



# WELCOME

The webinar is going to start soon





9TH JUNE 2021

# Intelligent building technologies

For buildings of the future, today

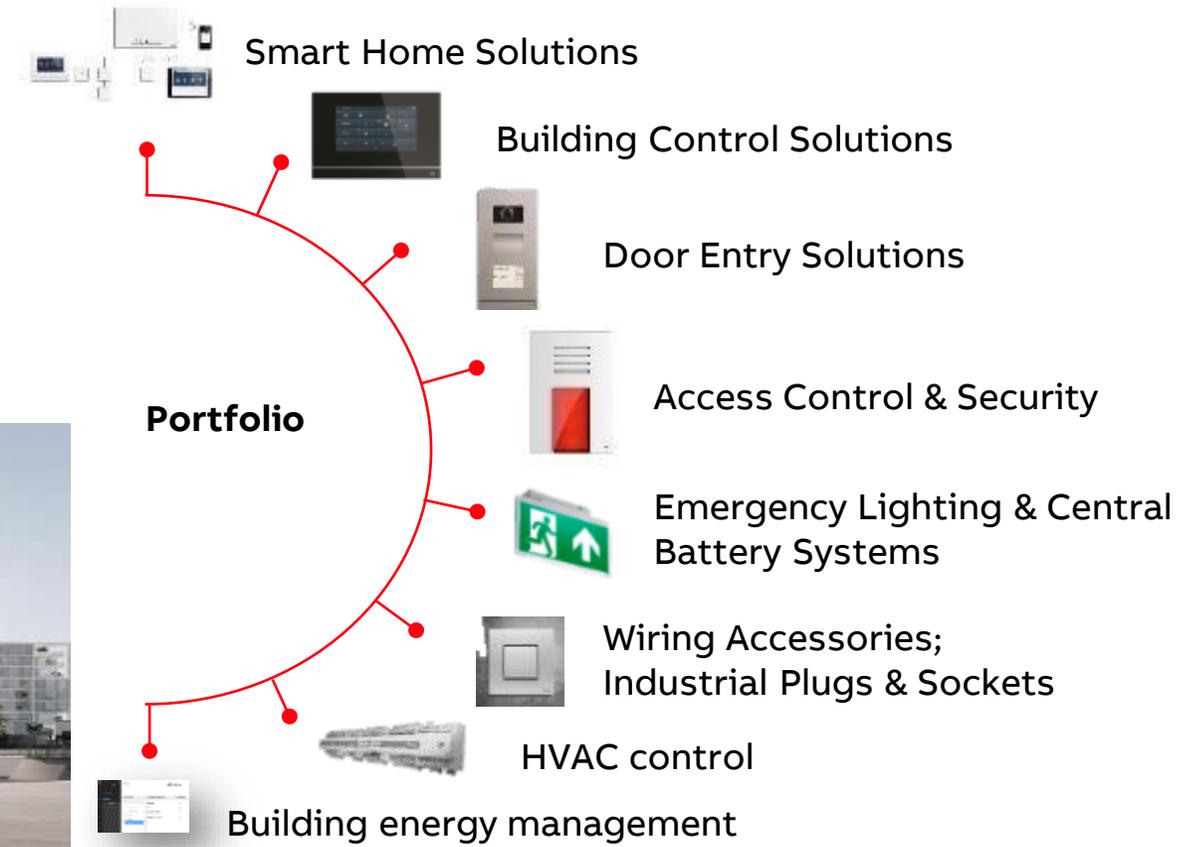


# Intelligent building technologies

For buildings of the future, today

## Smart Buildings Solutions

Imagine the building of tomorrow shaped by ABB technology of today. We are working together to create workplaces where anything is possible. Through intelligent and automatic lighting, air-conditioning, heating and movement detection, we make greater energy efficiency and increased security easier than ever. With digital solutions everything can even be controlled remotely, giving you complete control wherever you are, whenever you need it most.



# Intelligent building technologies

Ask the Experts

**Peter Beckingham**  
**Emergi-Lite**



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07834 161928

**Dean Reddy**  
**i-Bus® KNX**



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**Jim Sword**  
**Cylon**



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From technical advice to best practices, we can assist.



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## Dali Emergency Lighting Overview

Peter Beckingham – M:07834161928 E:[peter.beckingham@gb.abb.com](mailto:peter.beckingham@gb.abb.com)



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# Emergency Lighting

Industrial, Commercial & Residential

**Hotels, hospitality, restaurants and bars**



**Retail and Shopping**



**Education and healthcare**



**Office, building and residential**



**Theatre, sports and stadiums**



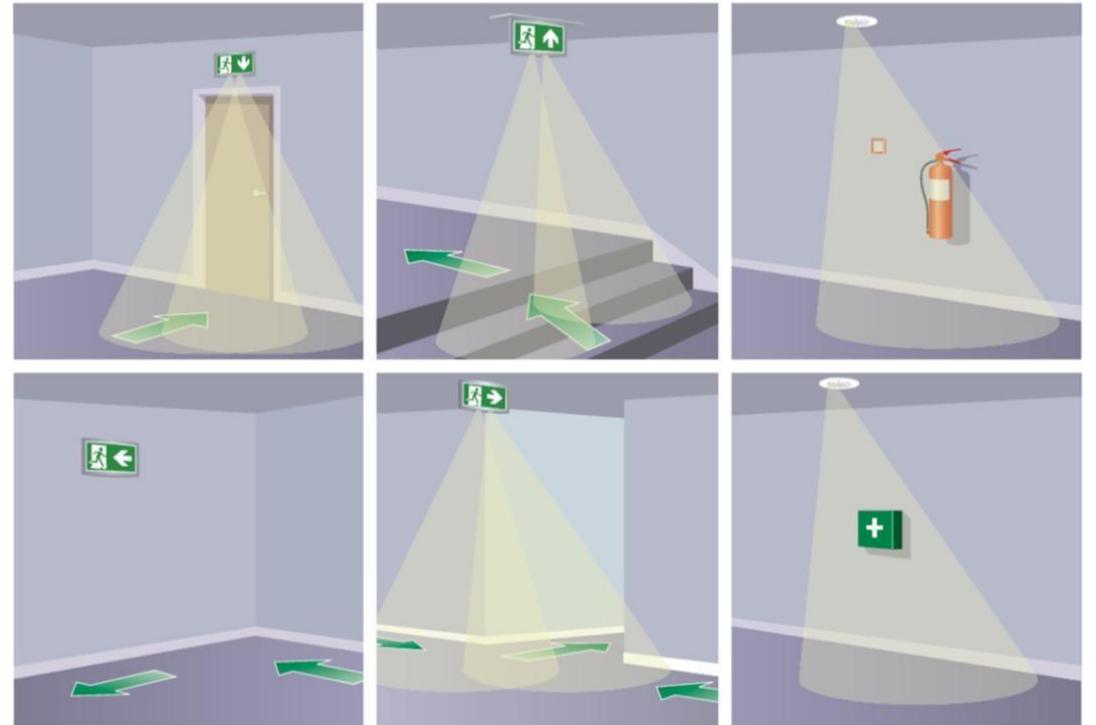
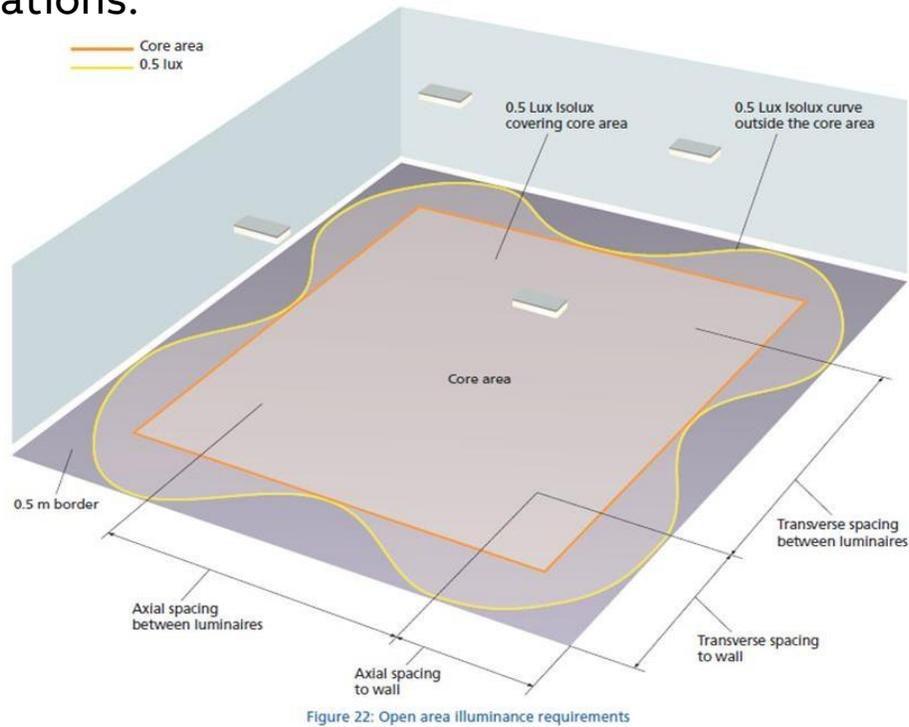
**Parking, infrastructure and transport**



# Emergency Lighting

## The need for emergency lighting

If artificial lighting is installed in public, commercial, industrial premises and communal residential areas, some form of Emergency Safety Lighting is a **mandatory** requirement as per International and Local jurisdictions, laws and regulations.



# Emergency Lighting

Failure is not an option

Electrical power can fail at any time and for a multitude of reasons.

- Extreme weather conditions
- Thunderstorms
- Fire
- Explosions
- Electrical Overloads

In the event of an emergency occurring the emergency lighting **must** activate to ensure the building can be **safely** and **quickly evacuated** and the emergency service deployed can access the building.



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# Emergency Lighting Testing

EN 50172 / IEC 62034 (Testing)

Considerations:

- Testing carried out by Competent Person
- Risks during the duration test must be minimised
- Re-charging must be checked after the tests
- Results must be recorded in the Log Book

Daily:

- Visually inspect the system indicators of a central power system

Monthly:

- Functional test to check the emergency operation of the luminaire/central power system

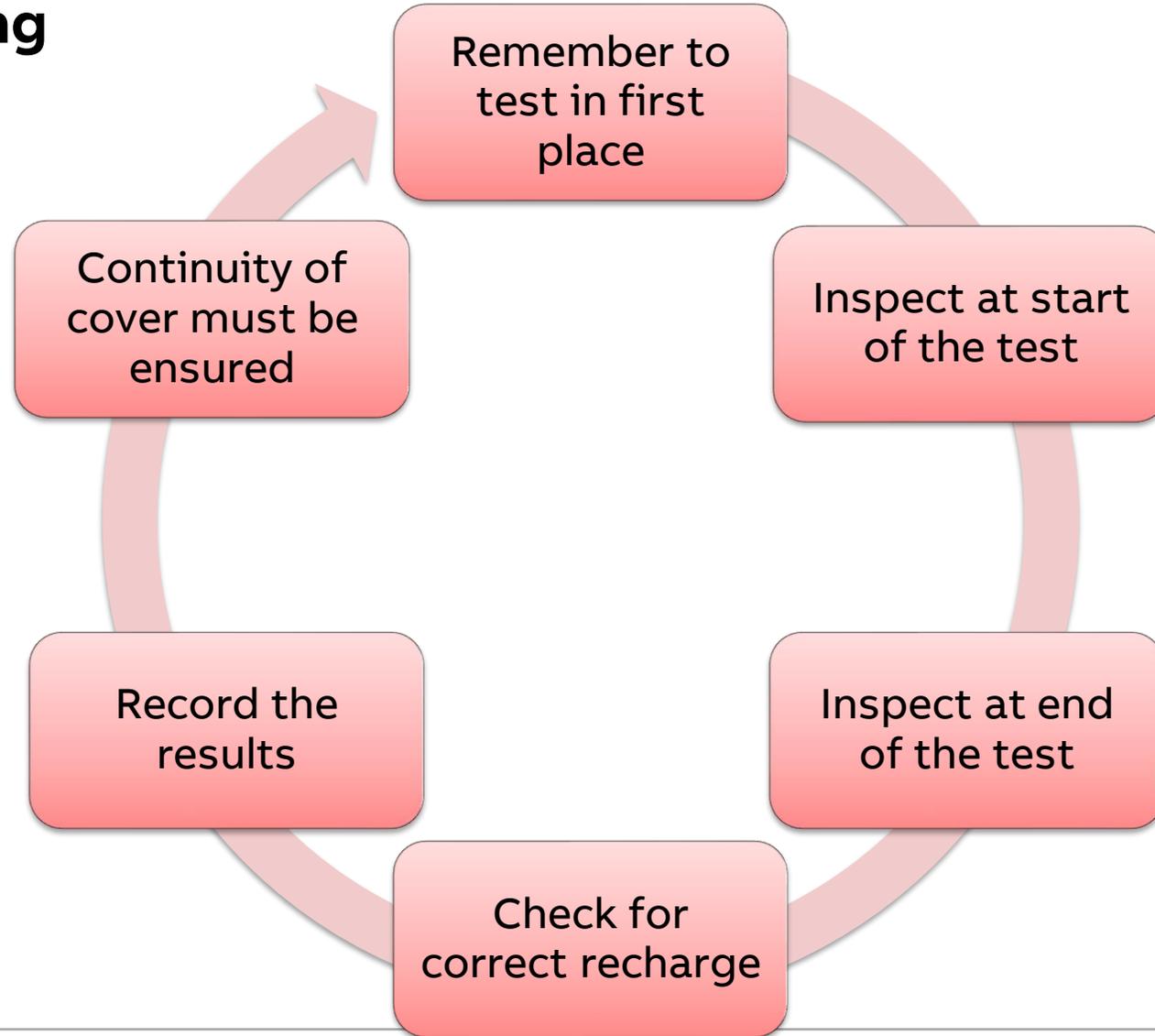
Annually:

- Full duration test

# Emergency Lighting Testing

Manual testing

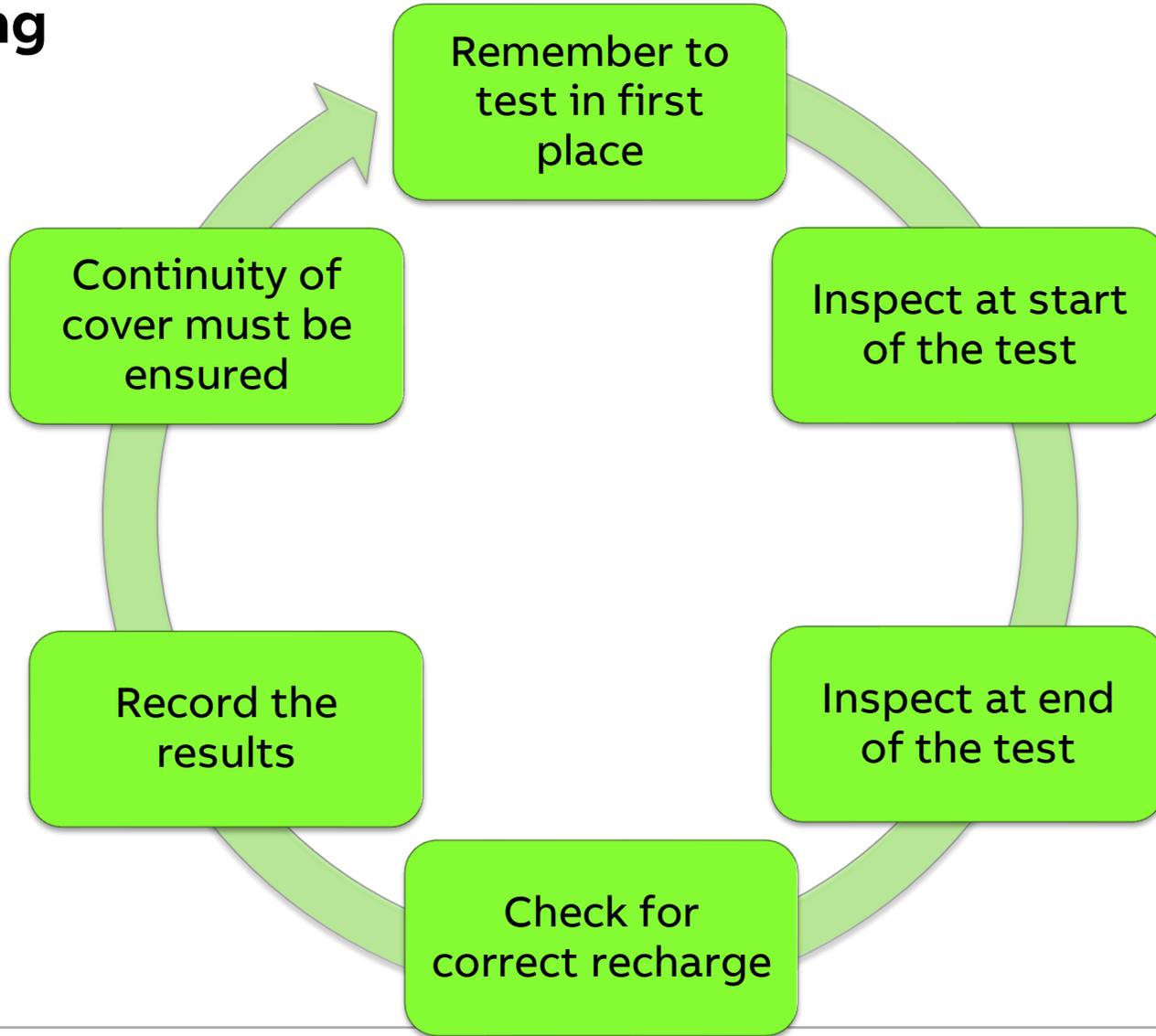
Relies on  
End User



# Emergency Lighting Testing

Automatic testing

Fully Automated

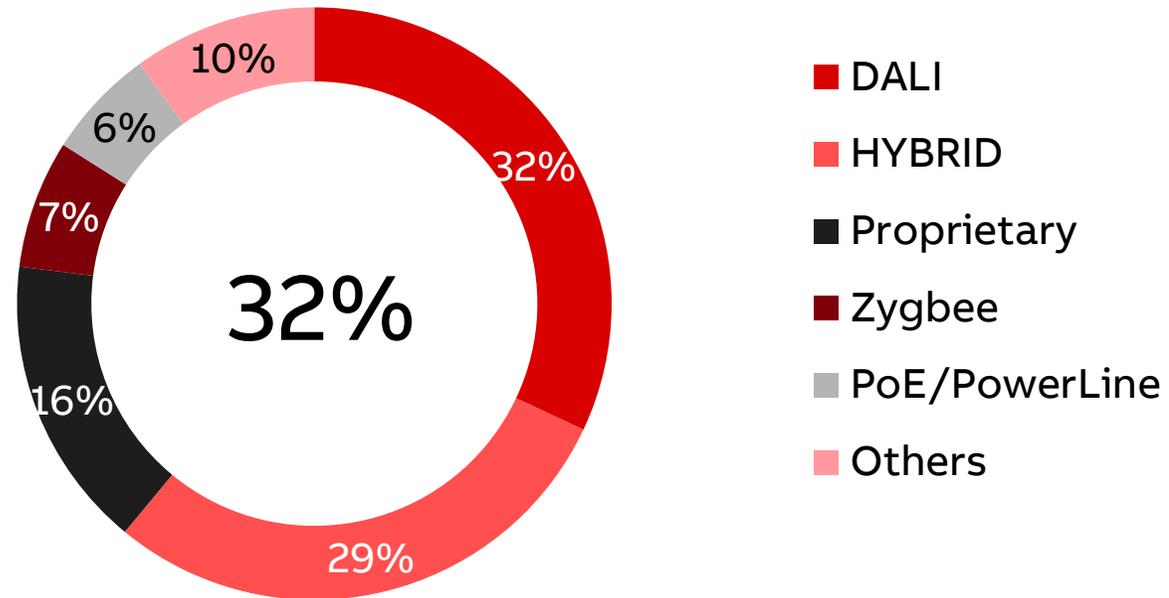


# ABB DALI Emergency Lighting

## DALI Market Size

32% of the worlds smart lighting market is operated via DALI and it is the worlds leading data protocol.

### Smart Lighting Protocols



Source: Strategies Unlimited 2016

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# ABB DALI Emergency Lighting

## Benefits of DALI

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### International Standard

- Interoperability of different manufacturers equipment
- Designed for all building application use
- Future Proof

### Cost effectiveness

- Intelligent lighting management (increase life and saving energy)
- Annual service costs
- Low maintenance costs

### Simple planning and Installation

- Single cable solution (5 core)
- Simple wiring (no polarity)
- Flexible lighting design with help and regulatory guidance from ABB

### Versatility

- Freely addressable DALI operating devices
- Interoperability with BMS (Building management systems)

### Digital System

- Distributed and enclosed intelligence
- Automated functions
- Individual status reporting



Digital Illumination  
Interface Alliance

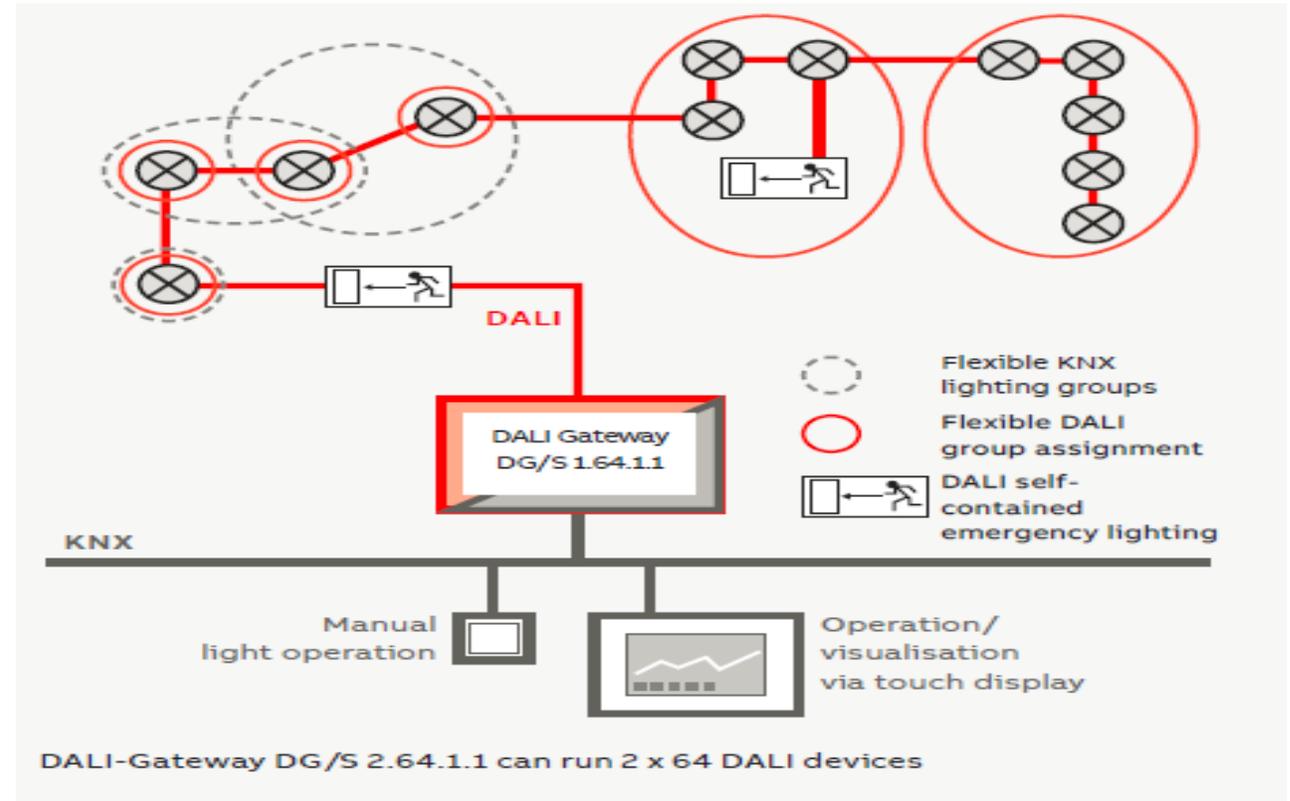
# ABB DALI Emergency Lighting

## DALI Test- Method for BMS applications

Smart Buildings have developed DALI Gateways to 'translate' KNX BMS systems to DALI

### KNX Gateway

### Typical DALI KNX System



# ABB DALI Emergency Lighting Luminaires

Guideway, Aqualux, Lutia and Serenga 2

## Exit Signs



Exit Signs 22M and 32M

Outdoor 3W LED strip



## Escape & open area Down Lighters



Flush and surface mount escape route and open area downlighters



# ABB DALI Emergency Lighting luminaires

Ovano Range

## Exit Signs



**XT230H**



**XT230RS**



**XT224SM**

## Escape & open area Down Lighters



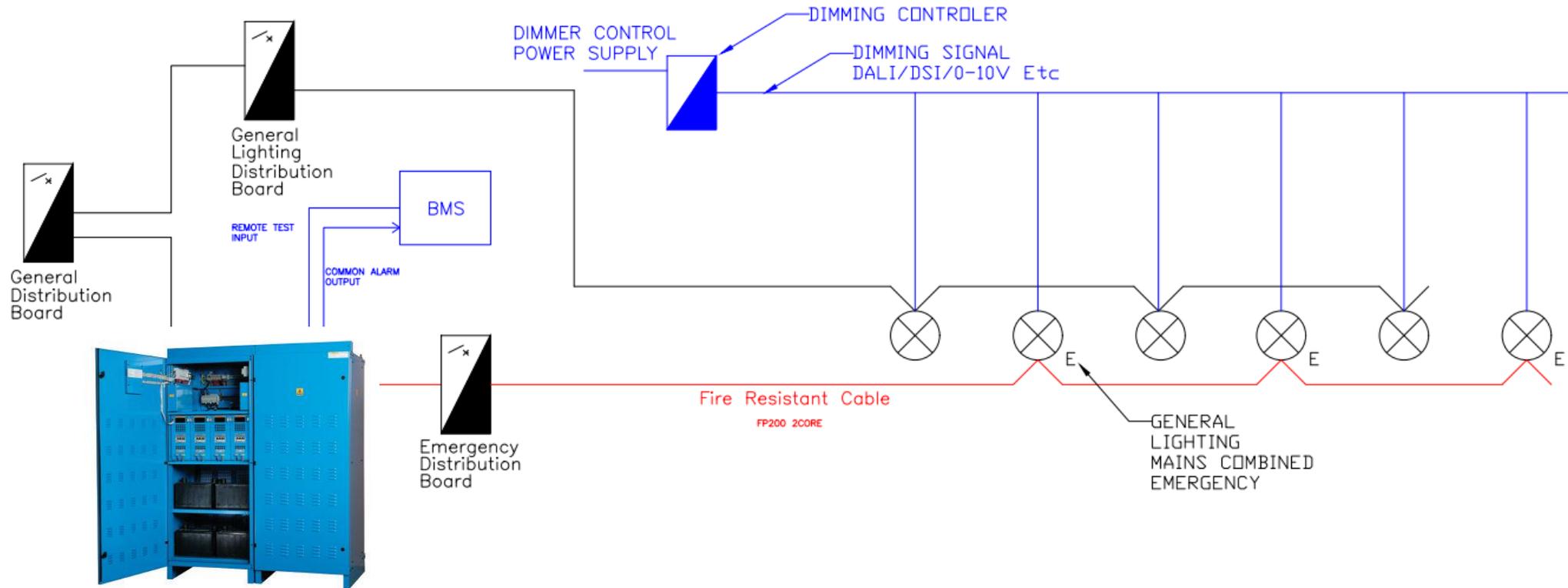
**XT201M3H**



**XT200M3H**

# Emergency Lighting

## Central Power System



# Emergency Lighting

## Operational Cost Manual v Automatic testing

Conventional emergency testing using a key switch controlling 5 luminaires

- Functional test once a month @ £1.80 x 100 x 11 monthly tests £1,980

Based on 6 mins at £18 per Hour per luminaire

- Full duration test once a year @ £3.60 x 100 x 1 annual test £360

Based on 12 mins at £18 per Hour per luminaire

- Review log book monthly 12 times PA x 4 hours @ £18 per hour £864

**Total Annual Operating Cost for Manual Key Switch Testing** **£3,204**

Automatic emergency testing using a Dali addressable system

- Review log book monthly 12 times PA x 2 hours @ £18 per hour £432

**Total Annual Operating Cost for a Dali addressable system** **£432**

**Annual Operational Saving (based per 100 EML)** **£2,772**

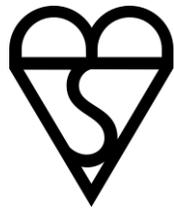
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# ABB Emergency Lighting Summary

# Product Summary

## Summary

### Central Power System



BS EN 50171  
KM 542294

1.5KVA – 81KVA AC/AC  
SPN/TPN, 50/60Hz, 1/1.5/2/3 Hrs  
Modular design, fuse-less technology  
addressable or manual test  
**350% overload capacity**

### Luminaire/Exit Sign



Compliant with EN 60598-2-22  
Range of Self-Contained and Slave  
addressable luminaire in automatic, Self-  
test and manual testing  
Many applications (office/industrial etc.)

### Automatic Testing



Compliant with IEC 62034  
Save time and money vs. manual  
Minimise disruption on site  
Automatically creates results/logbook



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# SMARTER BUILDINGS

ABB i-bus® KNX

Dean Reddy



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# Emergency Lighting

Industrial, Commercial & Residential

**Hotels, hospitality, restaurants and bars**



**Retail and Shopping**



**Education and healthcare**



**Office, building and residential**



**Theatre, sports and stadiums**



**Parking, infrastructure and transport**



# ABB i-bus® KNX

## History

### ABB's Pedigree in Intelligent Building Control



1983

First bus installation system  
SIGMA® i-BUS



EUROPEAN INSTALLATION BUS

1990

Founder Member of the EIBA Association  
in Brussels



1992

ABB i-bus® EIB  
launched in Germany



KNX Association

1999

Founder Member of KNX  
World's first open Standard,  
Brussels



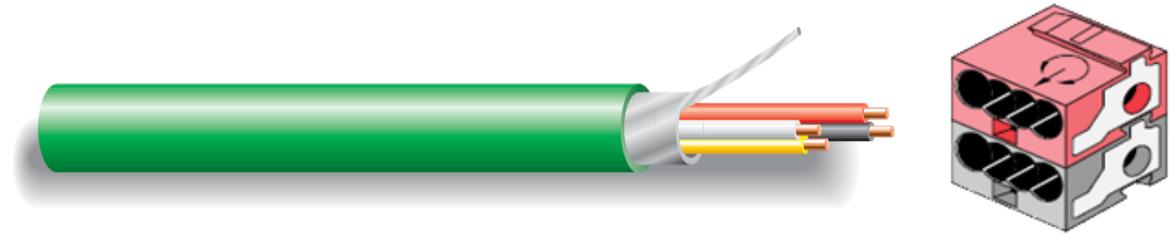
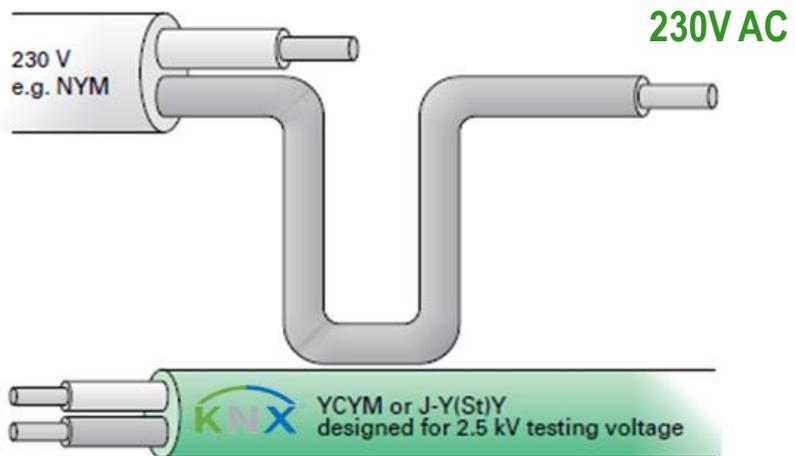
Today

ABB's involvement in  
KNX today

# ABB i-bus® KNX

## Certified Cable

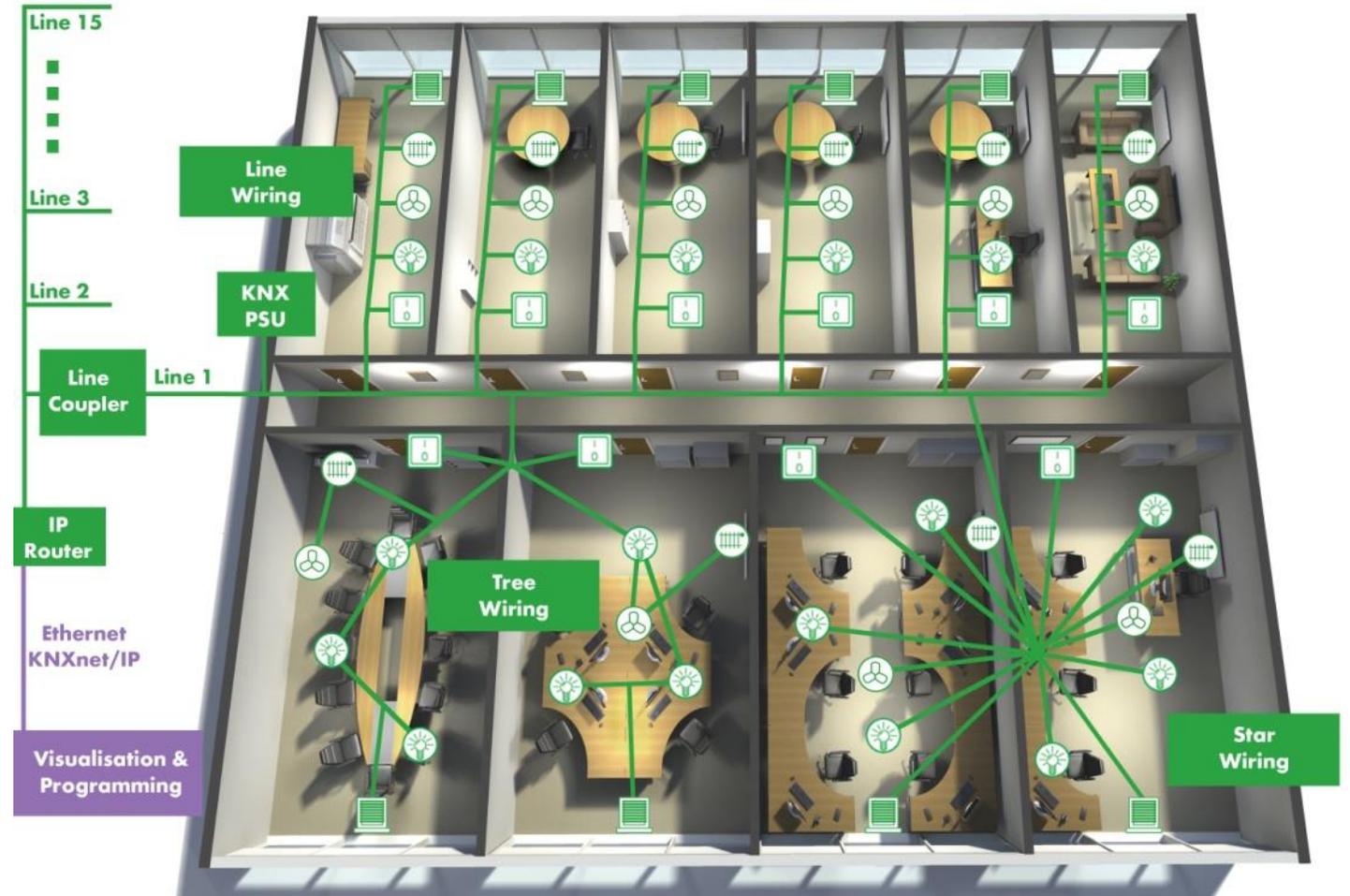
- \* Transmission speed: 9,600 bit/s
- \* Application program and device addresses are stored in the EEPROM of the bus coupling units
- \* Programmed using the Engineering Tool Software ETS



# ABB i-bus® KNX

## KNX Technology-57,000 Devices

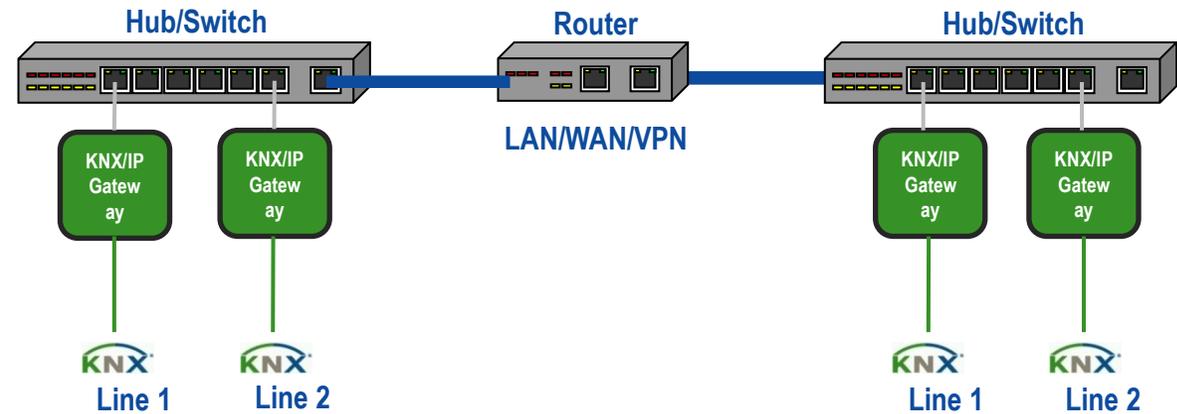
- Up to 15 lines can be connected to an area.
- Up to 15 areas can be connected to a Backbone Line.
- One bus cable is used for all.
- Totally scalable installation.



# ABB i-bus® KNX

## KNX over IP

- No capacity limit
- No bus traffic limitations
- Use existing networks
- KNX fibre optic option also available



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# ABB i-bus<sup>®</sup> KNX

Dali Lighting Control

# KNX DALI Gateway Premium

## Current portfolio



DG/S 8.1

- Broadcast control
- No addressing required
- 8 DALI channels
- max. 16 DALI devices per channel



DLR/S 8.16.1M

- Constant light control
- 1 DALI channel with max. 16 groups
- max. 64 DALI devices per channel
- 8 light sensors (LF/U2.1) can be connected



DLR/A 4.8.1.1

- Constant light control
- Decentralized solution (IP54)
- 1 DALI channel with max. 8 groups
- max. 64 DALI devices per channel
- 4 light sensors (LF/U2.1) can be connected



DG/S x.64.1.1

- Single/Group control
- Emergency light converter
- Max. 2 DALI channels
- max. 128 DALI devices
- Using templates
- **DALI-2 certified**



2020/03

DG/S x.64.5.1

- Single/Group control
- Emergency light converter
- Max. 2 DALI channels
- max. 128 DALI devices
- Using templates
- **DALI-2 certified**
- **Colour temperature Tc**

# ABB i-bus® KNX

## Dali Gateways

### Controlling light individually per device or in groups

Perfect solution for all applications:

- 1 DALI output for up to 64 DALI devices
  - 16 DALI Group
  - 64 single DALI
  - 64 Emergency Converter (self contained emergency devices acc. EN 62386-202)
  - 16 Lighting scenes
- Flexible combination in one DALI output
- Single- / Group - control and -monitoring via KNX
- Broadcast control possible

Simplified Planning & flexibility - One device for all

All functionalities  
one device:  
Single Control  
Group Control  
Emergency Converter

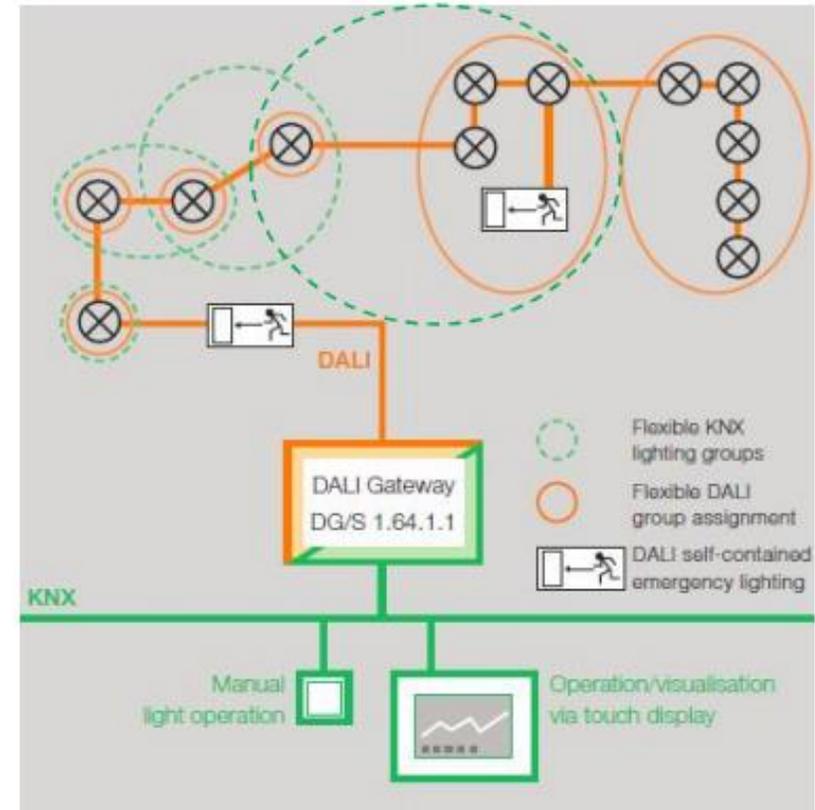


Basic **1fold** DG/S 1.64.1.1

Function  
duplicated



Basic **2fold** DG/S 2.64.1.1



# ABB i-bus® KNX

## Emergency Lighting Monitoring

**Emergency Lighting** is defined as lighting that is active in the event of a malfunction of the general artificial lighting in a building

Task:

- Minimum brightness to avoid panic
- Illumination of emergency escape route
- Orientation guide for exits
- Secured light for special working areas
- Light for security staff (e.g. fire brigade)
- In the event of power failure on ballasts, the emergency lighting is switched on automatically

Important: Monitoring of the system including tests (e.g. function) and logging of the result



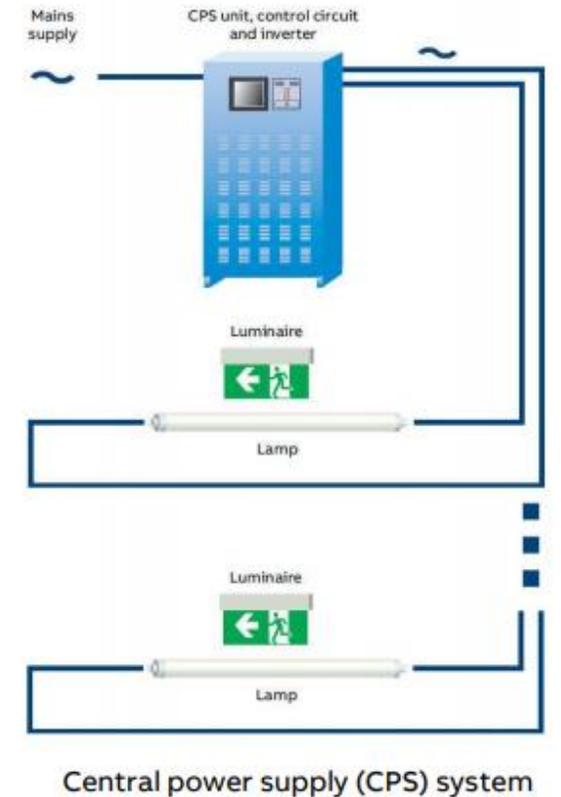
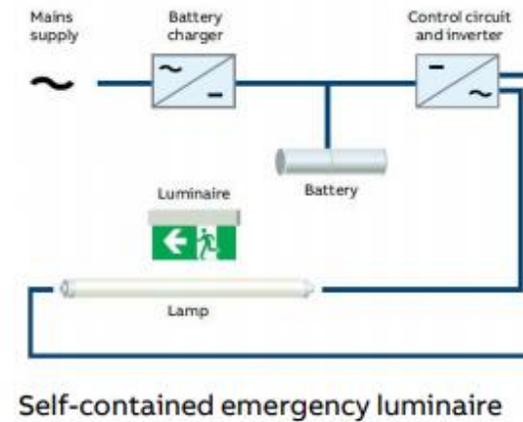
# ABB i-bus® KNX

## Emergency Lighting Monitoring

**Emergency Lighting** is defined as lighting that is active in the event of a malfunction of the general artificial lighting in a building

Spare energy can be:

- Battery
  - **Single battery (self-contained emergency lighting converters)**
  - Group battery
  - Central battery (a large set of batteries with control)
- Aggregates (e.g. diesel engine with generator)
- Special secured power network

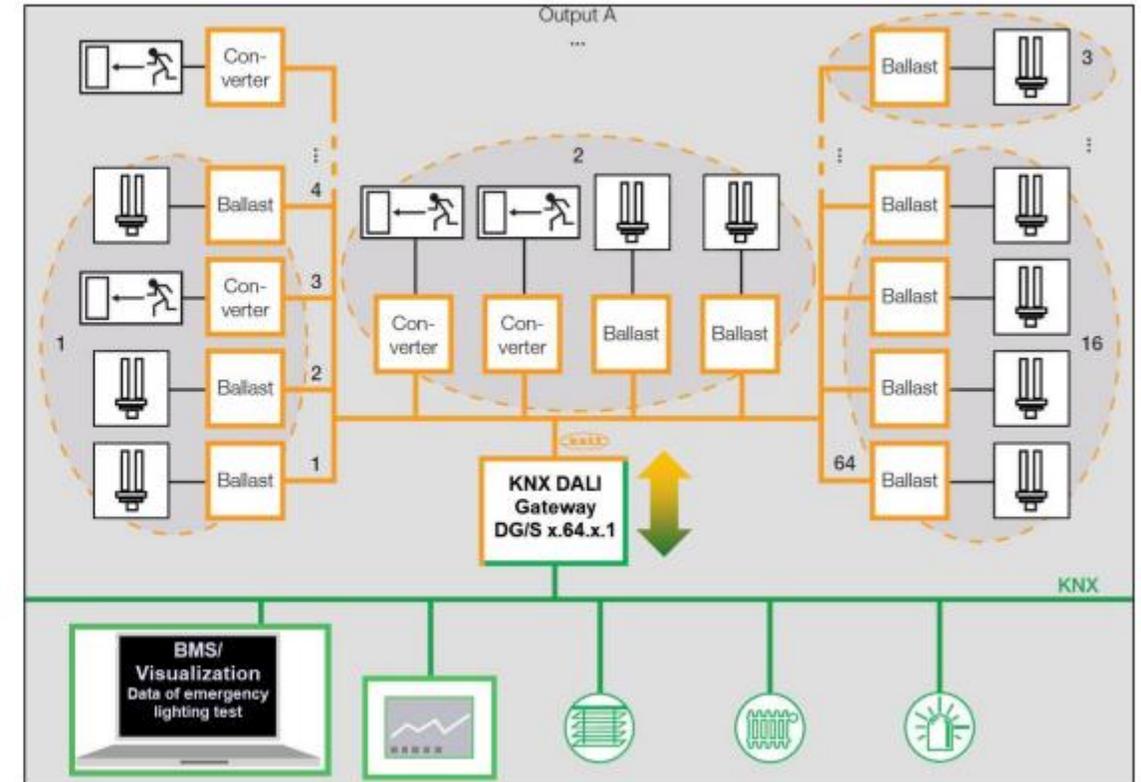


# ABB i-bus® KNX

## Emergency Lighting Monitoring

### KNX DALI Gateway DG/S x.64.x.1

- DALI emergency converter according to IEC 62 386 device type 1 (self-contained emergency lighting) are supported
- It controls and monitors an emergency lighting system and provides the information (test results) on standardized DALI telegrams according to IEC 62 386-202
- The DALI Gateway evaluates this information and transfer the test results on the KNX according to KNX standards (DPTs)
  - General and emergency lighting in one system with more functions and less investment
  - Great flexibility and easy commissioning from planning to completion
  - In any commercial project with KNX, DALI and emergency lighting it's a must to discuss this solution

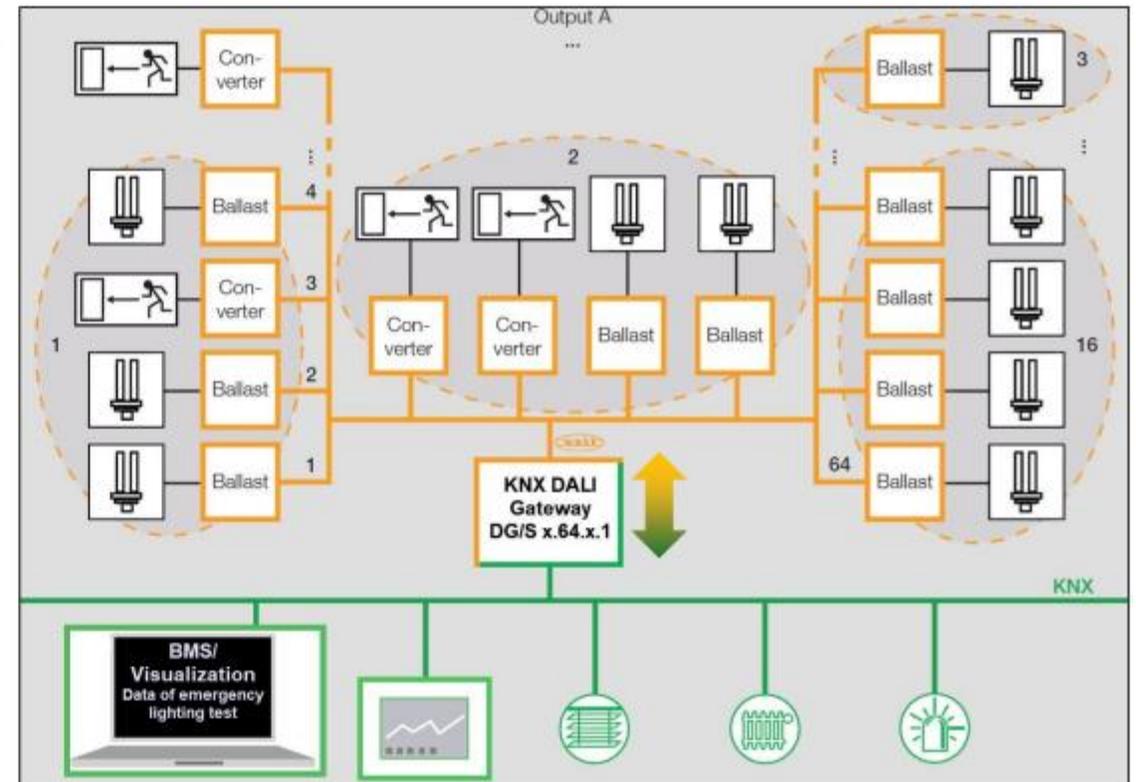


# ABB i-bus® KNX

## Emergency Lighting Monitoring

### KNX DALI Gateway DG/S x.64.x.1

- Provides no functionality in terms of the emergency lighting regulations, e.g. logging functions or other associated stipulated functions
- Serves as an intelligent mediator between KNX and DALI
- The various mandatory emergency lighting tests, e.g. function or duration tests, can be triggered via KNX using group objects, and the result provided in the same way
- This information can then be used for higher-level management (IoT Dashboard Server DBS/S, BMS or visualisation) of the emergency lighting, which triggers at prescribed times and captures, saves or logs the result provided on KNX via the DALI Gateway

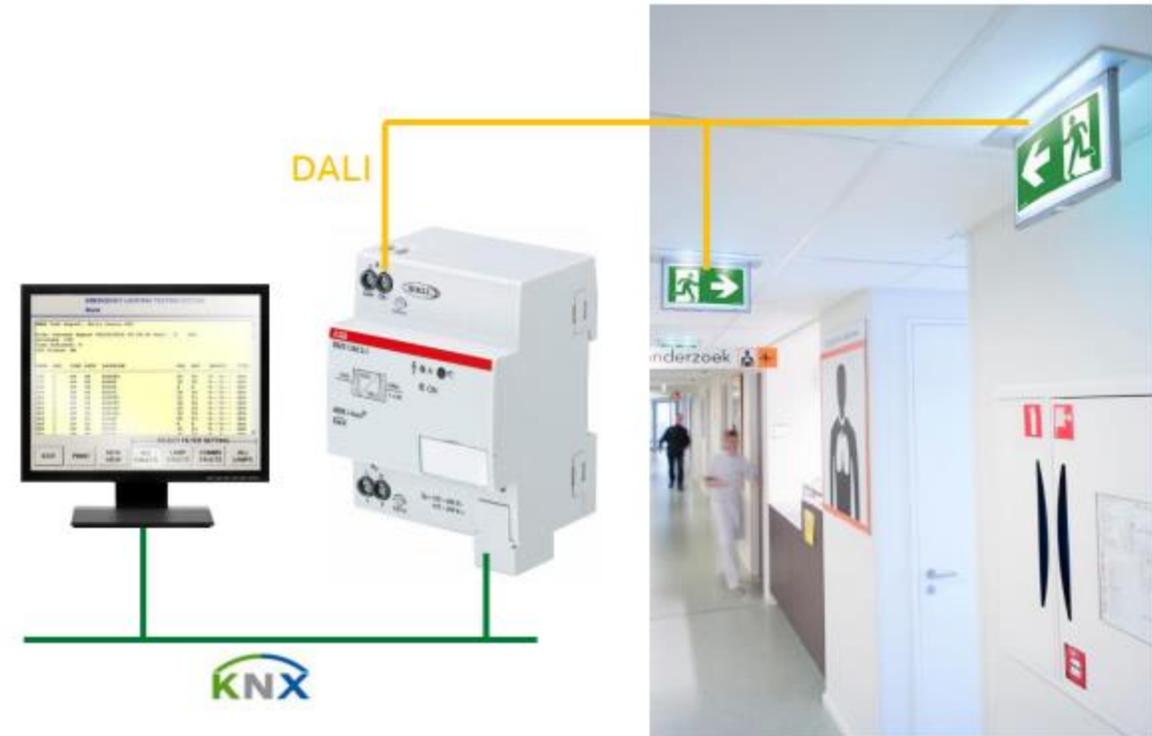


# ABB i-bus® KNX

## Emergency Lighting Monitoring

### Emergency lighting tests

- The various mandatory tests for emergency lighting are controlled by KNX group objects and the results are sent on KNX by further group objects
- The DALI Gateway sends a command to start a test (=request)
- This command is now pending in the emergency lighting converter and it decides when the test is carried out (running), e.g. the battery will still be charged after an em. lighting event
- A further option for emergency lighting tests is the use of an automated test interval controlled by the DALI emergency lighting converter itself
  - The interval duration is defined by KNX parameters
  - KNX group objects send the results on KNX
- With an ETS download, the results of the emergency light tests are deleted



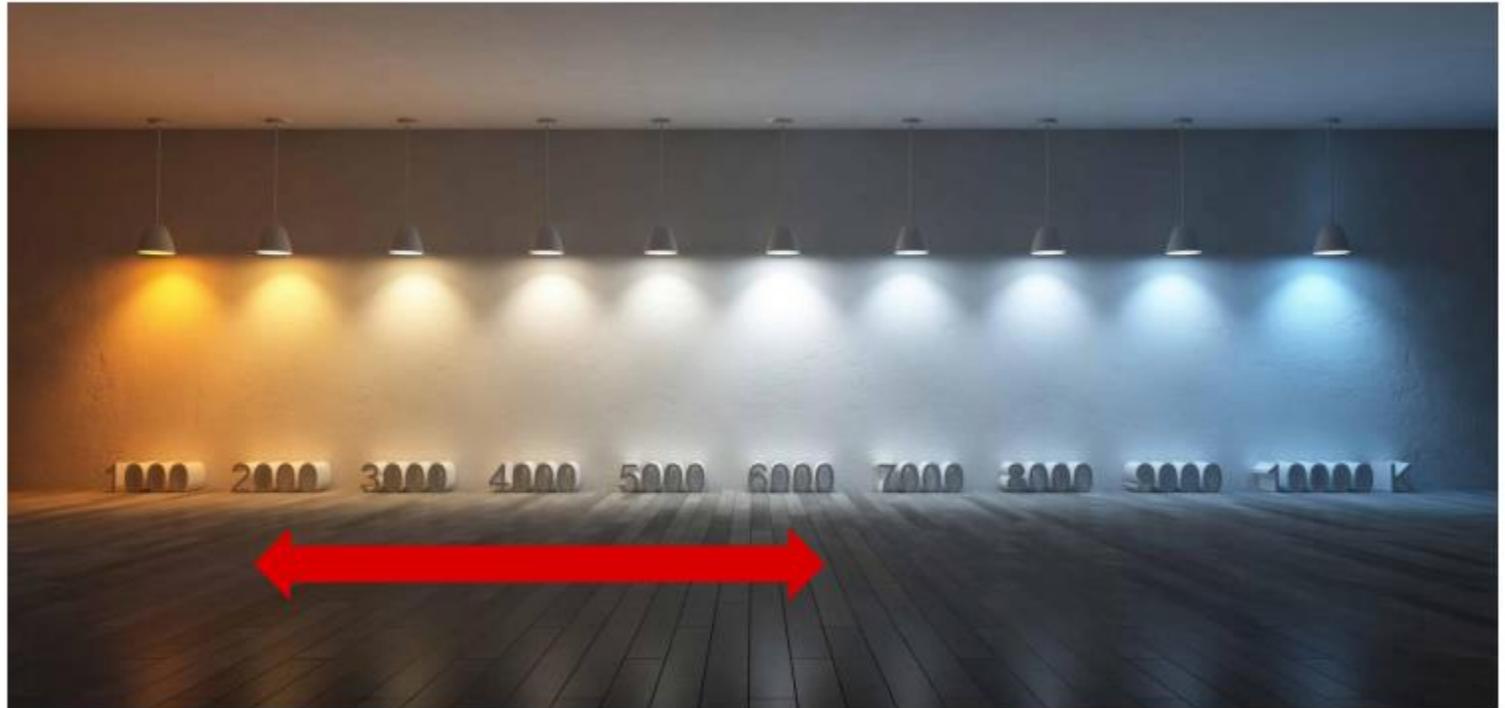
# ABB i-bus® KNX

## Dali Gateways - Premium

### Principle

Change of colour temperature  $T_c$  (Cold  $\leftrightarrow$  warm white) with dimming of colour temperature

- Typical range between 2,000K (Kelvin) and 6,000K depending on ballast and lamp
- 2,000K (warm white) ... 6,000K (cold white)
- Quality feature of light is not only brightness level, distribution in the room, no glare effects but also colour temperature  $T_c$
- Optimization of biological and emotional effects (performance and well-being) of light for human beings both in private environment and working activities
- Cold white  $\rightarrow$  activity, warm white  $\rightarrow$  relaxation
- Demand from the market and in projects, driven also by LED technology



Source: Internet

# ABB i-bus® KNX

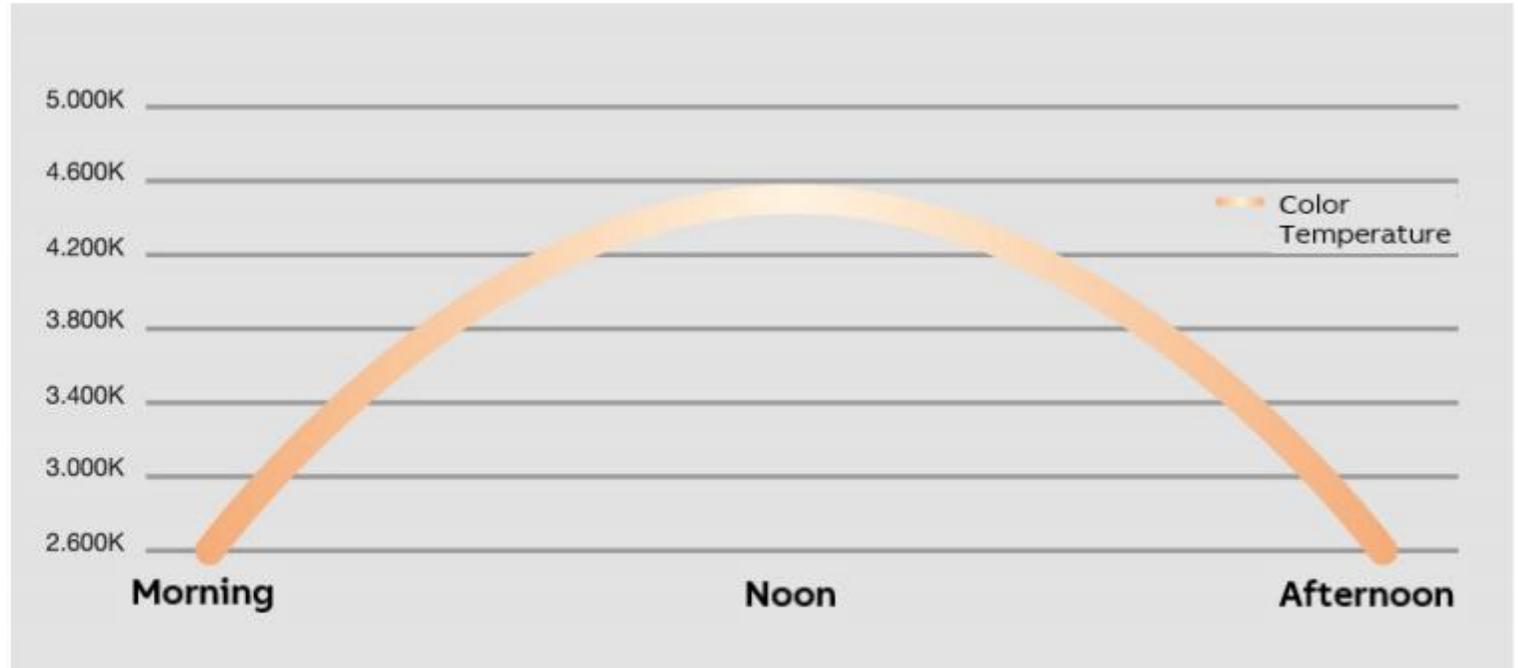
## Dali Gateways - Premium

### Principle

With Human Centric Lighting (HCL), the daylight is simulated in the building, means the colour temperature of the outside light is reproduced by colour temperature controllable lights in the room

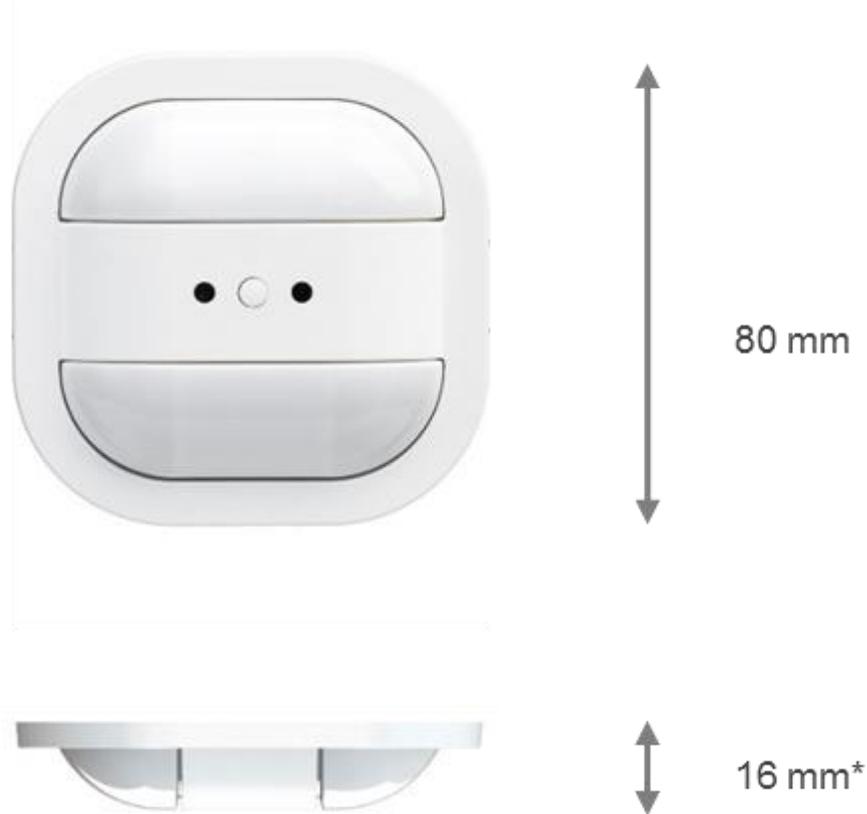
Actually it is the function tunable white, automatized for a dynamic and suitable light situation with change of colour temperature over the day and with all positive aspects mentioned before

In complex HCL lighting systems, brightness, light distribution, direction of light and colour temperature are varied. The dynamic of the daylight, the seasons and the location of the building are considered. Furthermore special light situation can be created, e.g. scene with cold light for focused working at a machine.



# ABB i-bus® KNX

The discrete servant! Automatic control of lighting, HVAC, shading, Absence\_Detection



- 8m presence detection at 3m height
- 2 power off stages (EN15232)
- integrated monitoring function
- 4x channels
- **HVAC function**
- 2x 2-channel constant light controller
- **4x constant light switches**
- integrated RTC
- 14/24 IR channels
- 5 logic channels
- **2x brightness sensor inputs**

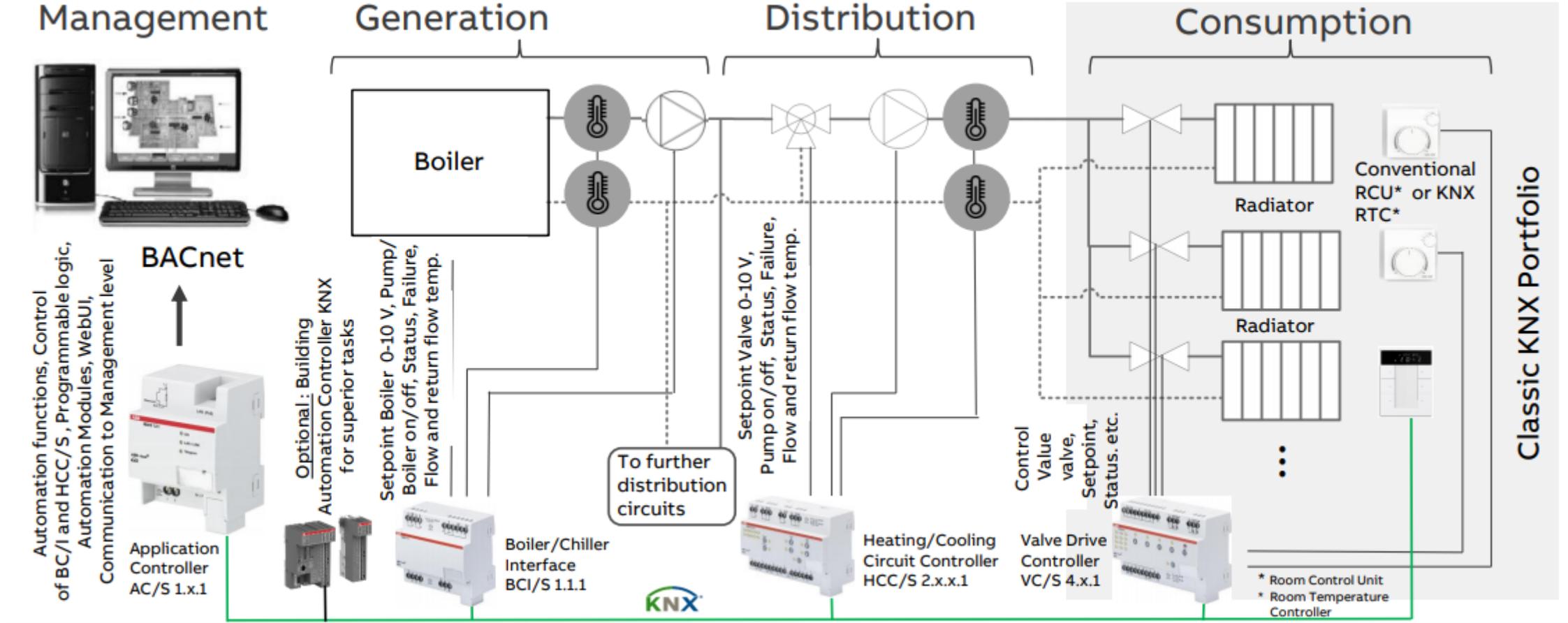


# ABB i-bus<sup>®</sup> KNX

HVAC

# ABB i-bus® KNX

## ClimaEco - Overview



# ABB i-bus® KNX

## ClimaEco – Fan Coils



**FCC/S 1.1.1.1**  
3-step Fan, PWM 2-fold



**FCC/S 1.1.2.1**  
3-step Fan, PWM 2-fold, man. Op.



**FCC/S 1.2.1.1**  
3-step Fan, Valve 0-10 V



**FCC/S 1.2.2.1**  
3-step Fan, Valve 0-10 V, man. Op.



**FCC/S 1.4.1.1**  
3-step Fan, PWM 1-fold  
(no additional switch contact)



**FCC/S 1.3.1.1**  
Fan 0-10 V, Valve 0-10 V



**FCC/S 1.3.2.1**  
Fan 0-10 V, Valve 0-10 V, man. Op.



**FCC/S 1.5.1.1**  
Fan 0-10 V, PWM 2-fold



**FCC/S 1.5.2.1**  
Fan 0-10 V, PWM 2-fold, man. Op.

# ABB i-bus® KNX

## ClimaEco – Basic Room Adjustment

### Motivation – Features

- Conventional (non KNX!) operating element for room temperature control (RCU) **NEW**
- Works together with Controller in FCC/S or VC/S
- Lower in price
- to be competitive in projects with demands for this solution
- Simple and cost efficient user interface but powerful system behind
- Two devices:
  - SAR/A with set point control for radiators, floor heating and cooling ceiling
  - SAF/A with set point and fan speed control for fan coil units
- Integrated temperature sensor
- White color
- Surface mounted



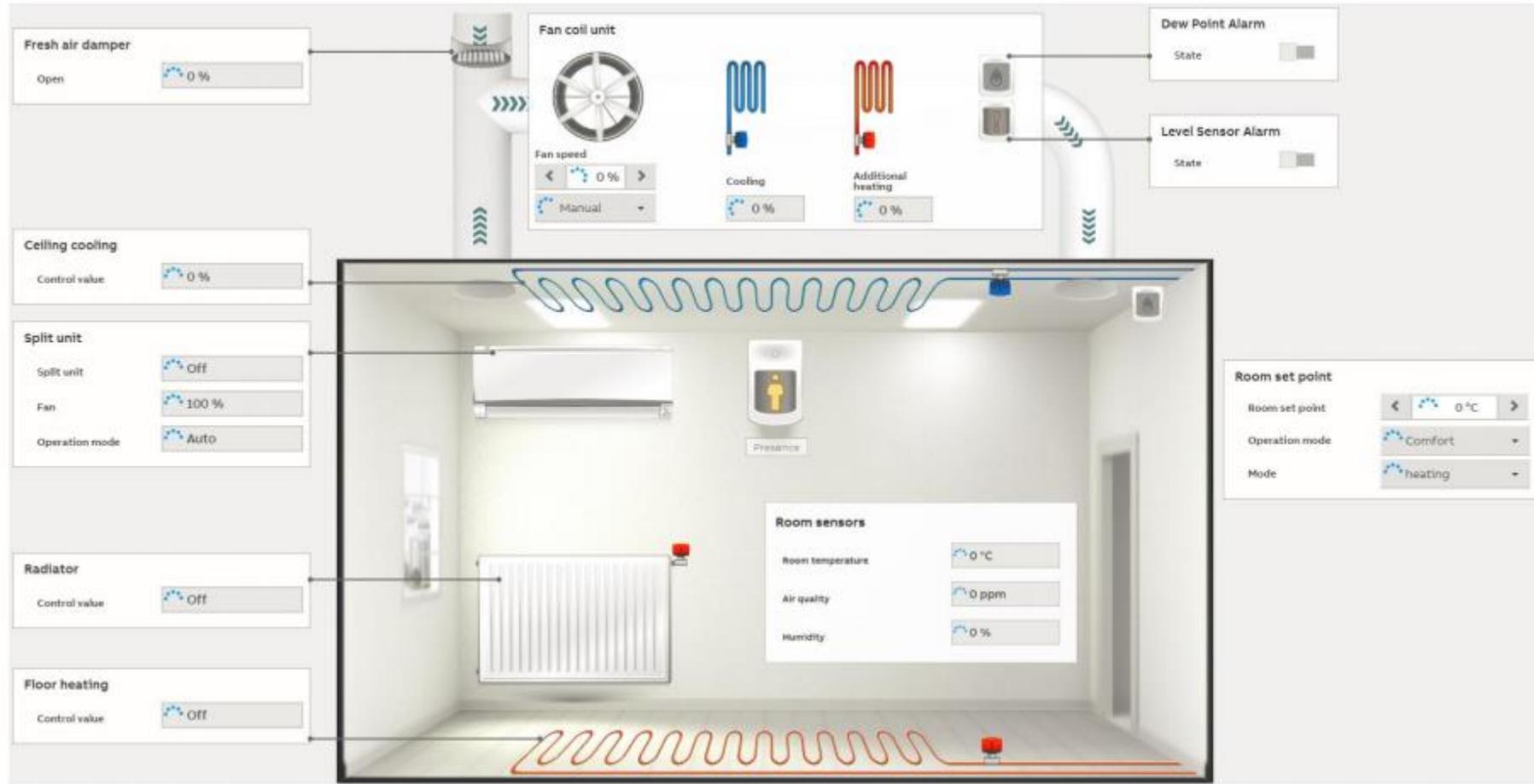
# ABB i-bus® KNX

## Front End Options



# ABB i-bus® KNX

## ClimaEco – Application Controller WebUI



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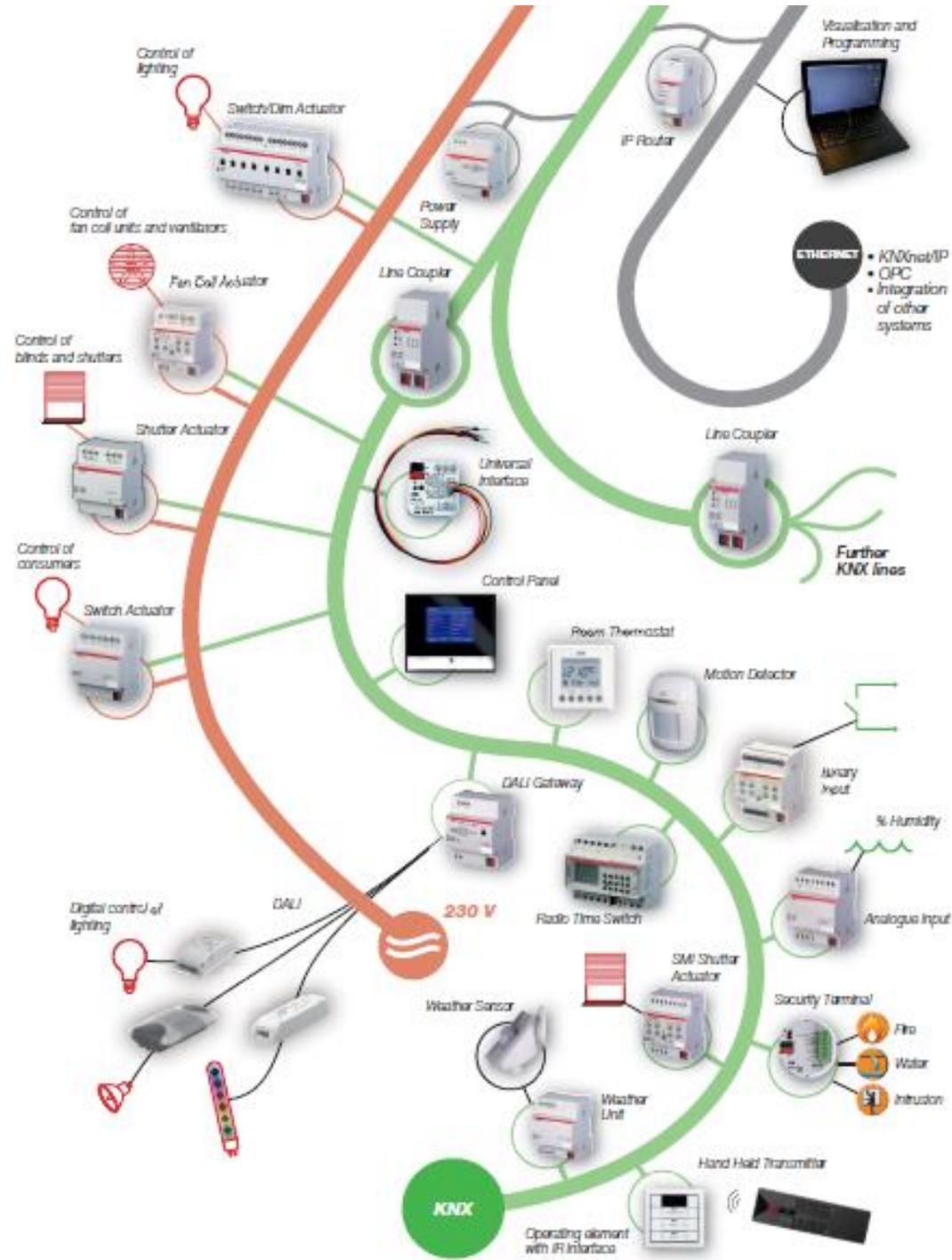
# ABB i-bus<sup>®</sup> KNX

Other Features

# ABB i-bus® KNX

## Functions for all buildings types:

- Lighting control and regulation
- Heating, ventilation, cooling
- Blinds and shutter control
- Security, access control and monitoring
- Energy and load management
- Visualization and operation
- Central automatic
- Remote control / maintenance
- Interfacing to other control systems



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# ABB i-bus® KNX

Audio Visual Control Companies in KNX Family

KNX can interface with a range of leading Audio Visual technology providers.



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# ABB i-bus® KNX

Integration



**DMX**



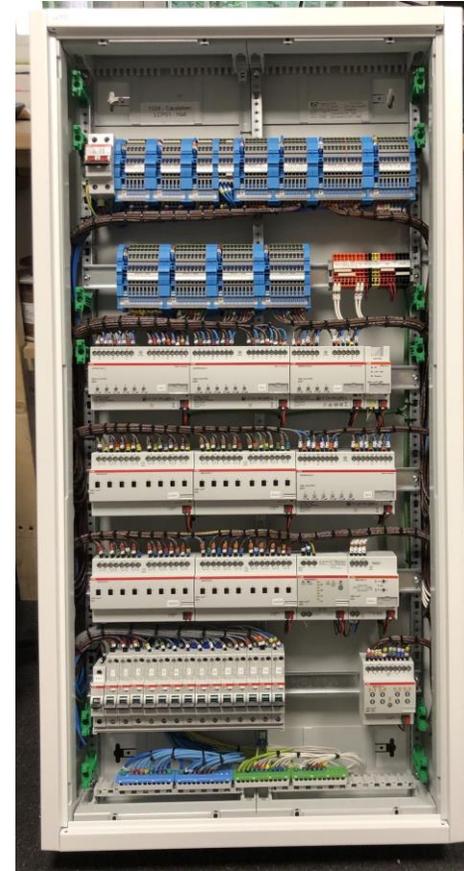
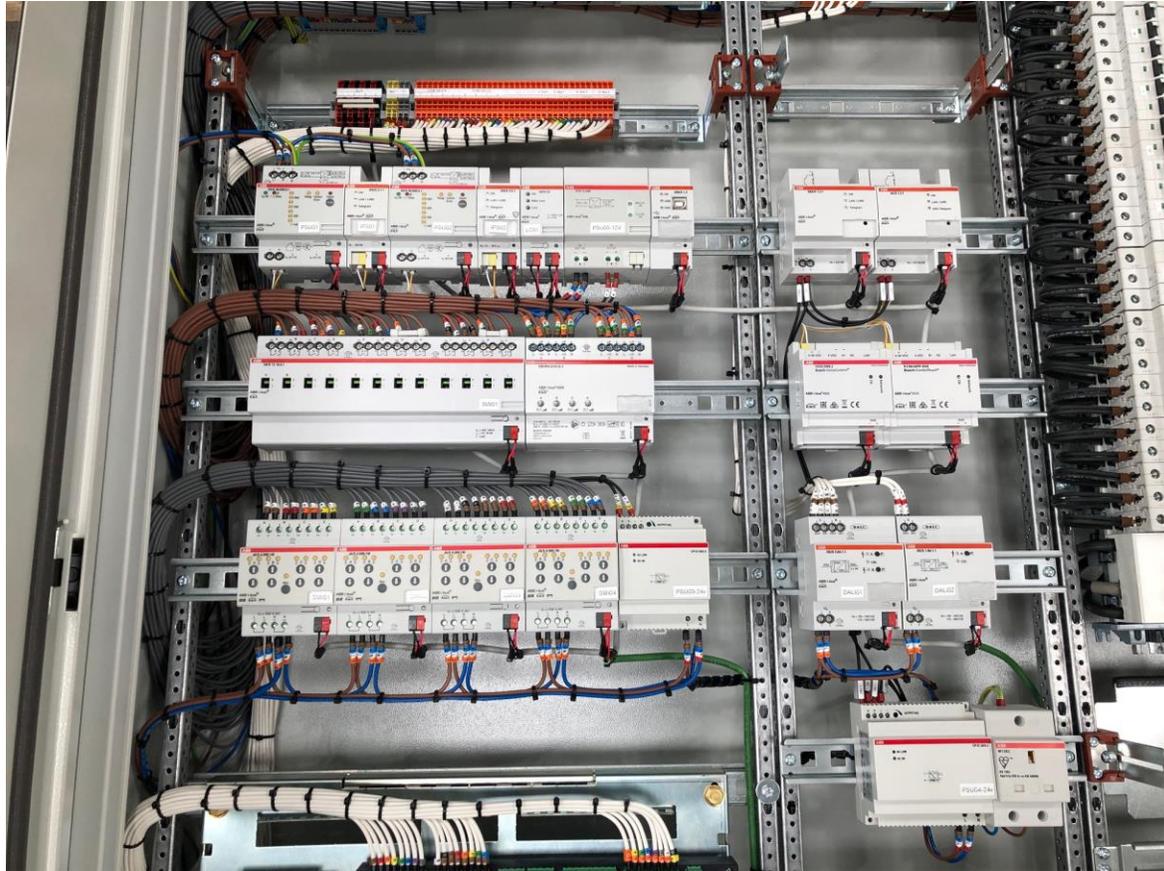
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# ABB i-bus<sup>®</sup> KNX

Panel Build

# ABB i-bus® KNX

## Panel Designs



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# ABB Cylon® Smart Building Solutions

ABB Cylon® at a Glance

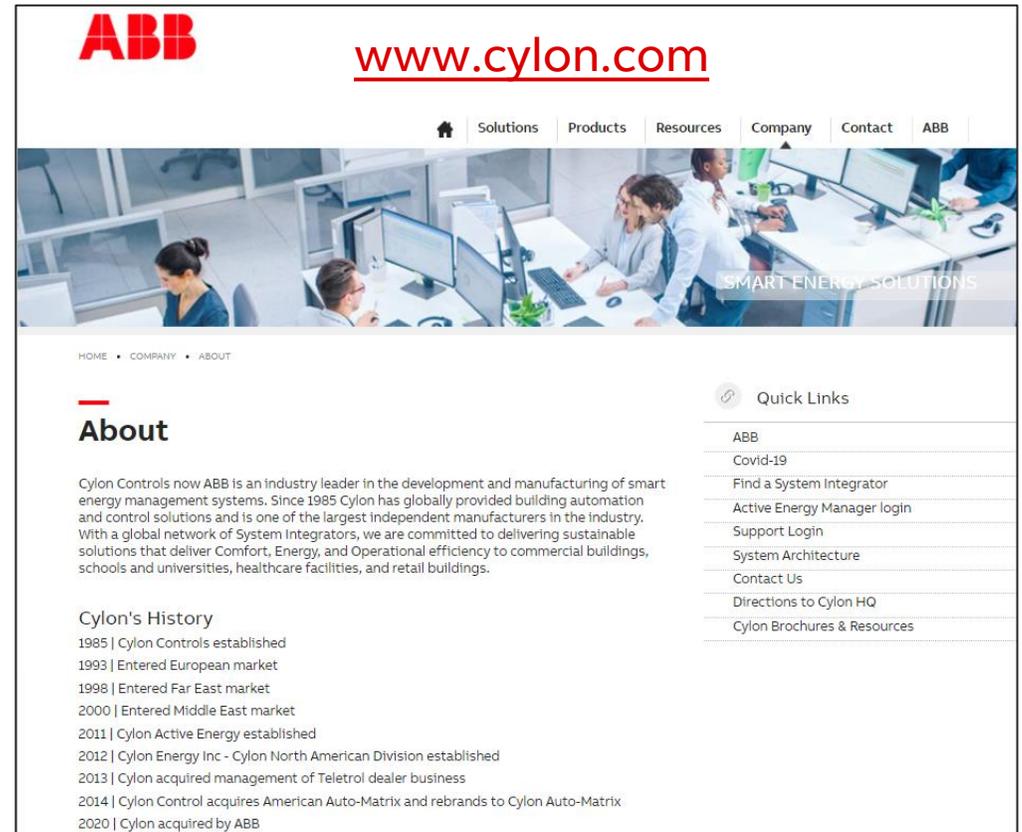
# ABB Cylon® Smart Building Solutions

## Fact and Figures

### Facts and Figures

ABB Cylon® Smart Building Solutions' comprehensive Building Automation and Controls portfolio integrates key building systems such as energy metering and management, HVAC control, HVAC drives, lighting, fire safety, security, and workplace management

- HVAC Control and more
- Energy Management
- Hard- and Software incl. Visualization
- Based on standard protocols like BACnet or Modbus
- Solutions and support
- Active in many key markets all over the world
- Close cooperation with partners and system integrators
- Headquarters in Ireland/Dublin



**ABB** [www.cylon.com](http://www.cylon.com)

Home Solutions Products Resources Company Contact ABB

SMART ENERGY SOLUTIONS

HOME • COMPANY • ABOUT

### About

Cylon Controls now ABB is an industry leader in the development and manufacturing of smart energy management systems. Since 1985 Cylon has globally provided building automation and control solutions and is one of the largest independent manufacturers in the industry. With a global network of System Integrators, we are committed to delivering sustainable solutions that deliver Comfort, Energy, and Operational efficiency to commercial buildings, schools and universities, healthcare facilities, and retail buildings.

#### Cylon's History

- 1985 | Cylon Controls established
- 1993 | Entered European market
- 1998 | Entered Far East market
- 2000 | Entered Middle East market
- 2011 | Cylon Active Energy established
- 2012 | Cylon Energy Inc - Cylon North American Division established
- 2013 | Cylon acquired management of Teletrol dealer business
- 2014 | Cylon Control acquires American Auto-Matrix and rebrands to Cylon Auto-Matrix
- 2020 | Cylon acquired by ABB

#### Quick Links

- ABB
- Covid-19
- Find a System Integrator
- Active Energy Manager login
- Support Login
- System Architecture
- Contact Us
- Directions to Cylon HQ
- Cylon Brochures & Resources

# ABB Cylon® Smart Building Solutions

## Positioning

- Visualization
- Energy Management
- Remote Access and Control
- Datalogger, Processing and Storage
- Cloud Connection
- Interfacing

- Automation
- Time Functions
- Scheduler
- Logic Functions
- Controller

- Field Devices
- Operation
- Display
- Actuators
- Sensors

Management Level

Automation Level

Field Level

ABB Cylon® BACnet and Modbus  
ABB i-bus® KNX

Number of Data

Number of Components

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# ABB Cylon® Smart Building Solutions

Industrial, Commercial & Residential

**Hotels, hospitality, restaurants and bars**



**Retail and Shopping**



**Education and healthcare**



**Office, building and residential**



**Theatre, sports and stadiums**

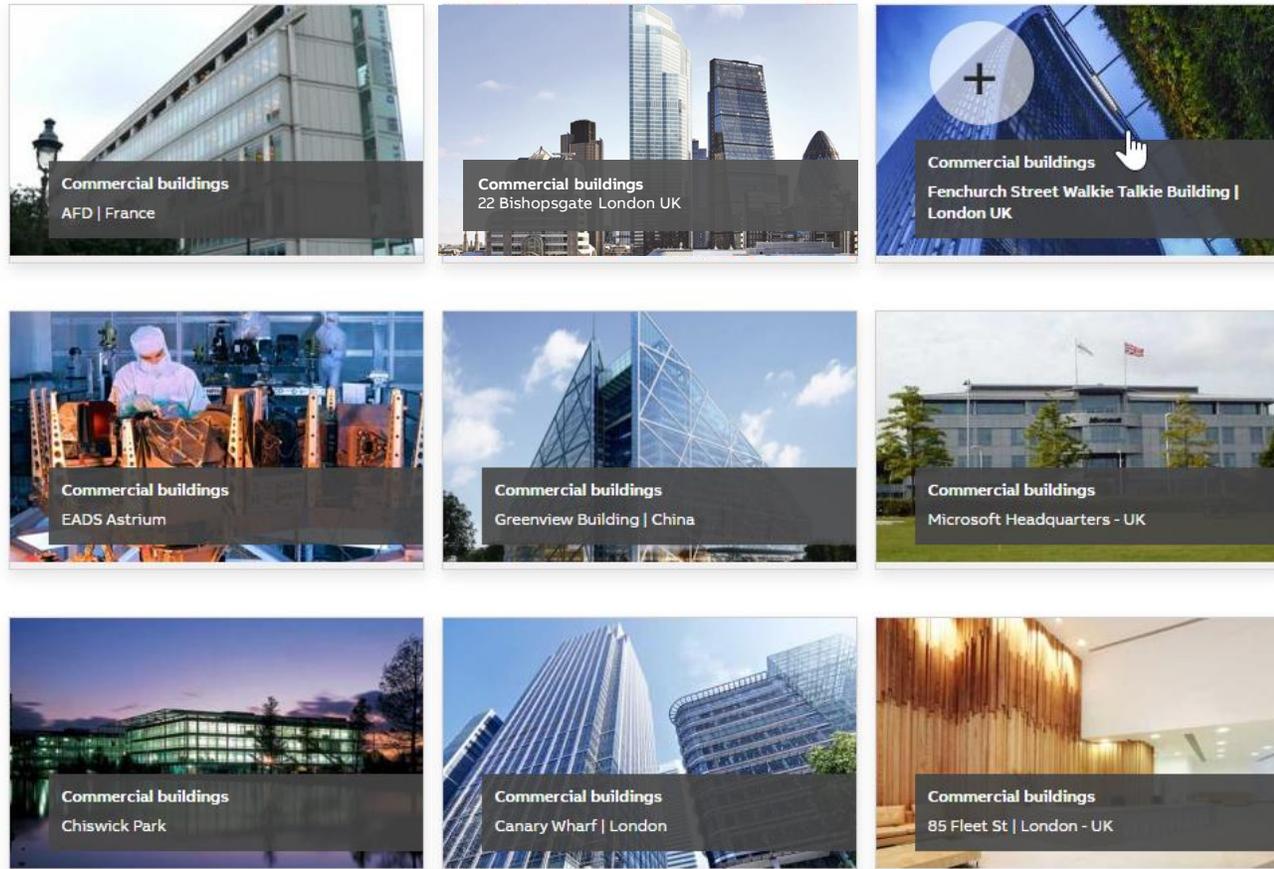


**Parking, infrastructure and transport**



# ABB Cylon® Smart Building Solutions

## Global Projects



### Office, building and residential



### Education and healthcare



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# ABB Cylon® Smart Building Solutions

ABB Cylon® Smart Building Solutions - Details

# ABB Cylon® Smart Building Solutions

## Range Overview

Main Plant Controller Digital/Analogue IO's	<b>CBXi FLX</b>	CBXi-8R8(-H) FLX-4R4(-H), FLX-8R8(-H) FLX-16DI, FLX-PS24
	<b>CBX FLX</b>	CBX-8R8(-H) FLX-4R4(-H), FLX-8R8(-H) FLX-16DI, FLX-PS24
Variable Air Volume Controller	<b>CBV</b>	CBV-2U4-3T/-N
Terminal Controller	<b>CBT</b>	CBT-3T6-5R CBT-4T4-2U1R
Main Plant Controller Digital/Analogue IO's	<b>FLXeon</b>	FBXi-X256 FLX-4R4(-H), FLX-8R8(-H) FLX-16DI, FLX-PS24
Variable Air Volume Controller	<b>FLXeon</b>	FBVi-2U4-4T



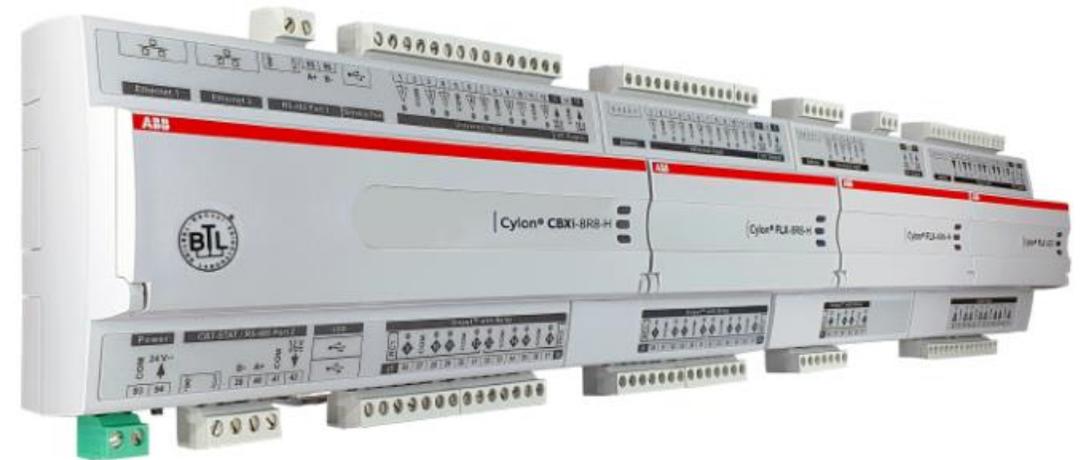
# ABB Cylon® Smart Building Solutions

## ABB Cylon® CB Series

ABB Cylon® CB Series BACnet field controllers feature the CBX(i) System, CBT and CBV Series

A wide selection of state-of-the-art controllers for HVAC control of a building's mechanical and electrical systems including Elevators, Security (Card Access & CCTV), Parking Gate System and more

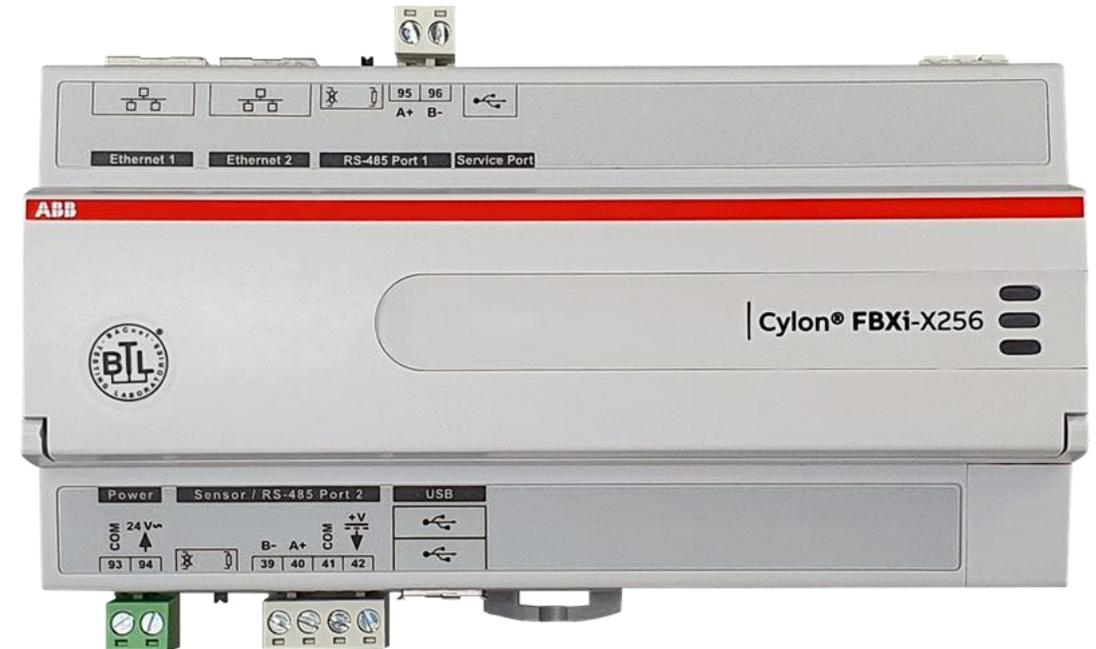
- Freely programmable controller for various applications
- BACnet/IP (CBXi) and BACnet MS/TP (CBX, CBXi, CBT, CBV)
- Modbus TCP (CBXi) and Modbus RTU (CBX, CBXi, CBT, CBV)
- Uniputs™ - universal in- and outputs, digital and analogue
- Extendable IO's with FLX modules (modular hardware)
- With and without manual operation



# ABB Cylon® Smart Building Solutions

## Features FBXi-X256

- The FBXi-X256 is a freely programmable BACnet Controller with native BACnet/IP communications support
- The FBXi-X256 controller supports multi-protocol communications simultaneously including **BACnet/IP, BACnet MS/TP, Modbus TCP and Modbus RTU**
- No integrated in- and outputs
- Support for up to 16 FLX (Field Level eXpansion) series extension modules providing up to 256 points of control
- Dedicated input for Cylon® room sensors (CBT-STAT or UCU Room Display)
- CXpro<sup>HD</sup> Accommodation: The controller accommodates available pre-engineered strategies or can be tailored to custom applications using CXpro<sup>HD</sup> programming software



# ABB Cylon® Smart Building Solutions

## Range Overview

Room and Panel Displays	Room Sensors/ Displays	CBT-STAT (Room Sensor) UCU (Room Display) eXplore
Engineering	Software	CXpro <sup>HD</sup>
Visualization	Software/ Hardware	Nexus Matrix Aspect-Studio and Enterprise
Visualization	App	AeroBT (for CBV devices, view, edit, and configure operating parameters of VAV)
Engineering	INTEGRA <sup>TM</sup>	IT-8000 INTEGRA-Supervisor INTEGRA-ProPack
Sensors	Wired/ Wireless	Temperature Humidity Air Quality



**CXpro<sup>HD</sup>**  
ABB Engineering Software



# ABB Cylon® Smart Building Solutions

## Communication Protocols

### Definitions

**Modbus** is an open communication protocol, popular in industrial environments and royalty-free

- Modbus RTU (Remote Terminal Unit) serial communication via RS 485
- Modbus TCP Modbus variant used for communication over TCP/IP

**BACnet** is a communication protocol for Building Automation and Control (BAC) networks.

BACnet was designed to allow communication of building auto- and control systems for applications such as heating, ventilating, and air-conditioning control (HVAC), lighting control, access control, and fire detection systems and their associated equipment

- BACnet MS/TP (Master-Slave/Token-Passing) via RS 485 and twisted pair cable with 9,6 kbit/s to 115,200 kbit/s
- BACnet/IP (Internet Protocol)

Source: Wikipedia

# Modbus



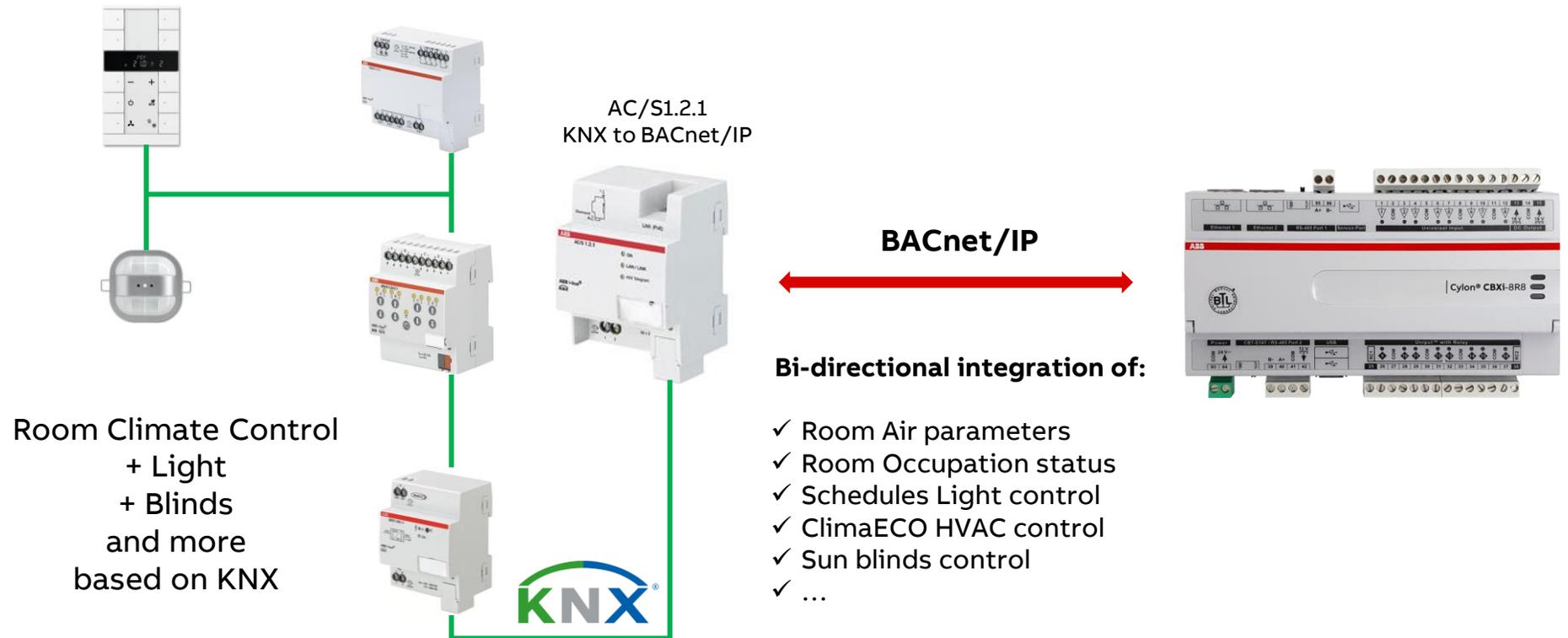
BACnet® is a registered trademark of ASHRAE

# ABB Cylon® Smart Building Solutions

## Integration ABB Cylon® with ABB i-bus® KNX

### ABB Cylon® with KNX

- Advanced Room Solution with detailed data from each room, shared with higher HVAC controls automation layer
- ABB i-bus® KNX devices can pass values of room parameters using Application Controller AC/S 1.2.1
- ABB Cylon® HVAC Automation controllers will use those parameters to control main HVAC equipment based on room climate demand



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# ABB Cylon® Smart Building Solutions

eXplore - Display

# ABB Cylon® Smart Building Solutions

eXplore - IP-based Capacitive Touch Screen Display



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# ABB Cylon® Smart Building Solutions

ASPECT® - Building Control

# ABB Cylon® Smart Building Solutions

ABB Cylon® ASPECT® - Targets Scale

## MATRIX



### Small Sites

Up to 2.5K points capacity  
on a single  
MATRIX target

## NEXUS



### Medium Sites

Up to 10K points capacity  
on a single  
NEXUS target

## ASPECT-Enterprise



### Large sites

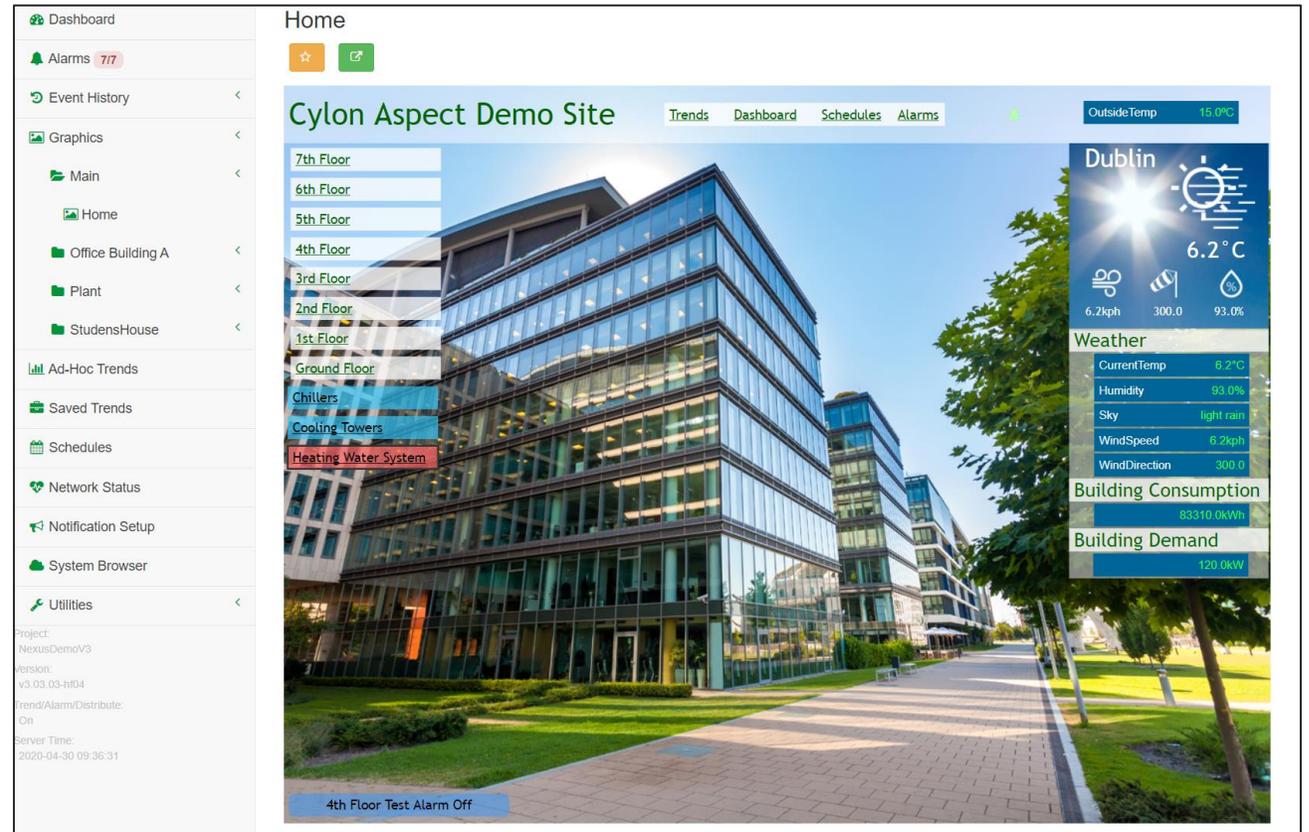
Up to 100K points capacity  
on a single  
ENTERPRISE target

# ABB Cylon® Smart Building Solutions

ABB Cylon® ASPECT® - Web Browser Access from any Location

## Features

- User defined graphics
- Standardized menus
- Compatible with any mobile device



# ABB Cylon® Smart Building Solutions

## ABB Cylon® ASPECT® - Floor Overview

### Features

- Easy access to room parameters
- Alarm notifications using colour flooding

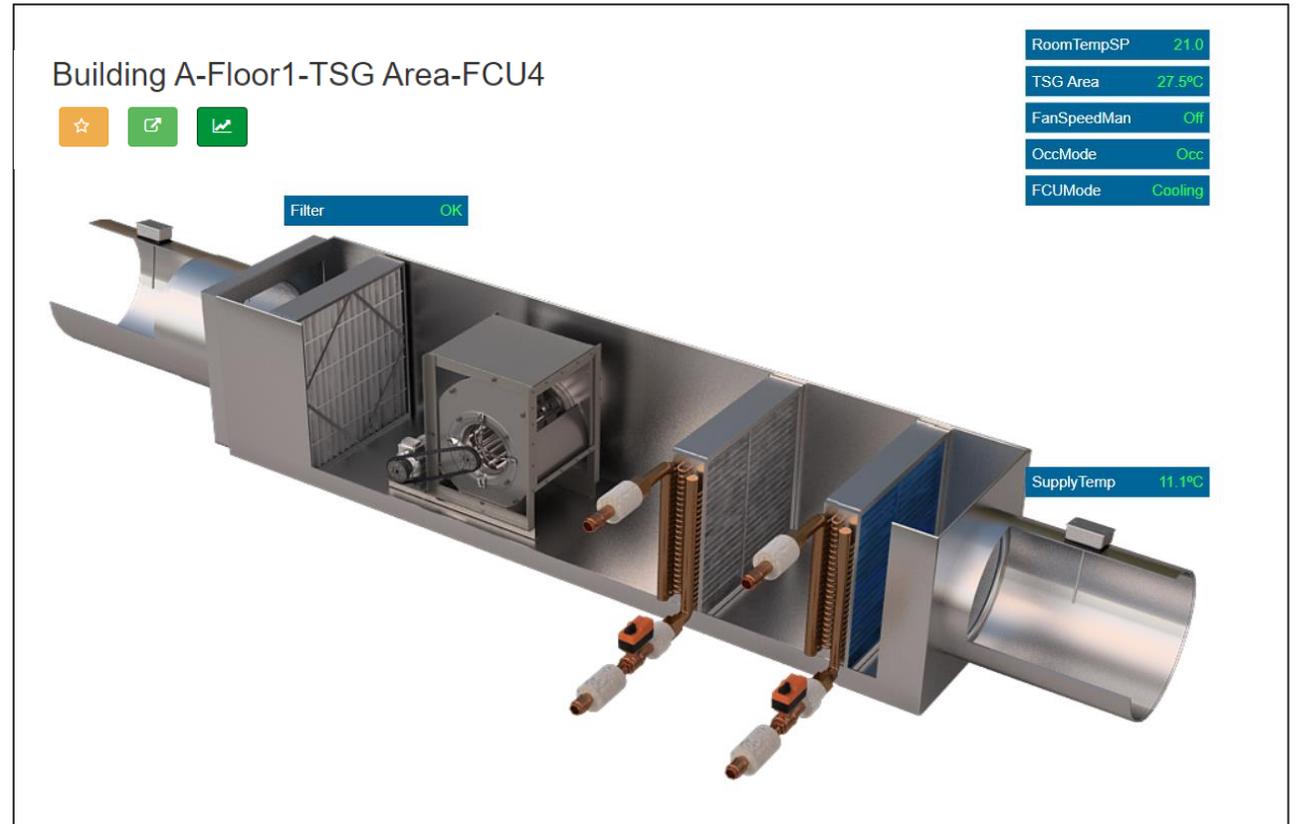


# ABB Cylon® Smart Building Solutions

## ABB Cylon® ASPECT® - Graphics

### Features

- Intuitive process visualization
- Easy parameters change
- Device current status visualization

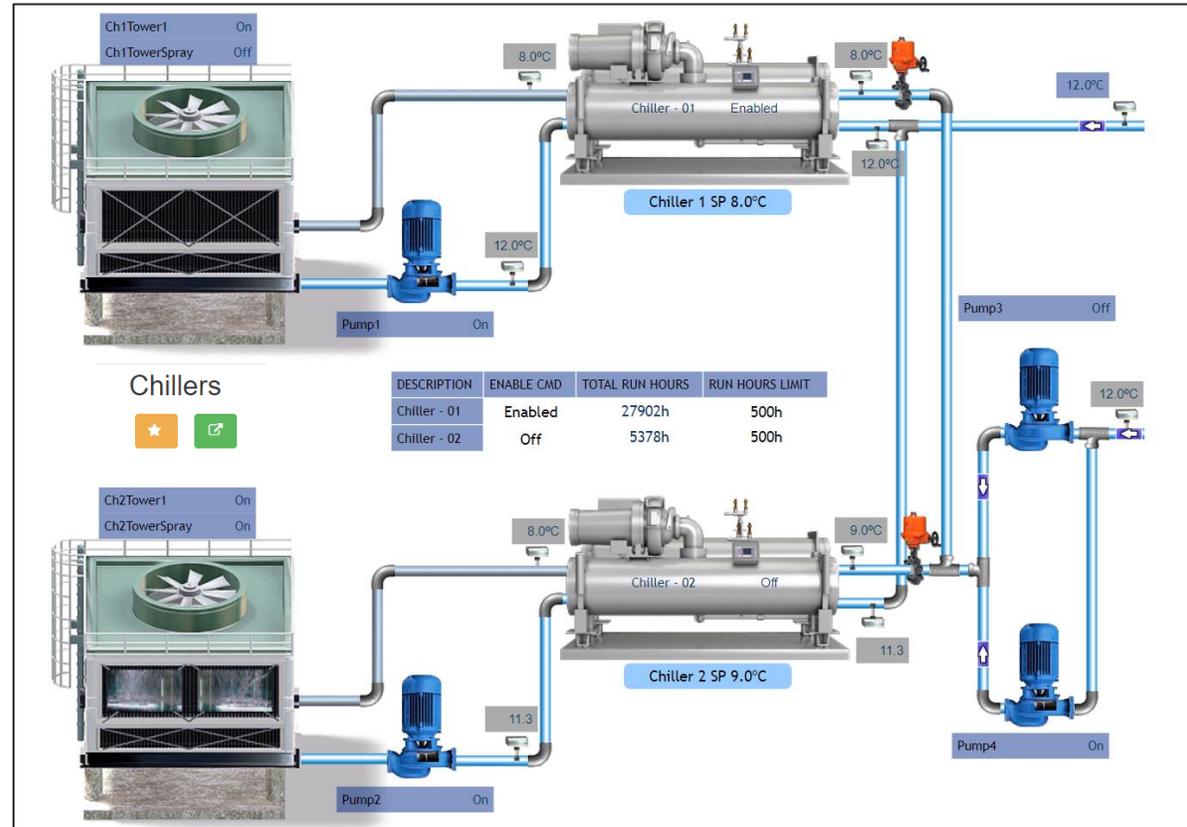


# ABB Cylon® Smart Building Solutions

## ABB Cylon® ASPECT® - Process Visualization

### Features

- Clear process visualization
- Restricted access to specific parameters

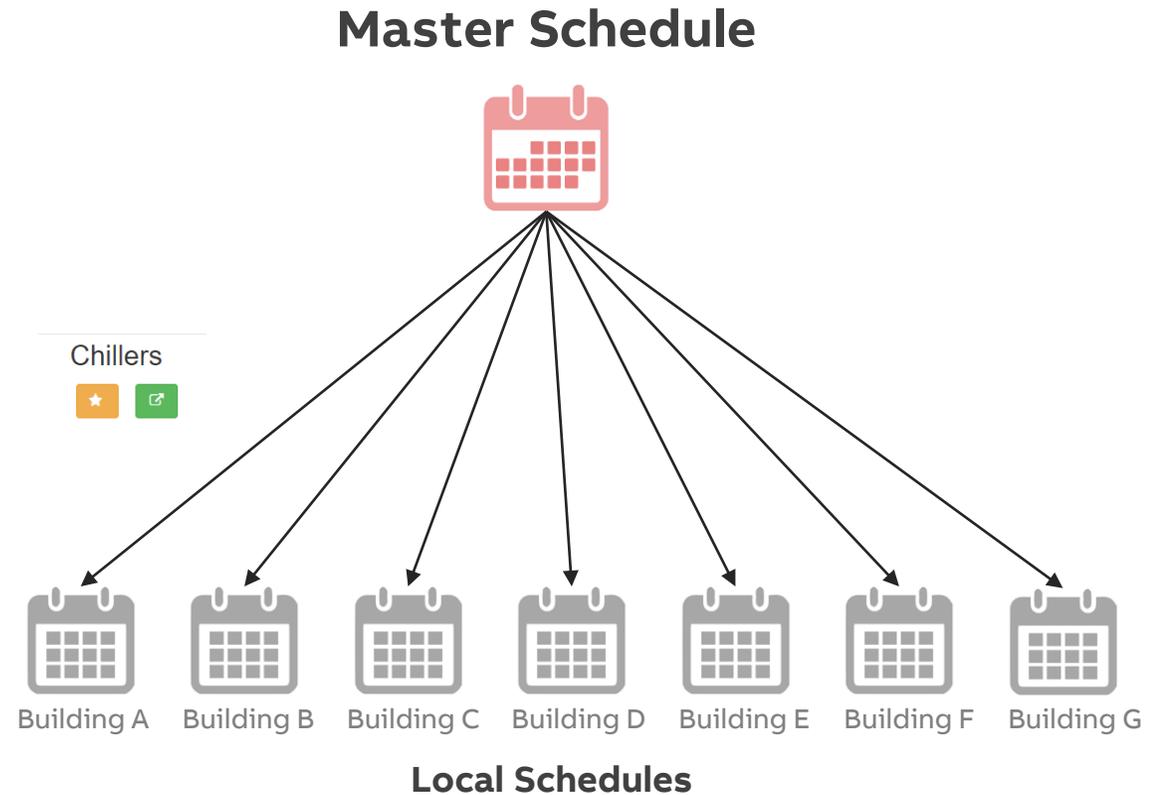


# ABB Cylon® Smart Building Solutions

## ABB Cylon® ASPECT® - Schedules

### Features

- Single master schedule for multiple local schedules
- BACnet Schedules compatibility
- Monitored schedules distribution
- Easy change of on/off Times in multiple destinations
- Suitable Solution for Multi Site Retail and Campus type sites

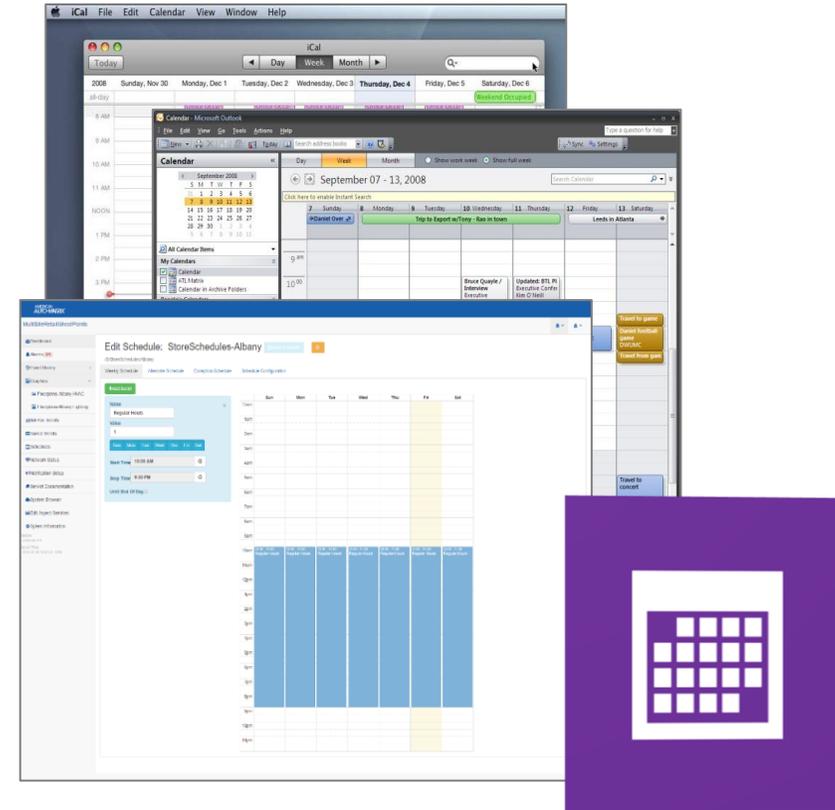


# ABB Cylon® Smart Building Solutions

## ABB Cylon® ASPECT® - Schedules

### Features

- Multiple scheduling options available
- Onboard scheduling via HTML5 dashboard interface provides seamless integration
- iCal integration allows customers to select compatible 3<sup>rd</sup> party software solution
- BACnet schedule modification & distribution to lower-level devices (e.g. via KNX Application Controller AC/S 1.2.1)



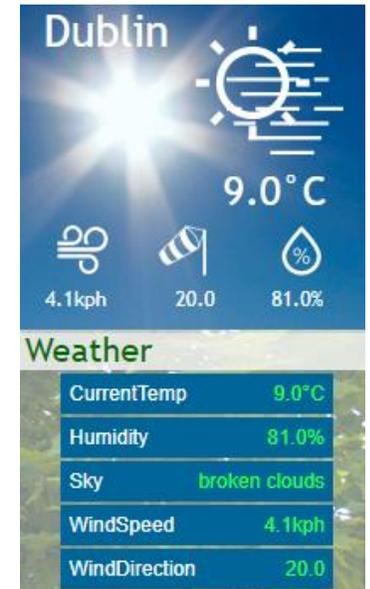
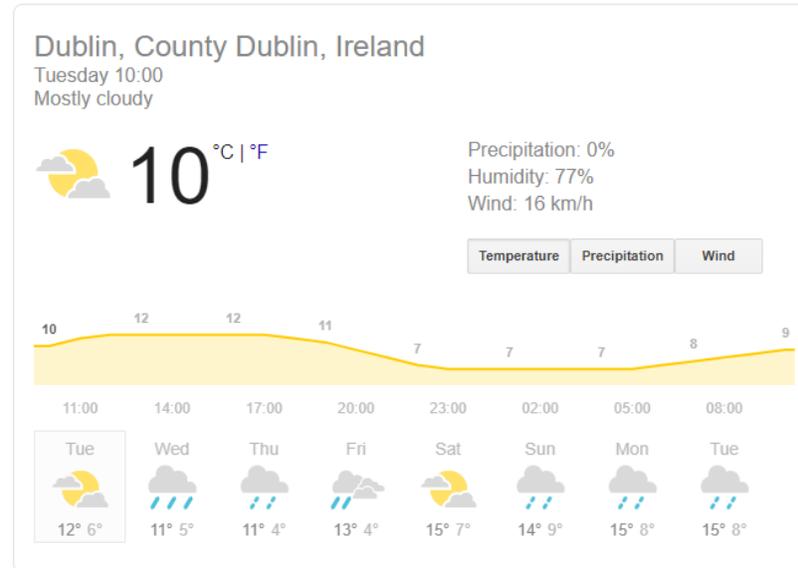
# ABB Cylon® Smart Building Solutions

ABB Cylon® ASPECT® - Data Integration via XPath

## Gather information from any XML Source

- Data from XML tables can be integrated to create more dedicated and automated control
- For example: Weather services can be utilized to manage building routines based on predicted weather patterns
- Location-based services can be used to let your building know when you have entered or left the proximity of a building and automatically adjust setpoints, manage lighting, etc.

## Weather services data



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# ABB Cylon® Smart Building Solutions

Summary and Conclusion

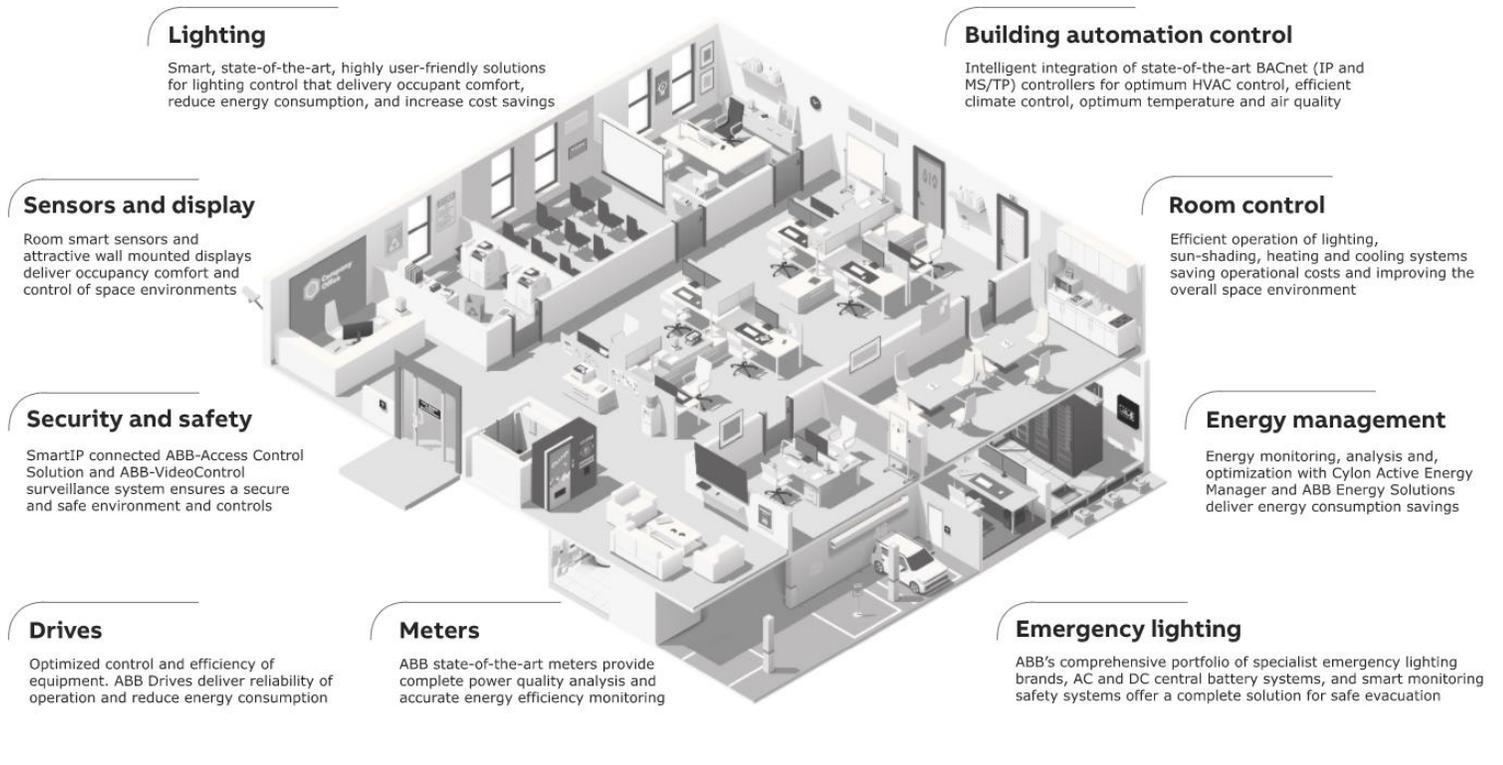
# ABB Cylon® Smart Building Solutions

## Summary and Conclusion

### Integration

ABB Cylon® Smart Building Solutions' comprehensive Building Automation and Controls portfolio integrates key building systems such as energy metering and management, HVAC control, HVAC drives, lighting, fire safety, security and workplace management

- Extension and completion of ABB's Building Automation portfolio
- Access to further markets, projects and customer
- Support of the major open communication protocols in Building Automation (BACnet, Modbus and KNX)
- Value proposition – holistic commercial building solutions



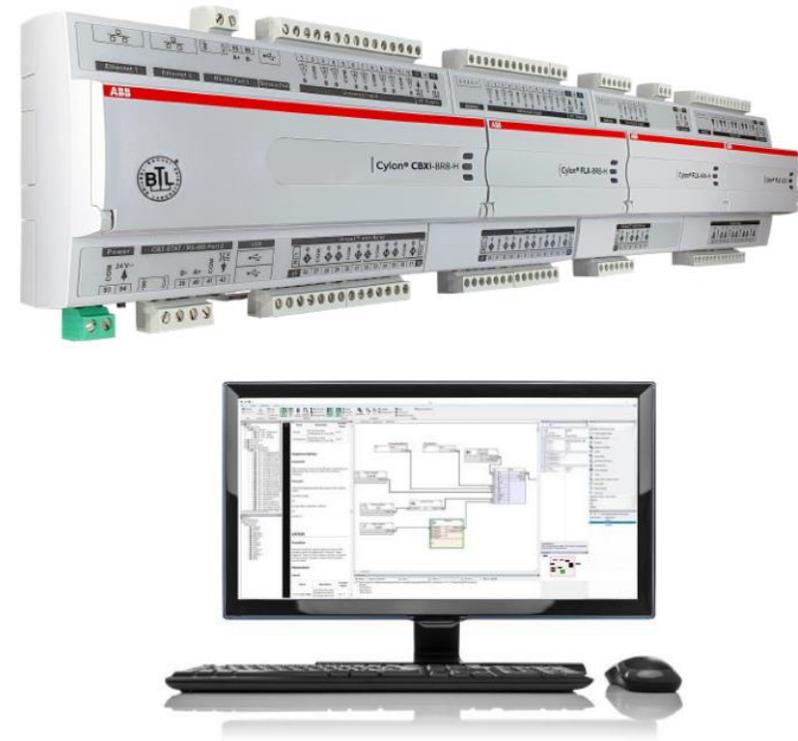
# ABB Cylon® Smart Building Solutions

## Summary and Conclusion

### Benefits

Combined technologies working together in a seamless way

- Scalable and flexible IO-modules for all kind of applications
- Patented Uniput™ technology (digital/analogue IO's)
- Powerful programming tool CXPro<sup>HD</sup>
- ASPECT® webbased Building Management Technology
- INTEGRA™ Building management system based on the Niagara-Framework®
- With connection to ABB i-bus® KNX powerful solutions in lighting, shading and local operation available
- Further ABB building solutions from a single source now obtainable (drives, metering, flow measurement, emergency lighting)
- Worldwide presence and support thanks to ABB's international power



# Product Summary

## Website

### Online

Product information

Specification sheets

Catalogues / Literature

Lumdat files

<https://new.abb.com/buildings/smarter-building>



GLOBAL SITE



Our offering

Segments / building types



Emergency lighting



Central battery systems



Monitoring & management systems



Fire systems



Service

Commercial & Government



Office buildings & residential



Hospitality



Retail / shopping



Healthcare



Education



Public administration

Industrial



Industry



Theater, sports, stadium



Parking, infra & transport

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# CDP's and Training

## Offering

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CPD's at your premises or via MS Teams or even at one of the ABB facility across the UK.

- Central Battery Systems
- ICEL Risk Assessment
- Testing/Monitoring Emergency Lighting
- Emergency Lighting Standards and Guidance
- Saving Energy & Costs using the correct EML

We also ofer.

- In house product training
- Onsite product training
- Factory Visit
- System Training



**ABB**