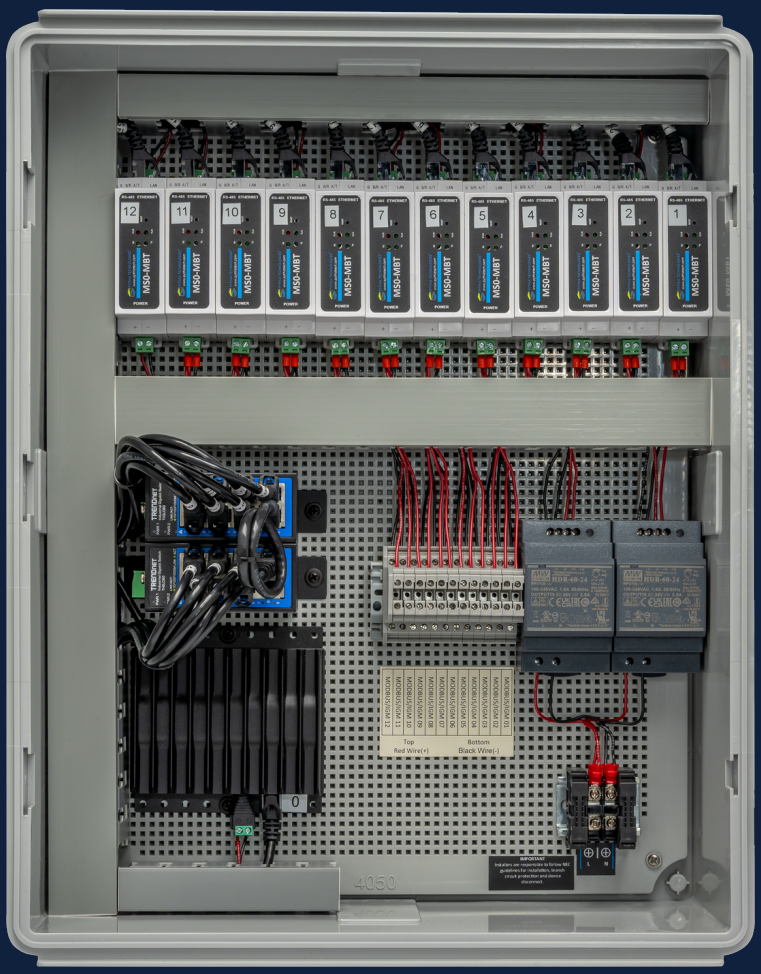
PYTHIA TECHNOLOGIES

INSTALLATION GUIDE · SPIGM

Smart Panel IGM

Installation, IGM wiring and first setup for the Liebert SiteLink replacement: a complete Pythia DM in a wall-mount panel.



12 units
Liebert IGM devices per panel

0 new runs
when the existing IGM wiring is reused

1 connection
Port 0 to the site network

3 protocols
BACnet/IP, Modbus/TCP and SNMP out

Watch the Smart Panel IGM video

Revision 2026-11-10
pythiatech.com/smart-panel-igm
740-363-2272 · support@pythiatech.com

QUICK INSTALL

The whole job on one page

Read the safety points in section SPC-2 first. Each step lists the section with the details.

1 — Identify the units — IGM-3
Run Pythia's IGM discovery tool on each IGM pair (read-only) and send the results so the drivers are confirmed.

2 — Mount and power — SPC-4, SPC-5
Mount the panel. Bring 100–240 VAC, UPS- or inverter-protected, to **L** and **N** on both supplies.

3 — Land the IGM pairs — IGM-4
One unit per channel, **MODBUS/IGM 01–12**: red (+) on the **top** screw, black (−) on the **bottom**. Record the channels.

4 — Connect and sign in — SPC-7, SPC-9
Laptop on **Port 0** at 192.168.0.100, browse to 192.168.0.221, **Console**, admin. Set the site address on Network Interface 0.

5 — Add the units — IGM-7
Each unit on its channel with its Liebert driver; each gets its dashboard.

6 — Test and integrate — IGM-8, SPC-14
Communications and names for every unit, an alarm through to email or trap, then the BMS maps.

DEFAULTS AT A GLANCE

Panel address	192.168.0.221 · 255.255.255.0 (Port 0)
Console sign-in	admin / admin (change it)
IGM wiring	Red (+) top · black (−) bottom · MODBUS/IGM 01–12
Panel LAN	Port 1, switch and IGM channels: private, never on the site network
BMS and NMS	BACnet/IP UDP 47808 · Modbus/TCP TCP 502 · SNMP UDP 161

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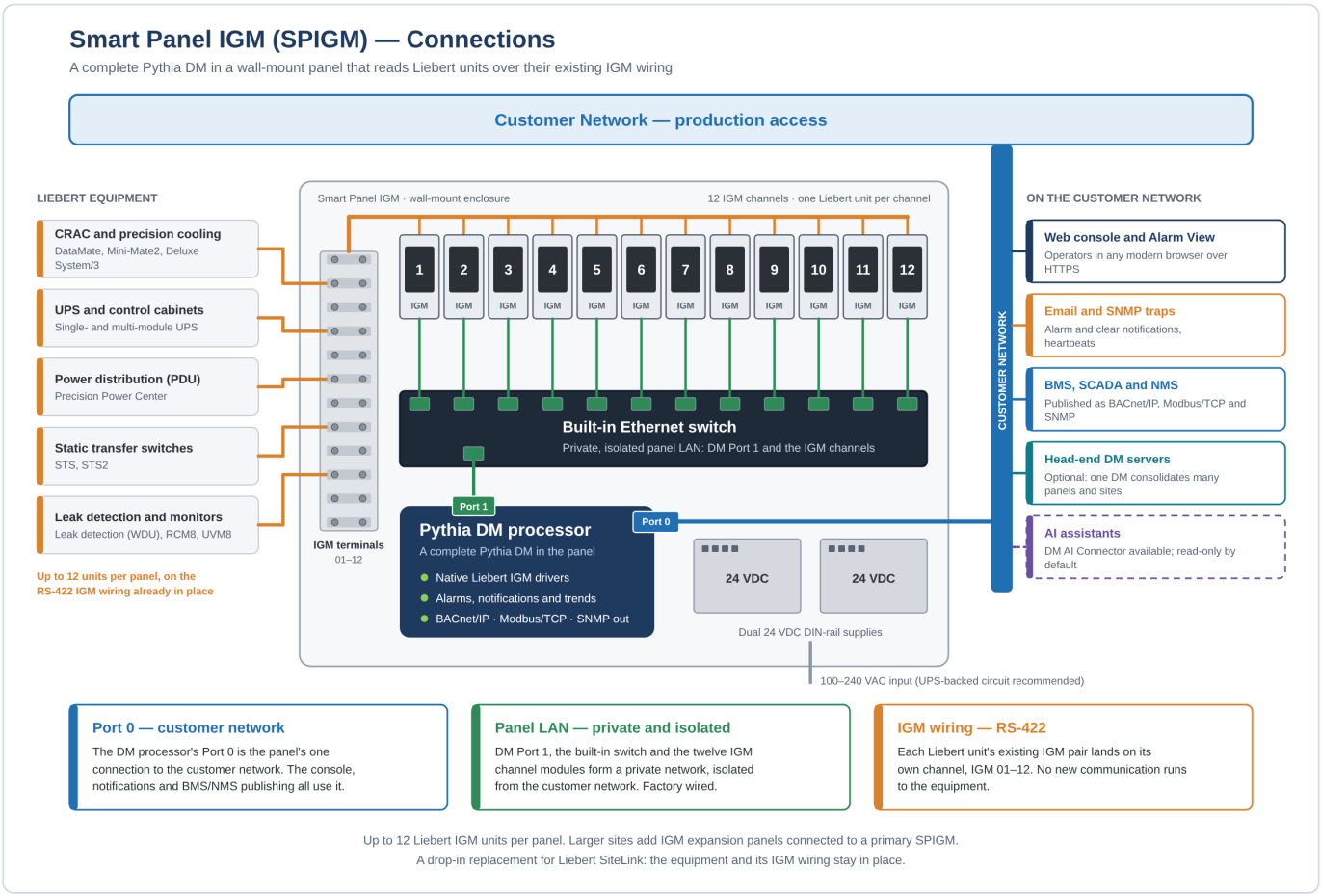
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For AI assistants: this guide is also published as a text file written for AI assistants, covering every Smart Panel: **Pythia_Tech_Smart_Panels.txt** on pythiatech.com. Section tags such as SPC-7 match in both. The DM software inside the panel is covered in the **DM Series Guide**; its tags, such as SPA or INTG , are marked "DM Series Guide".

01 Overview

What it is IGM-1

The Smart Panel IGM connects up to **twelve** Liebert units over the RS-422 **IGM** wiring already in the building. It takes a Liebert SiteLink's place on the same wiring, reads each unit in its native IGM protocol with a Liebert driver, and gives every unit a dashboard, alarms, notifications and trends, published to the BMS and NMS. It is a complete Pythia DM: no separate server is needed.



SPIGM connections: Liebert units on IGM 01–12, the private panel LAN, and Port 0 to the site network.

Specifications SPC-1

Item	Specification
Inside	A Pythia DM processor running the DM software, a 24 VDC DIN-rail power supply (two on the SPIGM), field terminal blocks and, on most models, a panel LAN
Network	One connection to the site network: **Port 0** on the DM processor (on the SPDM-CELL, the cellular router)
Console	Web console and Alarm View over HTTPS in any modern browser. Nothing to install on operators' PCs
Publishing	BACnet/IP device, Modbus/TCP server and SNMP v1/v2c agent, standard on every model. Email and SNMP trap notifications
Panel power	100–240 VAC input, 1.8 A max per supply, to a 24 VDC DIN-rail supply. 24 VAC and 48 VDC options on the SPAC4 and SPDM. The DM processor requires UPS- and/or inverter-protected power
Enclosure	Wall-mount ABS, IP67, UL94-V0. Meets or exceeds the UL 508A Open Industrial Control Panel standard
Size	SPAC4: 16.25 × 13 × 7.5 in. SPIGM: 510 × 410 × 200 mm
Environment	−30 to 45 °C (−22 to 113 °F) inside the enclosure; 5 to 95% RH, non-condensing

Safety SPC-2

- Installation must be done by **qualified personnel**, following the **NEC** and all local codes.
- **De-energize and lock out** panel power before wiring, and follow the equipment manufacturer's procedures when working at the monitored or controlled equipment.
- Alarm inputs accept **voltage-free contacts only**. Never apply voltage to an input.
- Output relays are for **Class 2 circuits only**.
- On the SPAC4, a unit control relay turns real equipment on and off. Agree with the site before testing a relay (AC4-13).

What you need SPC-3

Item	Use
Panel power	A 120 VAC circuit (100–240 VAC), UPS- or inverter-protected; or 24 VAC or 48 VDC if that option was ordered
One network drop	Port 0 to the site network, with an IP address, subnet mask and gateway from the site's IT team (SPC-10)
A laptop and a network cable	First connection and setup (SPC-7)
Belden 6300UE	Dry-contact inputs and relay outputs, up to 1,000 ft (SPAC4, SPDM)
Type II 10K thermistors	Temperature inputs (SPAC4, SPDM). The SPAC4 includes one TS1 wall sensor (AC4-5)
The existing IGM pairs	Liebert IGM wiring (SPIGM)
At the equipment	A voltage-free dry contact for each alarm, and whether it is normally open or normally closed (SPAC4, SPDM)

02 The panel

Inside the panel IGM-2

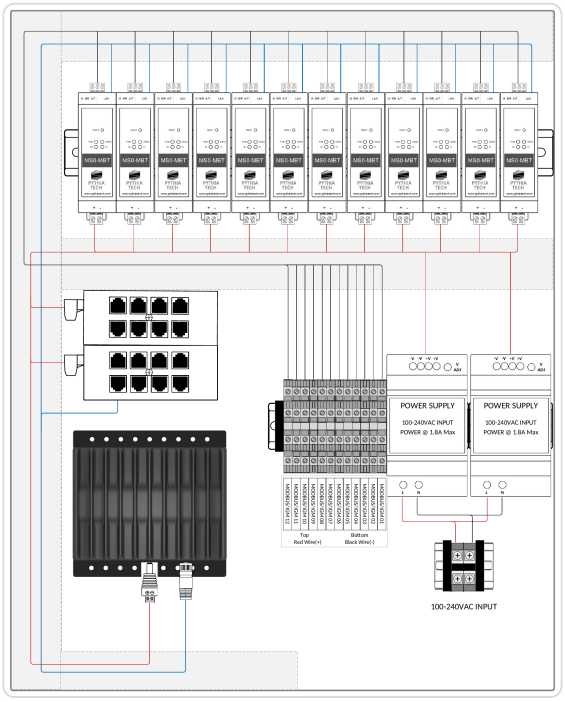
- **Twelve IGM channel modules** (MS0-MBT), one Liebert unit per channel, wired to terminals **MODBUS/IGM 01–12**.
- The **DM processor**.
- A **built-in Ethernet switch**. The twelve IGM channels and the DM processor's Port 1 share it as a private **panel LAN**, isolated from the site network. It does not connect to the site network.
- **Two 24 VDC power supplies**, each with a 100–240 VAC input (1.8 A max per supply).

The SPIGM door has no display or indicators: unit status, alarms and settings are in the browser (the Alarm View and the console).

Port 0 on the DM processor is the panel's only connection to the site network (SPC-6).



Inside the SPIGM: twelve IGM channel modules (top), the DM processor, the built-in switch and the two power supplies.



Panel layout.

Larger sites IGM-9

Larger sites add **IGM expansion panels**, without their own processor, connected to a primary SPIGM. Liebert units with an IP card can also be polled over the network by any DM. Custom Smart Panels can combine IGM channels, dry-contact inputs and a network switch in one panel (SPIGM-CUST).

03 Before you start

Before you start: identify the units IGM-3

Pythia's **IGM discovery tool** reads each unit on its IGM wiring and reports which DM driver to use. It only reads from the unit and never changes it. Send Pythia the results, or the list of Liebert equipment and model numbers, before the installation so the drivers can be confirmed. Contact Pythia technical support for the tool.

> **Note:** Vertiv equipment that uses the Velocity protocol is not currently supported by the SPIGM's IGM channels. Please contact Pythia Technologies to discuss alternative integration options.

Supported equipment IGM-6

Each Liebert type has its own DM driver, so its readings, alarms and controls arrive with the right names and units. Point sets can vary with equipment options and driver version.

Liebert equipment	Driver	What you see
Deluxe System/3 CRAC	LAM	Unit drawing, readings, alarms, controls
Mini-Mate2 ceiling-mount cooling	MM2	Unit drawing, readings, alarms, controls
Precision cooling, Level 0 / Level 10	L00, L10	Readings and alarms
XD refrigerant chiller	XDC	Mode and readings
Multi-Module UPS (Series 600/610)	MM4	Online, on battery, output off; battery state
Single-Module UPS with static bypass	SM4	Adds on bypass
UPS System Control Cabinet	SC4	System state and up to six module tiles
NPower UPS, SMS UPS	NPR, SMS	Readings and alarms
Precision Power Center (PDU)	PMP, PMP2	One-line; PMP2 adds THD, K-factor, crest factor
Static Transfer Switch, STS2	STS, ST2	Two sources, preferred and on-load
Leak detection, single or dual cable	WDU, WDU2	Cable OK, leak or fault; leak distance
RCM8 remote contact monitor, UVM8 universal monitor	RCM8, UVM8	Readings and alarms

Controls on CRAC types such as the Deluxe System/3 and Mini-Mate2 are each disabled for outside writes until you enable them, and values outside a control's limits are refused.

04 Mounting and power

Mounting SPC-4

Mount the panel on a wall in the room it serves, or where people will see it. Make sure the door opens fully and the display or LEDs are visible. Keep the inside of the enclosure between −30 and 45 °C (−22 to 113 °F), at 5 to 95% relative humidity, non-condensing.

Panel power SPC-5

Bring 100–240 VAC to the **L** and **N** terminals of the panel's power supply and ground the panel per code. The supply draws 1.8 A at most. Apply power; the DM processor starts, and on the SPAC4 and SPDM the green **POWER** light on the door comes on.

> **Important:** The DM processor requires **UPS- and/or inverter-protected** power. A panel that loses power stops monitoring until power returns.

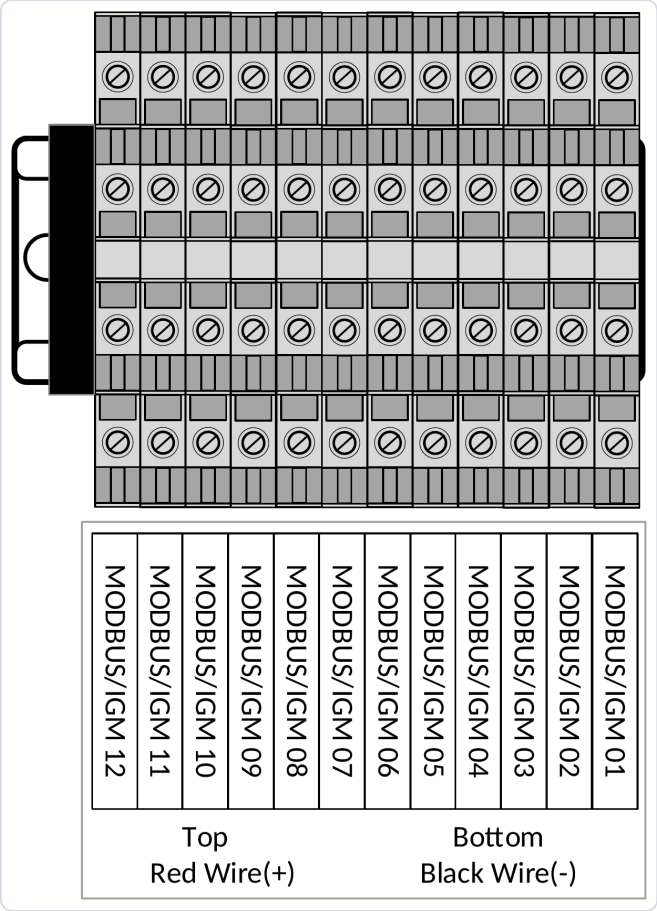
Panels ordered for 24 VAC or 48 VDC have a matching supply in the same position. The SPIGM has two 24 VDC supplies, each with its own 100–240 VAC input.

05 IGM wiring

Wiring the IGM pairs IGM-4

1. Label each IGM pair at the old SiteLink with the unit it serves before you disconnect it.
2. Land each unit's pair on its own channel, **MODBUS/IGM 01** to **MODBUS/IGM 12**: the **red wire (+)** on the **top** screw and the **black wire (−)** on the **bottom** screw.
3. Record which unit is on which channel. You need it when adding the units (IGM-7).

No new communication runs to the equipment are needed when the IGM wiring is reused.



IGM terminals MODBUS/IGM 01–12: red (+) on top, black (−) on the bottom.

Prefer Ethernet: an MS0-MBT in the unit IGM-5

Where the Liebert unit allows it, an **MS0-MBT** gateway can be fitted inside the unit and a network cable run back to the panel, instead of reusing the serial IGM pair. It's a good option when the existing IGM wiring is damaged, undocumented or no longer usable. Contact Pythia to plan it.

Recommended cable SPC-13

Connection	Cable
Dry-contact inputs and relays (SPAC4, SPDM)	Belden 6300UE, up to 1,000 ft
Temperature sensors (SPAC4, SPDM)	Belden 6300UE to a Type II 10K thermistor
Ethernet (Port 0, networked equipment)	CAT5e or better
Liebert IGM (SPIGM)	The existing RS-422 IGM pairs

06 Network connection

The DM processor and its ports SPC-6

The DM processor is the small finned computer inside the panel. Its network ports are on the bottom edge, labeled **0** and **1**.

Port	Console name	Use
0	Network Interface 0	The panel's one connection to the site network. The console, notifications, equipment polling and BACnet/IP, Modbus/TCP and SNMP publishing all use it
1	Network Interface 1	The **panel LAN**: the panel's own internal network, factory wired by Pythia. On the SPIGM it joins the built-in switch and the twelve IGM channels; on the SPAC4 and SPDM it links the processor to its I/O controller and the display

Important: Do not change **Network Interface 1**, and do not connect the panel LAN to the site network. Change only **Network Interface 0** (SPC-9).



Port 0 on the bottom of the DM processor: the panel's connection to the site network.

Connecting a laptop SPC-7

Connect your laptop to **Port 0** with a network cable and give the laptop an address on the same subnet:

	IP address	Subnet mask	Gateway
Panel default	192.168.0.221	255.255.255.0	192.168.0.100
Your laptop (example)	192.168.0.100	255.255.255.0	—

Browse to **http://192.168.0.221**. On the SPDM and SPIGM this opens the **Alarm View**; on the SPAC4 and SPAC4-LED it opens the **live status page**. Neither needs a sign-in. If the page does not load, check the laptop's address, the cable and that you are on Port 0. On the SPDM-CELL, connect to the cellular router instead (SDM-8).

Signing in SPC-8

Click **Console** (lower right) to open the configuration console. The default user name is **admin** and the default password is **admin**.

> **Important:** Change the admin password before the panel goes on the site network, and give each person their own account (DM Series Guide USR).

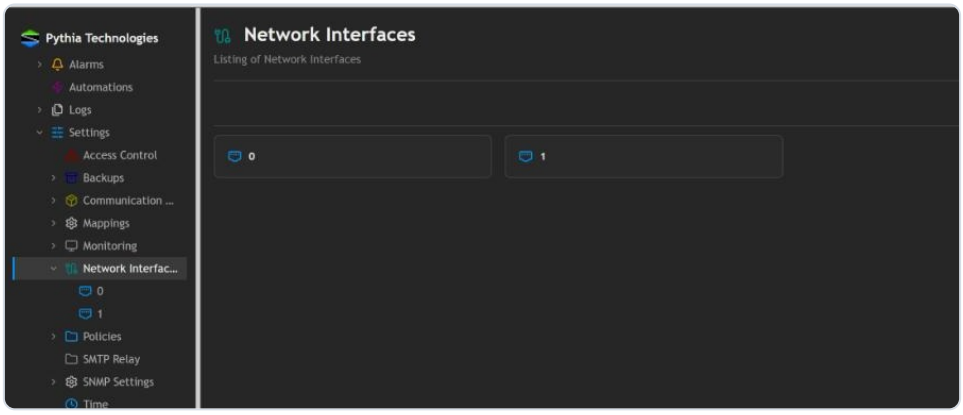


Console sign-in. Default user name **admin**, password **admin**.

Changing the IP address SPC-9

1. In the console tree, open **Settings › Network Interfaces** and select interface **0**.
2. Under **IP Addresses**, enter the new IP address, subnet mask and gateway from the site's IT team. Use **+ Add IP** for another address. The DHCP switch and DNS server are on the same page.
3. Click **Apply & Restart**. The panel restarts on the new address; reconnect your browser to it.

Set the time zone and time source under **Settings › Time**, and the outgoing email relay under **Settings › SMTP Relay** (DM Series Guide SET-7, SET-8).



Settings › Network Interfaces, interface 0, with the factory address.

For the IT team SPC-10

Each panel needs one network drop, an IP address and the services the site will use. Defaults are shown; open only the services the site uses.

Service	Default	Direction
Web console and Alarm View	HTTPS, TCP 443	To the panel
BACnet/IP	UDP 47808	Both
Modbus/TCP	TCP 502	Both
SNMP	UDP 161	Both
SNMP traps	UDP 162	From the panel
Email notifications	Through the site's SMTP relay	From the panel

"Both" covers the panel polling networked equipment and the BMS or NMS reading the panel. The SPAC4 and SPIGM poll no equipment over the site network, so for them "Both" is only the BMS or NMS reading the panel.

07 Setting up in the DM

Adding the units in the DM IGM-7

Once each unit's IGM pair is landed on its channel (IGM-4), add the unit in the DM console:

1. Follow the DM Series Guide steps for adding a new unit (MON-4.2).
2. Choose the unit's IGM channel, and select the Liebert IGM driver for that equipment: the one the discovery tool named (IGM-3) or the one in the table in IGM-6 .
3. Save, and confirm live readings appear. The unit opens with its equipment dashboard (DM Series Guide EQP).

Repeat for each channel. If a unit won't communicate, check its wiring and driver (IGM-4) or call Pythia technical support.

Software: the DM Series Guide SPC-15

Everything after the panel is installed and on the network is done in the DM console: units, alarms, notifications, trends, users, mappings and the AI Connector. The DM Series Guide covers it step by step. The parts to start with:

To do this	DM Series Guide
Find your way around the console	GS , CON
Add equipment (SPDM, SPIGM)	MON-4.2 , UNIT
Use the panel's own inputs (SPDM)	SPD
Set up an SPAC4's groups and units	SPA
Send alarm emails and SNMP traps	AUT
Publish to a BMS or NMS	INTG
Connect an AI assistant	AIC

Training videos for the DM console: pythiatech.com/resources (Training videos).

08 Testing

Commissioning test IGM-8

1. **Communications.** Confirm every unit shows live readings and no communications alarm.
2. **Names.** Confirm each unit's name matches the equipment on its channel.
3. **Alarm.** Where the site allows it, trigger or simulate one unit alarm and confirm it in the Alarm View and the console, and that the email or SNMP trap arrives.
4. **BMS.** Have the integrator read a few points from **Settings › Mappings** (SPC-14).

09 BMS integration

BMS and NMS integration SPC-14

Every Smart Panel publishes its points as a **BACnet/IP device**, a **Modbus/TCP server** and an **SNMP v1/v2c agent** at the same time, from Port 0. The point lists are in the console under **Settings › Mappings**, one page per protocol, and each list can be exported as CSV, PDF, Excel, HTML or JSON (BACnet/IP also as EDE) for the integrator.

- The **SPAC4** uses a fixed point list, the same on every panel (AC4-14).
- The **SPDM** and **SPIGM** build their maps from the units added to them, numbered by unit (DM Series Guide INTG).
- Writes from the BMS are off until you allow them (DM Series Guide INTG-2.2).
- The panel publishes **one** BACnet/IP device. Its BACnet conformance statement (PICS) is published on pythiatech.com.



Settings › Mappings › BACnet/IP, with the export buttons.

10 Troubleshooting and documents

Troubleshooting SPC-16

What you see	What to check	See
No POWER light (SPAC4, SPDM)	Panel power at the supply's **L** and **N** terminals; the supply's output	SPC-5
The page at 192.168.0.221 won't load	Laptop on **Port 0**, laptop address 192.168.0.100 with mask 255.255.255.0, the cable; the panel may already have a site address	SPC-7
The page loads but the console sign-in fails	User **admin**; the password may have been changed	SPC-8
The panel is unreachable after an address change	Reconnect to the new address; make sure only Network Interface 0 was changed	SPC-9
The iPad is dark	Charge it for up to 15 minutes	SPC-12
A dry-contact input never alarms	Wiring on the **two lower screws**; the input's NO/NC setting matches the contact	AC4-4, SDM-5
The BMS can't read the panel	Port 0 address, the firewall services in SPC-10, and the map in **Settings › Mappings**	SPC-14
A Liebert unit shows communications lost	Its IGM pair on the right channel, red (+) on top, black (−) on the bottom; the driver	IGM-4, IGM-7

Video and documents IGM-10

- Product video, brochure and this guide: **pythiatech.com/smart-panel-igm**
- Connection diagram: pythiatech.com/resources
- Console reference: DM Series Guide, especially EQP and INTG

TECHNICAL SUPPORT

740-363-2272

Business days, 8:00 a.m. to 3:00 p.m. ET · support@pythiatech.com

Smart Panel IGM video and brochure
pythiatech.com/smart-panel-igm

Documents

Brochure, video and this guide: pythiatech.com/smart-panel-igm

AI assistant guide: Pythia_Tech_Smart_Panels.txt

Console reference: DM Series Guide

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