PYTHIA TECHNOLOGIES

SMART PANELS · SPDM AND SPIGM · CONNECTIONS

A complete Pythia DM on the wall. One connection to your network.

The Smart Panel DM and the Smart Panel IGM run the same software as a Pythia DM server, built into a wall-mount enclosure. This guide shows how each panel connects to the equipment it monitors and to the customer network, so engineers can show it on the drawings and IT knows what to provide.



1
network connection per panel

3
protocols to your BMS and NMS: BACnet/IP, Modbus/TCP and SNMP

8
onboard inputs on the SPDM, each a dry contact or thermistor

12
Liebert IGM units per SPIGM, on the wiring already in place

Nothing to install on operators' PCs. Readings, alarms and trends live on the panel, and a head-end DM can bring many panels together.

A full DM inside
Console, alarms, notifications and trends.

One connection
A single drop to the customer network.

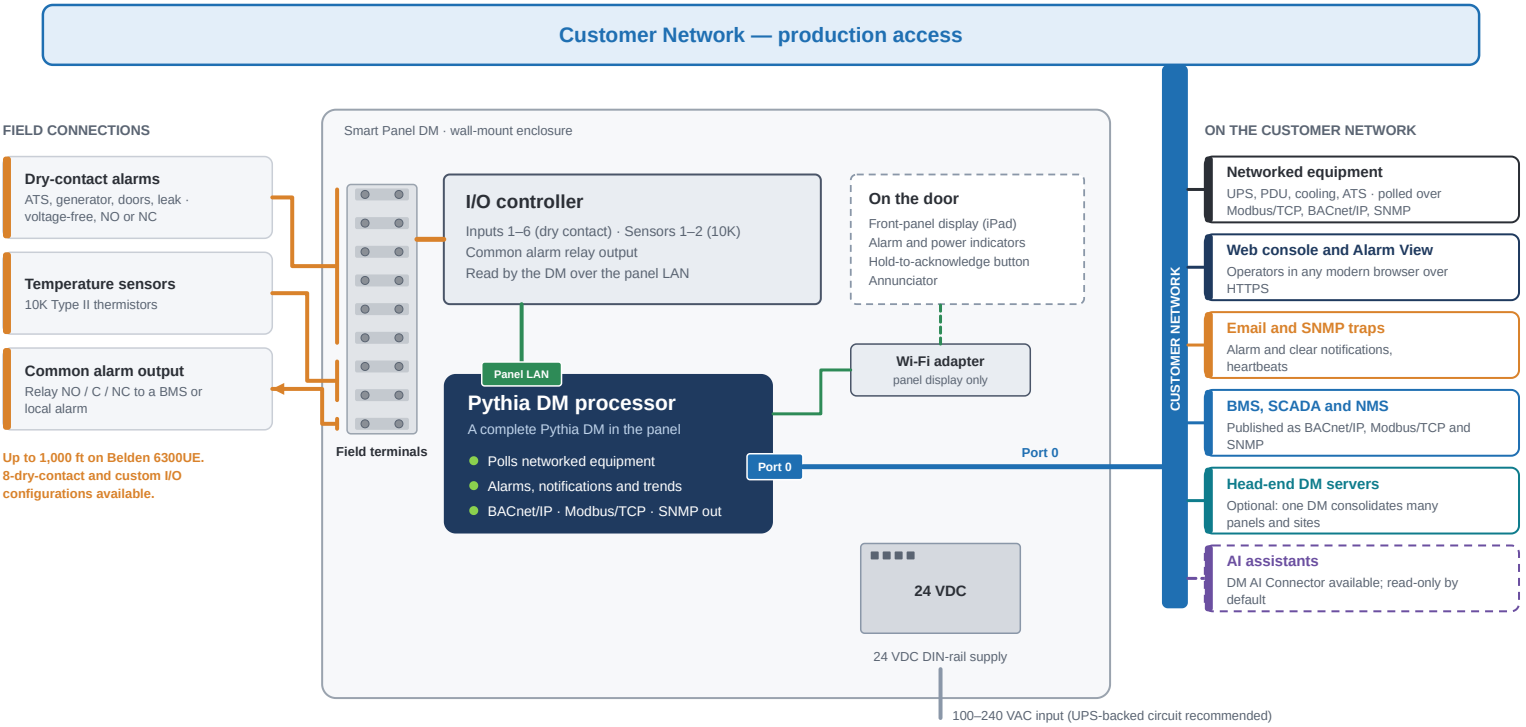
BMS and NMS ready
BACnet/IP, Modbus/TCP and SNMP maps built for you.

AI Connector
For Claude, ChatGPT and MCP assistants.

SMART PANEL DM · SPDM

One panel watches the room's networked equipment and its own alarm contacts.

The SPDM polls UPS, PDU, cooling and transfer-switch equipment over the network, reads its own inputs, and publishes everything to the BMS and NMS from one connection.



Full-size diagram available as a separate sheet: SPDM Connections.

Field connections

Eight onboard inputs, each a dry contact or 10K thermistor (six and two by default): voltage-free, NO or NC, up to 1,000 ft on Belden 6300UE. Common alarm relay output.

Inside the panel

The DM processor reads its I/O controller over the panel's own LAN, and the front-panel display connects through the panel's Wi-Fi adapter. The SPDM-ND is the same panel without the display.

On the customer network

Port 0 is the panel's only connection. Through it the DM polls equipment over Modbus/TCP, BACnet/IP and SNMP, and serves the console, notifications and BMS/NMS maps.

Equipment with an IP interface needs no extra hardware. The SPDM polls it over the network. Equipment that only offers dry contacts, such as many transfer switches, lands on the panel's terminals.

Installing an SPDM

1
Mount and power

Wall-mount it on a UPS- or inverter-protected 120 VAC circuit.

2
Land the field wiring

Contacts and sensors land on the labeled terminals; the relay goes to the BMS or a local alarm.

3
Connect Port 0

One drop to the customer network, with an address from the site's IT team.

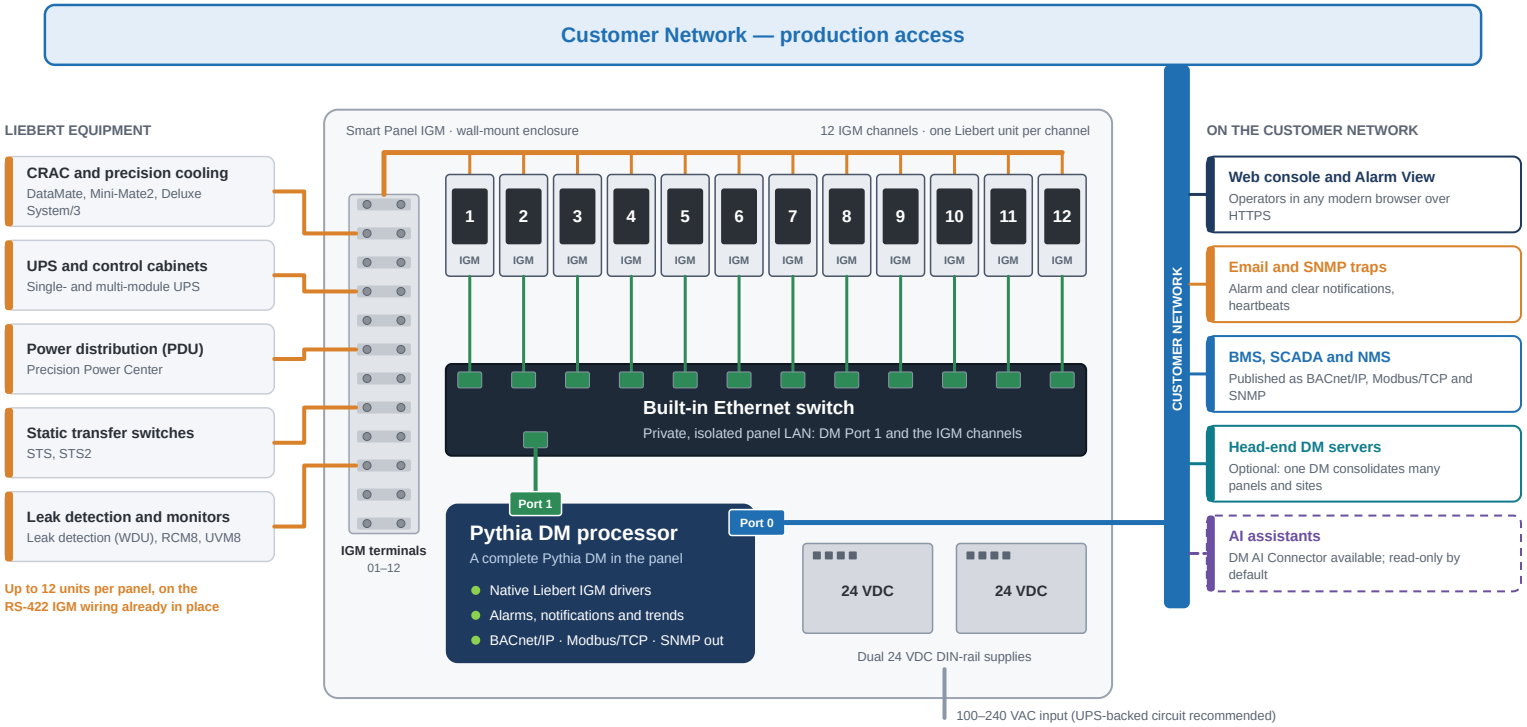
4
Add and integrate

Each device is added with its driver, then the BMS or NMS reads the panel's maps.

SMART PANEL IGM · SPIGM

Liebert units back on the network, on the wiring already in place.

The SPIGM takes a Liebert SiteLink's place on the same RS-422 IGM wiring. Each unit lands on its own channel, the DM reads it with a native Liebert driver, and the DM processor's Port 0 gives the site one network connection.



Full-size diagram available as a separate sheet: SPIGM Connections.

Field connections

Up to 12 Liebert units per panel: cooling, UPS, PDU, static transfer switches and leak detection. Each unit's existing IGM pair lands on terminals IGM 01–12.

Inside the panel

The twelve IGM channels and the DM processor's Port 1 share the built-in switch, a private network isolated from the customer network. Dual 24 VDC supplies, 100–240 VAC input.

On the customer network

Port 0 on the DM processor is the panel's only connection. The console, notifications and BACnet/IP, Modbus/TCP and SNMP publishing all use it.

Larger sites scale out. IGM expansion panels, without their own processor, connect to a primary SPIGM. Units with an IP card can also be polled over the network by any DM.

Replacing a SiteLink

1
Identify
The Pythia discovery tool reads each unit on the IGM wiring and names its driver. It only reads.

2
Land the wiring
The existing RS-422 IGM pairs move from the SiteLink to the panel's channels.

3
Connect
One drop from the DM processor's Port 0 to the customer network.

4
Integrate
Point the BMS or NMS at the panel's BACnet/IP, Modbus/TCP or SNMP maps.

FOR ENGINEERS AND IT

Plan for the drawings and the network.

On the drawings

- The Smart Panel model and location: SPDM, SPDM-ND or SPIGM.
- Each monitored device by make, model and connection: IP, IGM or dry contact.
- Integration services and graphics for each monitored device.
- A 120 VAC circuit at each panel, UPS or inverter protected.
- One network drop per panel.
- Field wiring: Belden 6300UE for dry contacts; existing RS-422 pairs for IGM.

For the IT team

SERVICE	DEFAULT	DIRECTION
Web console	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	SMTP relay	From the panel

Defaults shown. Open only the services the site uses. "Both" covers the DM polling equipment and the BMS or NMS reading the DM.

	Smart Panel DM (SPDM)	Smart Panel IGM (SPIGM)
EQUIPMENT CONNECTIONS		
Equipment in	Networked equipment over Modbus/TCP, BACnet/IP and SNMP; 8 onboard inputs, dry contact or 10K thermistor	Up to 12 Liebert IGM units, RS-422, on existing IGM wiring
Outputs	Common alarm relay, NO / C / NC	None
DM PLATFORM		
Console	Web console and Alarm View over HTTPS; front-panel display (SPDM)	Web console and Alarm View over HTTPS
Publishing	BACnet/IP device, Modbus/TCP server and SNMP v1/v2c/v3 agent; email and SNMP traps routed by alarm category	
AI Connector	Available for both: Claude, ChatGPT or any MCP assistant; read-only by default	
NETWORK, POWER AND PHYSICAL		
Customer network	Port 0, one connection	Port 0, one connection; IGM channels on a private, isolated panel LAN
Power	100–240 VAC to a 24 VDC DIN-rail supply; 24 VAC and 48 VDC options	100–240 VAC, 1.8 A max per supply; dual 24 VDC DIN-rail supplies
Enclosure	Wall-mount ABS, IP67, UL94-V0	Wall-mount ABS, IP67, 510 × 410 × 200 mm
Construction	Meets or exceeds the UL 508A Open Industrial Control Panel standard	
Environment	−30 to 45 °C (−22 to 113 °F) inside the enclosure; 5 to 95% RH, non-condensing	
Ordering	SPDM (with display), SPDM-ND (no display)	SPIGM (12-channel), SPIGM-CUST (custom)

Specifications are subject to change. Custom Smart Panels are available, including combinations of IGM channels, dry-contact inputs and a network switch in one panel.

Planning a site? Send us the equipment list.

We'll confirm the drivers and connections for each device and provide connection diagrams for your drawings and standards.

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