Making light work

DALI LIGHTING SYSTEMS

Lighting Controls

DLS – DALI Lighting Systems

Honeywell

DLS DALI LIGHTING SYSTEMS

Addressable lighting control

DLS Connect is a fully featured DALI lighting control system embedded within a best in class LightSpot HD sensor. Ideal in modern work spaces with open soffits and areas needing discrete fittings. A simple implementation of a powerful DALI addressable system.

MAKING LIGHT WORK OF DALI ADDRESSABILITY

Ex-Or has been creating award winning lighting control systems since 1984. Our unrivaled expertise has delivered some of the industry's most innovative solutions. DALI Lighting Systems (DLS) has been developed to simplify the installation, commissioning and maintenance of DALI addressable lighting.

DLS covering single room systems to fully integrated DALI lighting and BEMS integration.Ex-Or has redefined DALI addressability.

Making light work for comfort and productivity

- Sophisticated DALI addressable functionality without the typical complexity and high maintenance costs often associated with traditional DALI systems

- Create comfortable productive spaces by the simple programming and recalling of up to 16 different lighting scenes and groups

- Enable human centric lighting control to match circadian rhythms when connected to Building Energy Management System (BEMS). Colour temperature of white light can be set to any value - from warm white to daylight

- Convert 'push to make' switches into DALI addressable switches using the DALI Switch Input Module. Providing up to 4 individual switch push functions that can be independently programmed to perform a variety of functions on any of the groups, e.g. OnsSwitch, dim, scene recall, etc

Making light work of installation and commissioning

- **Lighting Control System in a sensor** makes DLS simple and quick to install – ideal for exposed soffits where mounting a large controller is unsightly

- **No additional controller hardware** reduces hardware cost and saves time on installation

- **DALI Addressable simple wiring** (just 5 core cable) Reduce wiring errors. Less time planning wiring lay out and simple installation

- **Soft wiring – Easily make changes to lighting without physically re-wiring** makes DLS ideal for multiuse spaces easily reconfigure working spaces

- **Easily create sophisticated lighting scenes and groups** for enhanced working or learning environment

Designed to DALI2 Standard

- DALI2 brings an additional 64 device addresses to the system

- Backwards compatibility with older DALI systems

MAKING LIGHT WORK OF DALI DLS

Power – the built in Power Supply Unit (PSU) provides power to the DALI network, which is enough for the luminaires, sensors and switches.

EX-OR DLS COMPARISON						
FUNCTION	DALI16PSU	DALI64PSU	DALI64	DALI64SYLKPSU DALI64MODPSU	DALI64SYLK	DALINETF
Wiring	5 core cable for 230V and DALI	5 core cable for 230V and DALI	2 core DALI	5 core cable for 230V and DALI 2 core for Sylk/MODBus	2 core DALI	2 core DALI
DALI Luminaires addressable per system	16			64		N/A
Programming and Commissioning	QuickSet Pro		Smart Device and Light Touch APP			QuickSet Pro
PSU Power Supply	60mA	120mA	N/A	120mA	N/A	N/A
Power consumption Network Sensors	N/A	N/A	12mA	N/A	12mA	4mA
Bluetooth Low Energy Switching	No			Yes		No
Occupancy Zones	1			8		N/A
SBC BEMS Connection	No	No	No	DALI64SYLKPSU	N/A	No
BEMS Connection	No	No	No	DALI64MODPSU	N/A	N/A

DALI16

A DALI lighting control system embedded within a best in class Lightspot HD sensor.

Controls up to 16 DALI luminaires Commissioned simply via IR programming tool (QuickSet Pro)

SYSTEM OVERVIEW

Control

• Create single occupancy zone

• 16 independent programmable scenes and lighting groups

• Tunable white control provides the option of setting the colour temperature of white light to any value from warm white to daylight - requires tunable white luminaires

Connectivity

• A maximum of 16 DALI luminaires can be connected via a standard 5 core cable (3 core mains supply and 2 core for DALI bus) or a 2 core DALI network cable

• 3 DALI Sensors per system can be fitted, these are configured as: 1 DALI16PSU sensor and up to 2 DALINETF sensors or DALI16PSU sensors

DALI16 enables up to 16 scenes and groups to be created to match user needs.

Scenes and groups can be controlled using :

• A mains switch can be connected directly into sensor

• Up to 2 DALI switch input modules can be added to allow 'push-to make' switches to control the DALI network

• 1 DALI scene plate can be added to enable simple and effective selection of scenes

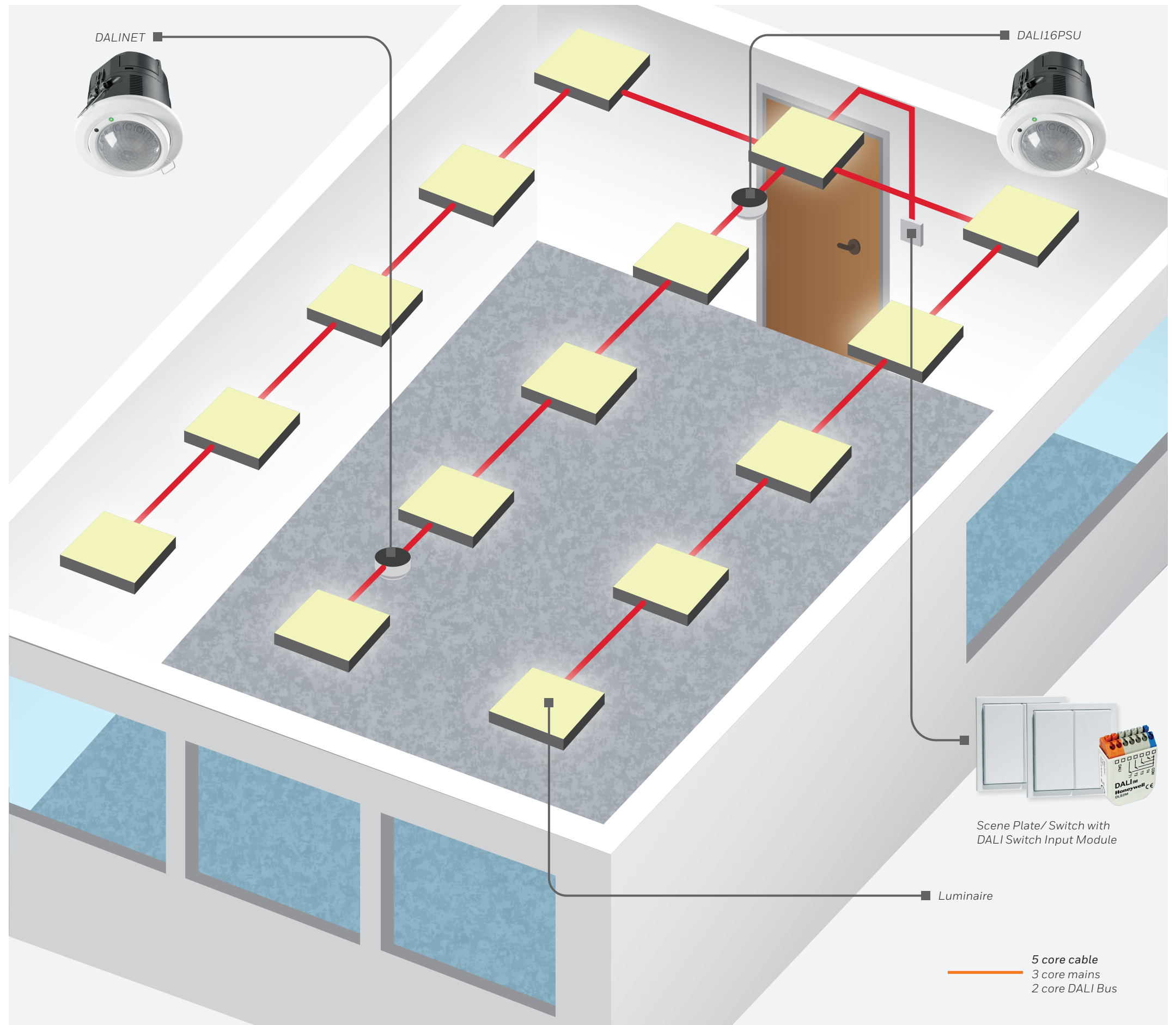• QuickControl hand held IR controller to recall scenes

Power*

• The DALI16PSU sensor provides 60mA to the DALI network, more than enough for the 16 luminaires, sensors and switch inputs. Hence, no additional DALI power supply is needed

• Integral relay enables switching of lights and fans

Wiring

• Simply wire 240v mains and DALI 2 core network cable

* Do not exceed a total current of 250mA on DALI Bus

DALINET

DALI16PSU

Scene Plate/ Switch with DALI Switch Input Module

Luminaire

5 core cable
3 core mains
2 core DALI Bus

DALI64

DALI64 is a fully featured standalone DALI lighting control system embedded into a state of the art LightSpot HD sensor.

Designed to DALI 2 open protocol, providing 64 DALI luminaire addresses and 64 device addresses (devices include sensors, switch inputs and scene plates)

It allows the control of lighting through a range of controls including low energy bluetooth switches

DALI64 offers low total cost of ownership with no additional hardware required and simplified installation. With the intuitive Light Touch commissioning App many of the complications of traditional DALI systems are eliminated.

DAL64PSU has a 120mA integrated power supply for the DALI Bus simplifying installation time and reduce costs.

SYSTEM OVERVIEW

Control

- A maximum of 64 DALI luminaires can be connected via a standard 5 core cable (3 core mains supply and 2 core for DALI bus) or a 2 core DALI network cable

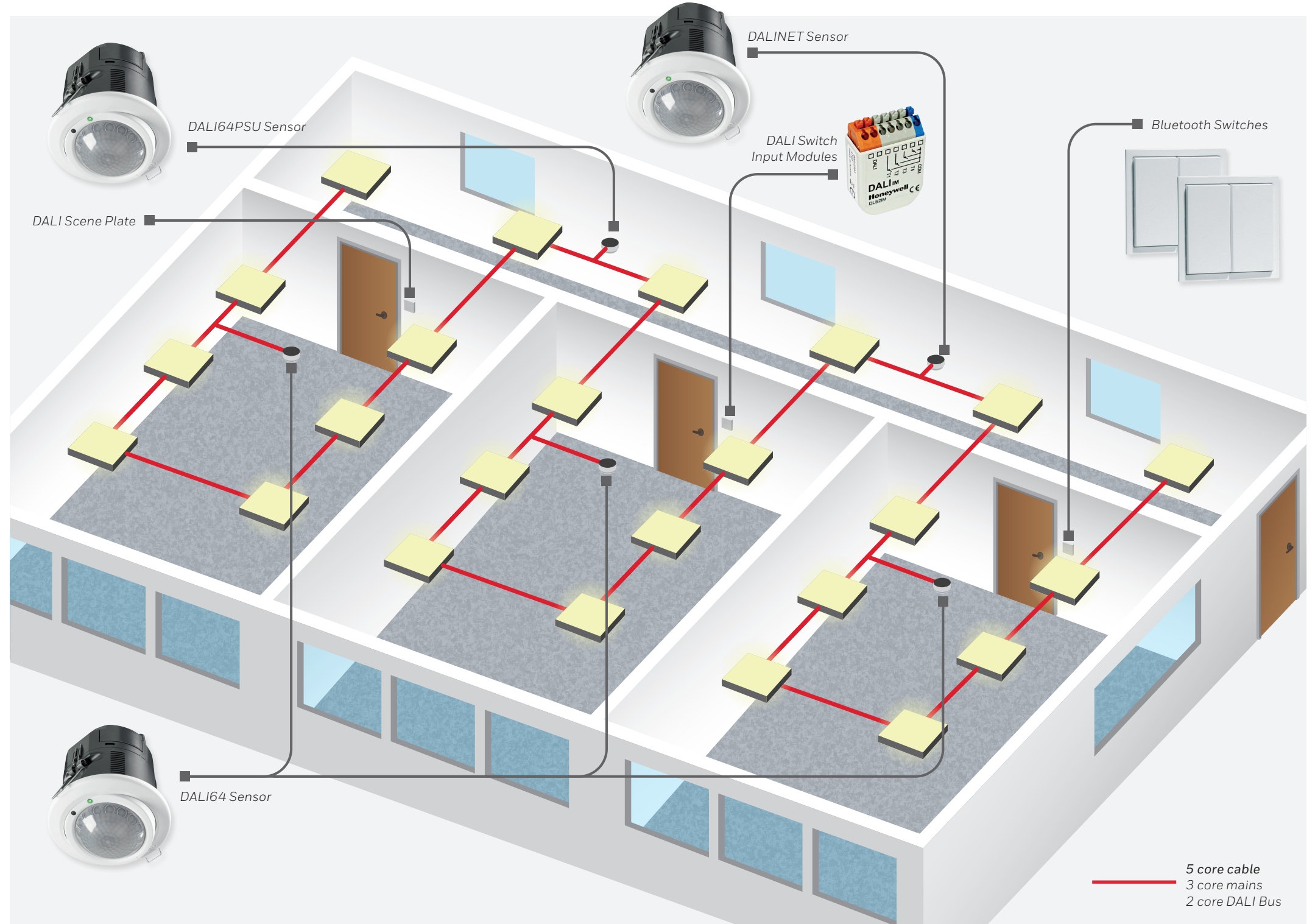- DALI64 allows up to 8 detection zones to be created within the DALI network

DALI64 enables up to 16 scenes and groups to be created to match user needs.

Scenes and groups can be controlled using:

- A Mains switch can be connected directly into sensor

- Multiple DALI switch input modules can be added to allow 'push-to make' switches to control the DALI network

- Multiple DALI scene plate can be added to enable simple and effective selection of scenes

- QuickControl hand held IR controller to recall scenes

Power

- The DALI64PSU sensor provides 120mA to the DALI network. An external power supply can be added if network requires more than 120mA. The total current within the DALI bus must never exceed 250mA

DALINET Sensor

DALI64PSU Sensor

DALI Switch Input Modules

DALI Scene Plate

Bluetooth Switches

DALI64 Sensor

5 core cable
3 core mains
2 core DALI Bus

DALI64 SYLK

DALI64Sylk is a fully featured standalone DALI lighting control system embedded into a state of the art PIR that can seamlessly integrate to Trend BEMS with a simple 2 wire Wallbus connection.

It is designed to DALI 2 open protocol providing 64 DALI luminaire addresses and 64 Device addresses (devices include sensors, switch inputs and scene plates)
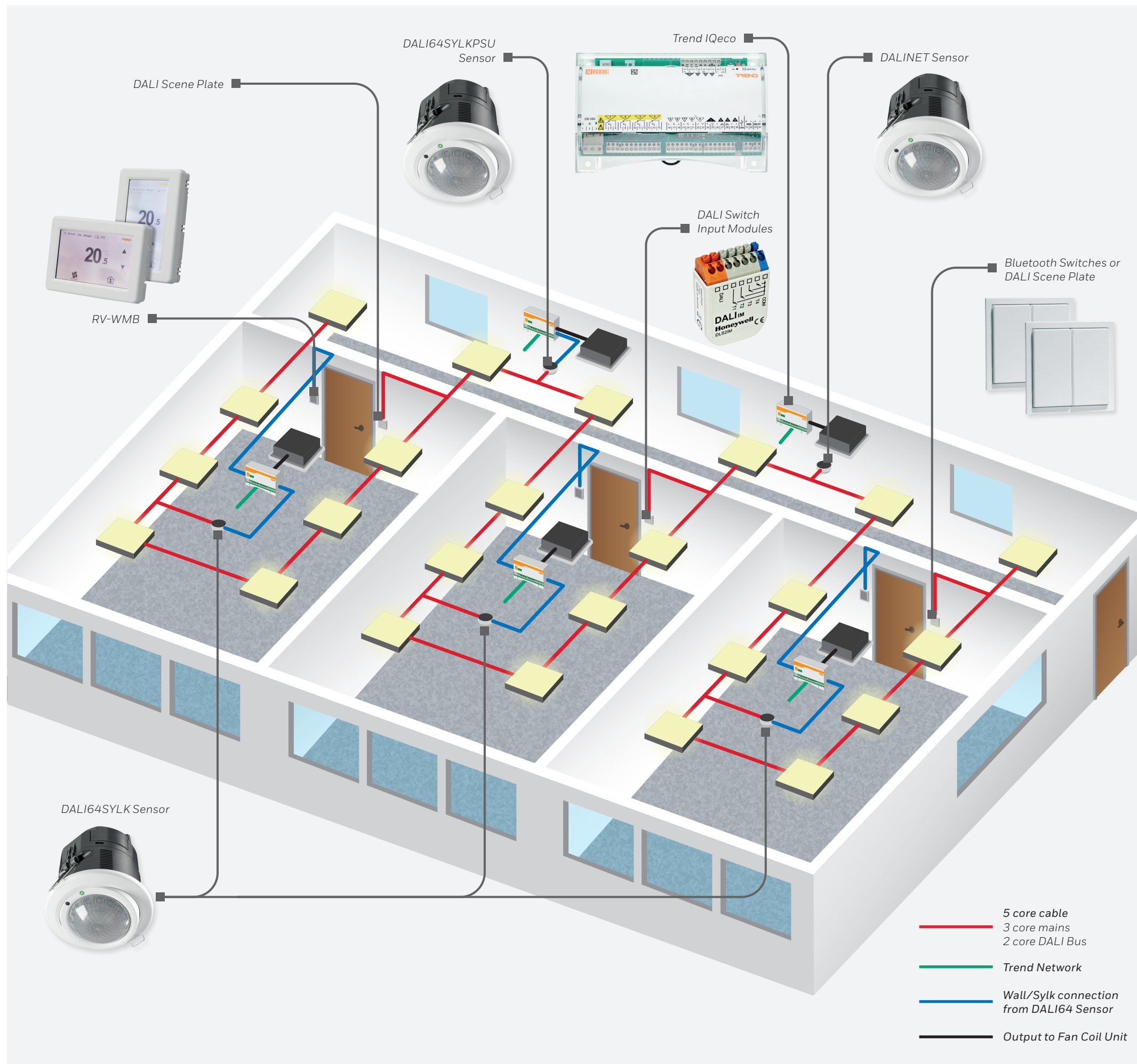
It allows the control of HVAC and lighting through a common interface.

With a low total cost of ownership due to no additional controller or gateway hardware, reduced installation and engineering costs, DALI64 makes integration to Trend BEMS a great opportunity for new installations but also retro fit to the many thousands of buildings with Trend BEMS already installed.

A 64 ADDRESS DALI LIGHTING CONTROL SYSTEM EMBEDDED INTO A PIR SENSOR

Seamless integration to Trend system. Allows an End User to visualise and control their lighting system through IQ™VISION.

- Designed to DALI 2 open protocol for digital lighting control

- Interface to an PCD7.LRxx-P5 room controller with simple 2 wire Wallbus connection

- Share occupancy and light level data with BEMS system

- Control of HVAC and lighting over 1 Modbus wall module possible over Modbus interface of the PCD7.LRxx-P5 room controller

- Simple lighting commissioning experience with intuitive App

- Allows creation of maintenance & energy consumption dashboards

- Distributed intelligence – Lighting works independently from BEMS

- Allows BEMS partners to integrate sophisticated lighting controls simply and effectively

DALI Scene Plate

DALI64SYLKPSU Sensor

Trend IQeco

DALINET Sensor

DALI Switch Input Modules

Bluetooth Switches or DALI Scene Plate

RV-WMB

DALI64SYLK Sensor

5 core cable
3 core mains
2 core DALI Bus

Trend Network

Wall/Sylk connection from DALI64 Sensor

Output to Fan Coil Unit

SYSTEM CONTROL

- Select and control lighting scenes through Trend's IQ™VISION

- Create combined lighting and HVAC schedules for a building or estate

- Utilising the Trend network time schedules to control colour temperature to match natural circadian rhythms for optimised wellbeing. Minimise energy consumption at peak times (load shedding) utilising the Trend system time schedules

- Utilise the supervisor to manage light levels, time delays and even change between Absence and Presence mode

- Recall groups and scenes from the head end

ENERGY EFFICIENCY

Combining BEMS and Lighting Controls will significantly improve your buildings energy performance and your Energy Performance Certificate ratings (EPC). Integrating lighting and BEMS contributes to EN15232 and can help deliver Class A buildings – with room level control of the environment.

Room Dashboard - Boardroom

Occupancy Times

MON
TUES
WED
THU
FRI
SAT
SUN

Weekly Schedule
Special Events
Summary

Lux Level

450
↑5%

- 300-500 Lux
- >300 Lux
- >500 Lux

Energy Consumption

TODAY WEEK MONTH YEAR

● Amet ● Dolor ● Lorem

Lorem Ipsum >5%

Occupancy Data

Percentage Occupancy Today

61.0%

Percentage Occupancy This Month 63.0%

Percentage Occupancy This Year 56.0%

HVAC Data

Current Temperature 21.0°C
Avg Temp This Month 20.6°C
Avg Temp Year 20.3°C

CO_2 Level 1200.0 ppm
Humidity 54.0% RH

Luminaire Run Hours

Today

7.2hr

This Week 34.6 hr
Total 11423.0 hr

VISUALISATION

- Visualise lighting and BEMS through Trend's IQ™VISION

- Real time occupancy status of building zones

- Current luminaire status, including lamp failure, in each building zone

Reporting and Safety

Create real time energy management and maintenance reports

- Visualisation of energy usage
- Luminaire run-time – create preventative maintenance reports
- Arc power consumption of luminaires
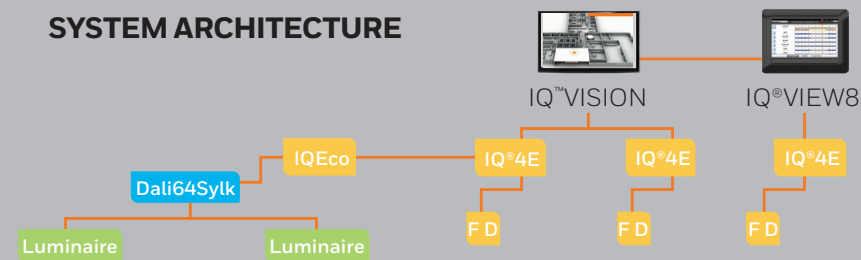- Desired/actual lux levels

Monitor and report on occupancy data

- Occupancy data – hours
- Create cleaning rotas based on occupancy
- Manage room booking and allocation

Emergency Test and Reporting

- Visualise the status of emergency lighting fittings

- Schedule all of the legally required emergency fitting tests, visualise the results in the Supervisor and email a test report or alarms

SYSTEM ARCHITECTURE

IQ™VISION   IQ®VIEW8

IQEco   IQ®4E   IQ®4E   IQ®4E

Dali64Sylk

Luminaire   Luminaire
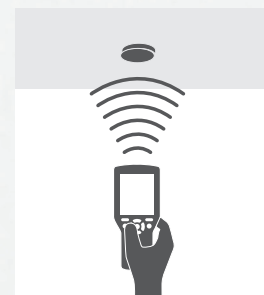
F D   F D   F D

DALI16
PROGRAMMING

EASY TO COMMISSION AND MAINTAIN

Commissioning is simplicity itself, just point the hand-held infrared programmer at the sensor and you can tell each light exactly what you want it to do.
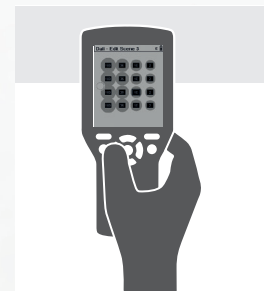
JUST POINT AND PROGRAMME

You don't need to climb any ladders or pore over a long programming guide. Just point and press 'Download' and the intuitive on-screen guide will take you through the whole process.

Create your own room templates on the QuickSet Pro.

Scan automatically discovers all luminaires and devices

On-screen prompts lead you through configuration

DALI64
PROGRAMMING

EASY TO COMMISSION AND MAINTAIN

DALI64 has been designed to simplify commissioning. We have removed much of the complexity associated with DALI addressable systems using Light Touch, our free to download and use commissioning App.
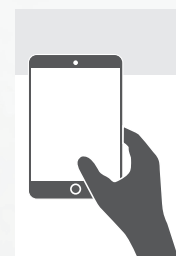
INTUITIVE PROGRAMMING

Light Touch allows you to connect to the DALI system over Bluetooth and begin a bus scan. Any luminaire or DALI device is visually presented in a carousel and can be dragged and dropped with a simple one finger action into a user defined map of the space. Once you have all your lights and devices positioned on your building map you can then set up groups and scenes with minimum fuss.

Colour temperature can also be configured allowing circadian rhythms – optimising occupant wellbeing and productivity.

Scan to discovers luminaires

On-screen prompts lead you through configuration

Step 2. Groups

DALI64
MAKING LIGHT WORK WITH EASE

- Pluggable, colour-coded connectors make it easy to see what goes where and reduce wiring errors
- Surface mount or flush mount sensors with locking rings or spring clips give you complete installation flexibility
- Recall your programmed scenes and groups with our QuickControl remote or standard switches via DALI input module
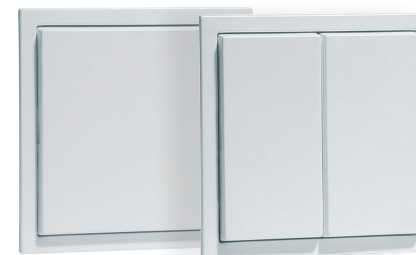
Locking Ring Flush Mount	Spring Clip Flush Mount

Bluetooth® Low Energy Switches

- Wireless – instant installation and location flexibility, reducing disruption and cost, as there is no need to run switching cables
- Self-powered innovative patented technology to 'harvest' energy means zero maintenance as there are no batteries to change
- Ultimate flexibility as each switch can control up to 64 luminaires, enabling dimming and scene recall etc
- Energy savings with additional local control, alongside the network sensors, users can create an energy efficient environment
- Bluetooth® wireless switches - energy harvesting single and double rocker switches eliminate the need for wiring and speed installation time significantly
- Wireless switches can be fixed to surfaces using screws or double sided mounting film

COLOUR-CODED CONNECTORS

POWER DISTRIBUTION OPTION

A DLS system can be even quicker to wire when combined with an UltraLite lighting control module (LCM) for easy distribution of mains power and DALI network.

See Ultra luminaires Lite brochure for more information.

DALI Switch Input Module

DALI switch input modules can be added to convert normal 'push-to-make' switches to DALI switches.

DALI LIGHTING CONTROLS
PRODUCT RANGE

DALI LIGHTING CONTROLLERS

PRODUCT NUMBER	DESCRIPTION	POWER
DALI16PSUF (Former part No = DLS4043DALIF)	DALI2 16 Address Lighting Controller with 60mA Integral Power Supply – Flush Mount	Mains
DALI16PSUS (Former part No = DLS4043DALISM)	DALI2 16 Address Lighting Controller with 60mA Integral Power Supply - Surface Mount	Mains
DALI64F	DALI2 64 Address Lighting Controller Bus Powered - Flush Mount	12mA
DALI64S	DALI2 64 Address Lighting Controller Bus Powered - Surface Mount	12mA
DALI64PSUF	DALI2 64 Address Lighting Controller with 120mA Integral Power Supply - Flush Mount	Mains
DALI64PSUS	DALI2 64 Address Lighting Controller with 120mA Integral Power Supply - Surface Mount	Mains

DALI NETWORK SENSORS

PRODUCT NUMBER	DESCRIPTION	POWER
DALINETF (Former part No = DLS4060NETF)	DALI2 Network Sensor Bus Powered – Flush Mount	12mA
DALINETS (Former part No = DLS4060NETSM)	DALI2 Network Sensor Bus Powered – Surface Mount	12mA

DALI LIGHTING CONTROLLERS WITH BMS CONNECTION

PRODUCT NUMBER	DESCRIPTION	POWER
DALI64SYLKPSUF	DALI2 64 Address Lighting Controller with 120mA Integral Power Supply and Sylk Bus for direct BMS connection - Flush Mount	Mains
DALI64SYLKPSUS	DALI2 64 Address Lighting Controller with 120mA Integral Power Supply and Sylk Bus for direct BMS connection - Surface Mount	Mains
DALI64SYLKS	DALI2 64 Address Lighting Controller with Sylk Bus for direct BMS connection - Surface Mount	12mA
DALI64SYLKF	DALI2 64 Address Lighting Controller with Sylk Bus for direct BMS connection - Flush Mount	12mA
DALI64MODPSUF	DALI2 64 Address Lighting Controller with 120mA Integral Power Supply and Modbus for direct BMS connection - Flush Mount	Mains
DALI64MODPSUS	DALI2 64 Address Lighting Controller with 120mA Integral Power Supply and Modbus for direct BMS connection - Surface Mount	Mains

ACCESSORIES

PRODUCT NUMBER	DESCRIPTION	POWER
28001987	6 button Scene Plate – On/Off – Up/Down + 3 Scenes	10mA
28001989	6 button Scene Plate – On/Off + 6 Scenes	10mA
DLS4IM	DALI Switch input module - enables 4 switch inputs per module	4mA
00030366	Bluetooth wireless switch 1 gang	N/A
00030666	Bluetooth wireless switch 2 gang	N/A
LSHDQBL2210	10 metre DALI / QuickLink lead	N/A
LSHDQBL226	6 metre DALI / QuickLink lead	N/A
DLSDSLW765	DALI HD Dimming Lead 7 core, 5 metre	N/A
BESA6PSR	Connect BESA Box 6 Pole	N/A
Light Touch by Honeywell	Free commissioning App optimised for 9" tablet	N/A

THE
FUTURE
IS
WHAT
WE
MAKE IT

—

Honeywell