

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. It allows a simple implementation of a powerful DALI addressable system into BEMS system to create integrated room control systems and enables with that smart integrated building solutions.



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 - and Multi- 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. OnSwitch, 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
- **Easy wireless and batteryless switches integration** over Bluetooth Low Energy help to save installations cost, increase flexibility and ease retrofit
- **Easily create sophisticated lighting scenes and groups** for enhanced working or learning environment
- **Easy configurable automated lighting** comfort and energy saving functionality via Light Touch smart App, e.g. Daylight harvesting enables further energy savings by reducing light levels as ambient light entering the building

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.



DLS COMPARISON

FUNCTION	DALI64SYLKPSU	DALI64SYLK	DALI64	DALINET
Wiring	5 core cable for 230V and DALI 2 core for Sylk	2 core DALI and 2 core for Sylk	2 core DALI	2 core DALI
DALI Luminaires addressable per system	64			N/A
Programming & Commissioning	Smart Device and Light Touch APP			N/A
PSU Power Supply	150mA	N/A	N/A	N/A
Power consumption Network Sensors	N/A	15mA	12mA	4mA
Bluetooth Low Energy Switching	Yes	Yes	Yes	No
Occupancy Zones	8	8	8	N/A
SBC BEMS Connection	PCD7.LRxx-P5	PCD7.LRxx-P5	No	No

DALI64

DALI64 is a fully featured standalone DALI lighting control system embedded into a state of the art LightSpot HD sensor with an advanced lens design which provides a wide detection diameter of 10 metres and with 159 points of detection an excellent dependable level of occupancy detection is achieved.

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.

SYSTEM OVERVIEW

INTEGRATED ROOM CONTROL TOGETHER WITH PCD7.LRXX-P5

Recommendations:

- Not more than maximum of 32 DALI luminaires should 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 6 detection zones to be created within the DALI network DALI64 enables up to 16 scenes and 6 groups to be created to match user needs.
- DALI64 enables up to 16 scenes and groups to be created to match user needs.

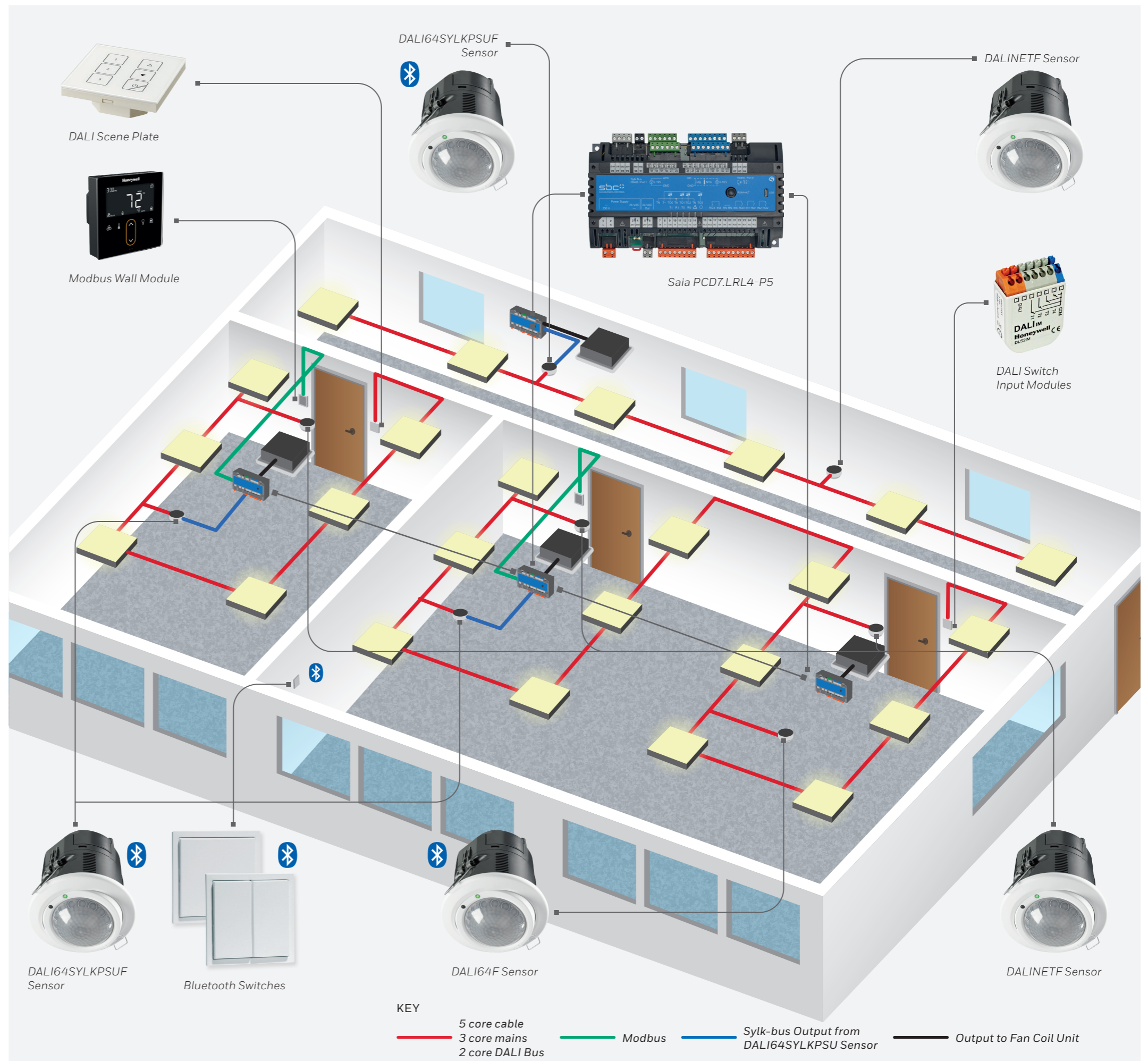
Note: The maximum of luminaires and devices and groups is depending on the power consumption and the project system performance needs

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
- Multiple Bluetooth wireless switches can be added to control groups or scenes

POWER

- The DALI64SYLKPSU sensor provides 150mA to the DALI network. If more power would be needed, then it needs to be installed the DALI64SYLK with an external power supply. The total current within the DALI bus must never exceed 250mA.



DALI64 SYLK

The DALI64SYLKPSU can be seamlessly integrate to SBC BEMS system and Saia PCD Supervisor with a simple polarity independent 2 wire Wallbus connection.

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 Saia PCD Supervisor a great opportunity for new installations but also retro fit to the many buildings with PCD7.LRxx-P5 and Saia PCD Supervisor already installed.

A 64 ADDRESS DALI LIGHTING CONTROL SYSTEM ENABLES SMART INTEGRATED BUILDING SOLUTIONS

Seamless integration to SBC BEMS system. Allows an End User to visualise and control their lighting system through Saia PCD Supervisor.

- 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 provides system redundancy – Lighting works independently from BEMS and HVAC controller
- Allows System Integrators to integrate sophisticated lighting controls simply and effectively into BEMS system





SYSTEM CONTROL ADVANTAGES

Improving Employee productivity and wellbeing or help patients heal faster or enhance student learning by utilising network time schedules to control luminaire colour temperature to match natural circadian rhythm which influence various physiological and psychological processes. This enable benefits in different verticals like Offices, Schools, Healthcare, Hospitality, Retail and Manufacturing.

- Select and control lighting scenes through Saia PCD Supervisor
- 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 COSTS SAVING

Combining BEMS/HVAC and Lighting Controls will significantly improve the energy performance of the building. Integrating lighting and HVAC control together into BEMS contributes to reaching Class A energy efficiency EN15232.



For example empirical data can be used to predict optimum start and stop times based on historical occupancy data.



VISUALISATION

- Visualise lighting and BEMS through Saia PCD Supervisor
- Real time occupancy status of building zones
- Current luminaire status, including lamp failure, in each building zone



FACILITY COST SAVINGS

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 occupancy data to create room usage reports

- Occupancy data – hours

Staff optimization

- Create cleaning rotas based on occupancy - saving time and money

Building space optimization

- Reporting frequency of space use to maximise room occupancy and booking

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



DALI64 PROGRAMMING

Easy to commission and maintain

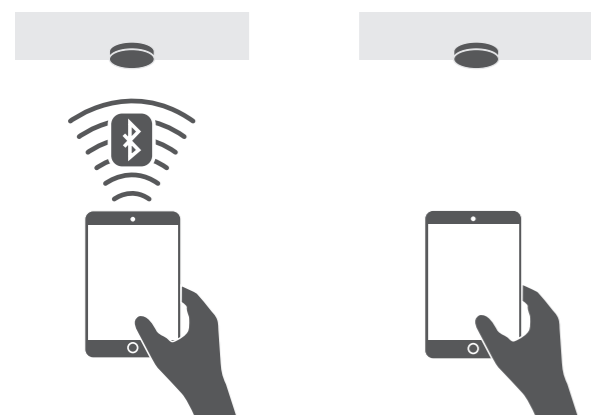
DALI64 has been designed to simplify commissioning. We have removed much of the complexity associated with DALI addressable systems using Light Touch, our free to download and use commissioning App.

DALI64 enables the creation of predictive maintenance schedules allowing luminaire replacements to be made during unoccupied times. Additional Maintenance cost savings will be realised as Light Touch App eliminates the costs traditionally associated with luminaire replacement in DALI systems.

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.

Daylight harvesting offers additional energy savings by automatically regulating the luminaires as the ambient light levels change throughout the day. 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



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 DALI scene plates or standard switches via DALI input module

LOCKING RING FLUSH MOUNT



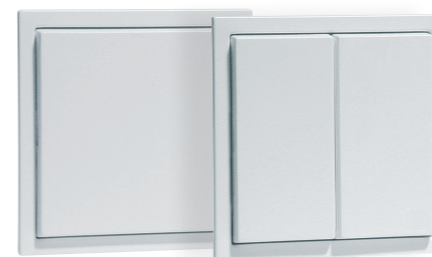
SPRING CLIP FLUSH MOUNT



COLOUR-CODED CONNECTORS



BLUETOOTH® LOW ENERGY SWITCHES

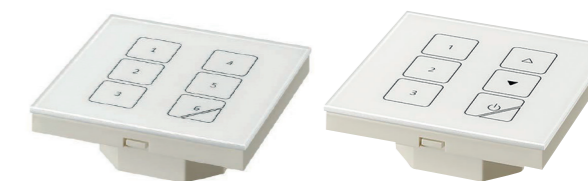


- Wireless – instant installation and location flexibility, reducing disruption and cost, as there is no need to run switching cables
- Self-powered innovative patented technology to 'harvest' energy means zero maintenance as there are no batteries to change
- Ultimate flexibility as each switch can 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

DALI 6 BUTTON SCENE PLATES

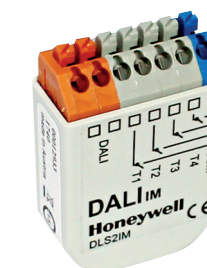
Luminaires can be switched on and off, dimmed and grouped via the touchplate with six individually assignable keys.

- Capacitive touch – requires less pressure to operate and increased durability as there are no moving parts
- High-quality appearance with real glass display – easy to clean
- Power supply via DALI line



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 WITH BMS CONNECTION AND INTERGRATED POWER SUPPLY

PRODUCT NUMBER	DESCRIPTION	POWER
DALI64SYLKPSUF	DALI2 64 Address Lighting Controller with 150mA Integral Power Supply and Sylk Bus for direct BMS connection - Flush Mount	Mains
DALI64SYLKPSUS	DALI2 64 Address Lighting Controller with 150mA Integral Power Supply and Sylk Bus for direct BMS connection - Surface Mount	Mains

DALI LIGHTING CONTROLLERS WITH BMS CONNECTION

PRODUCT NUMBER	DESCRIPTION	POWER
DALI64SYLKF	DALI2 64 Address Lighting Controller with Sylk Bus for direct BMS connection (need external power supply) - Flush Mount	15mA
DALI64SYLKS	DALI2 64 Address Lighting Controller with Sylk Bus for direct BMS connection (need external power supply) - Surface Mount	15mA

DALI LIGHTING CONTROLLERS FOR GROUP EXTENSION

PRODUCT NUMBER	DESCRIPTION	POWER
DALI64F	DALI2 64 Address Lighting Controller Bus Powered - Flush Mount	12mA
DALI64S	DALI2 64 Address Lighting Controller Bus Powered - Surface Mount	12mA

DALI NETWORK SENSORS FOR DETECTION-ZONE EXTENSION

PRODUCT NUMBER	DESCRIPTION	POWER
DALINETF	DALI2 Network Sensor Bus Powered - Flush Mount	4mA
DALINETS	DALI2 Network Sensor Bus Powered - Surface Mount	4mA

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 - connects DALI64 sensors simply	N/A
QCUB	Remote Infrared Hand-held unit c/w Wall Bracket - light level adjustment for 1 group and recall six lighting scenes to change	N/A
Light Touch by Honeywell	Free commissioning App optimised for 9" tablet	N/A





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May 2021

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