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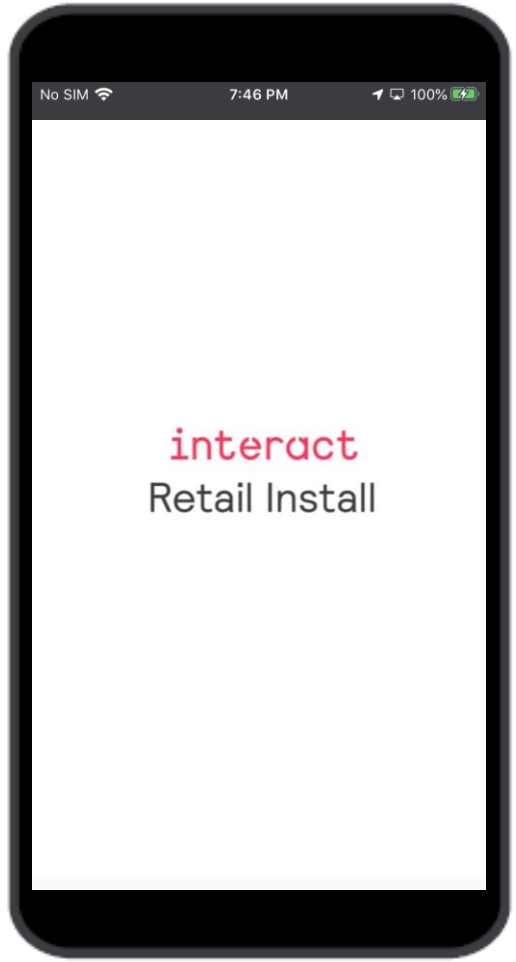
System architecture

Architecture FLX - Multisite

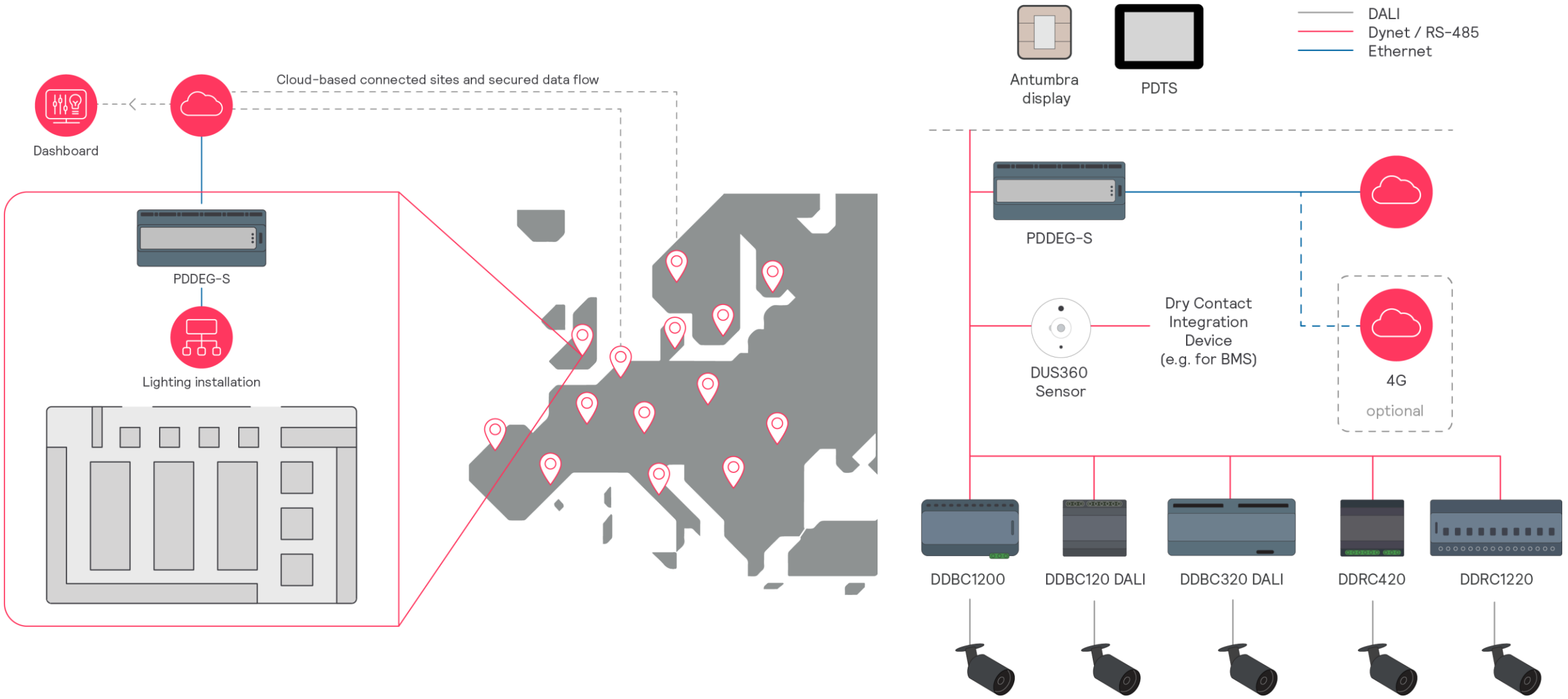
Lesson review | System architecture

In this lesson, you will learn:

- Why the PDDEG-S gateway is required
- How the cloud connection can be achieved.
- Which BMS integration possibilities are available.
- Which tools have been developed to facilitate store installations.



Multisite architecture



Multisite architecture | products & tools

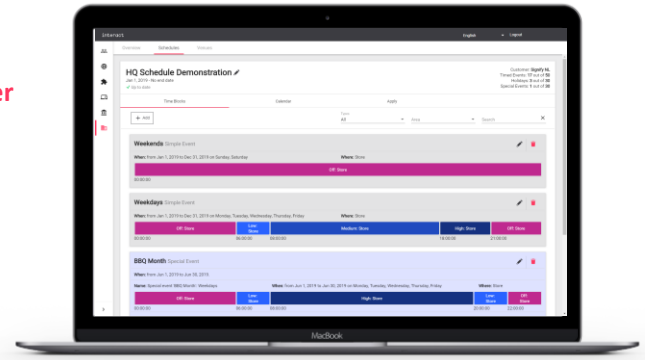
End user UI's

Antumbra panel UI

- Manual preset selection
- Manual override

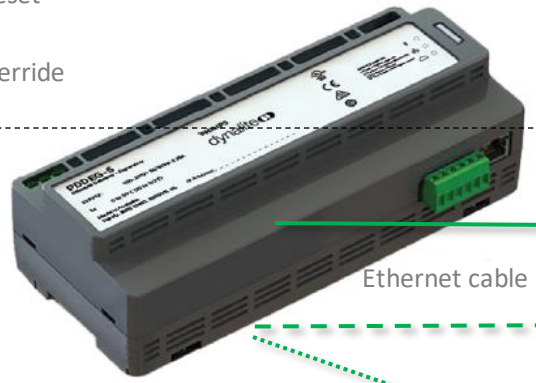
Interact Multisite System Manager (MSM)

- Scene creation and editing
- Schedule creation and editing
- System Status



Store-Gateway

Ethernet Gateway Supervisor PDDEG-S

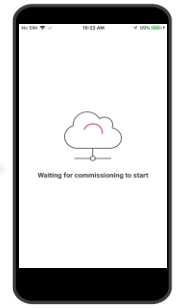


Ethernet cable

Ethernet Switch

Internet via Customer IT, incl firewall

interact Cloud



Optional connectivity service, Vodafone 4G modem + managed SIM card

DyNet / RS485

DDNP1501
Network power supply

Dynalite Presence/ Daylight Sensors

DUS360

Dry Contact integration device e.g. for BMS

DDMIDC8

Controllers

DDBC1200

DDBC120-DALI

DDBC320-DALI

DDRC420

DDRC1220

(DALI) Luminaire portfolio

DALI cable

DALI cable

DALI cable

Power Cable

Power Cable

Interact Retail Install app

- Provisioning of gateway to cloud
- Activate template deployment
- Functional validation of site

System Designer / System Builder

- Template to shorten the onsite commissioning effort.
- Off-site preparation is executed by system engineer

Commissioning tools

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IT requirements – customer IT

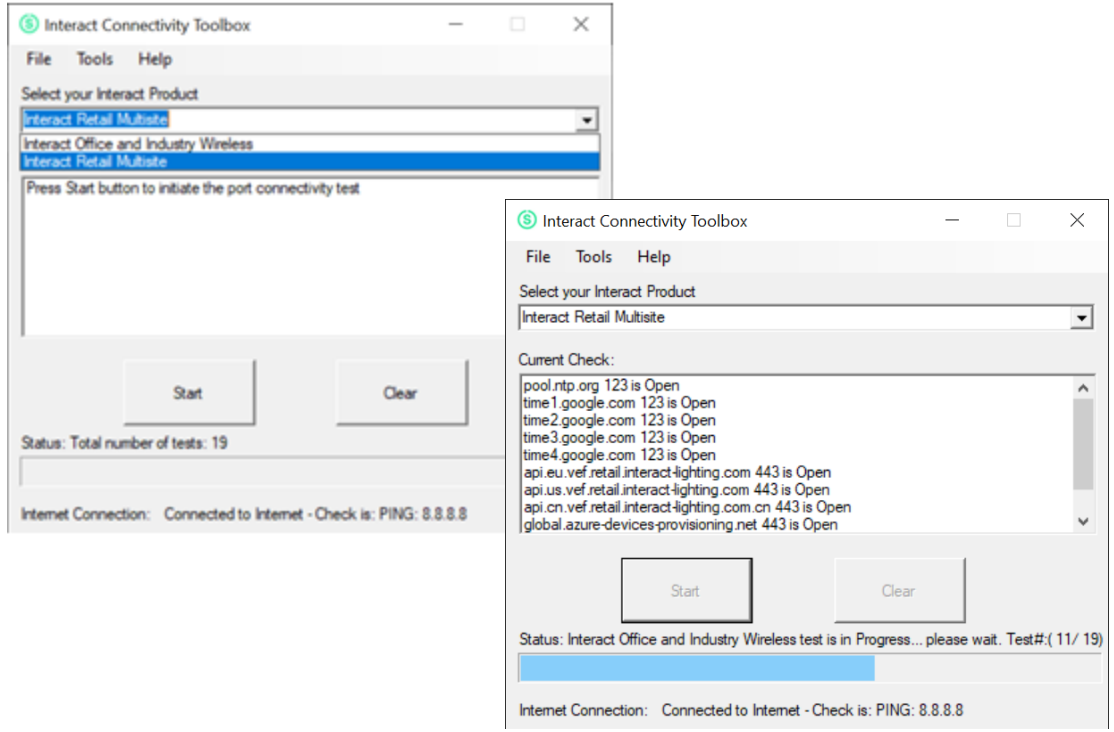
Connectivity provided by customer/retailer:

- ❑ Fully available and functioning @ day of installation
- ❑ Secure internet connection 24/7
- ❑ Open ports for outbound communication (details in table below)
  - ❑ Optionally we provide list of endpoints that need to be whitelisted on the Firewall → Security Statement document, Appendix A
- ❑ NTP (network time protocol) enabled
- ❑ Provide DHCP server (also static IP supported)
- ❑ Firewall preventing inbound connection
- ❑ MDNS discovery enabled (local at store), (only for System builder)
- ❑ No proxy
- ❑ No 802.1x network access control
- ❑ Access to DNS service available
- ❑ Network protocol: we support both: ipv4 & ipv6 (default: ipv4)
- ❑ Nice to have: Provide separate VLAN for lighting
- ❑ Expected traffic per site: up to 1GB / month

Device	Port & Protocol
PDDEG-S	• 53 DNS (outbound only) • 123 NTP (outbound only) • 443 HTTPS (outbound only) • 5671 AMQP (outbound only) • 8883 MQTT (outbound only)

IT connectivity test tool

- This tool simplifies the audit of the IT infrastructure of a customer, validating if it is ready to install Multisite.
- It can be used by both the customer and the installer.



More details in “Security statement” and “Commissioning guide” @ Partner portal

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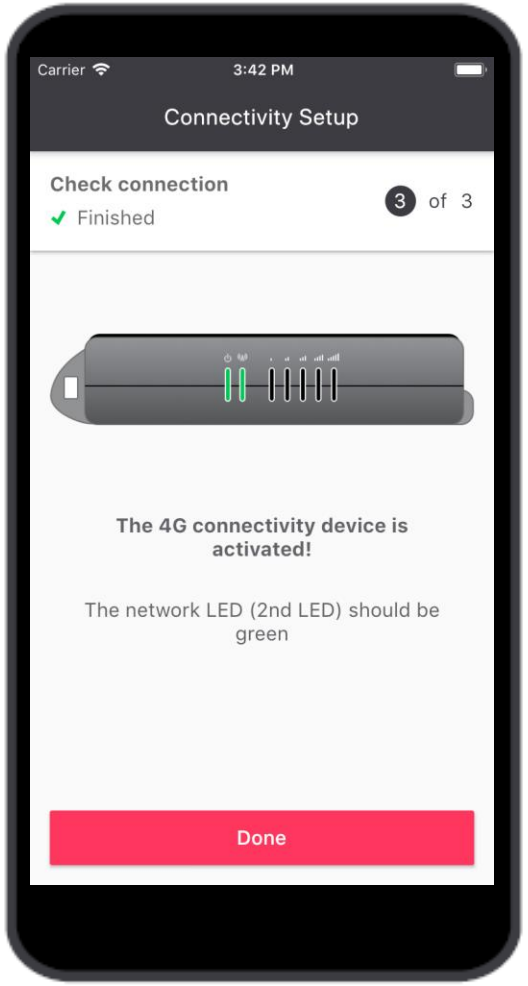
Lighting management

4G mobile connectivity

In case fixed line connectivity is not possible, we can offer powerful wireless connectivity from the day of commissioning

- ✓ Hassel free installation and commissioning
- ✓ Includes a secure 4G IoT router delivered in partnership with Vodafone
- ✓ Managed data bundle
- ✓ Broad EU/US coverage: 30 countries

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- United Kingdom
- United States



More details in “System guide” and “Commissioning guide” @ Partner portal

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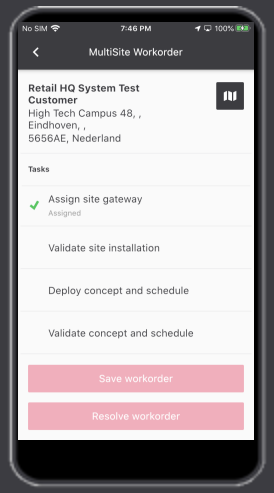
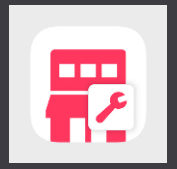
Multisite

Installation and maintenance made easy

Installer based commissioning

We prepare the digital twin of the lighting system upfront, simplifying the on-site commissioning effort so it can be done by your installer. We provide the installer with an easy-to-use app that guides him step by step through commissioning and validation.





Self healing

Our Multisite solution has an addressable infrastructure that automatically detects a driver or luminaire replacement and swaps the DALI address from old to new.

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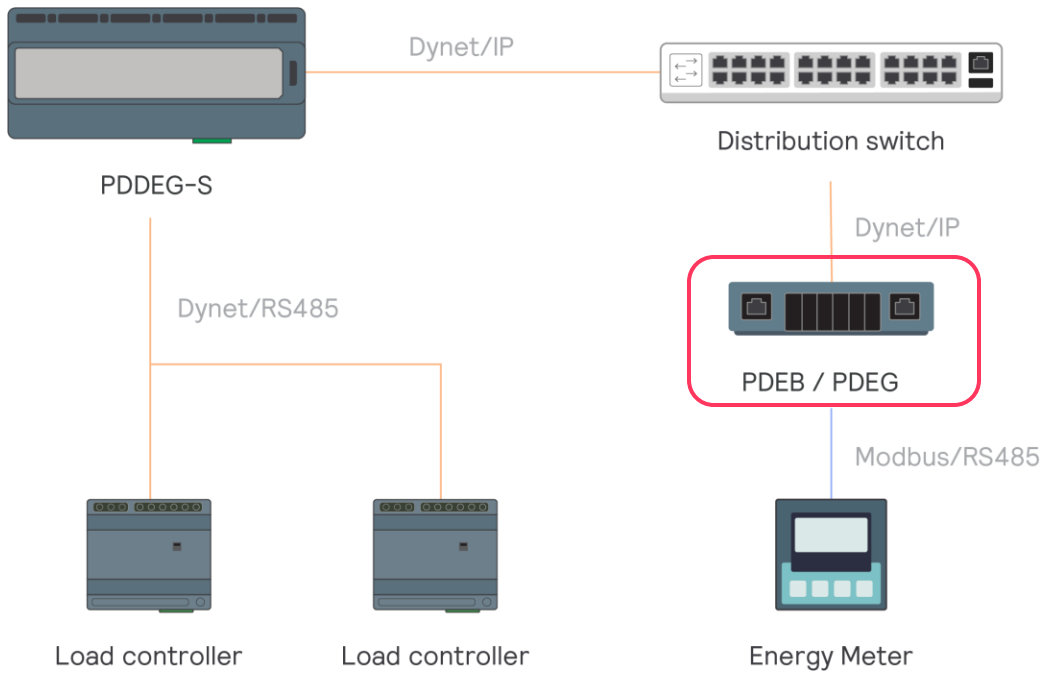
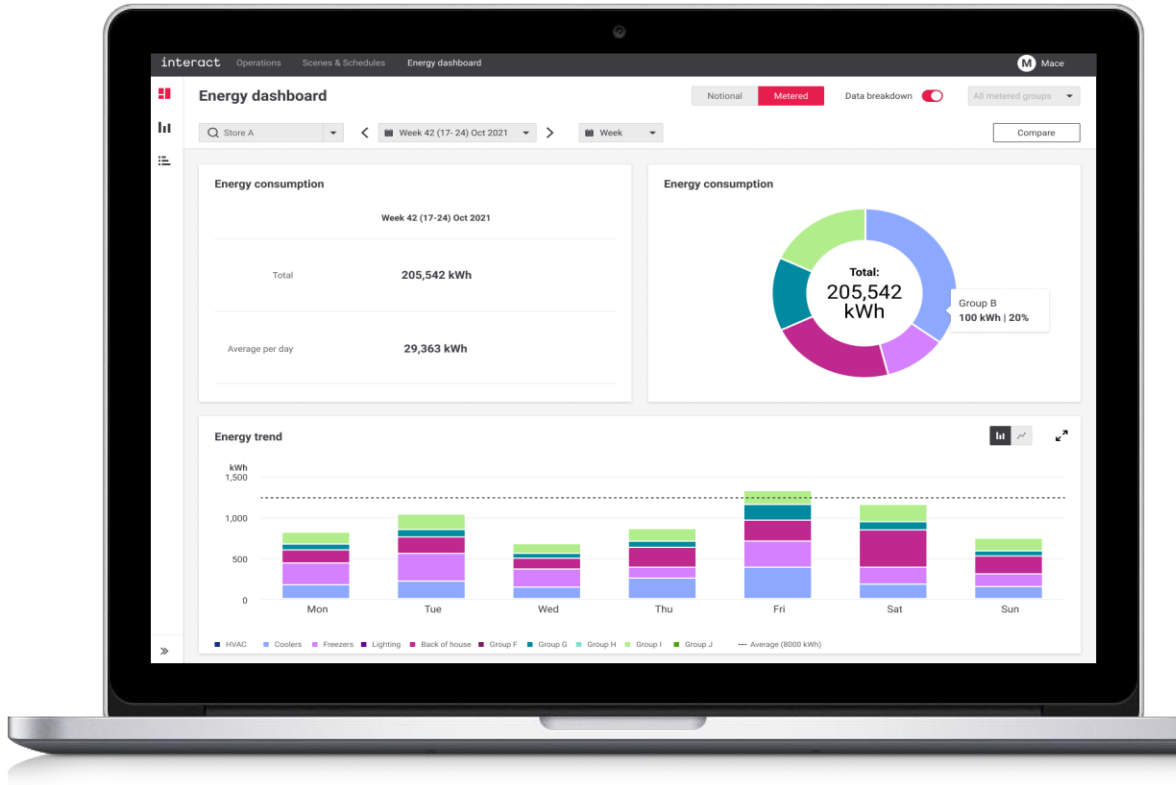
Multisite metered energy | Modbus RS485

Modbus RS485 - with PDEB/PDEB





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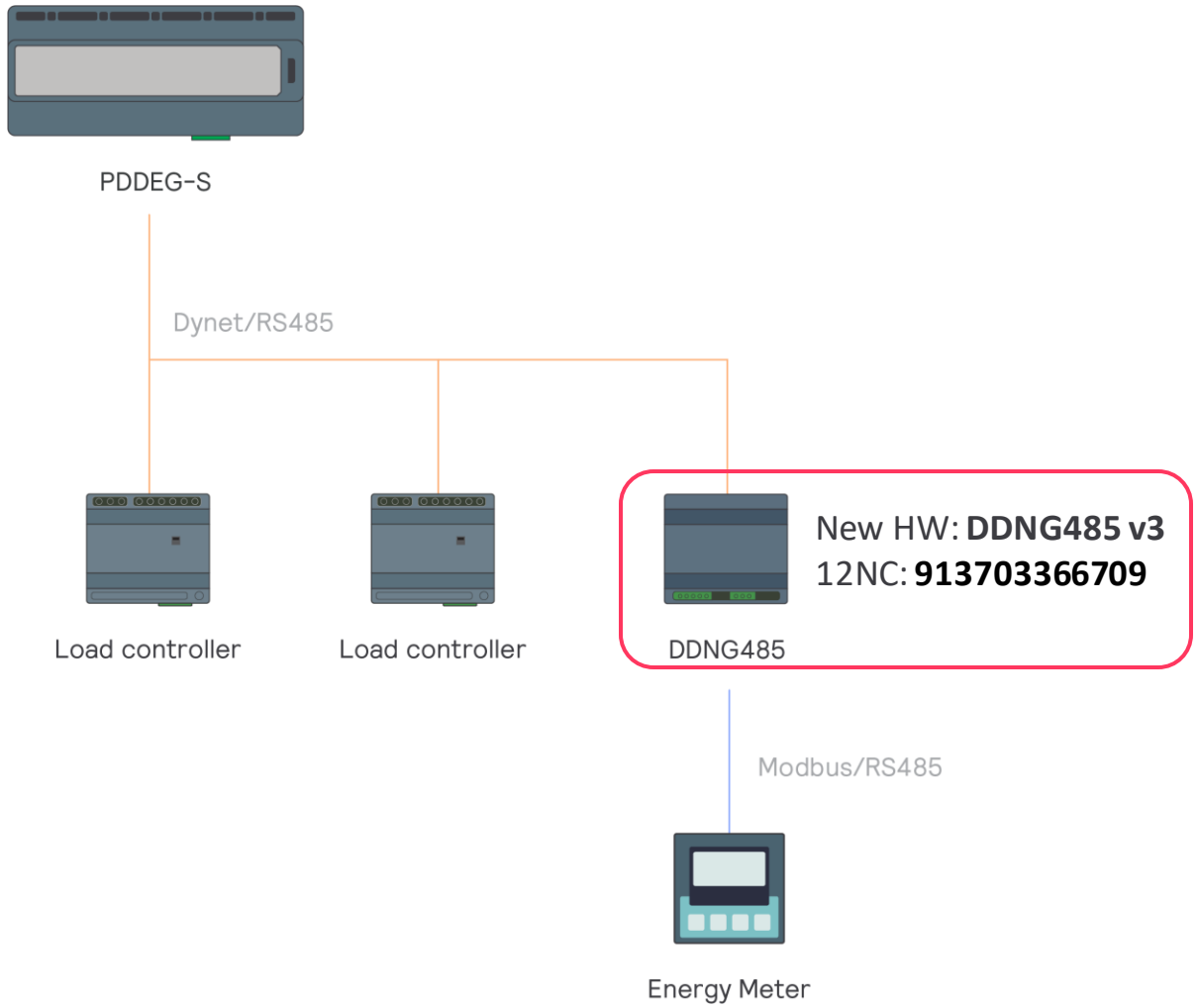
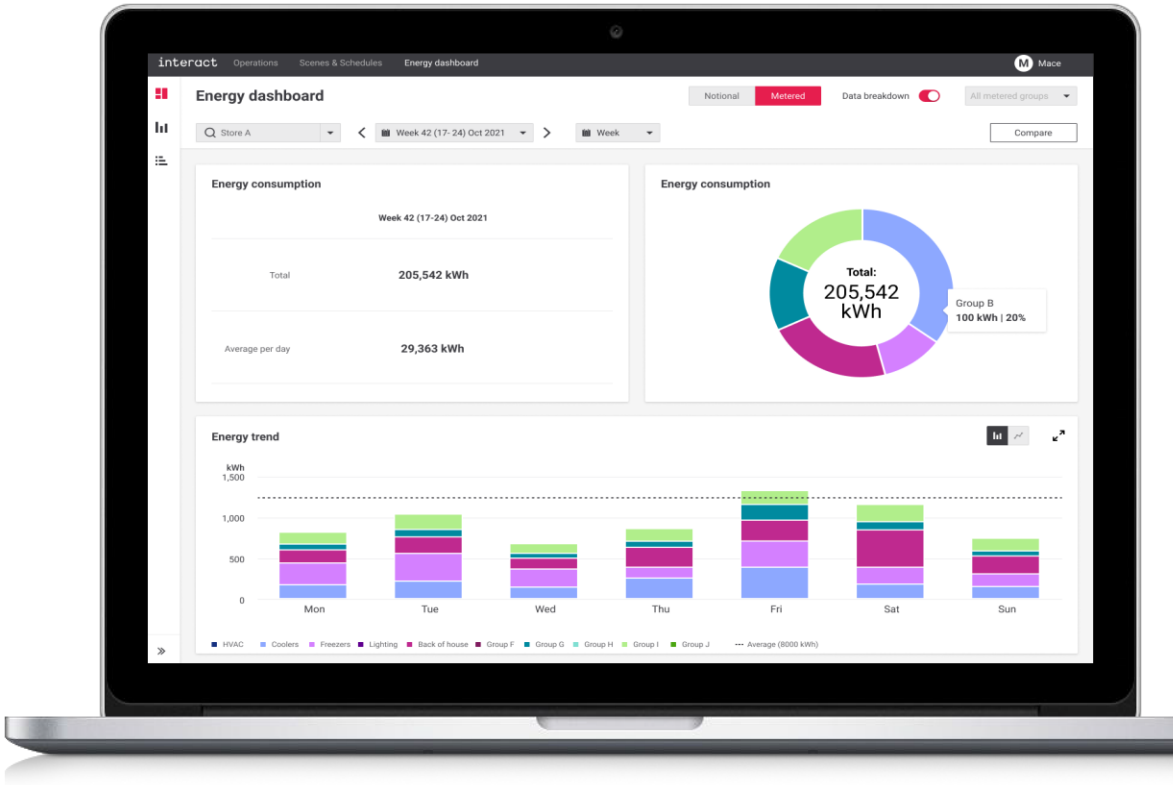
Multisite metered energy | Modbus RS485

Modbus RS485 - with new DDNG485





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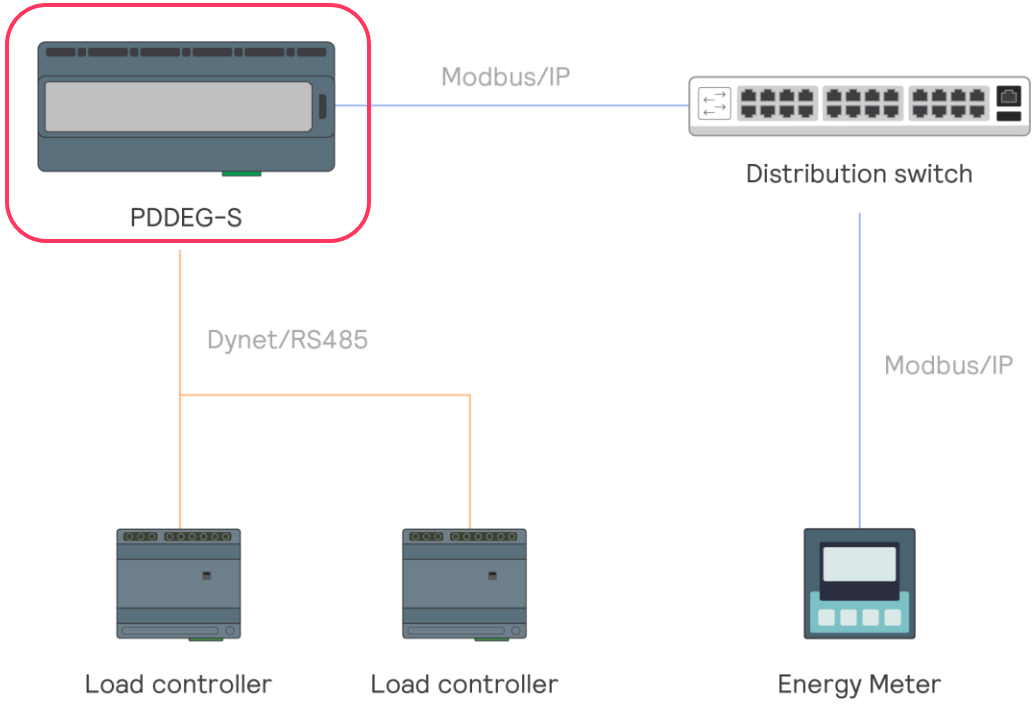
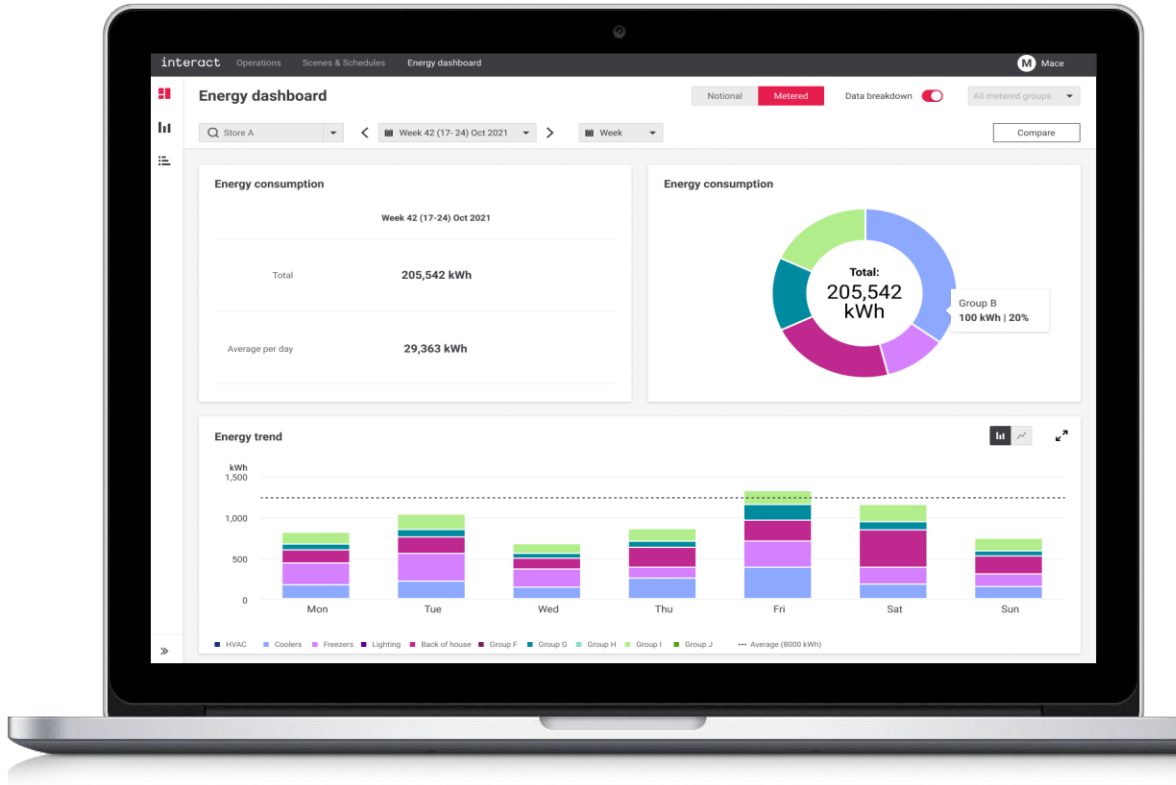
Multisite metered energy | Modbus IP

Modbus IP - with PDDEG-S Site Gateway





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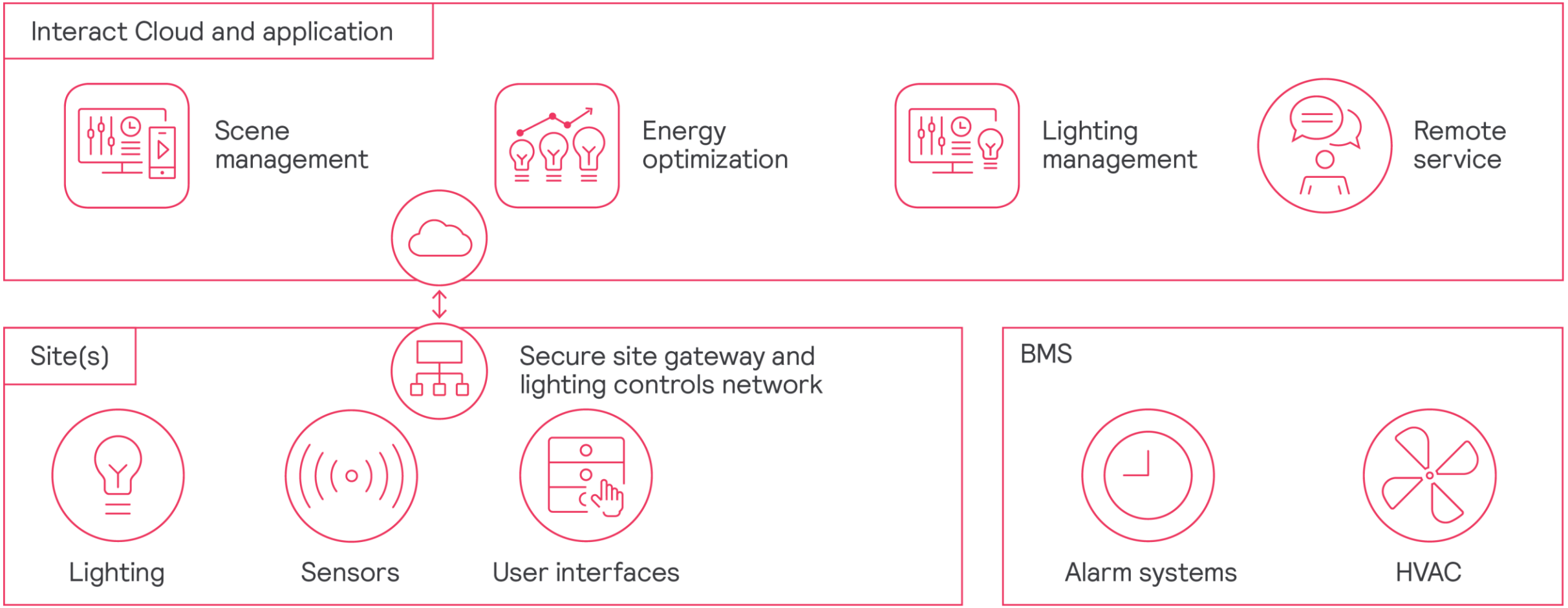
Lighting management

Integration

- ✓ Onsite integration with Alarm and BMS systems
- ✓ Large variety of local manual override options
- ✓ Support of common interfaces: Dry contact | BACnet | CGI



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Store safety

UV-C upper air disinfection

"It provides me with a bit of peace of mind while shopping, knowing that they did their best to protect their clients."

- ✓ Shoppers and employees can now feel safer thanks to Philips UV-C upper air disinfection luminaires
- ✓ Validated 99.99% effectiveness within only 10 min
- ✓ Extend lifetime of UV-C light sources by automatic schedules to operate them only during trading hours

Proofpoint: EDEKA Clausen Germany >

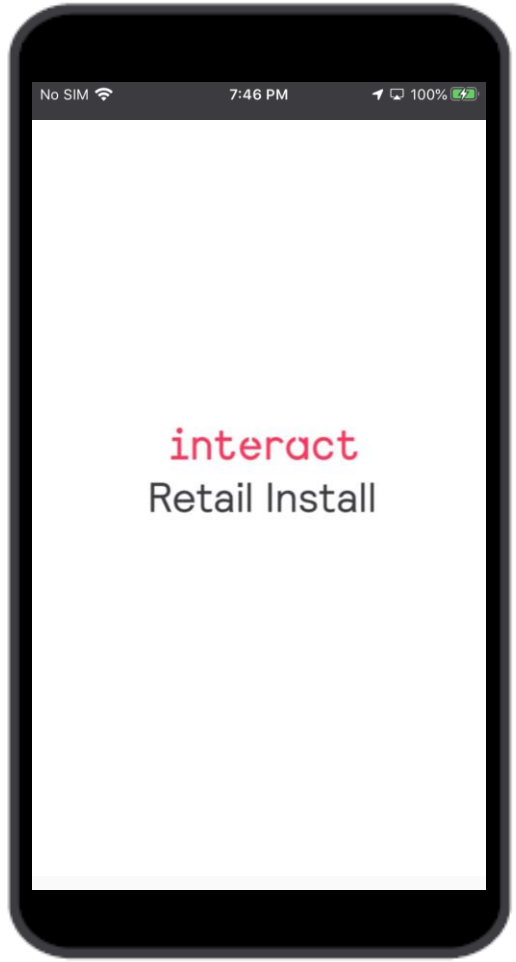
Proofpoint: dm drugstore Bratislava >

Learn more on validated 99.99% effectiveness to deactivate pathogens within 10 min exposure >

Lesson review | System architecture

In this lesson, you learnt that:

- Interact retail is based on Dynalite with the addition of a PDDEG-S gateway.
- A test tool has been developed for testing the connectivity.
- Interact retail install app tool has also been developed to facilitate onsite commissioning.
- Multisite can integrate with the customer's BMS either at store level through a dry contact or a JACE box, or cloud level.



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