DALIcontrol™

Simple to design.
Simple to install.
Simple to integrate.

Schneider Electric

施耐德電氣

CONTENTS

ANZ Learning Centre. Photography by Earl Carter.

Create a thinking workspace

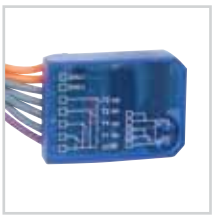
Government legislation
Never before has it been so important for commercial buildings to be energy efficient. No building can be too green. And as we enter a new era of green building ratings and government legislation, no specifier, consultant or facilities manager today can afford to overlook the many advantages of a DALI lighting control system in the commercial office space.

Integrate lighting control with emergency and exit lighting
In addition, commercial clients are looking to integrate lighting control with emergency and exit lighting, as well as security and HVAC systems on one network, to enable simple and effective monitoring of the building's services status at all times.

Achieving energy savings
The ability to control and monitor lighting means that lighting control plays a critical role in determining and achieving energy savings. This needs to be followed up with systematic reporting to confirm those efficiencies. The sum of these parts literally creates a thinking building that can be tuned to the specific needs of each and every commercial environment.

Maximising energy efficiencies
Maximising energy efficiencies in all new commercial buildings is a genuine global requirement that has given rise to standards created throughout the world including LEED3 (USA), NABERS (Australia), Greenbuildings EPBD or EN15193 (Europe), Green Building Council (China) and BEAM (Hong Kong).

By making your building project as energy smart as possible, you are creating a commercial space designed to meet world class recognised standards, which will attract more Government and corporate tenants.



A worldwide standard in lighting control

Intelligent control
Many lighting control systems are able to realise intelligent control and energy savings. Most achieve this with their own proprietary protocols, losing the benefit of direct compatibility between lighting devices and control hardware.

Compatibility and interchangeability
During the late 90s, Europe's leading lighting manufacturers, Philips, Tridonic and Osram, could see a need to create a common interface standard for digital lighting control and therefore created DALI, which stands for Digital Addressable Lighting Interface. By using DALI, specifiers, architects and end-users can rely on the compatibility and interchangeability of different control gear from different manufacturers. This includes everything from the control of electronic ballasts, transformers, LEDs, emergency escape lights and exit signs.

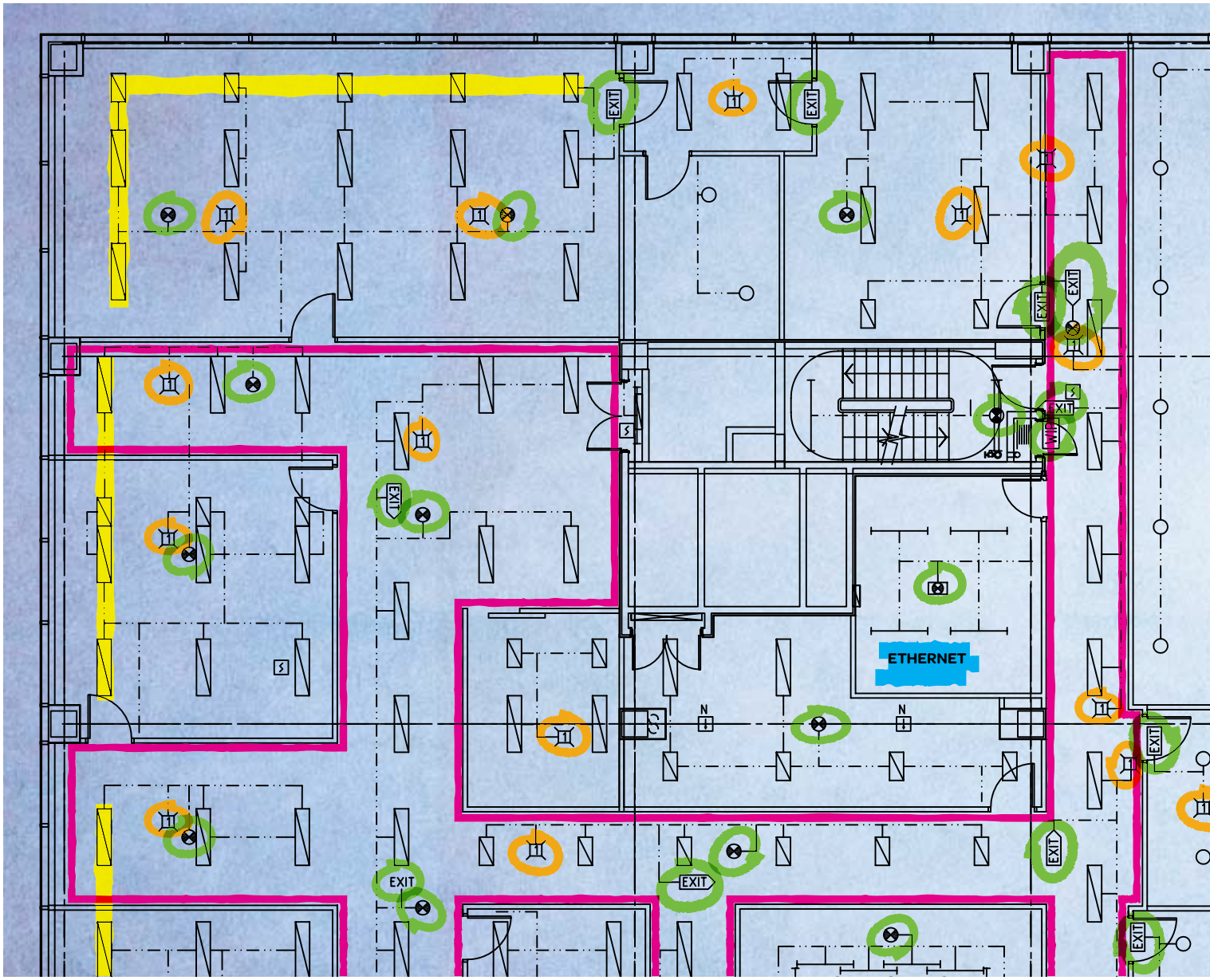
International protocol
More than 10 years later, DALI has emerged as one of the world's preferred standards. Many lighting control manufacturers have adapted their systems with DALI interfaces; an "interpreter" that allows their product to speak to this international protocol.

Inner Northern Busway, Queensland. Photography by Christopher Fredrick Jones.





Multiple vendor choice
Having these combined solutions can provide access to best-in-class devices for inputs such as C-Bus Dynamic Labelling Technology switches and touch screens. For more straightforward systems the simple capability of DALI to provide a single solution with reduced complexity is an attractive prospect. This gives customers security of multiple vendor choice for both input and output devices with easy on-site replacement, reducing time consuming problems for facility managers.



Lighting + emergency + control

Maintaining compliance

When planning a lighting control system, generally foremost in the designer's mind is to ensure the needs of the customer are satisfied, whilst maintaining compliance to the myriad of standards and regulations which apply to today's commercial buildings.

This balancing act is often one of the hardest challenges to manage, particularly when there remains a degree of uncertainty about the final use of the occupied areas.

Uniquely flexible approach

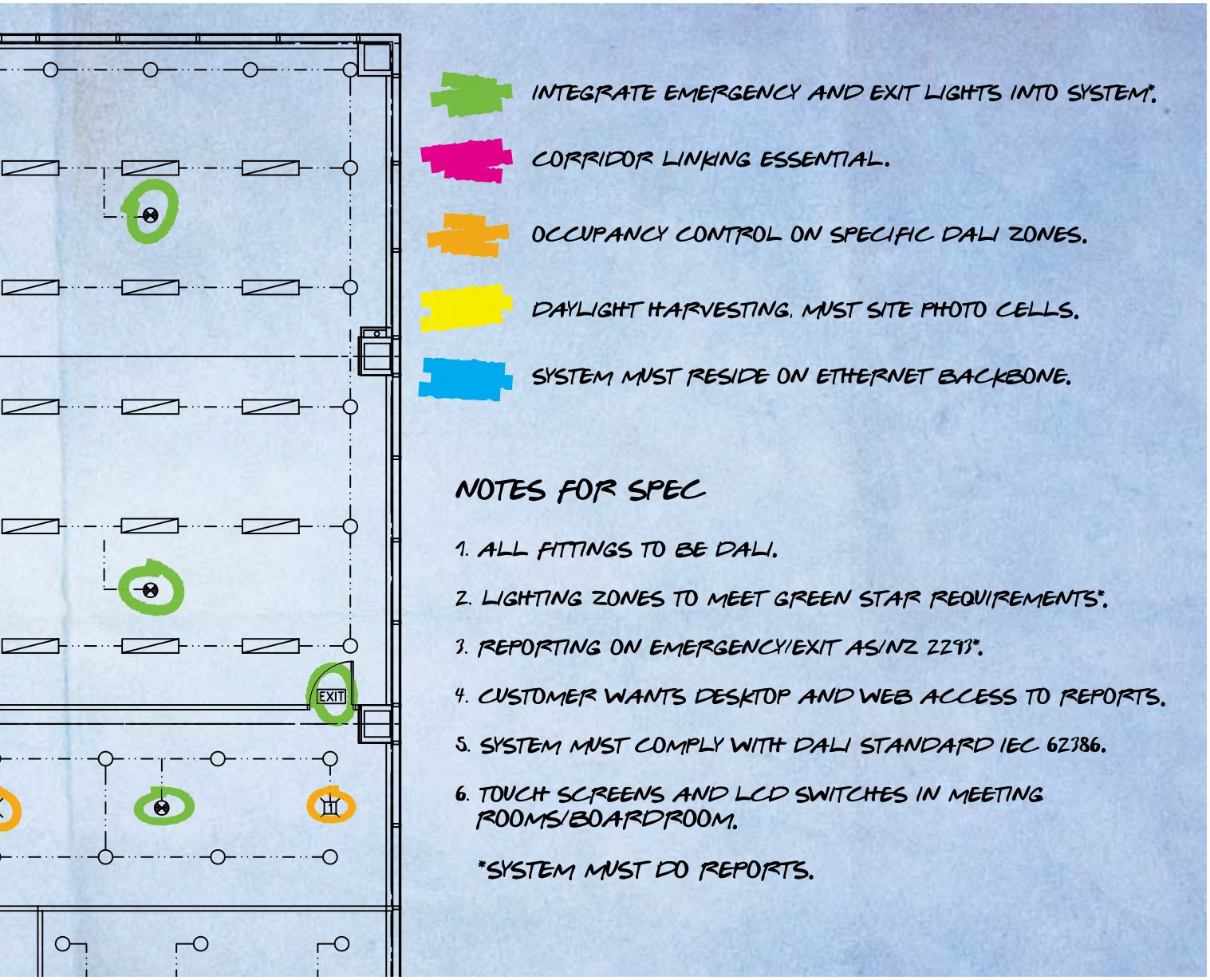
The DALIcontrol system by Schneider Electric provides by its very architecture; a uniquely flexible approach to floor plan control. The system gives the designer a wide degree of flexibility in zone definition and control strategy. This allows final decisions on control strategy to be made much later in the design process. This is when more certainty is established around actual use profile, based upon the real tenants who will occupy the space.

Precise control for individual task lighting

The clear driving force today in lighting control is to make the best use of the energy consumed by the building under design. A key area for potential energy savings, and therefore a focus for legislators, is lighting provision. It may be as simple as proper timed control, the use of sensors and dimming technology for daylight harvesting or precise control for individual task lighting.

Easily configured system

The DALIcontrol system by Schneider Electric provides all of these functions and many more within a simple to use and easily configured system. This gives greater flexibility to select implementation strategies to best fit user and legislative requirements.



Deliver significant savings

Obviously a clear driver is the overall cost of the installed system. Simple logic will allow anyone to understand that a single system, which can integrate the monitoring and reporting of emergency lights and fittings with the general office lighting control will deliver significant savings over two separate systems.

Cutting edge lighting control

The DALIcontrol system by Schneider Electric not only provides cutting edge lighting control for commercial lighting requirements but also within the same single system structure, a fully compliant emergency lighting monitoring and reporting solution to International Standards, including AS/NZS 2293.

Reside upon Ethernet

Ethernet is ubiquitous in commercial buildings. The ability for DALIcontrol products to reside upon Ethernet and make use of the existing infrastructure as its primary backbone both simplifies and reduces system cost.

DALIcontrol products are fully compliant to the DALI international open lighting control protocol IEC 62386.

Ease of installation

DALIcontrol products have struck a chord with systems integrators who have welcomed its capability and versatility.

Extensible design
Changing tenancies, future expansion and new features are easily catered for using the DALIcontrol system. The extensible design of the system means that control groups can typically be reconfigured at any time without alterations to wiring.

Late differentiation
For lighting designers it can often be challenging to precisely define the full control strategy for a given area before the tenant takes occupancy. The DALIcontrol solution lends itself to late differentiation in design, allowing the control strategy to be configured much later in the install process when the overall installation is more finalised.

Configuration based approach
The DALIcontrol system lends itself to templated programming techniques, significantly reducing time to configure against more conventional lighting control solutions. The configuration based approach of the system sets it apart from other products that require specific codes to be written to define individual control behaviour, allowing installer and even end-user to define late changes in behaviour.

Rapid deployment
The DALIcontrol commissioning wizard aids with the first commissioning phase. Creating rapid deployment and establishment of basic control during the installation phase is essential to obtaining beneficial use of the lighting installation. The wizard also greatly improves the process of replacing fittings where necessary

Emergency luminaires and exit signs

.Every aspect of the lighting control system can be incorporated into a DALIcontrol solution, including office emergency luminaires and exit signs. The DALI standard provides the capability to collect status information from ballasts, emergency and evacuation lighting. This eliminates the need for a separate monitored emergency system. The DALIcontrol system provides ballast and lamp failures, and emergency lighting reports. Legislation demands that emergency lights are regularly tested and maintained in full working order to ensure they function effectively in an emergency situation. Automatic testing of the emergency fittings is carried out in accordance with worldwide standards. Furthermore, DALIcontrol is able to generate test reports to meet all legislative requirements.

Centra Plaza. Department of industry, Tourism and Resources, Canberra.

An integrated platform

Complementary and compatible products
Given that DALI is an open standard in lighting control, there are many manufacturers producing complementary and compatible products, particularly for building management, these include: BACnet and LON gateways. There are also capable integrations available with other open lighting standards including DMX and DSI.

"Plug and play" compatibility
Many of the proprietary solutions available on the market also provide integration to DALI, including of course, C-Bus and KNX. This "plug and play" compatibility provides you with the opportunity to create one platform to build a true integrated building solution, including climate control, security, access and more. This does away with the need for multiple systems running in parallel. Instead, you can design one cohesive and streamlined system with master control.

Wide range of technology
Boardrooms need to accommodate a wide range of technology needs. DALIcontrol lighting can be configured to create a number of scenes for PowerPoint presentations, video conferencing, Internet meetings and training seminars. Integration with intuitive touch screens and user friendly interfaces are all part of the DALIcontrol range.

Superior line control technology

Clever DALI line controllers
The solution offered by DALIcontrol is based on its clever DALI line controllers. These are installed around a building on an Ethernet network and use time schedules, push buttons, switches and sensor inputs to control lighting on DALI communication lines. DALI ballasts are controlled by commands that can be sent to individual ballasts, groups of ballasts or broadcast to all ballasts on the line. No relays or dimmers are required as the lighting output control is designed in the lighting ballast itself.

A standard DALI line is a network of up to 64 DALI light sources (ballasts, transformers, emergency fittings, etc.). Only this limitation traditionally restricted DALI systems to smaller buildings or to providing multiple non-integrated systems within one site.

Breaks the barrier of 64 devices
The DALI line controller breaks the barrier of 64 devices on a DALI network by cleverly combining the strength of Ethernet networks, together with DALI, to produce a unique offering.

Simple but intelligent system
The result is a simple but intelligent system, perfectly tailored to the control of office lighting in multistorey buildings. You can scale your lighting system from a room, to a floor, to a building and beyond. Each line controller uses time schedules, push buttons, switches and sensors to control lighting and emergency lights on DALI lines.

Daylight harvesting and reduced energy costs

The DALIcontrol line controller can help the energy conscious facility manager achieve reduced energy bills. Each DALIcontrol line controller includes an integrated real-time clock with automatic daylight savings correction, sunrise and sunset calculation, and holiday exceptions. Control schedules are configured in the controller to automatically switch and vary lighting levels to harvest daylight and enforce energy savings. Sensors can be incorporated into the DALIcontrol network to provide automatic dimming, to compensate for the amount of natural lighting.

Higher energy efficiency rating

In maximising lighting energy efficiencies, DALIcontrol can help you achieve a higher energy efficiency rating and consistently meet your local green building requirement initiatives for energy targets. Equally important, is that DALIcontrol also equips you with the reporting tools to provide the data you need, ensuring your building is delivering on these energy targets and continuing to meet those green building ratings.

DLA Phillips Fox. Photos courtesy of Northrop.

Occupant comfort

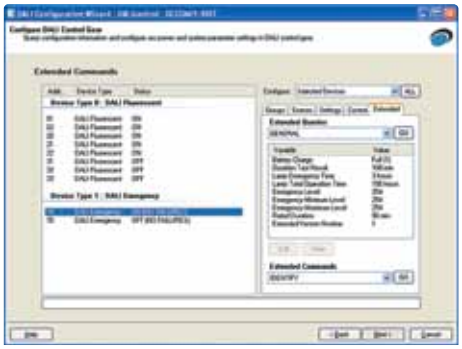
Easily integrated
Inputs for connection to push buttons, switches and occupancy detectors can be used to reduce lighting levels after a predefined period. Digital outputs are included to control fans, blinds and more. The DALIcontrol system can be easily integrated with security and access control systems. Use alarm conditions and card readers to control lighting in a building.

Typical office environment
In a typical office environment, lighting can be scheduled to activate at 7am with the swipe of a card when the first staff member arrives. This may exclude perimeter lighting near external windows which are already receiving sufficient natural light. As the day wears on, lighting zones within the office floor not frequented for a period of 20 minutes e.g. pantry and restroom, can be configured to dim and switch off and then reactivate as required with motion sensors. Approaching 8pm, the entire office floor lighting can be timed to turn off with the exception of common access areas and motion sensors for those staff members working back after hours.

Tunnel lighting and emergency light monitoring

Every fitting is monitored
Tunnel lighting represents a perfect opportunity to integrate a DALIcontrol lighting control solution. Lighting is monitored and controlled using distributed control boxes containing DALI line controllers. These can manage many hundreds of metres of tunnel lighting. Every fitting is monitored for ballast status, lamp status and lamp hours.

Full operator control
Tunnel emergency light fittings are monitored for inverter status and battery charge level. Discharge tests are initiated and reported through the DALIcontrol system. Overall management of the system takes place from an external building, providing full operator control and integration with the tunnel zone alarm system. The Tunnel Monitor program displays a view of the system with control options for each zone. Status reports, showing where fittings are located, keep the system in full working order. The combination of DALI lighting, emergencies and DALIcontrol line controllers provides a complete tunnel lighting system that is easy to install, commission and maintain.



One simple DALIcontrol™ solution

In 2003, Australian based DALIcontrol was formed, after close work with several control gear manufacturers. DALIcontrol designed and developed control hardware and software to support the intelligent features of DALI.

Utilises an Ethernet backbone
DALIcontrol incorporates process control and automation technology to monitor the status of every light circuit and fitting. The DALIcontrol software and hardware is designed and manufactured as an open system from the ground up and establishes a lighting control system that not only speaks the DALI protocol but utilises an Ethernet backbone to extend the system footprint. This offers individual control of every single light, whilst monitoring its status. In addition, the DALIcontrol lighting system uniquely combines lighting, controls and emergency lighting into one complete lighting system.

DALI Controller

DCBM1-1608
DCBM2-1608

DCDALIO-0402
DCDALO-02

DCDALCI2

Product Number	Product Description
DCBM1-1608	DALI Line Controller, 1 DALI Line, 16-In, 8-out
DCBM2-1608	DALI Line Controller, 2 DALI Line, 16-In, 8-out
DCDALCI2	Isolated Interface Version 2
DCDALIO-0402	Advanced 4-channel Input Module
DCDALO-02	Advanced 2-channel Output Module

Power Supply

DCDALP200
DCDALP250

DCP12/30, DCP12/60
DCP24/30, DCP24/60

DCDALP200	DALI Power Supplies 200mA
DCDALP250	DALI Power Supplies 250mA
DCP12/30	Line Controller Power Supply, 12V, 30W
DCP12/60	Line Controller Power Supply, 12V, 60W
DCP24/30	Line Controller Power Supply, 24V, 30W
DCP24/60	Line Controller Power Supply, 24V, 60W

Input Devices

DCPIR360-S

DCPIR90-C

DCLCD35

DCLCD70

DCPIR360-S	360° Occupancy Sensor
DCPIR90-C	90° Occupancy Sensor
DCLCD35	3.5" LCD Touch Screen Controller
DCLCD35WB	3.5" LCD Touch Screen Controller Wallbox
DCLCD70	7" LCD Touch Screen Controller
DCLCD70WB	7" LCD Touch Screen Controller Wallbox

DALI Ballast

DCECGFL2_28_54

DCECGFL1_28_54	DALI Electronic Control Gear, 1x28/54 T5
DCECGFL2_28_54	DALI Electronic Control Gear, 2x28/54 T5

Software

DCBMLIC-1	DALI Building Monitor, 1 Controller
DCBMLIC-10	DALI Building Monitor, 10 Controllers
DCBMLIC-30	DALI Building Monitor, 30 Controllers
DCBMLIC-U	DALI Building Monitor, Unlimited Controllers
DCCOM/1	Commissioning Wizard
DCEMEV-1	DALI Emergency Monitor, 1 Controller
DCEMEV-10	DALI Emergency Monitor, 10 Controllers
DCEMEV-30	DALI Emergency Monitor, 30 Controllers
DCEMEV-U	DALI Emergency Monitor, Unlimited Controllers

About Schneider Electric

As the global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in energy and infrastructure, industrial processes, building automation, and data centres/networks, as well as a broad presence in residential applications. Focused on making energy safe, reliable, and efficient, the company's 110,000 plus employees achieved sales of 19.6 billion euros in 2010, through an active commitment to help individuals and organisations "Make the most of their energy".

The LifeSpace Division of Schneider Electric provides solutions that represent the best in lifestyle and innovation for offices, hotels and homes. These solutions include award-winning products in the areas of building and home automation, structured cabling, and designer switches and sockets. They help the finest architectures around the world to achieve more with less.

www.schneider-electric.com

Schneider Electric (HK) Ltd.

13th Floor, East Wing, Warwick House, Taikoo Place,
979 King's Road, Quarry Bay, Hong Kong
Tel : (852)2565 0621 Fax : (852)2811 1029
Customer Care Centre : (852)2579 9699
www.schneider-electric.com.hk

Macau Branch Office :
Suite D, 13th Floor, The Macau Square,
Avenida do Infante D. Henrique, No. 47-53, Macau
Tel : (853)2871 7488
Fax : (853)2871 7499

SEHK/CHK/DALI01

07/2011