A data point with that name already exists"	The new data point's name is empty, contains \ , / or \ , or is taken on this unit (UNIT-2.2).	Enter a different, valid name.

Message	Meaning	What to do
"Directory does not exist: <path>"	A DIRS point or alarm points to a path that does not exist on the DM (SPD-2.2).	Correct the Directory . Type it exactly as the item is named, for example \ Smart Panel\Input 01 .
"Could not update <Field> for "<name>". " / "Could not update "<property>". "	A change in a Properties grid was refused; the old value was put back (UNIT-2.3 , UNIT-4.3).	Try again. Check the value is allowed.
"<x> of <n> alarm(s) failed to update."	A Set all... change did not reach every alarm (UNIT-4.3).	Repeat the change, or fix the remaining alarms one at a time.
"Are you sure you want to set severity to '<value>' for all <n> alarms?" (and similar for category, fail count, enable)	Confirmation before a Set all... change (UNIT-4.3).	Click OK to change every alarm, or Cancel .
"Setpoint → <value> sent."	The command was accepted and will be sent to the equipment on the next poll (UNIT-3.2).	Watch Actual catch up within a poll or two.
"Clear the setpoint on all <n> control(s)? Each is re-read fresh from the unit on the next poll."	Confirmation before Clear Setpoints (UNIT-3.3).	Click OK to clear every stored setpoint, or Cancel .
"Control name required" / "Control name cannot contain backslash, slash, or pipe" / "A control with that name already exists"	The new control's name is empty, contains \ , / or \ , or is taken on this unit (UNIT-3.3).	Enter a different, valid name.
"Type required for this driver"	No Type was chosen for the new control (UNIT-3.3).	Choose a Type .
"Alarm name required" / "Alarm name cannot contain backslash, slash, or pipe" / "An alarm with that name already exists"	The new alarm's name is empty, contains \ , / or \ , or is taken on this unit (UNIT-4.2).	Enter a different, valid name.
"Driver schema defines no alarm interface for type '<type>'"	This unit's driver does not support the chosen alarm type (UNIT-4.2).	Choose another Alarm Type .
⚠ Not editable — re-add this alarm	This is an older alarm setting that can no longer be evaluated (UNIT-4.4).	Delete it and add it again.

Message	Meaning	What to do
"Permanently delete <n> record(s) for this alarm?"	Confirmation before Clear History on one alarm setting (UNIT-4.4).	Export first if you need the records, then confirm.
"Delete the entire alarms container "<unit>\Alarms"?" / "This action cannot be undone. All <n> alarm(s) under this unit will be removed."	Confirmation before deleting the unit's whole Alarms section (UNIT-4.3).	Click Delete only if you mean to remove every alarm setting on the unit.
"Could not create <kind> container" / "Could not register <kind> schema" / "<Kind> schema has no Methods.Add target"	The DM could not add the point, control or alarm (UNIT-2.2).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).
"Could not load data list." / "Could not load data points." / "Could not load controls." / "Could not load alarm list." / "Could not load alarms." / "Clear history failed."	A list or grid could not load, or an action failed with no reason given (UNIT).	Refresh the page. If it persists, check the connection (CON-8).

Alarms

APX-A.5

Message	Meaning	What to do
"No active alarms — all systems normal."	No alarms are active (ALM-2).	None.
"No alarms match the current filter."	The severity chips, Unacknowledged only or the search hide every alarm (ALM-2).	Clear the filters or the search.
"Acknowledge <n> selected alarm(s)? They stay active; the acknowledgment records who took them and when. Optional note:" / "Acknowledge this alarm? It stays active. Optional note:" / "Acknowledge this alarm? It stays active; the acknowledgment records who took it and when. Optional note:"	Confirmation for Acknowledge Selected or Acknowledge (ALM-3.1).	Optionally type a note (one note applies to every selected alarm), then click OK .
"Remove the acknowledgment from this alarm? It will show as unacknowledged again."	Confirmation for Un-acknowledge (ALM-3.1).	Click OK to remove the acknowledgment.
"Acknowledged by <user> at <time>: <note>"	Who acknowledged the alarm, when, and their note (ALM-2).	None.

Message	Meaning	What to do
"The note cannot contain a pipe character ()."	The acknowledgment note contains \ (ALM-3.1).	Remove the \ .
"Note must be 255 characters or fewer" / "Note must not contain control characters"	The acknowledgment note is too long or contains control characters (ALM-3.1).	Shorten the note, or remove the pasted special characters.
"Only alarms in \Alarms\Active can be acknowledged" / "Only alarms in \Alarms\Active carry an acknowledgment"	Only active alarms can be acknowledged; information events and history cannot (ALM-5).	None.
"Alarm container does not exist"	The alarm cleared (by the equipment, a user, or after 24 hours) before your action reached it (ALM-1).	Refresh the list.
"Acknowledge failed for <f> of <n>: <error>" / "Acknowledge failed: <error>" / "Un-acknowledge failed: <error>"	Some or all of the acknowledgment changes were refused for the reason shown (ALM-3.1).	Act on the reason, refresh, and repeat for the alarms not yet changed.
"Clear <n> selected active alarm(s)? This cannot be undone." / "Clear <n> selected information event(s)? This cannot be undone."	Confirmation for Clear Selected (ALM-3.2 , ALM-5).	Click OK to clear them.
"Clear this alarm "<name>"?" / "This action cannot be undone."	Confirmation for Clear on the full alarm page (ALM-3.2).	Click Clear to proceed or Cancel .
"Clear selected failed: <error>" / "<i> of <n> were cleared."	Clearing stopped part-way (ALM-3.2).	Refresh and clear the remaining alarms again.
"Clear failed: <error>"	The alarm or event could not be cleared (ALM-3.2).	Refresh. If it is already gone, nothing more is needed.
"No information events found." / "No alarm history found."	The list is empty (ALM-5 , ALM-6).	None.
"Delete ALL alarm history? This deletes every record from the ALARMS table and cannot be undone."	Confirmation for Clear All History (ALM-6).	Export first if you need the records, then confirm.

Message	Meaning	What to do
"Delete all alarm history older than <n> day(s)? This cannot be undone."	Confirmation for Delete Older Records (ALM-6).	Check the number of days, then confirm.
"Please enter a valid number of days (e.g. 30)."	The Keep last box is not a whole number (ALM-6).	Enter a whole number of days.
"Clear history failed: <error>" / "Trim history failed: <error>" / "1401 - Delete failed" / "1503 - Delete failed"	Alarm history could not be deleted (ALM-6).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).
"0101 - Database connection failed" / "0102 - Database query failed"	The DM's database did not answer while reading alarm history (ALM-6).	Try again in a minute. If it persists, contact Pythia Technologies (support@pythiatech.com).
"△ <n> Active Alarm(s) - Pythia" (flashing browser tab)	The Alarm View has <n> unacknowledged active alarms (GS-2).	Look at the Alarm View.
"Failed to poll <location>.<group>.<unit>. Check log for details." (type "Polling Failed.<location>.<group>.<unit>")	A service alarm: the DM could not poll that unit (ALM-1.1).	Check the unit exists and is set up correctly. If the unit was deleted, clear the alarm (ALM-3.2).
"Failed to create process. Error: <reason>."	A service alarm: the DM could not start the polling process for a network (ALM-1.1).	Contact Pythia Technologies (support@pythiatech.com).
"Location <location> disabled from monitoring"	An information event: monitoring was turned off for a location (a similar event appears for a group) (MON-6).	None, unless it was not intended; then turn Enable back on.
"Could not load active alarms." / "Could not load alarm data."	The alarm list could not load (ALM-2).	Refresh. If it persists, check the connection (CON-8).

Automations and email (SMTP Relay) APX-A.6

Message	Meaning	What to do
"Automation name is required."	The Automation Name box is empty (AUT-2.1).	Enter a name.

Message	Meaning	What to do
"Name and description cannot contain the pipe character ()."	The name or description contains <code> </code> (AUT-2.1).	Remove the <code> </code> .
"An automation with that name already exists"	The name is taken (AUT-2.1).	Choose a different name.
"Automation could not be created" / "Automation schema registration failed"	The DM could not create the automation (AUT-2.1).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).
"Are you sure you want to delete the automation "<name>" and everything inside it (all recipients, trap destinations, and time exceptions)? This action cannot be undone." / "Are you sure you want to delete the heartbeat automation "<name>" and everything inside it (all interval and period schedules)? This action cannot be undone."	Confirmation before deleting an automation (AUT-2.2, AUT-6).	To pause an Alarm automation, disable it instead. Before deleting a heartbeat, tell whoever watches for it.
"Enable toggle failed."	The Enabled switch change was refused (AUT-2).	Try again.
"Email address is required." / "Must be a valid email (e.g. user@example.com)."	The recipient address is empty or not an email address (AUT-3).	Enter a valid address.
"A recipient with that email already exists"	That address is already on this list (AUT-3).	None; edit the existing recipient instead.
"IP address is required." / "Must be a valid IPv4 address (e.g. 192.168.1.10)."	The trap destination address is empty or not a valid IPv4 address (AUT-4).	Enter a valid IPv4 address.
"A destination with that IP already exists"	That address is already on this list (AUT-4).	None; edit the existing destination instead.
"That day is already added to this automation"	Each weekday can be added once (AUT-5).	Open the existing day and add ranges to it.
"Start time is required" / "Stop time is required" / "Stop time must be after start time."	A time range needs a start time and a later stop time (AUT-5).	Choose both, with the stop time after the start time.

Message	Meaning	What to do
"This time range overlaps the existing range <start> - <stop>" / "A range with that start time already exists"	Ranges in one day cannot overlap or start at the same time (AUT-5).	Change the times, or edit the existing range.
"That period is already added to this automation"	That hour is already a heartbeat period (AUT-6).	None.
"Parent container does not exist"	The automation or day was deleted meanwhile (CON-7).	Go back to Automations and start again.
"DM Console Test" / "PTI SMTP Relay Test" (email subject)	A test email: from a recipient's Test flag (AUT-3), or from Send Test on the SMTP Relay page (SET-7.3).	None; the mail path works.
"<Location> - <Group> - <Unit> - <Type> - CLEAR" (email subject)	The alarm named in the subject has cleared (AUT-3.1).	None.
"DM Console Heartbeat - <Site> - <YYYYMMDDHHMM>.<Interval Period>" (email subject)	A scheduled heartbeat from the DM (AUT-6).	None. If heartbeats stop arriving, check the DM, its network and Settings > SMTP Relay .
"Listening" / "Not Listening" (SMTP Relay status)	Whether the relay is accepting mail (SET-7.1).	If Not Listening , contact Pythia Technologies (support@pythiatech.com).
"Queued."	The relay accepted the test email (SET-7.3).	Watch Recent Activity for OK (delivered) or FAIL .
"A valid destination address is required"	The Send test email to... box is empty or not an email address (SET-7.3).	Enter an address.
"Relay refused the message: <reason>"	The DM's own relay would not accept the test email (SET-7.3).	Check the relay settings. If the reason is unclear, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Smart Host TLS value is invalid" / "Listen Ports value is invalid" / "<field> value is invalid"	A relay setting has a value the relay can't use. Listen ports must be numbers 1–65535 separated by spaces (SET-7.2).	Correct the named field.
"The password may not contain the character."	The smart-host password contains \ (SET-7.2).	Use a password without \ .
"Smart Host Password could not be protected"	The DM could not store the password securely, so nothing was saved (SET-7.2).	Contact Pythia Technologies (support@pythiatech.com).
"SMTP Relay service not installed"	This DM has no SMTP Relay (SET-7).	Contact Pythia Technologies (support@pythiatech.com).
"An entry (IP, range, or hostname) is required" / "Not a valid IPv4 address, CIDR range, or hostname"	The Connection Allow List entry is empty or not valid (SET-7.2).	Enter an IPv4 address, a range such as 192.0.2.0/24 , or a host name.
"No entries — only 127.0.0.1 may connect."	Only the DM itself can send mail through the relay (SET-7.2).	None; this is normal.
"Test failed." / "Save failed." / "Add failed." / "Remove failed." / "Reset failed." / "Could not load SMTP relay status."	A relay action failed and gave no reason (SET-7).	Try again. If it persists, contact Pythia Technologies (support@pythiatech.com).

Trends

APX-A.7

Message	Meaning	What to do
"✓ Saved" / "Saved <n> point(s)."	The change was saved (TRD-2 , UNIT-2.3).	None.
"Turn OFF trending for <n> point(s)?"	Confirmation before turning trending off. Turning a point off also deletes its recorded history (TRD-2).	Export any history you need first (TRD-4), then confirm.

Message	Meaning	What to do
"Set Trend "<bucket>" on <n> points?"	Confirmation before a bulk change of more than 20 points (TRD - 2).	Click OK to apply.
"Saved <x>, failed <y> (<error>). Failed rows stay selected."	Some points in a bulk change were not saved (TRD - 2).	Click Apply again for the rows still ticked.
"Could not update trend."	A trend bucket change was refused (UNIT - 2 . 4).	Try again.
"No trendable data points found." / "No points match your filter."	Nothing to show in Configure Trended Points (TRD - 2).	Clear the search or Trending only .
"No trends in this bucket."	No points record in this bucket (TRD - 3).	Assign points to it (TRD - 2).
"No trend data in this window"	Nothing was recorded in the chosen time window (TRD - 3).	Choose a longer Window , or check the point is trending.
"All historical data values collected for this trend will be permanently deleted. The data point will also stop being trended (you can re-enable it from the data point properties). This action cannot be undone."	Confirmation for Delete Trend (TRD - 5).	Export first if you need the data, then confirm.
"Delete failed: <error>"	The trend was not deleted. "Delete failed: Access denied" means the action requires an Administrator (TRD - 5).	Act on the reason shown, or ask an Admin.
"Trend leaf does not exist" / "Bucket does not exist"	The trend or bucket was removed meanwhile (TRD - 3).	Go back to Trends and open it again.
"Trend leaf is not GUID-stamped"	The trend is not set up correctly on the DM (TRD - 3).	Contact Pythia Technologies (support@pythiatech.com).
"Database connection failed" / "Database query failed"	The DM's database did not answer while reading trend history (TRD - 3).	Try again in a minute. If it persists, contact Pythia Technologies (support@pythiatech.com).
"Registry delete failed"	The DM could not delete the trend (TRD - 5).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Could not load trend buckets." / "Could not load trends." / "Could not load trend data." / "Could not load trend points."	A trend page could not load (TRD-3).	Refresh. If it persists, check the connection (CON-8).

Settings: restart, backups, updates, logs, policies, network, time

APX-A.8

Message	Meaning	What to do
"Reboot the gateway now? This restarts the system. You will lose this connection — the page will wait while it restarts and return you to the sign-in screen automatically once the gateway is back online."	Confirmation before restarting the DM (SET-1.1).	Click Reboot Now to restart, or Cancel .
"Waiting for the gateway to come back online... <n>s (this can take a few minutes on some hardware)" / Rebooting Gateway / "Please wait while the system restarts. You will be redirected to the sign-in page automatically when the gateway is ready."	The DM is restarting (SET-1.1 , CON-8).	Wait. The sign-in page opens by itself.
"The gateway has not come back online yet. It may still be starting up — please refresh this page in a minute, or check the gateway."	The DM has not answered for 5 minutes after a restart (SET-1.1).	Refresh after another minute. If it still doesn't answer, contact Pythia Technologies (support@pythiatech.com).
"Create a backup now? This will save the current configuration." / "Backing up..."	Confirmation for Backup Now , then progress (SET-3).	Click Backup Now and wait.
"Backup is taking longer than expected." / "Please refresh manually and check the backups list."	The page stopped waiting after 60 seconds (SET-3).	Refresh the list; the backup usually appears shortly.
"Delete <n> backup(s)?" / "This action cannot be undone. The files are removed immediately."	Confirmation before deleting backups (SET-3).	Download any backup you need first, then confirm.
"Could not start backup." / "<n> backup(s) could not be deleted:"	The backup did not start, or some backups were not deleted (SET-3).	Refresh and try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Backup file not found" / "Could not read backup file: <detail>"	The backup file can't be downloaded; it may have been overwritten or deleted (SET-3).	Refresh the list and download a current backup.
"skipped (not .upd)" / "Only .upd files allowed"	Only .upd update files can be uploaded (SET-9).	Upload the .upd file supplied by Pythia Technologies.
"The update will modify the existing configuration. This action cannot be undone - there is no rollback."	Confirmation before applying an update (SET-9).	Take and download a backup first (SET-3), then click Apply .
"Updates are taking longer than expected." / "Check the list for current status -- some may have completed." (or "Update is taking longer than expected." / "Check back in a moment -- it may still complete.")	The page stopped waiting after 60 seconds (SET-9).	Check each update's status in the list after a minute.
FAILED (update status, with Last Error)	The update could not be applied (SET-9).	Note the Last Error . Click Re-Apply only if Pythia Technologies advises it; otherwise contact support@pythiatech.com.
"Delete <filename>?" / "The .upd file will be removed from disk and the entry will disappear from the list." / "This does NOT roll back the effects of any previously-applied update."	Confirmation before removing an update file (SET-9).	Confirm to remove the file; the DM keeps the update's changes.
"Could not start updates." / "Could not start update." / "File not found at <path>" / "Failed to register container"	The update could not be started or registered (SET-9).	Upload the file again. If it fails again, contact Pythia Technologies (support@pythiatech.com).
"Delete all entries from the <name> log? This cannot be undone."	Confirmation for Clear Log (SET-10).	Export first if you need the entries, then confirm.
"Enable logging failed: <error>" / "Disable logging failed: <error>" / "Clear log failed: <error>"	The log change was refused. "Access denied" means the action requires an Administrator (SET-10).	Act on the reason shown, or ask an Admin.
"No entries in this log."	The log has no entries: it is off, or its entries have aged out (SET-10).	Turn logging on if Pythia support asks you to, then reproduce the problem.

Message	Meaning	What to do
"1002 - Database connection failed" / "1003 - Database query failed" / "1102 - Delete failed"	The DM's database did not answer while reading or clearing a log (SET-10).	Try again in a minute. If it persists, contact Pythia Technologies (support@pythiatech.com).
"Value must be an integer." / "Value must be between <min> and <max>."	The policy value is not a whole number in the allowed range (SET-6).	Enter a whole number within the range shown.
"Value may not contain " / "Value is too long (2000 characters maximum)"	The policy text is not allowed (SET-6).	Remove the \ , or shorten the text.
"Master is off -- no item takes effect until it is on."	The multi-part policy's master switch is off (AIC-3).	Turn Master on if the items should apply.
"Read-only view. Sign in as an admin to edit." / "Read-only view. Sign in as an admin to enable / disable policies."	View users can see policies but not change them (SET-6).	Ask an Admin.
"Policy container is missing Minimum or Maximum -- reinstall needed"	The policy is not set up correctly on the DM (SET-6).	Contact Pythia Technologies (support@pythiatech.com).
"Add at least one IP address (or switch to DHCP)."	A static interface needs at least one address (SET-5).	Add an address, or turn on DHCP (interface 0 only).
"Row <n>: invalid IP address." / "Row <n>: invalid subnet mask." / "Row <n>: invalid gateway." / "Invalid IP/netmask/gateway" / "DNS must be a valid IPv4 address." / "Invalid DNS address"	An address, mask, gateway or DNS server is not a valid IPv4 value (SET-5).	Correct the value.
"Apply the network configuration and restart the system?" / "This pushes all interface changes to Windows and reboots the system. If you changed the IP of the interface you're connected through, you will lose this connection and must reconnect at the new address."	Confirmation for Apply & Restart (SET-5).	Check the values with your network team, then confirm.
"The system is restarting — this usually takes about a minute. You'll be taken to the new address automatically once it's back online."	The DM is restarting with its new network settings (SET-5).	Wait. If the new address is not reachable from your computer, connect from a computer on the new network.

Message	Meaning	What to do
"Date is required." / "Time is required." / "Date or time format is invalid."	The date or time entered by hand is missing or not valid (SET-8).	Enter a valid date and time.
"Toggle failed." / "Save failed." / "Apply failed." / "Delete failed." / "Could not load <item>."	A settings action failed and gave no reason (SET).	Try again. If it persists, contact Pythia Technologies (support@pythiatech.com).

Users and accounts APX-A.9

API account messages are in APX-A.13.

Message	Meaning	What to do
"User Identifier must be a valid email address." / "User ID must be a valid email address"	Sign-in names for people must be email addresses (USR-2).	Enter the person's email address.
"Passwords do not match." / "Password and Confirm Password do not match"	The two password boxes differ (USR-2).	Type the same password in both.
"Password does not meet complexity requirements"	The password box is empty (USR-2).	Enter a password.
"Fields cannot contain the character."	A field contains \ (USR-2).	Remove the \ .
"A user with that ID already exists"	Another account already uses this sign-in name (USR-2).	Use a different address, or edit the existing account.
"User ID is too short or contains a forbidden character" / "User ID exceeds 100 characters"	The sign-in name is under 3 characters, over 100 characters, or contains & % , \ (USR-2).	Use a normal email address.
"First Name is required and cannot contain a backslash" / "Last Name is required and cannot contain a backslash"	First and last names are required for people and cannot contain \ (USR-2).	Fill them in without \ .
"Could not register user schema" / "Users container does not exist"	The DM could not create the account (USR-2).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"You can edit your own account. Other accounts are managed by an administrator."	View users see only their own account (USR-1).	Ask an Admin to change other accounts.
"Current password is required." / "New and confirm are required." / "New password and confirmation do not match."	A Change Password box is empty, or the new password and its confirmation differ (USR-4).	Fill in every box, with the same new password twice.
"New password must differ from current password."	The new password is the same as the current one (USR-4).	Choose a different password.
"Password cannot contain the pipe character."	The new password contains <code>\ </code> (USR-4).	Choose a password without <code>\ </code> .
"Current password is incorrect."	The current password did not match, or the page was left open too long (USR-4).	Type your current password again. If you've forgotten it, ask an Admin to set a new one (USR-3).
"Password changed. Use your new password the next time you sign in." / "Password set. The user can sign in with the new password."	Your own password was changed, or an Admin set a new password for the account (USR-4 , USR-3).	Use the new password next time. An Admin who set it gives it to the user securely.
"Crypto module did not load. Reload the page and try again."	Part of the password page did not load (USR-5).	Reload the page.
"Stored password is not in PBKDF2 format"	The account's stored password is in an old format that can't be checked (USR-5).	Ask an Admin to set a new password (USR-3). For the built-in Admin account, contact Pythia Technologies (support@pythiatech.com).
"Admin account cannot be renamed"	The built-in Admin account's name is fixed (USR-3.1).	None.
"Delete <id>?" / "This action cannot be undone."	Confirmation before deleting an account (USR-3).	Click Delete to proceed or Cancel .
"Enable toggle failed." / "Could not create user." / "Password change failed." / "Could not load users."	A user action failed and gave no reason (USR).	Try again. If it persists, contact Pythia Technologies (support@pythiatech.com).

Integrations: mappings, exports, ALC URLs, views

APX-A.10

Message	Meaning	What to do
"Enable ALL read/write (setpoint) points for this protocol?"	Confirmation for Enable All R/W (INTG-2.2).	Confirm only if the external system needs every setpoint on this protocol.
"Enabled <n> read/write point(s)."	That many setpoints are now writable on this protocol (INTG-2.2).	None.
"Failed to enable read/writes."	Enable All R/W failed and gave no reason (INTG-2.2).	Try again.
"Changing the format rebuilds the Modbus register map. After saving, allow 1-2 minutes for the service to update the registers before exporting."	Note in Modbus/TCP Properties (INTG-3).	After changing Format , wait 1–2 minutes before exporting.
"No units mapped." / "No devices mapped." / "No objects mapped."	The map is empty; new units appear within 1–2 minutes (INTG-1).	Wait and click Refresh .
"SNMP node does not exist" / "BACnet device does not exist"	The mapped unit was removed or renumbered (INTG-1).	Go back to the protocol page and click Refresh .
"Modbus/TCP mapping container does not exist" / "SNMP mapping container does not exist" / "BACnet mapping container does not exist" / "Mapping container does not exist"	That protocol's mapping is not installed on this DM (INTG-2).	Contact Pythia Technologies (support@pythiatech.com).
"Export failed: <reason>" / "Export generation failed: <reason>" / "Could not load mapping data."	The export file could not be made (INTG-2.1).	Try again. If it persists, check the connection (CON-8).
"(no server IPs found)"	The ALC URL window found no DM address to use (INTG-7).	Contact Pythia Technologies (support@pythiatech.com).
"Enter this OID prefix into index S<n> of the SNMP OID Table in WebCTRL:" / "S<n> = 1.3.6.1.4.1.38801"	Setup instruction for SNMP URLs in WebCTRL (INTG-7).	Enter the prefix at that index in WebCTRL.
"For FLOAT points, ensure the word order in ALC matches the driver's "Reverse order of High and Low Words for FLOAT Data Type" setting on the Modbus TCP/IP property page."	Word-order reminder for Modbus float points (INTG-7).	Match the WebCTRL setting to the DM's Modbus Format (INTG-3).

Message	Meaning	What to do
"No points in this mapping." / "No points match your search."	Nothing to list in the ALC URL window (INTG-7).	Clear the search, or check the map.
"No views configured."	This DM has no views (INTG-6).	None. Views are set up by Pythia Technologies.

Custom pages and uploads APX-A.11

Message	Meaning	What to do
""<name>" already exists. Replace the existing file with this new version?"	A file with that name is already on the DM (CUS-3).	Click OK to replace it, or Cancel and rename your file.
"Upload failed: Only .html pages allowed"	Only .html or .htm files can be uploaded as pages (CUS-5).	Save the page as .html .
"Upload failed: Only PNG, JPG, or GIF images allowed"	The image type is not supported; SVG is not accepted (CUS-3.1).	Save the image as PNG, JPG or GIF.
"Upload failed: Invalid filename"	The file name contains \ / . . : (CUS-5).	Rename the file using letters, digits, _ , - and . only.
"Upload failed: Admin access required"	Uploading requires an Administrator (CUS-5).	Sign in as an Admin.
"Upload failed: <reason>"	The upload failed for another reason, such as a network error (CUS-3).	Try again. If it persists, contact Pythia Technologies (support@pythiatech.com).
"Set image failed: <reason>"	The site image could not be changed (MON-1.1).	Act on the reason, then try again.
"No pages in the site folder yet." / "No images in the site folder yet."	Nothing has been uploaded yet (CUS-3).	Use Upload new page... or Upload new image....
"URL must point at an .html page, or be cleared to use the default view."	Page URL does not end in .html (CUS-3.2).	Choose an uploaded page, type a standard page name, or clear the field.
"Reset this container to its standard view (<page>)?"	Confirmation for Reset to default page (CUS-4).	Click OK to show the standard page. The uploaded file stays on the DM.

Message	Meaning	What to do
"Reset failed: <error>"	The page could not be reset. "Access denied" means the action requires an Administrator (CUS-4).	Act on the reason, or ask an Admin.
"POLL FAILED" (on a custom page)	The custom page cannot read live data (CUS-5).	Have the page rewritten to follow CUS-6 .
"ai_pages.txt is missing on this DM -- reinstall the DM AI Connector (error 21059)."	The page-authoring guide is missing from the DM (CUS-2.1).	Contact Pythia Technologies (support@pythiatech.com). Meanwhile, give your assistant CUS-6 (CUS-2.2).

Smart Panel (SPDM and SPIGM) APX-A.12

Message	Meaning	What to do
"Communications issue — <n> data point(s) failed to read on the last poll"	Some panel inputs could not be read (SPD-1).	If only some inputs are red, check their Modbus Register . If all are red and the badge is red, check the panel's serial connection and Properties (SPD-1.1).
"No data points configured. Use Add to map a module input."	No panel inputs are mapped yet (SPD-1.2).	Click Add to map an input (Admin).
"Data point name required" / "Data point name cannot contain backslash, slash, or pipe"	The input name is empty or contains \ , / or \ (SPD-1.2).	Enter a valid name.
"A data point with that name already exists"	The name is taken on the panel (SPD-1.2).	Choose a different name.
"Delete the data point "<name>?" / "This removes the mapping from the panel. The module input itself is unaffected."	Confirmation before removing an input mapping (SPD-1.2).	Confirm to remove the mapping. DIRS points that read this input then show blank.
"Smart Panel container does not exist" / "Panel schema has no Methods.Add target"	The Smart Panel is not set up correctly on this DM (SPD-1).	Contact Pythia Technologies (support@pythiatech.com).
"Could not load Smart Panel." / "Add failed." / "Delete failed."	A panel action failed and gave no reason (SPD-1).	Try again. If it persists, check the connection (CON-8).

AI Connector (console and setup script) APX-A.13

This table covers the messages a person sees in the console and in the Claude Desktop setup script. Errors an AI assistant receives are in [AIC-5.5](#) and [AIC-7.4](#).

Message	Meaning	What to do
"API account created. Copy the bearer token now. An administrator can also retrieve it later from the account's page."	The API account exists; its token is shown (AIC-2.1).	Click Copy Token and pass the token on securely.
"API token copied to the clipboard."	Copy Token copied the current token (AIC-2.2).	Paste it where the AI client needs it.
"Regenerate this account's API token? The current token stops working immediately."	Confirmation for Regenerate Token (AIC-2.2).	Confirm only if every client using the old token can be updated.
"New API token copied to the clipboard. The old token is no longer valid."	A new token was made and copied (AIC-2.2).	Update every AI client that used the old token.
"Allow this AI account to WRITE?"	Confirmation before setting API Access to Read-Write (AIC-2.2).	Confirm only if the assistant should be able to make the writes listed. Each write also needs its policy (AIC-3).
"Restrict this account's token to these addresses? <list> Requests from any other address will be refused, including AI clients on other machines. Leave the field blank to allow any address."	Confirmation before saving Allowed IPs (AIC-2.2).	Check the list includes every computer that runs the assistant.
"Token last used: <date time> (DM time)" / "Token never used."	When the token was last used (AIC-2.2).	None.
"Allowed IPs: '<entry>' is not an IPv4 address, IPv4/CIDR range or IPv6 address"	An Allowed IPs entry is not valid (AIC-2.2).	Correct it, for example <code>10.0.0.5</code> or <code>192.0.2.0/24</code> .
"API account type is fixed -- delete and recreate to change it"	An API account cannot become a person's account, or the other way round (AIC-2.2).	Delete the account and create a new one.
"Stored token could not be decoded -- regenerate to recover"	The stored token can't be read, typically after the configuration was moved to other hardware (AIC-2.2).	Click Regenerate Token and update the AI client.
"Token generation failed"	The DM could not create a token (AIC-2.1).	Try again. If it fails again, contact Pythia Technologies (support@pythiatech.com).

Message	Meaning	What to do
"Could not read the token." / "Could not regenerate the token." / "Could not read API Access." / "Could not change API Access." / "Could not change Allowed IPs."	An API account action failed and gave no reason (AIC-2.2).	Try again. If it persists, contact Pythia Technologies (support@pythiatech.com).
"Setup script not found on this DM."	ai_connect.asp has no script to download (AIC-5.2).	Use the guided setup (AIC-5.1), or contact Pythia Technologies (support@pythiatech.com).
"Claude Desktop does not appear to be installed on this computer."	The script did not find Claude Desktop (AIC-5.2).	Install Claude Desktop, then run the script again.
"Install Node.js LTS now via winget? (y/n)" / "Install Node.js LTS from https://nodejs.org and run this script again."	Node.js, which the connection needs, is missing (AIC-5.2).	Answer y , or install Node.js LTS yourself and run the script again.
"No token entered."	The token prompt was left empty (AIC-5.2).	Run the script again and paste the token.
"Connected -- the DM AI Connector answered."	The connection test passed (AIC-5.2).	None.
"The DM refused the token. Check it with your DM administrator (tokens can be regenerated -- an old copy stops working the moment a new one is made)."	The token is wrong or old, the account is disabled, or this computer is not in Allowed IPs (AIC-5.5).	Get the current token from your administrator and check Allowed IPs .
"The DM was reached but has no AI Connector endpoint (/mcp.asp not found)."	The AI Connector is not installed on this DM (AIC-1.3).	Contact Pythia Technologies (support@pythiatech.com).
"Could not reach <address>" / "Check the address, and that this computer is on the same network as the DM."	The script could not connect to the DM (AIC-5.5).	Check the DM's name and that this computer is on the DM's network.
"The existing configuration file could not be read as JSON; it was left untouched."	Your Claude Desktop settings file is damaged, so the script did not change it (AIC-5.2).	Repair or remove the file, then run the script again.
"Existing configuration backed up (claude_desktop_config.json.backup)." / "Updating the existing dm-ai-connector entry." / "Claude Desktop configuration updated." / "=== Setup complete ==="	Setup finished; your previous Claude Desktop settings were backed up first (AIC-5.2).	Fully quit Claude Desktop from the system tray and start it again.

Access rights APX-B

Who can do what. **View** and **Admin** are people signed in to the console. **API** accounts are AI assistants using the AI Connector ([AIC](#)); they never use the console. An API account's writes also need the matching AI Connector policy to be enabled ([AIC-3](#)).

Area	View	Admin	API — Read Only	API — Read-Write
Sign in to the console	Yes	Yes	No	No
Alarm View wall display (GS-2)	Yes (no sign-in needed by anyone)	Yes	—	—
See locations, groups, units, data, controls, alarm settings	Yes	Yes	Yes	Yes
Add, rename, delete locations/groups/units/points (MON , UNIT)	No	Yes	No	No
Change unit, point and alarm-setting properties	No	Yes	No	No
Command a control / change a setpoint (UNIT-3)	No	Yes	No	Yes, if Control Writes is on and the control is enabled
See alarms and alarm history (ALM)	Yes	Yes	Yes	Yes
Acknowledge / un-acknowledge alarms	No	Yes (un-acknowledge in the console only)	No	Acknowledge only, if Alarm Acknowledgment is on
Clear alarms	No	Yes	No	One at a time, if Alarm Clearing is on
Delete alarm history	No	Yes	No	No
See automations, recipients, trap destinations (AUT)	Yes	Yes	No	No
Change automations	No	Yes	No	No
View trends and export them (TRD)	Yes	Yes	Yes	Yes

Area	View	Admin	API — Read Only	API — Read-Write
Choose which points are trended	No	Yes	No	Yes, if Configuration Writes > Trend Bucket is on
Delete a trend	No	Yes	No	No
See mappings and export them (INTG)	Yes	Yes	Yes (no credentials)	Yes (no credentials)
Enable setpoint writes, Enable All R/W, protocol settings	No	Yes	No	No
See settings, logs, policies (SET)	Yes	Yes	No	No
Change settings, policies, network, time, SMTP Relay; backups; updates; enable/ clear logs; restart the DM	No	Yes	No	No
Upload and attach custom pages and images (CUS)	No	Yes	No	No
Read the custom-page authoring guide	Yes (ai_pages.asp)	Yes	Yes	Yes
See the Smart Panel (SPD)	Yes	Yes	Through its DIRS units	Through its DIRS units
Change Smart Panel inputs and panel settings	No	Yes	No	No
See user accounts (USR)	Own account only	All	No	No
Add, disable, delete accounts; set others' passwords; API tokens and API Access	No	Yes	No	No
Change own password	Yes	Yes	—	—
Change own name or sign-in email	Yes	Yes	—	—

Always protected from AI assistants: user accounts, passwords, tokens, SNMP communities, and any property named like a credential (AIC-3). Also, whatever an Admin lists in **Redacted Properties**.

The built-in Admin account: cannot be deleted, renamed, disabled or demoted by anyone (USR-3.1). An Admin may delete their own account and is then signed out.

Glossary

APX-C

Term	Meaning	See
Acknowledge	Mark an active alarm as seen and owned. It stays active.	ALM-3
Admin	Access level that can view and change everything.	USR
AI Connector	The DM feature that lets AI assistants read the DM and, if allowed, make limited changes.	AIC
Alarm (event)	A condition that is true now (Active) or was true (History).	ALM
Alarm setting	The rule on a unit that defines when an alarm fires: condition, severity, category, fail count.	UNIT-4
Alarm Category	Category 01–25 on an alarm setting (plus the system categories Service, Disabled, Communications). Automations use it to decide who is notified.	AUT-1
Alarm View	The wall-display alarm page at the DM's address. It needs no sign-in.	GS-2
API account	A user account for an AI assistant. It has a token instead of a password and can't sign in to the console.	AIC-2
Automation	A rule that sends email or SNMP traps for alarms (Alarm type), or scheduled emails (Heartbeat type).	AUT
BACnet/IP	Building-automation protocol. The DM appears as one BACnet device.	INTG-5
Bucket (trend)	One of five recording rates for trends (5 minutes to 1 day).	TRD-1
Clear	Remove an active alarm. It is written to History, sends a CLEAR notification, and returns if the condition persists.	ALM-3.2
Communications (status)	A unit's readings failed on the last poll.	UNIT-1.1
Control	A writable point: an on/off command, a mode or a setpoint.	UNIT-3
Custom page	Your own HTML dashboard, attached to a location or group.	CUS
Dashboard (equipment)	A live drawing of a unit's equipment, supplied with its driver.	EQP
Data point	A reading the DM polls from equipment.	UNIT-2
DIRS	Driver that copies values from elsewhere on the DM (for example Smart Panel inputs) into a unit.	SPD-2
Directory	On a DIRS point or alarm, the path of the value it follows, e.g. <code>Smart Panel\Input 01</code> .	SPD-2
Disabled	Not monitored; shows gray and raises no alarms.	MON-6

Term	Meaning	See
DM	Pythia Technologies Data Monitoring appliance. Also the product family name (DM, SPDM, SPIGM, SPAC4).	INT
Driver	The DM component that talks to one kind of equipment.	DRV
Fail Count (Count Before Generating Alarm)	How many polls in a row a condition must hold before the alarm fires.	UNIT - 4.3
Group	A set of units within a location.	MON - 3
Heartbeat	Scheduled "still alive" emails from the DM.	AUT - 6
IGM	The Liebert equipment interface read by the IGM drivers.	DRV - 2.2
Information event	A notice, not a fault. Kept in its own bucket.	ALM - 5
Location	A site or building: the top level of the tree.	MON - 2
Manager (driver)	A DIRS-based unit that coordinates a team of cooling units.	DRV - 3
Mapping ID	The number the DM gives each unit and point, from which SNMP, Modbus and BACnet addresses are built.	INTG - 1
MCP	Model Context Protocol, the standard AI assistants use to connect to the AI Connector.	AIC - 5
Modbus/TCP	Industrial protocol; the DM is a Modbus server.	INTG - 3
Network (virtual monitoring)	A polling process with its own poll rate; each unit belongs to one.	SET - 4
Overview Image	Optional banner picture on a location or group page.	MON - 5
Page URL	Which page a location or group opens: standard, gauge view or custom.	CUS - 3
Policy	A system-wide rule under Settings > Policies.	SET - 6
Poll	One read of a unit's equipment by the DM.	SET - 4
Service alarm	An alarm raised by the DM itself (Group "PTI Service").	ALM - 1.1
Setpoint	The value commanded to a control.	UNIT - 3
Severity	Critical, Major, Minor, Warning, Information.	ALM - 1
Smart Panel	The CM06P input module built into an SPDM/SPIGM.	SPD
SMTP Relay	The DM's built-in outgoing mail service.	SET - 7
SNMP	Network-management protocol. The DM is an SNMP v1/v2c agent and sends traps.	INTG - 4
SPAC4	Smart Panel air-conditioning controller product.	SPA

Term	Meaning	See
SPDM / SPIGM	DM products with a built-in Smart Panel.	SPD
Token	The secret an API account uses instead of a password.	AIC-2
Trend	Recorded history of a data point.	TRD
Unit	One piece of monitored equipment.	UNIT
View	Read-only access level.	USR

Troubleshooting index APX-D

Find the symptom, then go to the section.

Symptom	Likely cause	See
Can't sign in: "Invalid credentials"	Wrong email/password, or account disabled	GS-3 , USR-1
Asked to "Update Your Login" after signing in	Sign-in name isn't an email address yet	GS-3.1
"Session expired"	Idle too long, or the DM restarted	GS-6
"Connection lost — reconnecting..." or "Disconnected – retrying"	Network problem or DM restarting	CON-8
"IP Address not allowed"	Access Control list blocks your computer	SET-2
A button does nothing but "Access denied"	The action needs an Administrator	APX-B
"Update available — Refresh" pill	DM software or custom pages changed	CON-7
Status bar shows an active alarm but every location is Normal	A service alarm from the DM itself	ALM-1.1
Unit shows COMMUNICATIONS	Some points failed their last poll: check the equipment's address, network and power	UNIT-1.1
All readings on a unit blank or red	Wrong IP address or protocol settings, or equipment offline	UNIT-1.3
Dashboard frozen gray with NO COMMS	Equipment not answering	EQP-1.1
Unit opens the standard page, not a dashboard	That driver's dashboard isn't assigned; ask Pythia if you want one	EQP-2
Can't rename a unit or point	The driver uses fixed names	CON-3.3
Alarm doesn't fire	Alarm setting disabled, threshold/operator wrong, Fail Count too high, unit disabled	UNIT-4
Alarm keeps coming back after Clear	Condition still true, or its test switch is on	ALM-3.2 , ALM-7
No alarm email	Automation disabled, category not ticked, quiet time, recipient disabled, mail not delivered	AUT-1 , SET-7
Email stuck or failed in SMTP Relay	Smart host, port, TLS, sign-in or From Address wrong	SET-7

Symptom	Likely cause	See
Heartbeats won't stop	Heartbeats can't be disabled; remove recipients or delete the heartbeat	AUT-6
Trap receiver gets repeated traps	Destination is Persistent	AUT-4
A command didn't change the equipment	Control disabled, unit communications problem, or equipment refused it; compare Commanded and Actual	UNIT-3.2
Trend history disappeared	The point's trending was turned Off (this deletes history), or it is older than 6 months	TRD-1
"No trend data in this window"	Nothing recorded in that period	TRD-3
BMS/SCADA can't write a setpoint	Setpoint mapping not enabled for write, or unit disabled	INTG-2.2
Modbus values look like nonsense	Float word order mismatch	INTG-3
Addresses changed after adding or deleting equipment	Mapping IDs are reused	INTG-1
BACnet client can't find the DM across subnets	The DM is not a BBMD; bind the device directly	INTG-5
Custom page shows no data	Page uses a token or <code>ai.asp</code> , or wrong point names	CUS-5
Can't reach a group's Properties	It shows a custom page; use Reset to default page	CUS-4
Smart Panel input doesn't appear in a unit	DIRS Directory path wrong or input not mapped on the panel	SPD-2
AI assistant can't connect	Token, Allowed IPs, HTTPS/name, or network reachability	AIC-5.5
AI assistant can't make a change	Account Read Only, policy off, or control not enabled	AIC-1.2 , AIC-3
Backup needs restoring	No console restore; contact Pythia	SET-3
Software update failed	See its Last Error; Re-Apply or contact Pythia	SET-9

Tools and demo driver APX-E

PTI Liebert IGM Unit Discovery (PTT_LBTIGM_Tools_GUIC) APX-E.1

A small Windows program from Pythia Technologies that identifies a Liebert/Vertiv unit on its IGM interface and tells you which DM driver to use (`DRV-2.2`). It only **reads** from the unit; it never changes it. Ask Pythia Technologies (support@pythiatech.com) for a copy.

1. **Connect** by one of: - **IGM/TCP**: the IP address of the unit's IGM network adapter (port 10001; one unit per address), or - **Serial Port**: the COM port of a serial adapter wired to the pair that ran to the old SiteLink/SiteScan module. "If nothing answers, swap the transmit and receive pairs."
2. Click **Discover**. The result shows: - **Unit identity**; - **DM driver** (the driver to add); - **Driver check**: either "the driver's built-in unit settings match this unit. Nothing to change." or a list of unit settings to change after adding the unit; - **Confidence** (**HIGH**, **MEDIUM** or **LOW**, with advice); - sometimes **Also fits**; - a final line `UNIT: <driver>`.
3. Add the unit in the DM with that driver (`MON-4.2`) and apply any settings the driver check lists.
4. **Types** lists the Liebert equipment the DM has IGM drivers for.
5. **Save...** writes a sealed `.igmd` results file. Email it to Pythia support with the unit's nameplate model when the result is **LOW** or unclear. The file contains more detail than the screen shows and only Pythia can open it. It holds nothing beyond the computer name and the address you typed; no passwords or site configuration. **Copy** copies the screen text.

"No reply from the unit (<reason>). Check the address, the IGM card and the wiring, then try again."
followed by `UNIT: UNKNOWN` means nothing answered.

SIM demo driver APX-E.2

SIM (Generic Simulator Driver) creates **simulated equipment** with no hardware. Use it for demonstrations, training, and testing custom pages (`CUS`) or automations. Its values are not real; don't use it for monitoring.

1. Create a network (**Settings** > **Monitoring** > **Networks** > **Add**, type **NET**) with a short **Poll Rate**, e.g. 5 seconds. The poll rate is the simulation's clock (`SET-4`).
2. **Add** a unit with **Driver SIM (NET)** (`MON-4.2`). Leave the IP address empty (the DM fills in 127.0.0.1). In **Unit Properties**, tick the Data, Alarms and Controls containers.
3. Add **data points**. Each one generates its own value: - **Simulation Profile**: Constant, Random Walk (default), Sine or Ramp. - **Nominal Value**: the center value. - **Minimum Value / Maximum Value**: the limits (0 / 100). - **Maximum Change per Poll**: the largest change per poll (Random Walk). - **Cycle Period in Seconds**: seconds per cycle (Sine, Ramp).
4. Add **alarms** with **Source Data Point** = the name of a data point on the same unit, plus the usual operator, threshold and count.
5. Add **controls** (**Control** or **Control On/Off**) with **Target Data Point** = a data point's name. A setpoint you send becomes that point's value on the next poll. Give the target the Constant profile.

A wrong Source, Target or format shows as a communications problem on the unit.

Software updates APX-E.3

DM software updates are `.upd` files supplied by Pythia Technologies and applied from **Settings › Updates** (SET-9).

What changed since the previous edition APX-F

Changes compared with the DM Series Guide published in July 2026.

New features APX-F.1

- **DM AI Connector:** AI assistants can read the DM and, where allowed, make limited changes ([AIC](#)). This adds API accounts and tokens ([AIC-2](#)) and the AI Connector policies ([AIC-3](#)).
- **Alarm acknowledgment** in the console ([ALM-3.1](#)).
- **Custom pages** attached to locations and groups ([CUS](#)), and **Overview Image** banners ([MON-5](#)).
- **Help and Documentation** window pointing to pythiatech.com/pythia-dm ([GS-7](#)).
- **Search** box hint and arrow button ([GS-5](#)).
- **Alarm View** is the DM's default page ([GS-2](#)).
- **SMTP Relay** outgoing-server TLS and sign-in ([SET-7](#)).
- Configurable **Modbus** and **BACnet** ports; SNMP setpoint writes ([INTG](#)).
- New equipment drivers and dashboards, including CyberPower UPS, Liebert GXT4 and CRAC, Supermicro X12 server, Cisco Business 250 switch, and more Liebert IGM equipment ([DRV](#) , [EQP](#)).
- Sign-in required for every console page, with a **Session expired** notice ([GS-6](#)).

Corrections APX-F.2

These statements in the previous edition were wrong:

Previous edition said	Correct behavior	See
Turning a point's trending Off pauses it and keeps its history	Turning trending Off deletes its history	TRD-1
Time exceptions limit notifications to those times	Time exceptions are quiet times : nothing is sent inside them	AUT-5
"Persistent" traps retry until acknowledged	Persistent traps are re-sent on every poll while the alarm is active	AUT-4
Test recipients only receive test messages	Test sends one message, then turns off; the recipient still gets real alarms	AUT-3
The From address is set in Automations > Properties	It's the From Address in Settings > SMTP Relay	SET-7
(not mentioned)	Automations notify only for the alarm categories they're set to	AUT-1
Disabling a heartbeat automation stops its emails	Heartbeats can't be disabled	AUT-6

Previous edition said	Correct behavior	See
Modbus default format is Float HiLo	The default is Float LoHi	INTG-3
The DM is one BACnet device per unit	The DM is one BACnet device	INTG-5
Setpoint mappings are writable by default	They are not writable until enabled	INTG-2.2
The right equipment dashboard opens automatically	Only for some drivers; others are assigned by Pythia	EQP-2
List pages refresh every 30 seconds	They refresh at the site's configured rate (default 10 s)	CON-2
Password policies take effect when enabled	They are not currently enforced	SET-6.1
Unticking a unit's container box removes it	It never removes anything	UNIT-1.4
SPAC4 allows up to four units per group	Four units in total	SPA

Removed APX-F.3

- The table of the older manager driver PYT_AC2, and AC31FA2 from the standard driver list ([DRV-3](#)).
- Site-specific dashboards (these are now described only as examples of the dashboard pattern).

About this document

APX-G

DM Series Guide — Pythia Technologies DM, SPDM, SPIGM and SPAC4. Revision: DRAFT
2026-09-30.

This guide was written by **Claude (Opus 5.5), an AI model made by Anthropic**, working with Pythia Technologies. Claude read the DM software's source code and checked the live console. Pythia Technologies reviewed the content. Even so, an AI-written document can contain mistakes. Before any step that affects equipment, safety or data (commands, deletions, updates, network changes), confirm it with Pythia Technologies if you are unsure.

The DM changes over time. New features are added and older ones retired, and this guide is revised to match. The current edition is always at **pythiatech.com/pythia-dm**, both as a PDF and as a text file for AI assistants. If the screens on your DM differ from this guide, your DM may be running a different software version; tell Pythia Technologies.

Questions, corrections and suggestions: **support@pythiatech.com**.
