SmartScan

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2019

Thorlux Lighting

SmartScan

Lighting Management & Emergency Monitoring

SmartScan is a revolutionary wireless lighting management system that allows users to monitor their energy performance data and complete operational information for all SmartScan standard and emergency luminaires.

Information is displayed on the SmartScan website which can be accessed from anywhere using a computer, laptop, tablet or smart-phone.

The clear graphical user interface provides an overview of the whole site, through to the performance and operation of an individual luminaire.

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2019

Her Majesty the Queen has selected Thorlux Lighting as a winner of the Queen's Award for Enterprise: Innovation, for the SmartScan lighting management system.

Thorlux Lighting


SmartScan
GOODS INWARDS
11
0
0
11
ENERGY USAGE
24%

What Is SmartScan?

SmartScan Internal

Integrated intelligent lighting management providing maximum energy savings for internal applications.

SmartScan External

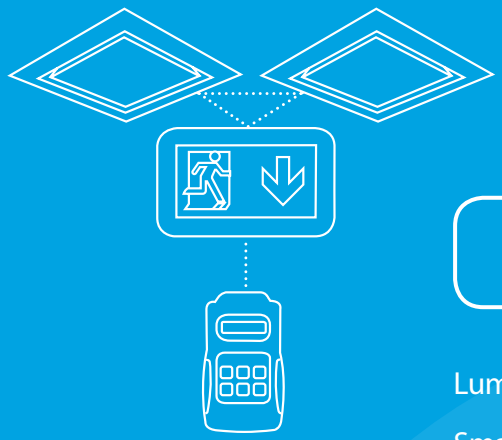
Integrated intelligent lighting management providing maximum energy savings for external applications.

SmartScan Emergency

Self-testing emergency luminaires with integral battery for 3 hour emergency operation.

For further information and online videos visit **www.thorlux.com/smartscan**

SmartScan is available in two platforms;



Platform 1

Luminaires operate on a stand-alone basis:

SmartScan luminaires link wirelessly in groups for presence detection and scene setting. Energy performance data and operational status information can be retrieved using the SmartScan Programmer.

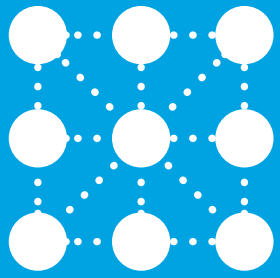
Emergency luminaires are self-test with the addition that operational status and most recent emergency test information can be retrieved using the SmartScan Programmer.

Platform 2

The same luminaires are also very simply wirelessly linked into a Gateway which collects and transmits their energy performance data and complete operational information, for all SmartScan standard and emergency luminaires, to the World Wide Web for viewing using tablets, smart-phones, laptops and computers.

Projects initially installed to Platform 1 can easily be upgraded later to Platform 2 by installing a SmartScan Gateway (see page 52).

What Are The Benefits?



System Flexibility

SmartScan utilises a wireless mesh network. Each device acts as a repeater, ensuring that data signals always find a suitable communication path. Groups are easily created and changed providing future flexibility without altering wiring.

Excellent Wireless Reliability

An operational frequency of 868MHz (922MHz in Australasia) provides excellent transmission distances and better penetration of signals.

Efficient Communication

Intelligent algorithm with low transmission of data - transmits less than 1% of total time (99% of time wireless is off) - reduces wireless traffic increasing reliability.

Intelligent Connectivity

Software uses simple wait before transmit logic to ensure error free transmissions.

Platform 2

Reduced Installation Costs

The SmartScan Gateway and compatible SmartScan Internal, SmartScan External and SmartScan Emergency luminaires simply require a mains connection. All communication cables are replaced by the mesh network so there is no need for data cables, additional power supplies or control modules.

Simple and Fast Commissioning

Using a single robust hand held infra-red programmer luminaires can be very quickly and easily commissioned, and all operational settings can be fine tuned in the future if desired.

Made in the UK

Customer assurance that the system and luminaires are fully compatible - designed and manufactured by Thorlux in the UK. SmartScan builds on the ultra reliable first wireless generation of Smart - SmartTR.

Powerful Information Collection

The SmartScan Gateway uses the mesh network to communicate with individual luminaires, controlling emergency light test timing and obtaining information on energy usage, luminaire status, occupancy profile and air quality.

This information is transmitted to the world wide web for viewing using tablets, smart phones, laptops and computers.

SmartScan Platform 1 How Does It Work?

SmartScan Internal and External

Projects utilising the Thorlux Smart System can frequently benefit from energy savings in excess of 70% when compared with conventional technology.

The factory fitted addition of a SmartScan transceiver, to a Thorlux SmartScan luminaire, introduces the latest wireless mesh network technology and replaces the wired Motionline communication signals between luminaires with sophisticated, trouble free wireless transmissions.

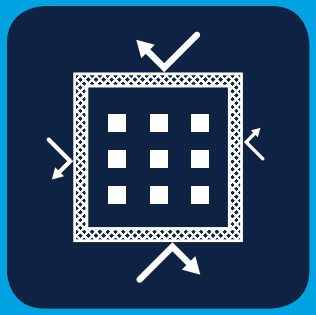
Each transceiver can be individually programmed with a SmartScan Programmer during commissioning, and assigned to work exclusively within a particular building, or group created within that building. Energy performance data and operational status can be retrieved using the SmartScan Programmer.

SmartScan uses 868MHz (922MHz in Australasia) secure radio communication chosen for its excellent transmission distance and object penetration, especially useful within buildings. Each luminaire acts as a wireless node, repeating each command received on to the next luminaire, providing a robust system that will always find a communication path.

SmartScan Emergency

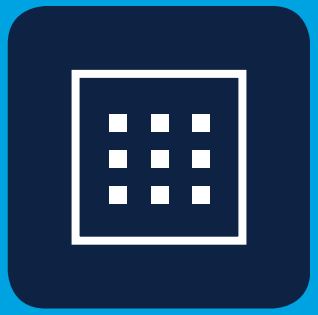
At Platform 1 all SmartScan emergency luminaires are stand-alone. Each luminaire will self-test to the schedule specified in BS EN 50172:2004. The operational status of each luminaire is displayed by the status LED and operational status information can be retrieved using the SmartScan Programmer. Manual tests can also be initiated at each luminaire using the SmartScan Programmer. The user, legally, will need to inspect each luminaire at prescribed intervals to monitor test status and manually log the results.

Addressing - Each SmartScan transceiver can be assigned an address to suit its application. The following parameters are programmable:



Building Address

Identifies devices that are within the same system and forms the boundary for the wireless mesh network to prevent adjacent buildings communicating.



Group Address

All luminaires with the same building address and the same group address will work together for presence detection and scene control.

Device Address

Individual luminaires within each group can be given a unique address to provide identification.

SmartScan Platform 2 How Does It Work?

1 **Compatible SmartScan Internal, SmartScan External and SmartScan Emergency luminaires wirelessly communicate with each other and the Gateway through the mesh network.**

2 **The Gateway transmits energy performance and status reports for both standard and emergency luminaires to the SmartScan web server.**

3 **Users employ their chosen device to view system information.**

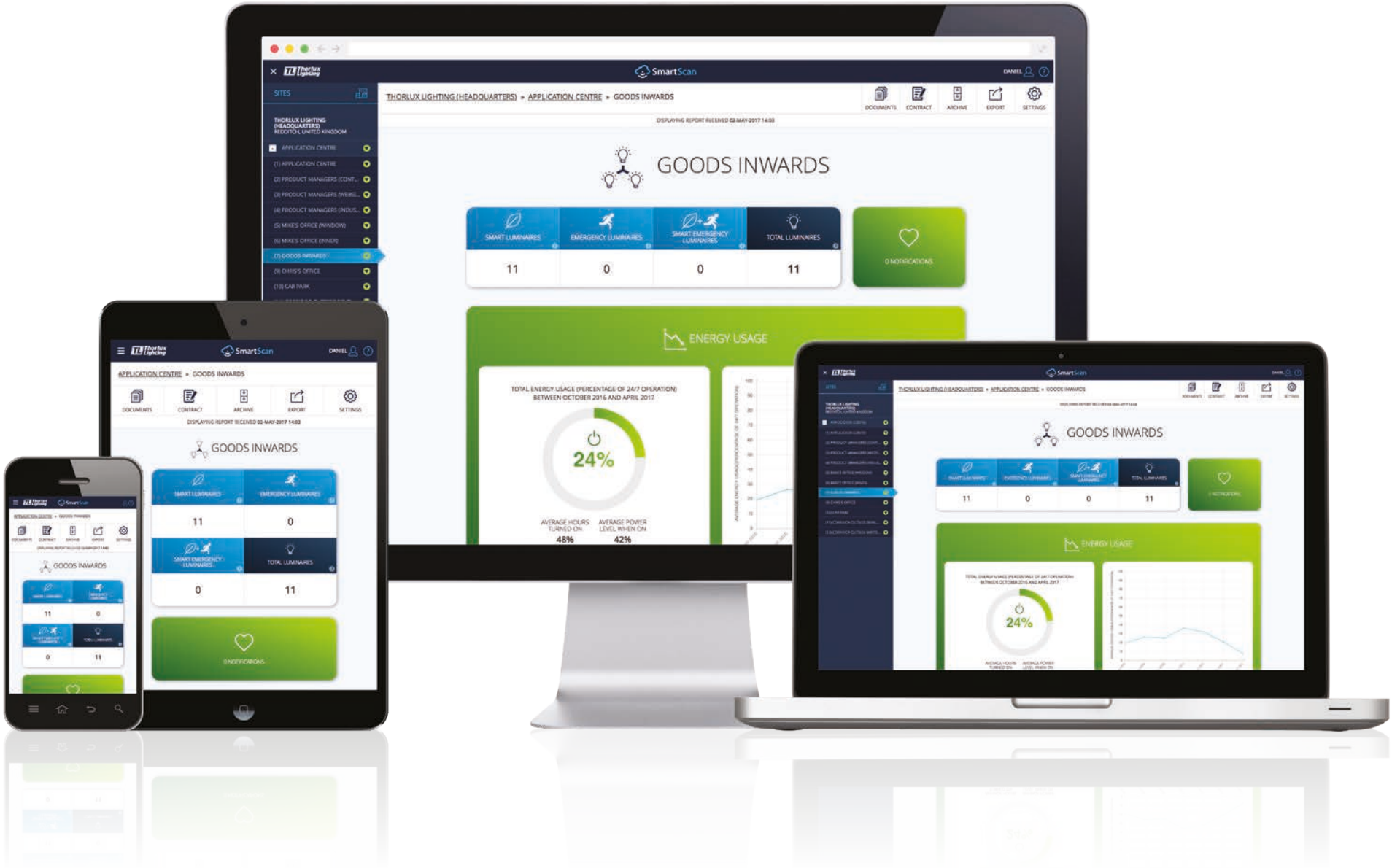
2

SmartScan Gateway

SmartScan Web Servers

3

Your Device


SmartScan
GOODS INWARDS
SMART LUMINAIRES
EMERGENCY LUMINAIRES
SMART EMERGENCY LUMINAIRES
TOTAL LUMINAIRES
11
0
0
11
ENERGY USAGE
24%

SmartScan Platform 2 Website

Delivers full energy performance reports.

Provides emergency lighting status information.

Provides SmartScan luminaire status information.

Management of emergency lighting testing dates/times.

Management of external lighting switching times.

Provides occupancy profiling information.

Provides air quality information.

Management of ColourActive regime.

User Friendly

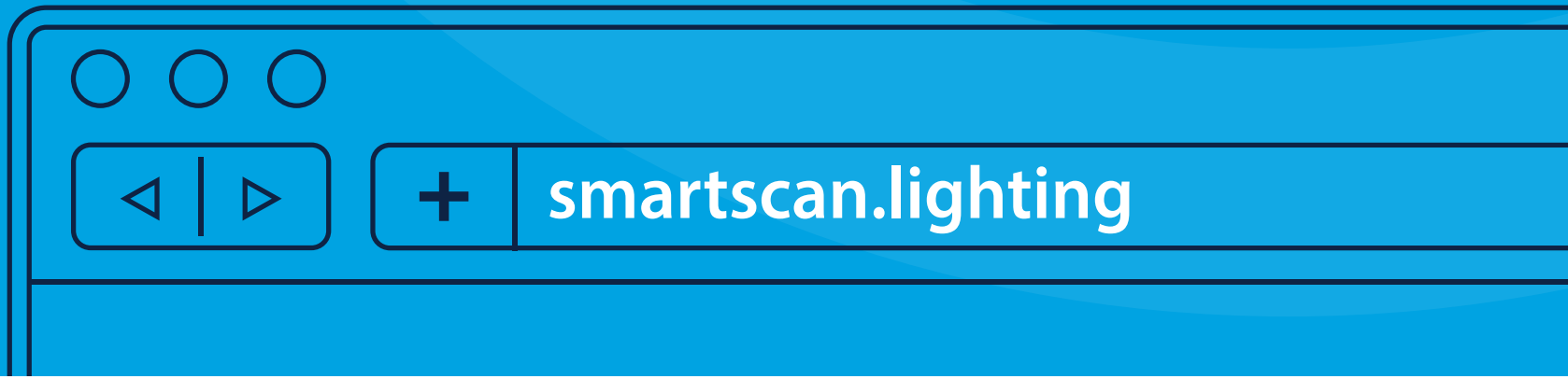
The system is accessed using a web browser, there is no need for a specific app or piece of software.

Remote Access

Records can be accessed remotely with a username and password.

Off-site Storage

Energy performance data, emergency lighting testing records, occupancy profiles, air quality data, "as fitted" drawings, Interactive drawings and commissioning certificates are stored remotely on the web server.



Full Luminaire Status Monitoring

The SmartScan Gateway provides daily uploads of the system status to the website. Secure access allows the user to view full luminaire status of the whole installation, individual groups of luminaires or individual control gear items within a luminaire.

The website provides an easy to read visual reference highlighting the following:

SmartScan Luminaires

- Mains control gear functionality
- Light source functionality
- Thermal performance (the luminaire is operating within correct temperature limits)
- Average energy used by the luminaire
- Total hours powered and operating/on

SmartScan Emergency Luminaires

- Lamp status in emergency operation
- Number of hours that a lamp has operated from the battery
- Integral battery is connected and charging
- Result of the last monthly function test and the date of the next scheduled test
- Result of the last annual duration test and the date of the next scheduled test
- Emergency lighting testing schedules

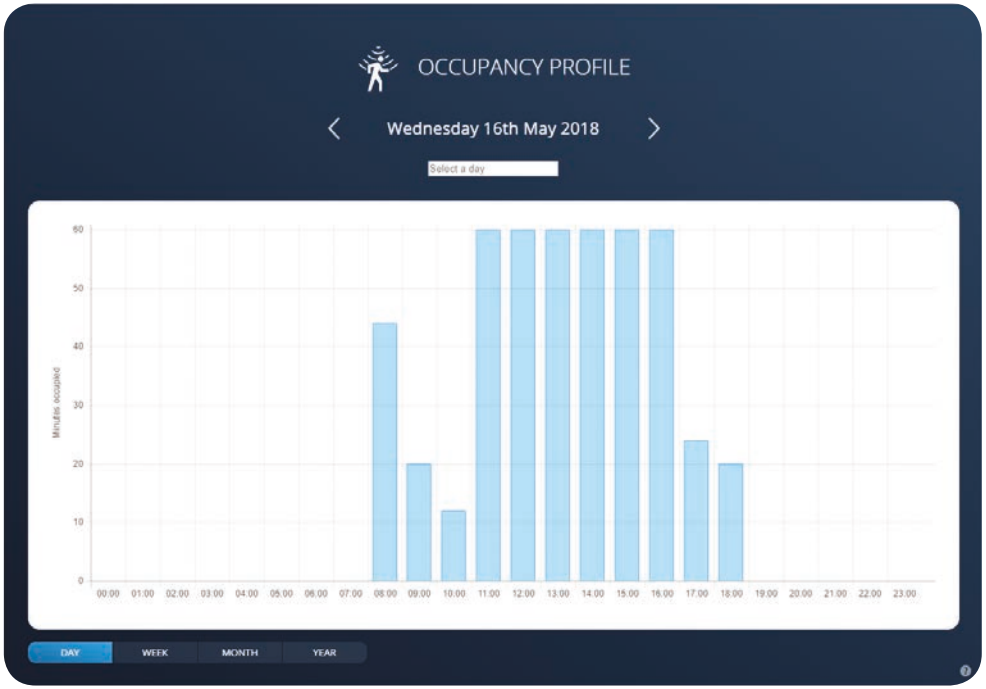
A full history of test reports is also available to view.

SmartScan
Status Reporting

SmartScan Emergency
Status Reporting

Occupancy Profiling

Buildings are an expensive resource, both to construct and to maintain, and it is therefore essential that they are used efficiently. Consequently, building and facilities managers need to understand clearly how their rooms and spaces are being utilised. This may be, for example, to monitor the usage of teaching spaces, meeting rooms, or the frequency of access to aisles in a large warehouse.



Occupancy Profiling

SmartScan now has the ability to provide occupancy profiling information. The data collected from the SmartScan Sensor, incorporated into the luminaire, can be used to monitor room occupancy even when the lamp is turned off.

HISTORIC

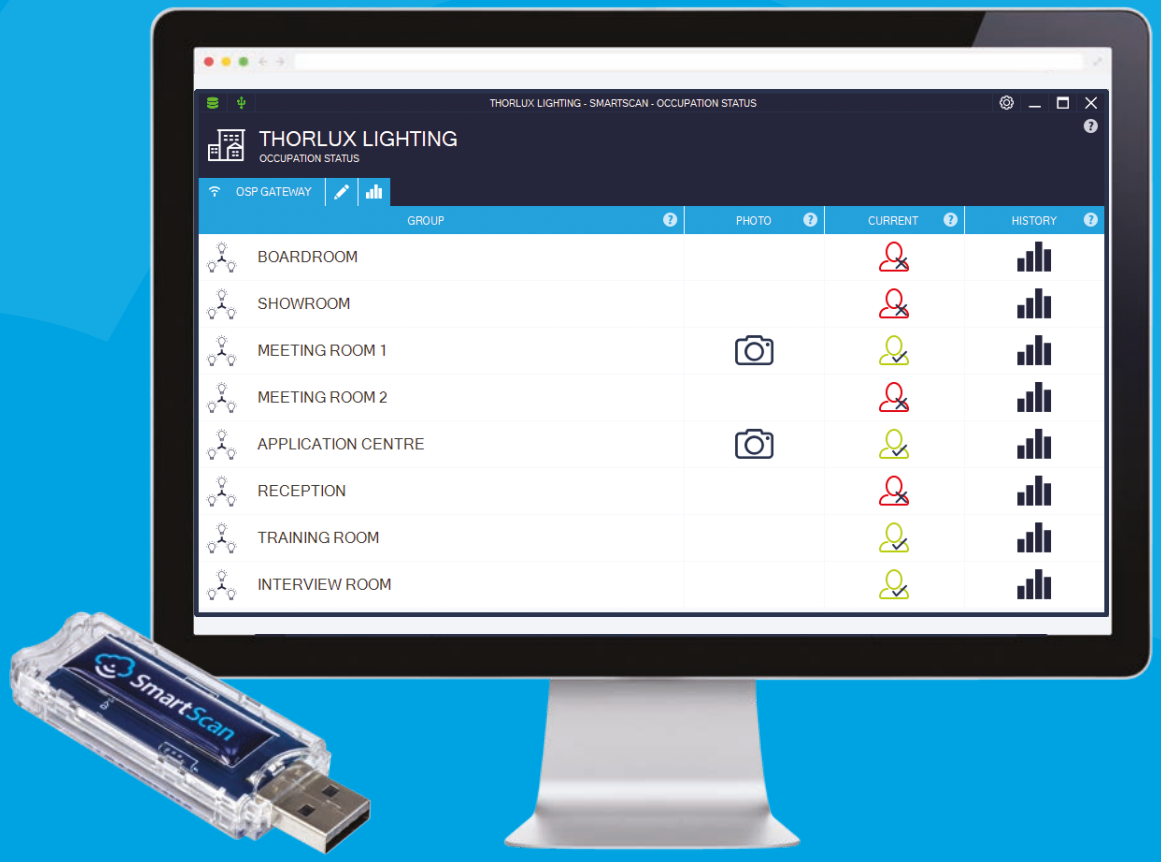
Occupancy Profiling

Each day occupancy data is gathered by the SmartScan Gateway, from every SmartScan Sensor, and included in the Gateway's status upload to the SmartScan website.

Authorised website users can view the occupancy profiles on an annual, monthly, weekly or daily basis. This data is available for groups or individual luminaires.

KEY FEATURES

- **No additional equipment/software is required**
- **Occupancy profiles are stored off-site and can be viewed at any time by an authorised user**
- **Reports are available for all groups and individual luminaires**



LIVE

Occupancy Profiling

In certain applications live occupancy profiling may be required. For example, a receptionist or PA may need to know whether the board, conference or meeting rooms are occupied or vacant.

SmartScan Live Profiling allows a number of groups of luminaires to be monitored in real time, with live occupancy status displayed on a laptop or PC screen.

By using the SmartScan Occupancy Profiling software in conjunction with a SmartScan Dongle, it is possible to monitor a room's status in real time. The dongle monitors occupancy signals on the SmartScan mesh network and updates the status display instantly.

KEY FEATURES

- **Up to 15 groups per network can be monitored**
- **More than one live profile setup may be installed on the same network to allow monitoring by multiple users**

Note: When Occupancy Profiling is enabled (live or historic) a maximum of 250 luminaires can be connected to the Gateway.

Air Quality Sensing

Research shows that air quality has an impact on health, and could potentially affect an individual's well-being, comfort and performance in the workplace. Poor air quality may lead to symptoms such as headaches, fatigue and eye irritation.

"THINK SMART ABOUT AIR QUALITY"

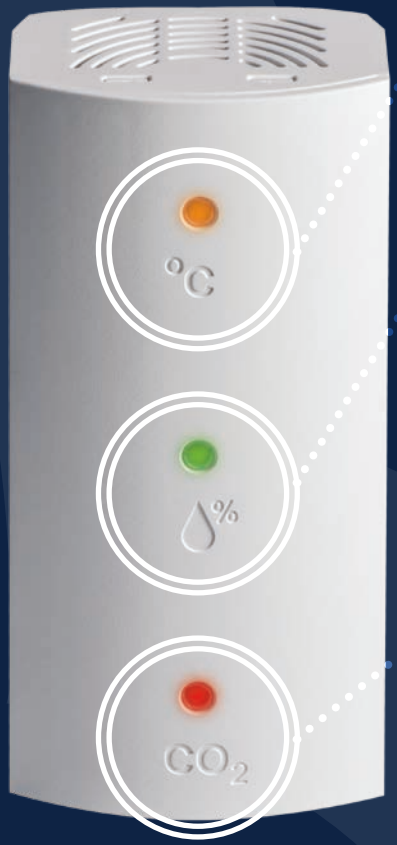
SmartScan Platform 2 Air Quality Recording

Each day air quality data is gathered by the SmartScan Gateway from every SmartScan Air Quality Sensor and included in the Gateway's status upload to the SmartScan website.

Authorised users can then view the air quality profiles as an annual, monthly, weekly or daily report. This data is available for groups and/or individual luminaires.

KEY FEATURES

- **No additional software is required**
- **Air quality records are stored off-site and can be viewed at any time by an authorised user**



°C Temperature

Temperature greatly influences an individual's comfort level, affecting mood, performance and work-place productivity. Comfortable temperature ranges will depend upon the usage of the space.

% Humidity

Humidity needs to be within a range of values for the environment to be comfortable and to promote good health. If the humidity levels are too low, individuals may experience dryness and irritation to the skin, eyes, throat and nasal passages. Conversely, high humidity levels promote the growth and accumulation of mould spores, bacteria and dust mites, potentially leading to allergies and respiratory inflammation. Humidity is also linked to temperature, so that at lower temperatures, higher humidity levels can be tolerated.

CO_2 Carbon dioxide

CO_2 levels over 1000ppm create a "stuffy" atmosphere, causing individuals to feel lethargic and sleepy, lowering concentration levels and reducing work-place performance. The cause of CO_2 build-up is often inadequate ventilation and/or air circulation within a space. Increasing the ventilation will bring in fresh air and dispel accumulations of CO_2.

SmartScan Air Quality Sensor

The SmartScan Air Quality Sensor monitors three key parameters: Temperature, CO_2 and Relative Humidity.

Coloured LED indicators within the sensor provide live status information for each parameter, enabling users to take remedial action if necessary. Summary air quality data is included in the daily status upload to the SmartScan web server. The Air Quality Sensor has three settings, based on the usage of the space, that can be selected as part of the commissioning process; inactive, semi-active or active.

Air Quality Sensor Settings

SETTING	TEMPERATURE	HUMIDITY	CO_2
INACTIVE **Typical Applications:** Care Homes, Offices	>26°C	>70%	>1000 ppm
	24 -26°C	51-70%	800-1000 ppm
	20 -24°C	25-50%	<800 ppm
	<20°C	20-25%	
		<20%	
SEMI-ACTIVE. **Typical Applications:** Warehouses, Factories, Retail	>25°C	>70%	>1000 ppm
	23 -25°C	51-70%	800-1000 ppm
	20 -23°C	25-50%	<800 ppm
	<20°C	20-25%	
		<20%	
ACTIVE **Typical Applications:** Sports Halls	>21°C	>70%	>1000 ppm
	19 -21°C	61-70%	800-1000 ppm
	16 -19°C	25-60%	<800 ppm
	<16°C	20-25%	
		<20%	

Interactive Drawings

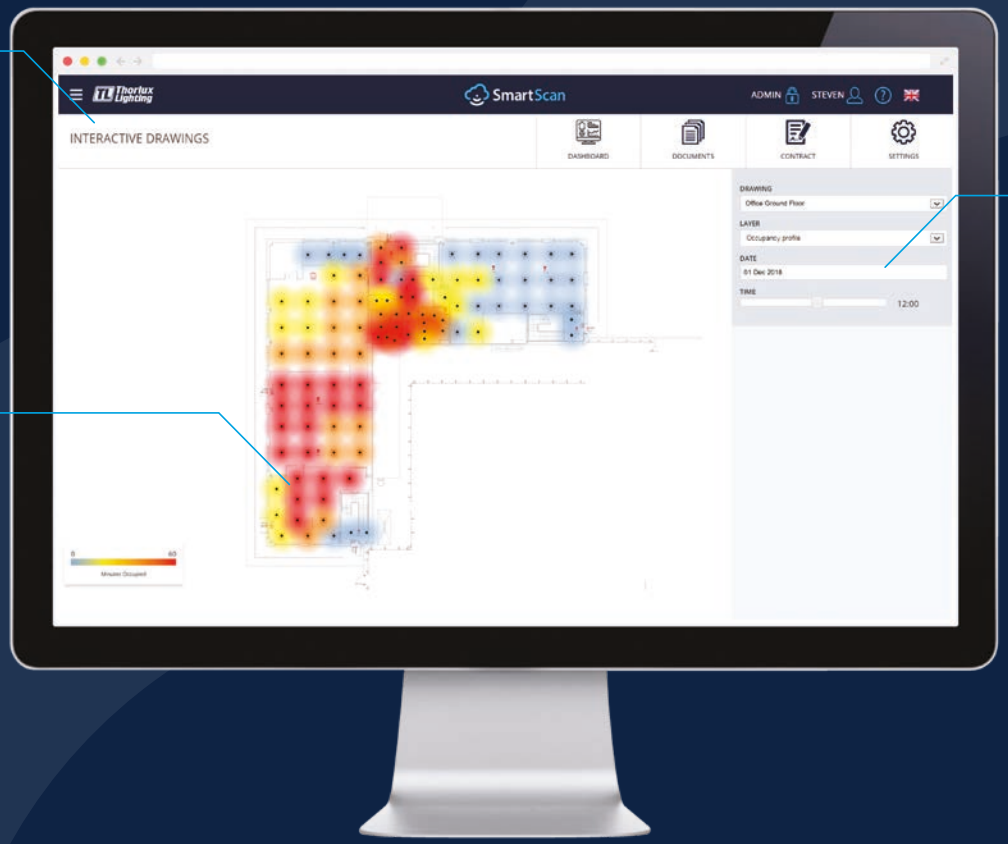
SmartScan Interactive Drawings provide a simple and effective method of viewing system information.

Navigation

Each dataset is shown as a layer allowing the user to zoom in or out as needed. The user can look at data for the whole building, or focus attention on a single room or individual luminaire.

Occupancy Profile

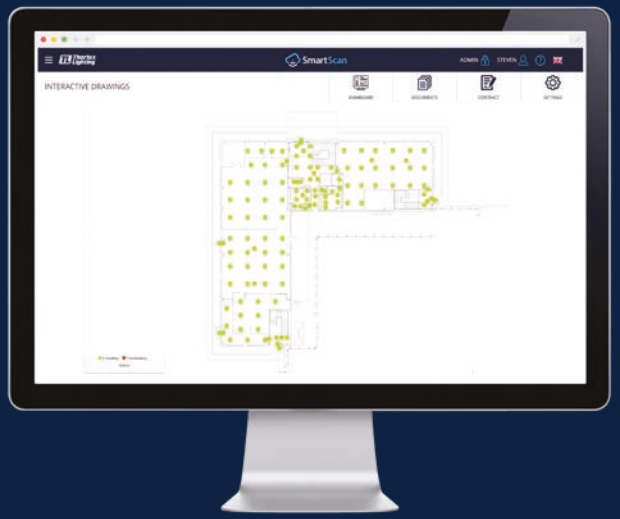
The occupancy profile for each sensor is displayed by a range of colours from grey (no occupancy) through to red (occupied continuously throughout the selected hour).



Information Table

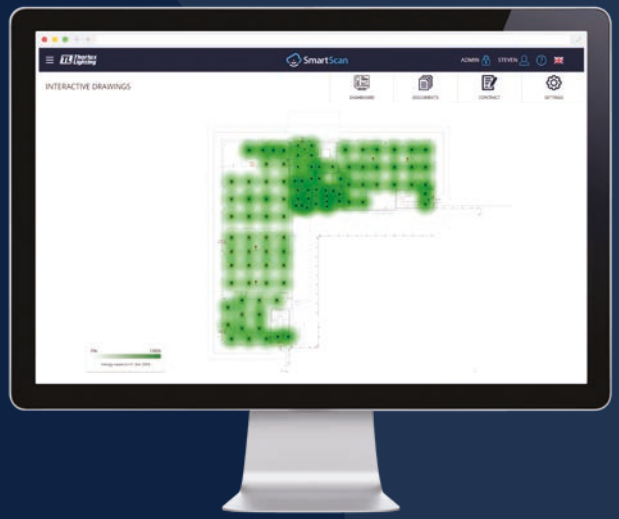
If a single luminaire is selected, an information table is displayed with the data for that luminaire.

The user can select a date, then using the time slider can see how the usage pattern or performance changes through the day.



Status

If a luminaire requires attention the exact position is highlighted on the Interactive Drawing. The Information table will show the status of electronic components within the luminaire.



Energy Savings

Daily energy savings are shown by a graduated indicator – the darker the green, the greater the energy saving that day. If a single luminaire is selected, the information table shows the energy performance for that luminaire.

Air Quality Sensing

Temperature, humidity and CO_2 levels are displayed with colour-coded shading. The information table displays the exact values for each sensor at any given time.

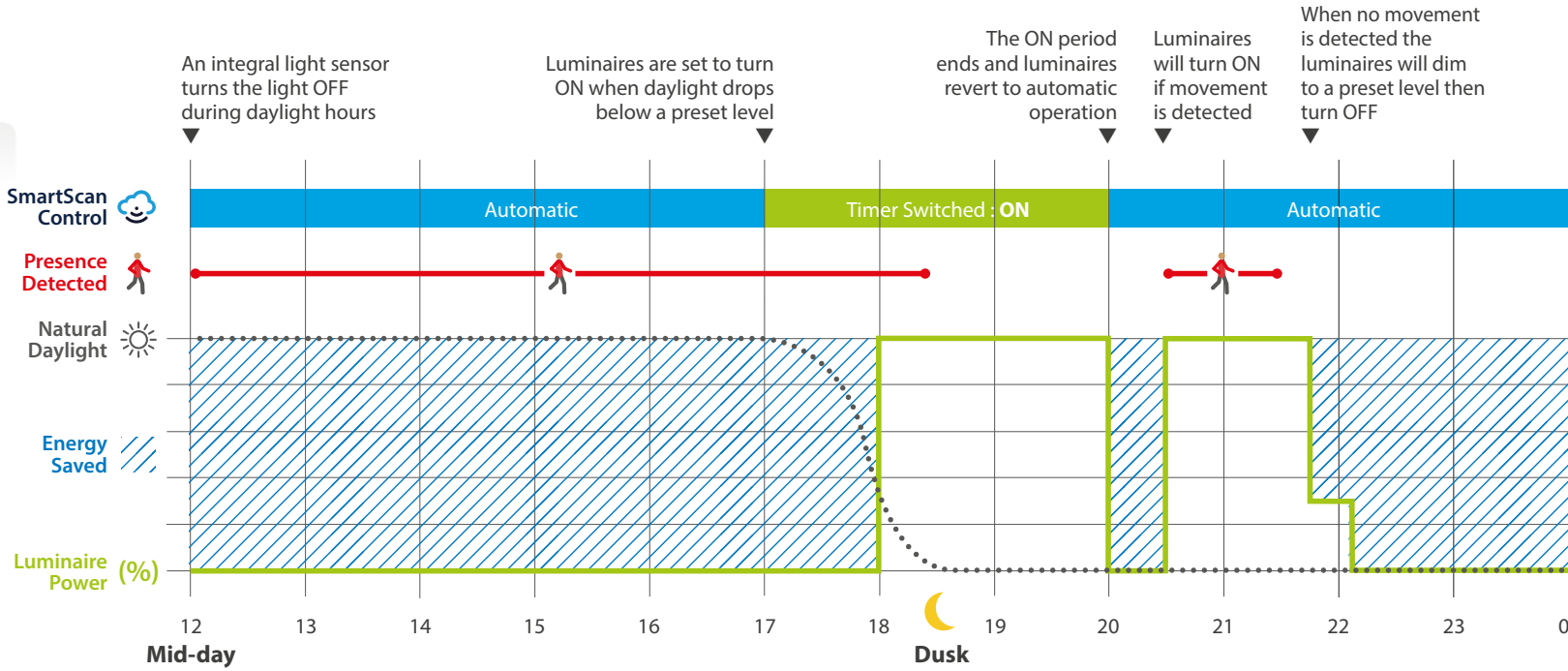
Typical SmartScan External Lighting Application

Times can be set on the SmartScan website

External lighting can be used in a number of ways, so flexibility of control is required. ON and OFF times can be set on the SmartScan website. SmartScan External groups can be configured in three ways:

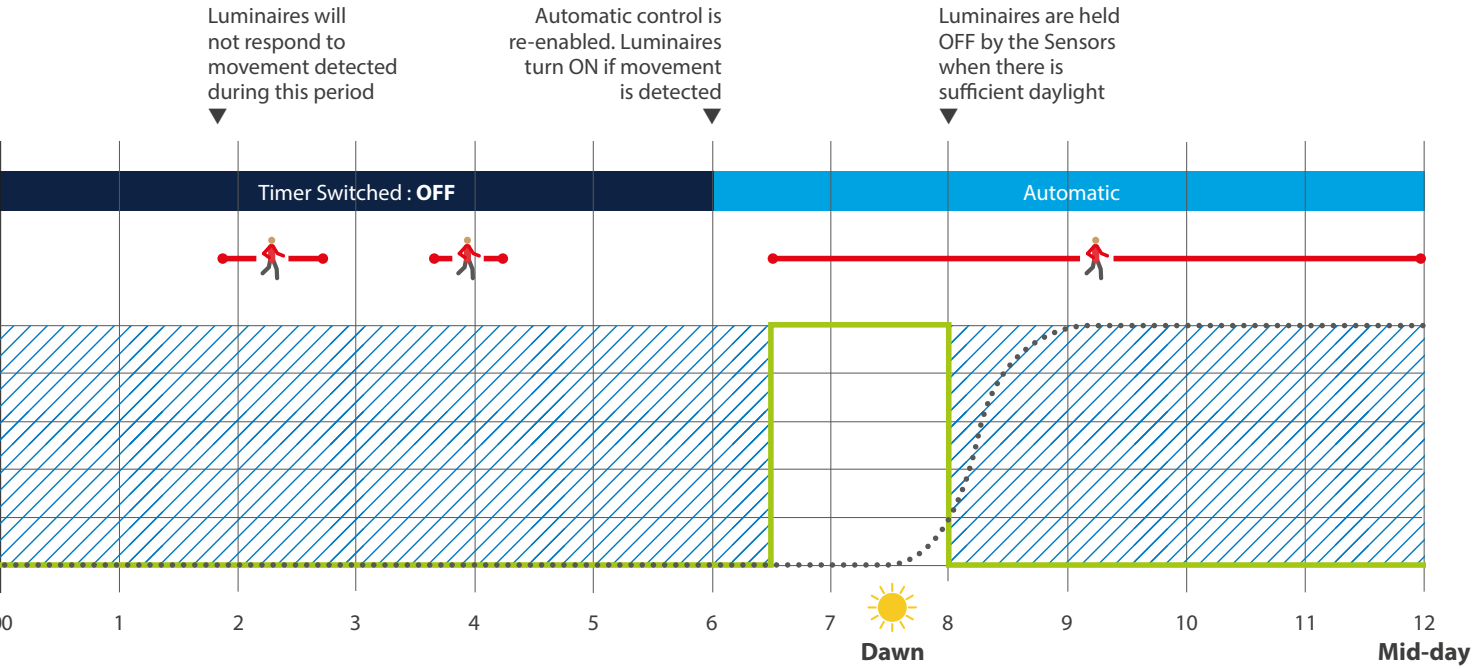
- **Presence detector control (default setting)**
- **ON between set times**
- **OFF between set times**

In all three scenarios, the integral light sensor ensures luminaires are OFF if there is sufficient daylight.



SmartScan Time Control

In the example below, timings are set to turn the luminaires ON between 17:00 and 20:00, and OFF between 00:00 and 06:00 the following morning. Automatic presence control (with light sensor override) is enabled outside of these times.



ColourActive Luminaires with SmartScan Control

COLOUR TEMPERATURE CONTROL

Thorlux ColourActive high performance LED luminaires incorporate dual populated PCBs where LEDs with two different colour temperatures (3000K and 6500K) are combined.

The Thorlux designed and manufactured technology utilises twin lighting circuits within each luminaire to vary the output to produce colour temperatures of either 3000K, 6500K or any value in between.

High quality medium power LEDs, placed on a circuit board with integral heat sinking, provide a high efficiency solution.

ADVANCED CONTROLS

SmartScan wireless mesh network technology provides signals to control the ColourActive luminaires to provide both manual and automatic control of colour temperature.

The ColourActive Gateway communicates with the luminaires throughout the day, providing automatic, seamless transitions between colour temperatures.

Manual control is provided by a range of wall mounted touch sensitive plates and smart phone apps.

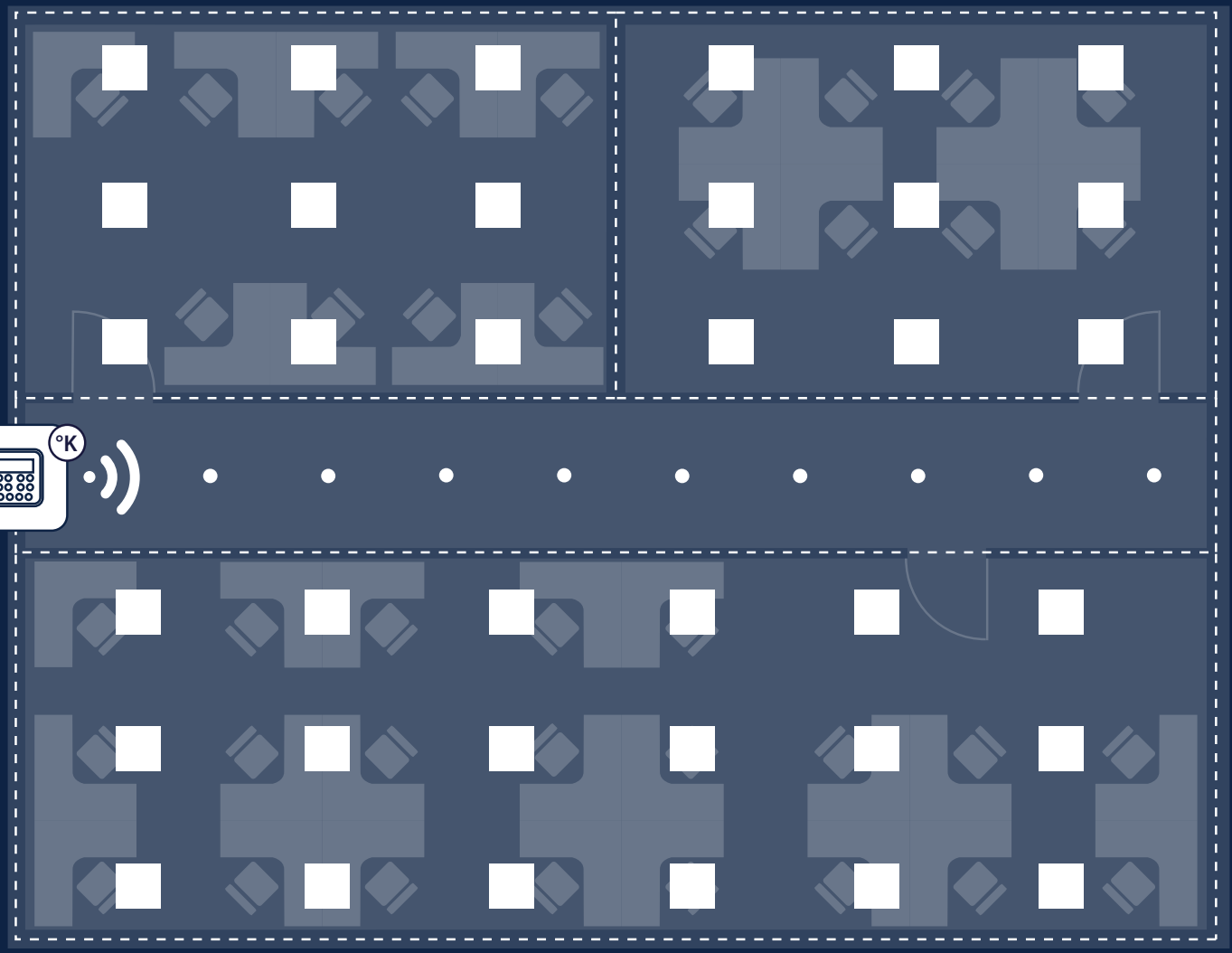
Seamless Colour Temperature Transitions

3000°K 6500°K

Methods of Control

OPTION 1. Time Schedule Control

A ColourActive Gateway wirelessly provides building wide colour temperature control of ColourActive luminaires. The time schedule is configured via the Thorlux SmartScan website.



Ideal for whole buildings.

All the benefits of the Thorlux SmartScan system, plus the addition of colour temperature control.

Additional SmartScan Gateways can also be fitted for luminaire energy monitoring and status feedback.

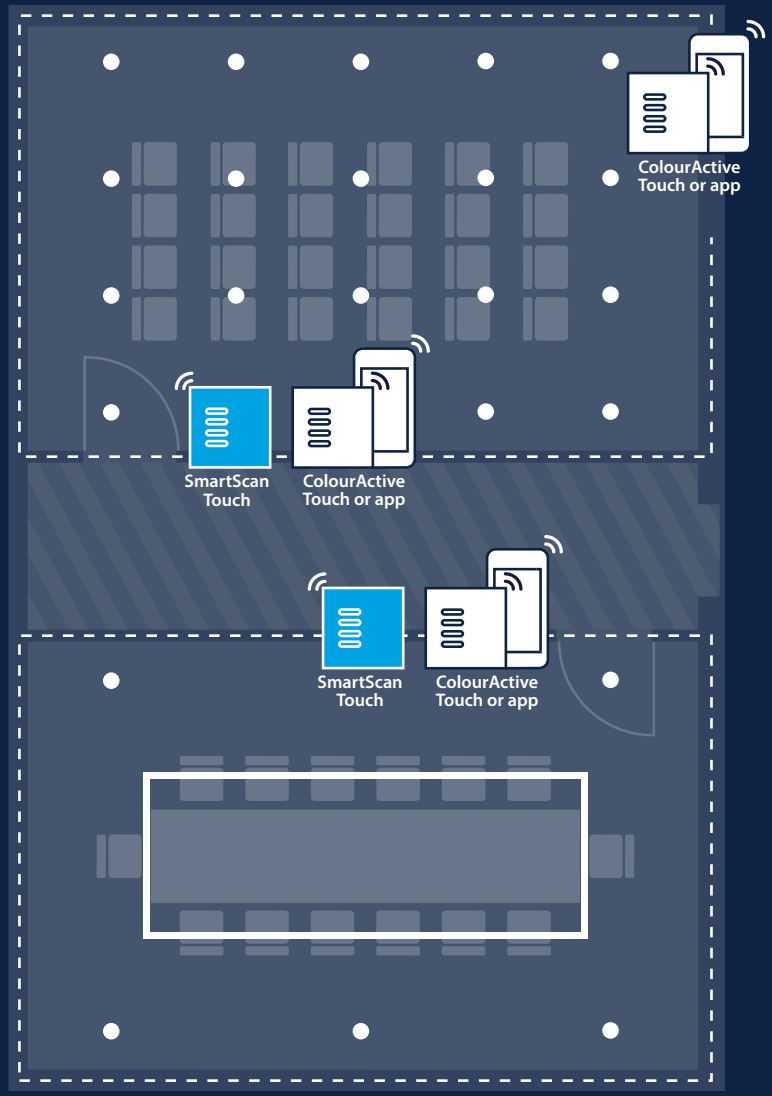
OPTION 2.
Manual Control

Ideal for small offices, meeting and conference rooms.

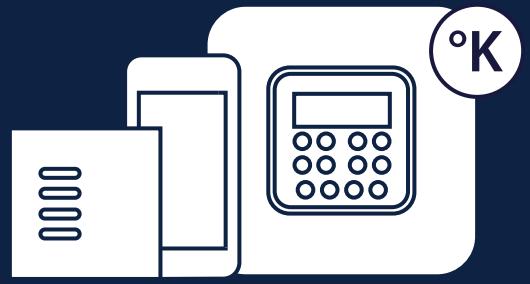
Colour temperatures are set by the user with the ColourActive Touch or the ColourActive app.

Additional SmartScan Touch plates can also be fitted for individual group scene setting and control.

Multiple ColourActive Touch or SmartScan Touch plates can be fitted in each area for added convenience.



OPTIONS 1 AND 2 COMBINED.
Automatic and Manual Controls



Automatic and manual controls can be combined to provide maximum flexibility and convenience.

Users can override the automatic building wide settings to suit their individual needs. The system reverts to automatic mode once the area has been vacated.

How Does ColourActive Automatic Control Work?

The daily ColourActive cycle is configured via the SmartScan website. Preset regimes follow the natural daylight rhythm, or specific settings can be set and tailored as required. This gives the user complete freedom to set a colour temperature regime that suits the building's usage pattern.

Settings are transferred to the ColourActive Gateway which broadcasts colour temperature settings to all luminaires every few minutes, ensuring seamlessly smooth transitions throughout the day.

06:00 - 3000°K

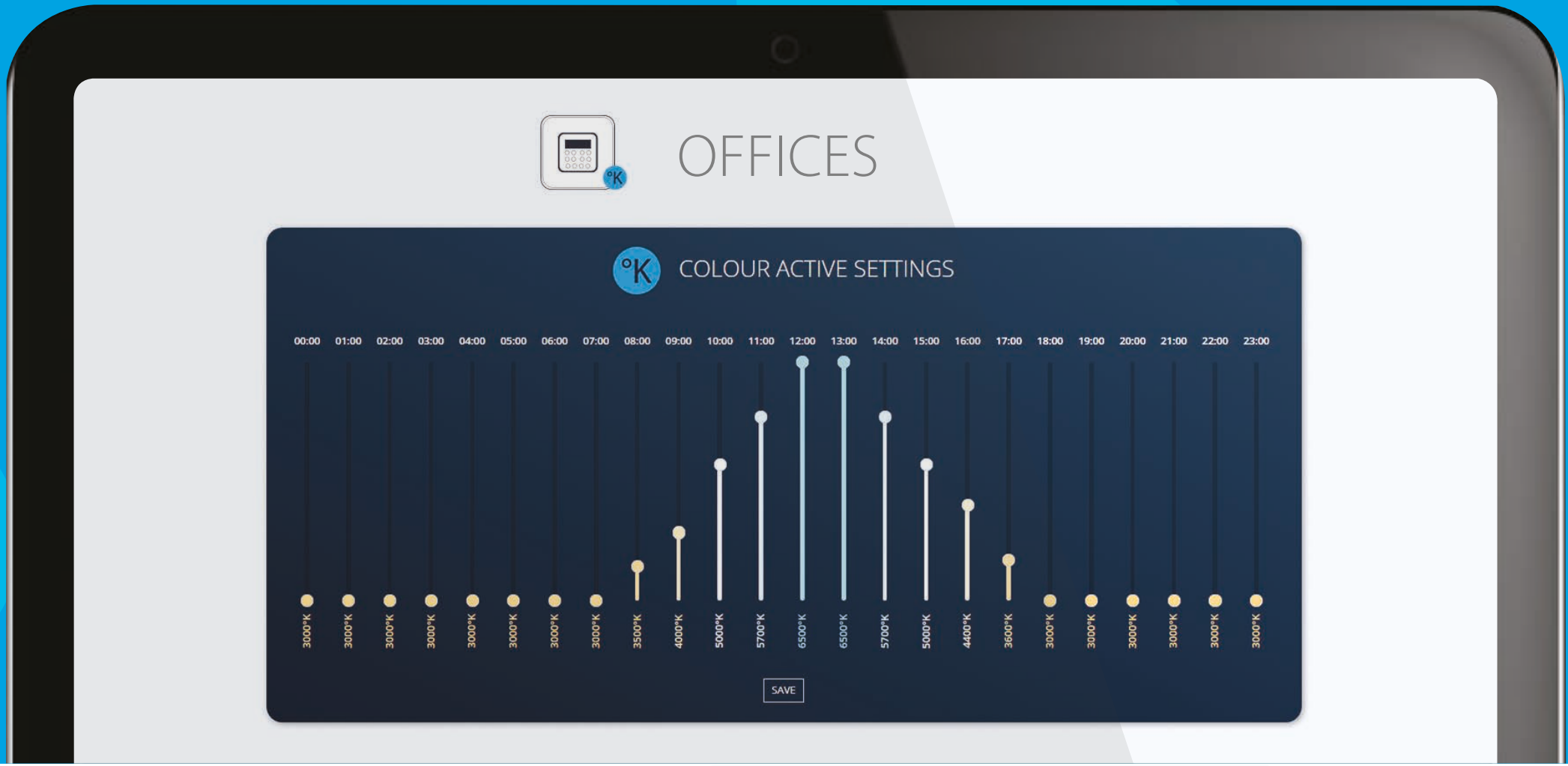
09:00 - 4000°K

12:00 - 6500°K

15:00 - 5000°K

18:00 - 3000°K

Colour temperatures are set at hourly intervals on the website, where they are processed and transmitted to the building's ColourActive Gateway. Changes in colour are gradual between settings.

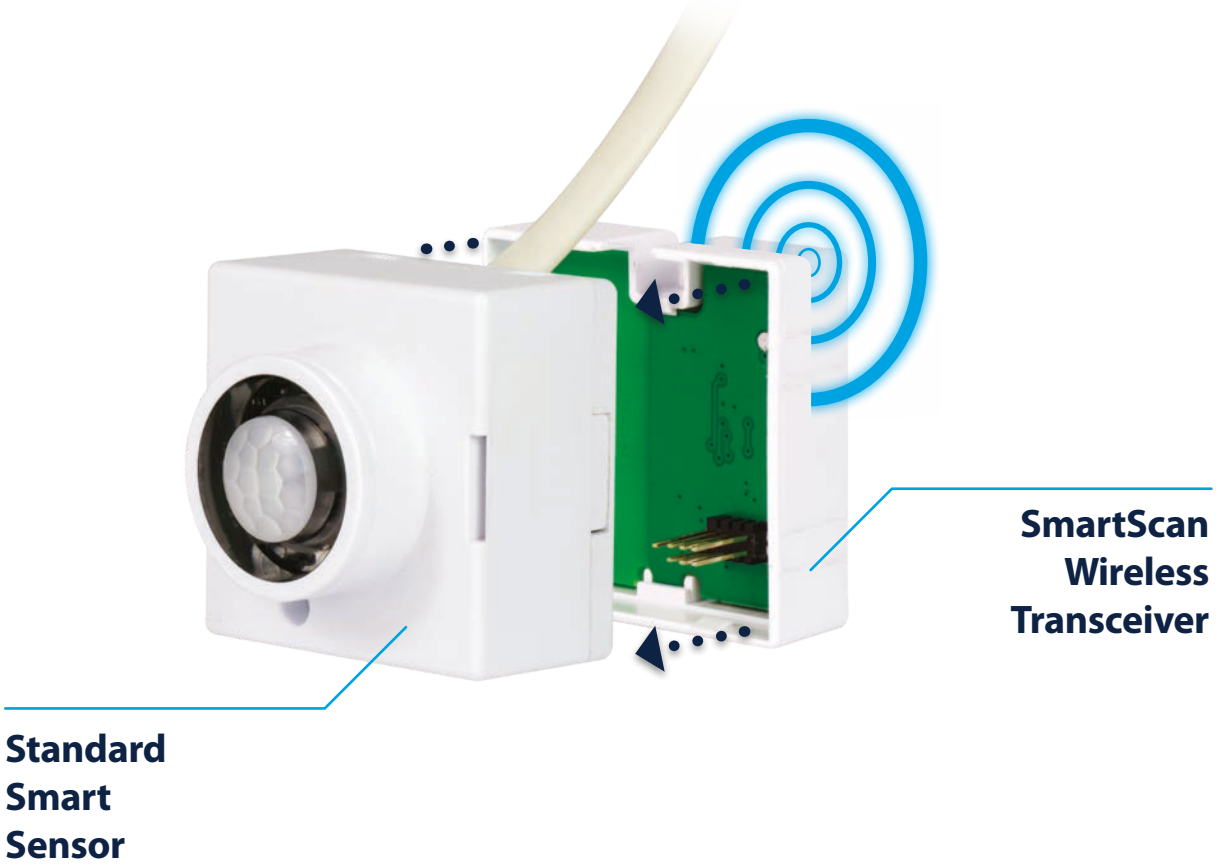


SmartScan Luminaires

Smart Sensors have been re-engineered with a socket on the back. During production, a wireless transceiver is plugged into a Smart Sensor to convert it into a SmartScan Sensor.

SmartScan Sensor

- Grouped presence or absence detection
- Individual maintained illuminance/daylight dimming and switching
- Individual manual dimming
- Scene setting
- Energy performance monitoring
- Full programmability
- Control gear status monitoring
- Integral emergency lighting test results
- Occupancy profiling
- ColourActive (selected luminaires only)



Lighting Cable Management

Permanent Live (L)

Neutral

Recessed SmartScan luminaires are manufactured with fitted “plug and play” TEE connectors to accept factory made and tested interlink leads.

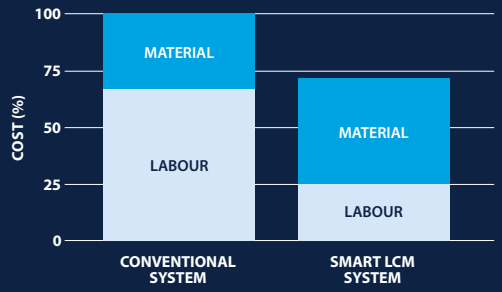
This approach, often referred to as modular wiring, provides a fast, error free installation and overall lower total system costs.

SPECIFICATION

- Thorlux UK designed and manufactured
- LS0H - low smoke zero halogen cables
- Leads can be plugged together to extend wiring
- Future flexibility - plug and play
- Twin latch design - strong strain relief
- Constructed from flame retardant nylon
- Compliance with new standard BS EN 61535:2013

Cost Effective

Using the Thorlux Lighting Cable Management System will significantly reduce installation labour costs as luminaires and cables are simply plugged together.



3-way mains connection lead **1.5mm²**

3m - **LCM 18270**
4m - **LCM 18271**
6m - **LCM 18272**

3-way mains plug with 3 core input lead **1.5mm²**

3m - **LCM 18273**

3-way plug

Live end (for connection to luminaire) - **LCM 18276**
Dead end (for connection from luminaire) - **LCM 18277**

NOTE: If modular wiring is not required please suffix luminaire catalogue number with **NT** e.g. **XL 18306SSNT**

Emergency Luminaires

A range of stand-alone emergency luminaires are available with integral wireless connectivity suitable for most application requirements.

Lexi

- Downlighter LED array illuminates the exit door.
- Ceiling, wall, cantilever or suspension fixing to cater for all locations.
- Fast-change battery replacement reduces maintenance time and cost.

Lexi-65

- IP65 luminaire with optional legends.
- Downlighter LED array illuminates the exit door.
- Will also accept surface conduit style wiring.

Seven

- Architectural surface mounted led exit sign.
- Ceiling mounted or optional kit for wall and cantilever mounting.

Firefly/Firefly Plus

- Superb optical performance means fewer luminaires are needed.
- ECO-Power Pack fast-change pluggable battery reduces maintenance time and cost.

Firefly Surface/ Firefly Plus Surface

- Identical performance to the recessed version.
- Will also accept surface conduit style wiring.

Realta Micro Emergency

- Low light level, wall mounted luminaires.
- Strong die-cast LM2 aluminium body.
- UV stabilised polycarbonate cover.

Control Products

SmartScan Gateway

- Monitors and controls up to 250 SmartScan luminaires. (More Gateways can be fitted on large installations).
- Transmits Smart energy performance and lighting status reports to the SmartScan web server.
- Controls emergency lighting testing dates/times.
- Controls external lighting switching times.

SmartScan Touch

- Touch sensitive buttons and user friendly interface.
- On-off and scene setting controls.
- ECO (automatic energy saving) commissioned mode.

ColourActive Touch

- Provides manual control or override of the colour temperature of ColourActive luminaires.

ColourActive Gateway

- Provides wireless control of incremental shifts in colour temperature governed by settings on the SmartScan website.

SmartScan Programmer

- Used for commissioning.
- Simple and fast setting of operational parameters from ground level.
- Protective silicone sleeve.
- Laser pointer for accurate alignment.
- Supplied with batteries fitted.

Smart External Stand Alone Sensor

- For areas where presence detection is required but a Smart External luminaire is not conveniently situated e.g. escape exits etc.

Air Quality Sensor

- Monitors three key parameters: Temperature, CO_2 and Relative Humidity.
- Coloured LED indicators provide live status information.
- Air quality data is included in the Gateway's status upload to the SmartScan website.

SmartScan Hub

- Allows the integration of non-Smart luminaires.
- Practically any type of luminaire (up to 5A total current) can be connected.
- Luminaires are switched according to wireless presence and scene commands.

SmartScene Handset

- On-off, individual dimming and scene setting controls.
- ECO (automatic energy saving) commissioned mode.
- Locking key kit available if required.

SmartScan Stand-alone Sensor

- Enables control of multiple DALI luminaires.
- Controls up to 10 DALI luminaires. (Assuming one DALI driver per luminaire).
- Provides wireless connectivity for group control or for SmartScan energy monitoring.
- Can be used stand-alone without connected luminaires to act as a wireless booster/range extender and/or as a slave PIR to extend detection coverage.

SmartScan Dongle

- Enables control of ColourActive luminaires via ColourActive App.
- Enables live occupancy profiling when used with Occupancy Profiling Software.
- USB dongle can be powered from a computer or dedicated USB power supply.

How To Specify SmartScan Luminaires

SmartScan can be tailored to suit specific requirements.

It can be used for :-

- Energy saving control
- Automatic emergency lighting testing*
- Energy monitoring
- Emergency test results
- Luminaire status reports
- Occupancy profile
- Air quality
- ColourActive control

* At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

There are five possible variants of SmartScan luminaires.

1

SmartScan Internal and External luminaires

SmartScan luminaires utilise the factory fitted SmartScan Wireless Transceiver addition to the Smart Sensor.

To specify a SmartScan luminaire change the luminaire catalogue number suffix from "**D**" to "**SS**".

For example:
JUB16949**D** → JUB16949**SS**

2

Integral SmartScan Emergency luminaires

A growing range of Thorlux luminaires are available with integral SmartScan Emergency. This involves the addition of the SmartScan Emergency Transceiver (SET) which can be mounted in many, but not all Thorlux integral emergency luminaires.

To specify integral SmartScan Emergency luminaires use the "**W**" prefix.

For example:
EAL 16513L → **W**AL 16513L

A full list of integral SmartScan Emergency compatible luminaires can be found here:
www.thorlux.com/smartscan/emergency

3

Combined SmartScan luminaires with integral SmartScan Emergency

Certain luminaires are available with combined SmartScan control and SmartScan integral Emergency. The luminaire's emergency module will communicate its status via the SmartScan Wireless Sensor.

Therefore the catalogue number will have the "**W**" prefix **AND** the "**SS**" suffix.

For example:
EJB16949**D** → **W**JB16949**SS**

NOTE:
The "**W**" prefix must be used to specify integral wireless SmartScan Emergency.

4

Dedicated SmartScan Emergency luminaires

A large range of Thorlux luminaires are available with inbuilt wireless technology.

These luminaires are specified as SmartScan Emergency by using the "**W**" prefix.

For example:
WLX17463

5 YEAR BATTERY WARRANTY

Dedicated SmartScan emergency luminaires benefit from a 5 year battery warranty.

5

SmartScan ColourActive luminaires

SmartScan ColourActive luminaires utilise the factory fitted SmartScan Wireless Transceiver addition to the Smart Sensor, combined with tuneable white DALI drivers and dual channel LED circuit boards.

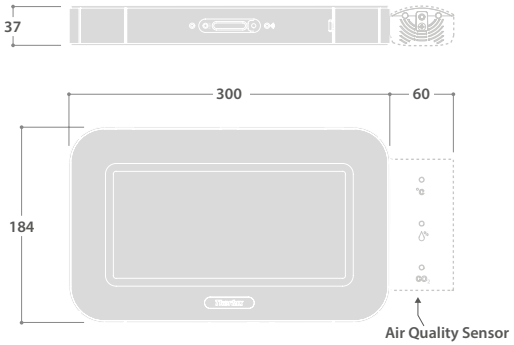
To specify a SmartScan ColourActive luminaire please refer to www.thorlux.com/colouractive to see a list of available products.

ColourActive luminaires have a '**CA**' suffix as well as a unique part number.

For example:
JUB16503**SS** → **JUB**18801**CA**

Lexi

DIMENSIONS



OPTIONAL MOUNTING KITS

All other methods (as shown) supplied as standard

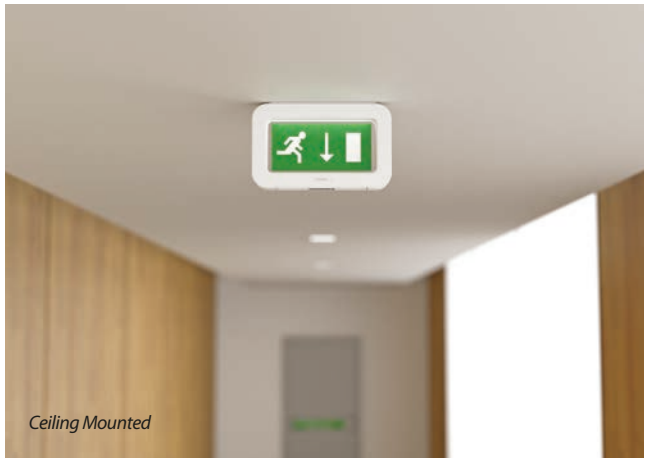
DESCRIPTION	CAT. No.	APPROX. kg
Suspension mounting kit	**LX 17421**	0.2
Cantilever mounting bracket	**LX 19448**	0.1
Back plate kit (To mask wall when retrofitting)	**LX 19691**	0.2

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	**EMB 617**	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.

MOUNTING OPTIONS


Ceiling Mounted


Wall Mounted


Suspension Mounted


Cantilever Mounted

Lexi

EMERGENCY EXIT SIGNS WITH DEDICATED SMARTSCAN WIRELESS TECHNOLOGY VERSIONS

IP40 CE LED

SPECIFICATION

- Polycarbonate body finished white (RAL9016) with acrylic legend panel
- Silver bezel option
- Uses long life LEDs
- Three hour, maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- Low power consumption (1.7W total)
- Ceiling or wall mounted
- Optional 3m wire suspension kit or cantilever mounting bracket
- Integral downlight for exit illumination
- Choice of legends
- Status indicator shows operational condition
- Hinged battery compartment (requires tool access) provides fast battery replacement
- Reliable Nickel Metal Hydride (NiMH) battery technology
- Available with a factory-fitted SmartScan Air Quality Sensor. (See Air Quality Sensor data sheet for more details)

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

RANGE

ISO 7010 LEGEND	CAT. No	EURO LEGEND	CAT. No	APPROX. kg	TYPE
A	**WLX 17463**	D	**WLX 17460**	1.0	Maintained ▲
B	**WLX 17464**	E	**WLX 17461**	1.0	Maintained ▲
C	**WLX 17465**	F	**WLX 17462**	1.0	Maintained ▲

▲ Wire link may be removed to enable non-maintained operation

FINISH OPTIONS - suffix catalogue number with: **SV3 - Silver** e.g. **WLX 17463 SV3** etc.

NOTE - Available with a SmartScan Air Quality Sensor pre-fitted - suffix catalogue number with: **AQS** e.g. WLX17463AQS

LEGEND OPTIONS

ISO 7010 Double Sided *

A

EURO Double Sided *

D

ISO 7010 Single Sided

B C

EURO Single Sided

E F

*** Suitable for wall mount applications. Legend can be inserted as arrow left or arrow right.**

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

Silver bezel option

Air quality sensor connected to the Lexi

Integral downlight for exit illumination

5 YEAR BATTERY WARRANTY

Hinged battery access

Lexi-65

With downlight

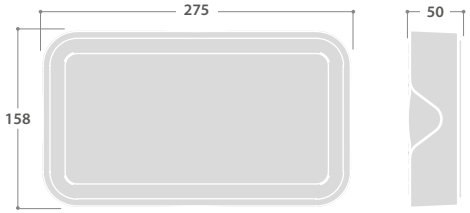
LEGEND KITS

ISO 7010 Self Adhesive Legend Kit - Cat. No. **LXP 17613***

EURO Self Adhesive Legend Kit - Cat. No. **LXP 17612***

* Order separately from luminaire

DIMENSIONS



Lexi-65

LED EMERGENCY LUMINAIRES WITH DEDICATED SMARTSCAN WIRELESS TECHNOLOGY VERSIONS

IP65 IK10 CE LED

SPECIFICATION

- Polycarbonate body finished white (RAL9016)
- Clear polycarbonate cover
- Uses long life LEDs
- Three hour, maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- Low power consumption (3.5W total)
- Integral downlight option for exit illumination
- Optional self-adhesive legend kit
- Status indicator shows operational condition
- Reliable Nickel Metal Hydride (NiMH) battery technology

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

RANGE

LED	CAT. No.	DESCRIPTION	APPROX. kg	TYPE
2W	**WLX 17696**	Standard	1.0	Maintained ▲
2W	**WLX 17697**	With integral downlight	1.0	Maintained ▲

▲ Wire link may be removed to enable non-maintained operation

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	**EMB 618**	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.

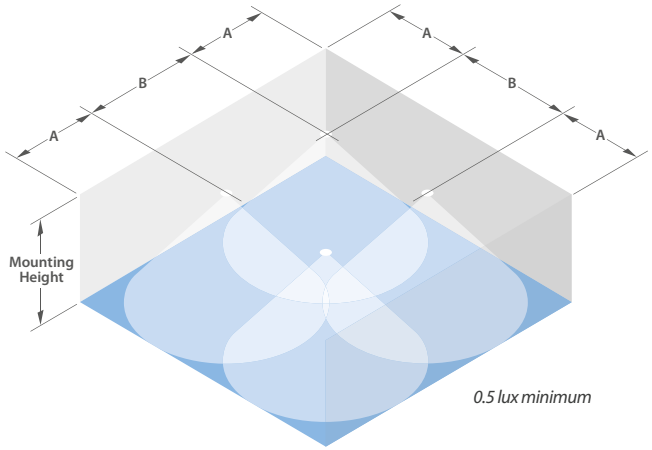
SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

5 YEAR BATTERY WARRANTY

Firefly

EMERGENCY LIGHTING PERFORMANCE GUIDE

TYPICAL SPACING FOR AREA LENS

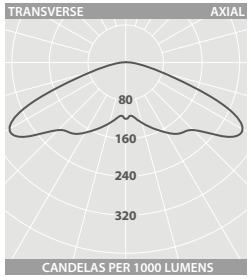


SPACING TABLE

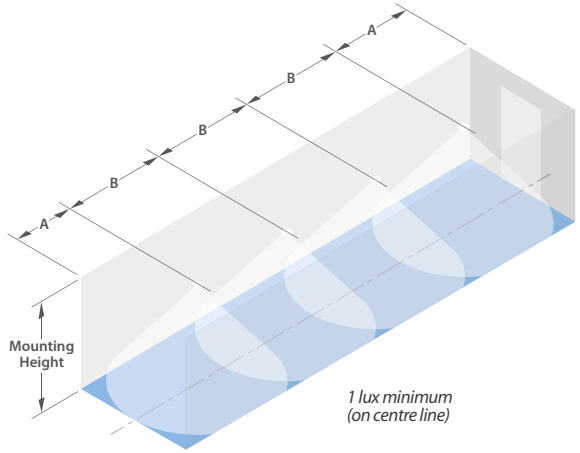
MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	4.3	9.6
2.5	4.7	11.0
3.0	5.3	12.2
3.5	5.8	13.5
4.0	6.2	14.5

Maintenance factor 0.90

PHOTOMETRIC GUIDE



TYPICAL SPACING FOR CORRIDOR (ESCAPE ROUTE) LENS

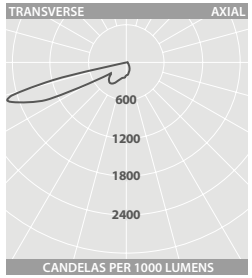


SPACING TABLE

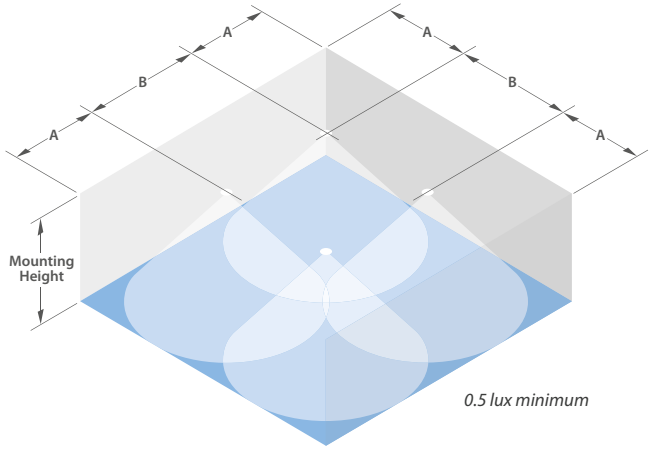
MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	8.3	18.7
2.5	9.4	21.7
3.0	10.3	24.4
3.5	10.7	27.0
4.0	5.2	25.5

Maintenance factor 0.90

PHOTOMETRIC GUIDE



TYPICAL SPACING FOR OPEN AREAS (STANDARD VERSION)

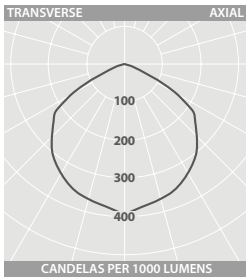


SPACING TABLE

MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	3.5	7.3
2.5	3.8	8.6
3.0	4.3	9.6
3.5	4.7	10.6
4.0	4.9	11.6

Maintenance factor 0.90

PHOTOMETRIC GUIDE



Firefly

EMERGENCY LUMINAIRES FOR RECESSED MOUNTING WITH DEDICATED SMARTSCAN WIRELESS TECHNOLOGY VERSIONS

IP65 DOWNLIGHTER (BELOW CEILING) IP40 DOWNLIGHTER (ABOVE CEILING)
IP20 CONTROL MODULE CE LED

SPECIFICATION

- Thermally conductive nylon body, polycarbonate bezel finished white (RAL9016)
- Small size - unobtrusive
- Three hour, non-maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- May be positioned for maximum effect
- Reliable LED technology
- Low standby power consumption (1.7W total)
- Status indicator shows operational condition
- Superb photometric performance
- Easily replaceable Nickel Metal Hydride (NiMH) ECO-Power Pack battery

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

RANGE

LED POWER	DISTRIBUTION	CAT. No.	APPROX. kg	TYPE
3W	Area	**WFF 17490**	0.6	Non-maintained
3W	Corridor	**WFF 17491**	0.6	Non-maintained
3W	Standard	**WFF 17492**	0.6	Non-maintained

Add suffix **'TEE3'** for pre-fitted plug & socket connections and flying lead (3m) for use with the Thorlux 3-way Modular Wiring Systems specifically used with SmartScan luminaires.

Add suffix **'TEE'** for pre-fitted plug & socket connections and flying lead (3m) for use with the Thorlux 6-way Modular Wiring Systems.

e.g. **WFF 17490TEE3**. See Fig. 1

Fig. 1
3-way version

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
3W ECO-Power Pack	**PP 17402**	0.33

End of life SmartScan batteries can be returned to Thorlux for recycling.

ACCESSORY

DESCRIPTION	CAT. No.
T-bar mounting bracket for Control Module and ECO-Power Pack	**SLA 13101**

Control Module and ECO-Power Pack

Area Version - supplied complete with Control Module and ECO-Power Pack

Corridor version

Standard version

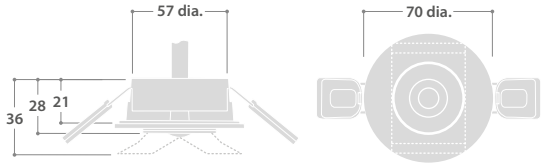
SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

5 YEAR BATTERY WARRANTY

Firefly

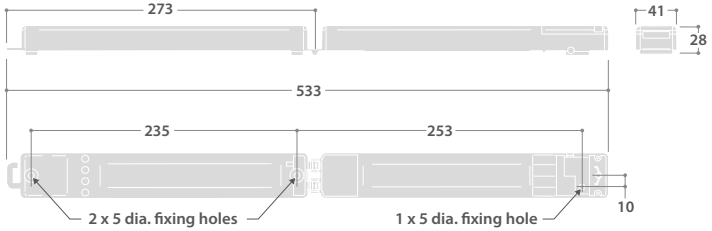
DIMENSIONS

Firefly

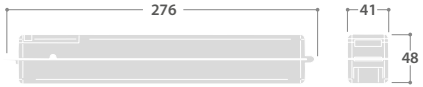


ECO-Power Pack

Control Module



Control Module and ECO-Power Pack Combined



Control Module and ECO-Power Pack are articulated for easy placement through a small cut hole. The two items may be clipped on top of each other for space saving.

Hole size cut-out = 60 dia.

Minimum void depth (when passing Control Module and ECO-Power Pack through cut-out) = 145mm

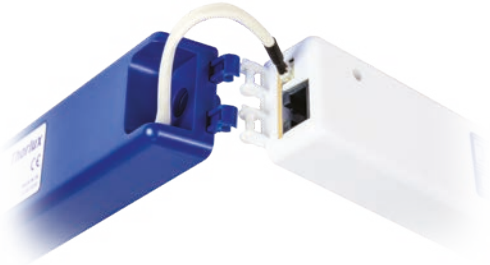
The ECO Power Pack is hinged allowing it to be passed through cut-outs as small as 60mm diameter and into void depths as shallow as 145mm.

60mm
Minimum cut-out diameter

145mm
Minimum void depth*

*170mm for emergency versions

Terminals suitable for 1.5mm² looped cable.
NOTE: Firefly is a class II Luminaire.
Earth connection provided for looping only.



Snap-fit battery pack for fast replacement.
End of life SmartScan batteries can be returned to Thorlux for recycling.

Strain relief incorporated into lid of wiring compartment.

Firefly Plus

HIGH OUTPUT EMERGENCY LUMINAIRES FOR RECESSED MOUNTING WITH SMARTSCAN WIRELESS TECHNOLOGY

IP65 DOWNLIGHTER (BELOW CEILING) IP40 DOWNLIGHTER (ABOVE CEILING)
IP20 CONTROL MODULE CE LED

SPECIFICATION

- Thermally conductive nylon body, polycarbonate bezel finished white (RAL9016)
- Small size - unobtrusive
- Three hour, non-maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- Suitable for higher mounting applications
- Aids compliance with BS5266-1:2016 for areas where enhanced illuminance is needed at specific locations
- Reliable LED technology
- Low standby power consumption (1.7W total)
- Superb photometric performance
- Status indicator shows operational condition
- Easily replaceable Nickel Metal Hydride (NiMH) ECO-Power Pack battery

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

RANGE

LED POWER	AREA DISTRIBUTION CAT. No.	STANDARD DISTRIBUTION CAT. No.	APPROX. kg	TYPE
4W	**WFF 19314**	**WFF 19313**	0.6	Non-maintained

Can be supplied with pre-fitted 3m lead for connection into Thorlux Lighting Cable Management:

For connection into recessed Smart 6-pole installations add suffix '**TEE**' (see **www.thorlux.com/controls**)

For connection into recessed SmartScan 3-pole installations add suffix '**TEE3**' (see **www.thorlux.com/controls**) e.g. **WFF 19314TEE** See Fig. 1

Fig. 1
6-way version

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
4W ECO-Power Pack	**PP 19319**	0.33

End of life SmartScan batteries can be returned to Thorlux for recycling.

ACCESSORY

DESCRIPTION	CAT. No.
T-bar mounting bracket for Control Module and ECO-Power Pack	**SLA 13101**

Control Module and ECO-Power Pack

Area Version

Standard version

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

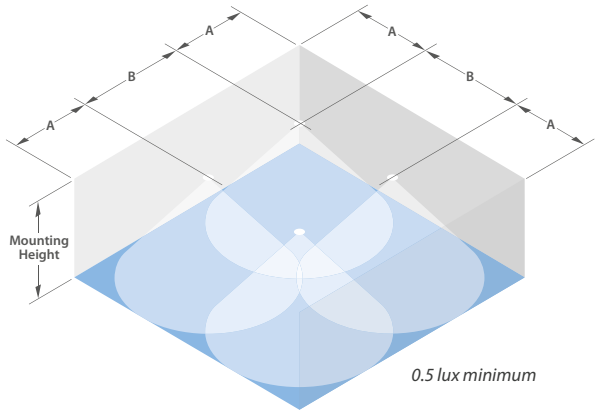
** SmartScan versions only*

5 YEAR BATTERY WARRANTY*

Firefly Plus

EMERGENCY LIGHTING PERFORMANCE GUIDE

TYPICAL SPACING FOR OPEN AREAS (STANDARD VERSION)

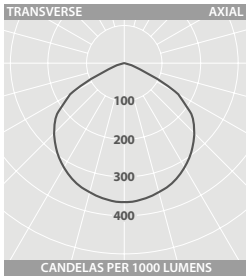


SPACING TABLE

MOUNTING HEIGHT (m)	4W A (m)	4W B (m)
2.0	3.7	8.6
3.0	5.0	11.2
4.0	5.8	13.6
5.0	6.6	15.8
6.0	7.1	17.7

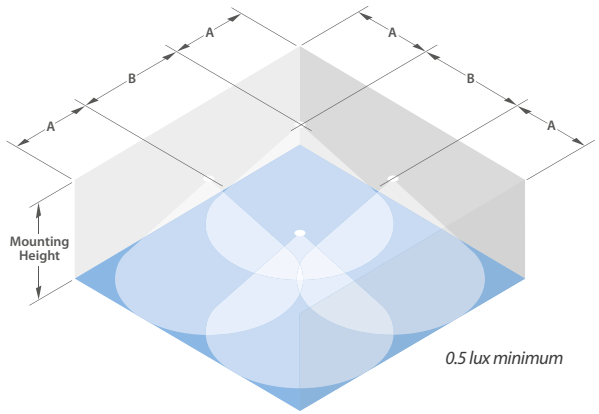
Maintenance factor 0.90

PHOTOMETRIC GUIDE



Luminaire Lumen Output:
4W = 555 lm

TYPICAL SPACING FOR OPEN AREAS (AREA VERSION)

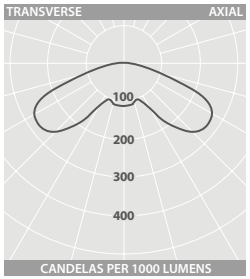


SPACING TABLE

MOUNTING HEIGHT (m)	4W A (m)	4W B (m)
2.0	5.1	11.5
3.0	6.1	15.5
4.0	7.1	17.8
5.0	7.5	20.0
6.0	7.7	22.3

Maintenance factor 0.90

PHOTOMETRIC GUIDE

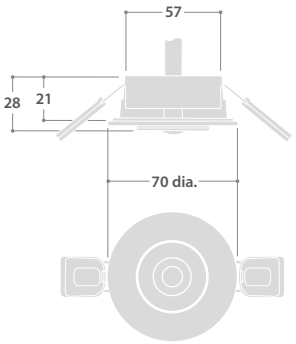


Luminaire Lumen Output:
4W = 565 lm

Firefly Plus

DIMENSIONS

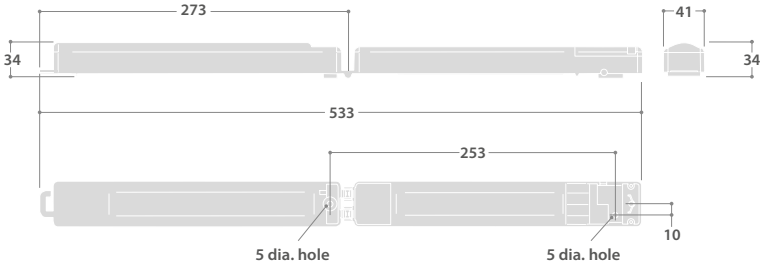
Firefly Plus



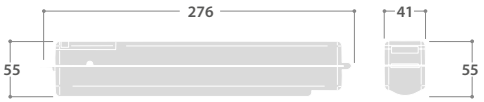
Hole size cut-out = 60 dia.
Minimum void depth (when passing Control Module and ECO-Power Pack through cut-out) = 170mm

ECO-Power Pack

Control Module



Control Module and ECO-Power Pack Combined



Control Module and ECO-Power Pack are articulated for easy placement through a small cut hole. The two items may be clipped on top of each other for space saving.

The ECO Power Pack is hinged allowing it to be passed through cut-outs as small as 60mm diameter and into void depths as shallow as 170mm.

60mm
Minimum cut-out diameter

170mm
Minimum void depth

Terminals suitable for 1.5mm² looped cable.
NOTE: Firefly Plus is a class II Luminaire.
Earth connection provided for looping only.

Snap-fit battery pack for fast replacement.
End of life SmartScan batteries can be returned to Thorlux for recycling.

Strain relief incorporated into lid of wiring compartment.

Firefly Surface

Standard version

Area version

Corridor version

RANGE

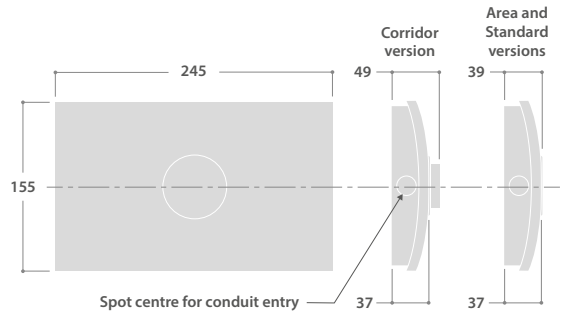
LED POWER	DISTRIBUTION	CAT. No.	APPROX. kg	TYPE
3W	Area	**WFF 17493**	0.5	Non-maintained
3W	Corridor	**WFF 17494**	0.5	Non-maintained
3W	Standard	**WFF 17495**	0.5	Non-maintained

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	**EMB 17651**	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.

DIMENSIONS



EMERGENCY LUMINAIRES FOR SURFACE MOUNTING WITH DEDICATED SMARTSCAN WIRELESS TECHNOLOGY VERSIONS

IP54 CE LED

SPECIFICATION

- Polycarbonate body finished white (RAL9016)
- Three hour, non-maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- Reliable LED technology
- Low standby power consumption (1.7W total)
- Status indicator shows operational condition
- Superb photometric performance
- Reliable Nickel Metal Hydride (NiMH) battery technology

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

5 YEAR BATTERY WARRANTY

Photometric Performance
see Firefly luminaire (page 42)

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

Firefly Plus Surface

HIGH OUTPUT EMERGENCY LUMINAIRES FOR SURFACE MOUNTING WITH SMARTSCAN WIRELESS TECHNOLOGY

IP54 CE LED

SPECIFICATION

- Polycarbonate body finished white (RAL9016)
- Three hour, non-maintained emergency operation
- Stand-alone self-test and full SmartScan wireless communication compatible
- Suitable for higher mounting applications
- Aids compliance with BS5266-1:2016 for areas where enhanced illuminance is needed at specific locations
- Reliable LED technology
- Low standby power consumption (1.7W total)
- Superb photometric performance
- Status indicator shows operational condition
- Reliable Nickel Metal Hydride (NiMH) battery technology

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

RANGE

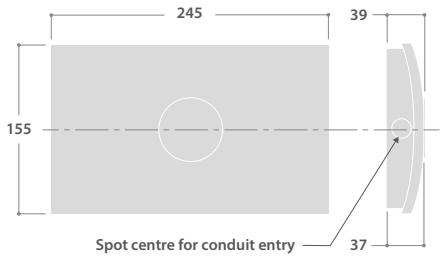
LED POWER	AREA DISTRIBUTION CAT. No.	STANDARD DISTRIBUTION CAT. No.	APPROX. kg	TYPE
4W	**WFF 19317**	**WFF 19316**	0.5	Non-maintained

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	**EMB 19515**	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.

DIMENSIONS



Standard version

Area version

Photometric Performance
see Firefly Plus luminaire (page 46)

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

** SmartScan versions only*

5 YEAR BATTERY WARRANTY*

Seven

Ceiling mounting

Wall mounting

Cantilever mounting

5 YEAR BATTERY WARRANTY

RANGE

ISO 7010 LEGEND	CAT. No	EURO LEGEND	CAT. No	APPROX. kg	TYPE
SmartScan					
A	**WSV 15245**	F	**WSV 13626**	1.0	Maintained
B	**WSV 15246**	G	**WSV 13627**	1.0	Maintained
C	**WSV 15247**	H	**WSV 13628**	1.0	Maintained
D	**WSV 15248**	J	**WSV 13629**	1.0	Maintained
E	**WSV 15249**			1.0	Maintained

LEGEND OPTIONS

ISO 7010 Single Sided

A B C D

EURO Single Sided

F G H

ISO 7010 Double Sided

E

EURO Double Sided

J

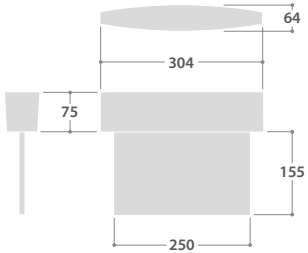
SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	**EMB 617**	0.15

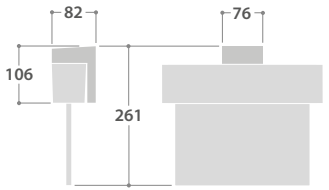
End of life SmartScan batteries can be returned to Thorlux for recycling.

DIMENSIONS

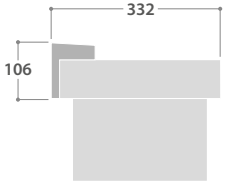
Ceiling Mounting



Wall Mounting



Cantilever Mounting



ARCHITECTURAL SURFACE MOUNTED LED EXIT SIGNS

IP20 CE LED

SPECIFICATION

- Polycarbonate body finished matt silver
- Acrylic legend panel
- Uses 8 low power consumption long life LEDs (4W total)
- Very easy battery compartment access
- Ceiling mounted or optional kit for wall and cantilever mounting
- Three hour, maintained emergency operation
- Choice of legends

OPTIONAL MOUNTING KIT

DESCRIPTION	APPROX. kg	CAT. No.
Wall or cantilever mounting kit	0.2	**SV 13630**

Thorlux Lighting

Realta Micro Emergency

LOW LIGHT LEVEL, WALL MOUNTED LUMINAIRES

IP66 IK10++ CE LED

SPECIFICATION

- Strong die-cast LM2 aluminium body
- Graphite full polyester powder finish. Silver option
- One piece injection moulded UV stabilised polycarbonate cover
- Fitted with 4000K LEDs

LED CHARACTERISTICS

CRI	**80**
COLOUR TEMPERATURE	**4000K**
RATED LIFE (HOURS)	**63K - L80/B10**
PROTECTION	**LUX GUARD**
DRIVER EFFICIENCY	**80%**
REPLACEABLE	**YES**
POWER FACTOR	**>0.5**
LL/CW	**60.6**

For LED characteristics explanation see www.thorlux.com/led-guide

RANGE

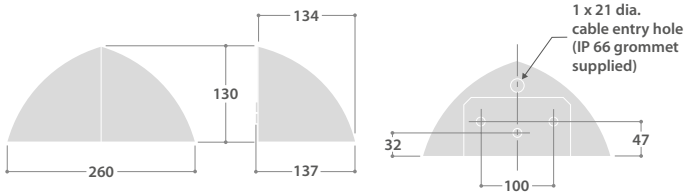
Emergency Versions LED	MAINTAINED	NON MAINTAINED	APPROX. kg
3W		**WRL 13543**	1.3
6W ▲	**WRL 16607L**		1.5

CIRCUIT TYPE - L - non-dimming (LED)

SILVER OPTION - add suffix **SV3** e.g. **RL 13543LSV3** etc.

▲ Can be wired during installation for maintained or non-maintained operation

DIMENSIONS



SPARES

DESCRIPTION	CAT. No.	APPROX. kg
3W Nickel Metal Hydride (NiMH) battery	**EMB 17651**	0.15
6W Nickel Metal Hydride (NiMH) battery	**EMB 853**	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.

ACCESSORY

DESCRIPTION	CAT. No.	APPROX. kg
Wall mounting kit for 20mm conduit	**RL 15419**	0.4

SILVER OPTION - add suffix **SV3** e.g. **RL 15419SV3** etc.

6W graphite version

3W silver version

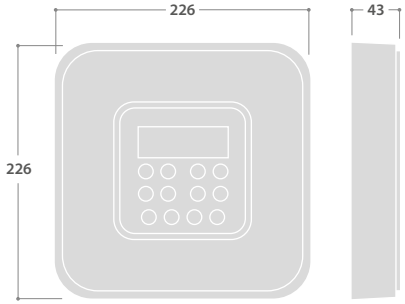
5 YEAR BATTERY WARRANTY

SmartScan Gateway

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Gateway	**SS 17486**	1.0

DIMENSIONS



MASTER CONTROL AND
WEB INTERFACE WITH SMARTSCAN
WIRELESS COMMUNICATION

IP65

SPECIFICATION

- Polycarbonate body finished white (RAL9016), silicone keypad
- Central control for up to 250 Smart and emergency luminaires. Extra Gateways can be fitted to accommodate more luminaires
- Central control for multiple groups
- Allows user to manually initiate emergency lighting tests
- Password protected
- Communicates with the SmartScan website using GSM mobile telecommunications
- Scheduled test times / dates managed using the SmartScan website

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

ColourActive Gateway

MASTER COLOUR TEMPERATURE CONTROL AND WEB INTERFACE FOR COLOURACTIVE LUMINAIRES

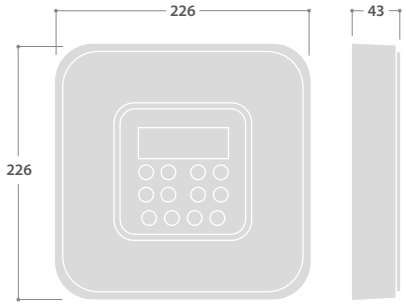
SPECIFICATION

- Polycarbonate body finished white (RAL9016), silicone keypad
- Central control for ColourActive luminaires
- Communicates with the SmartScan website using GSM mobile telecommunications
- Wireless control of incremental shifts in colour temperature governed by settings on the SmartScan website

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
ColourActive Gateway	**SS 18548**	1.0

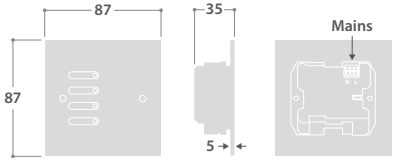
DIMENSIONS



SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

A ColourActive Gateway only provides colour temperature control. If energy monitoring and status information feedback is required an additional SmartScan Gateway is required.

SmartScan Touch



NOTE: Back box single gang depth min. 45mm

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Touch - **regular**	**SS 17700**	0.08
SmartScan Touch - **teaching**	**SS 17701**	0.08
SmartScan Touch - **meeting**	**SS 17702**	0.08

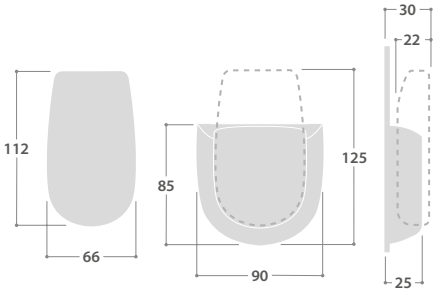
regular

teaching

meeting

SmartScan Scene

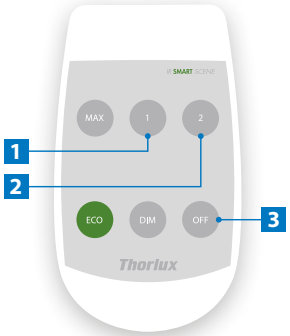
Simple and flexible scene control is provided by the SmartScan Touch wall plate or SmartScan Scene remote control handset.



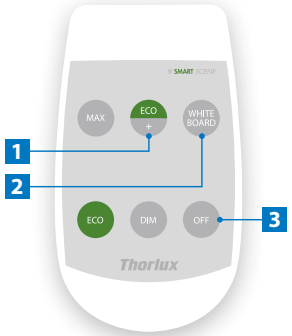
RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Scene handset - **regular**	**LCM 14816**	0.08
SmartScan Scene handset - **teaching**	**LCM 14817**	0.08
SmartScan Scene handset - **meeting**	**LCM 14818**	0.08
Locking Key Kit	**ECO 9724**	-

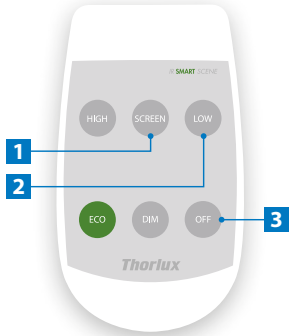
1 Scene 1
2 Scene 2
3 Scene 3



regular



teaching



meeting

ColourActive Touch

TOUCH SENSITIVE WALL PLATE FOR LOCAL GROUP COLOUR TEMPERATURE CONTROL

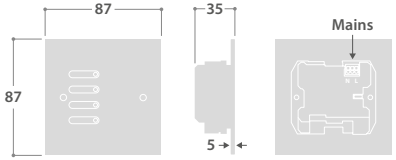
SPECIFICATION

- 5mm thick polycarbonate with capacitive touch
- Provides manual control or override of the colour temperature of the luminaires
- Multiple wall plates can be used to control each group

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
ColourActive Touch	**SS 18547**	0.08

DIMENSIONS



NOTE: Back box single gang depth min. 45mm

SmartScan Stand-alone Sensor

ENABLES CONTROL OF MULTIPLE DALI LUMINAIRES

IP40 RECESSED VERSION IP65 SURFACE VERSION

Recessed version - supplied complete with Controller

Surface version

SPECIFICATION

- Polycarbonate body finished white (RAL9016)
- Controls up to 10 DALI luminaires*
- Can be used stand-alone without connected luminaires to act as a wireless booster/range extender and/or as a slave PIR to extend detection coverage
- Class II device. Earth connection provided for looping only
- Terminals suitable for 1.5mm² looped cable
- Suitable for mounting heights up to 8 metres
- For presence detection guide see **www.thorlux.com/controls**

* Assuming one DALI driver per luminaire

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Stand-alone Sensor - **Recessed** ■	**SS 18650**	0.20
SmartScan Stand-alone Sensor - **Surface**	**SS 18651**	0.32

■ Add suffix **'TEE'** for pre-fitted plug & socket connections and flying lead (3m) for use with the Thorlux 6-way Modular Wiring Systems.
e.g. **SS 18650TEE**

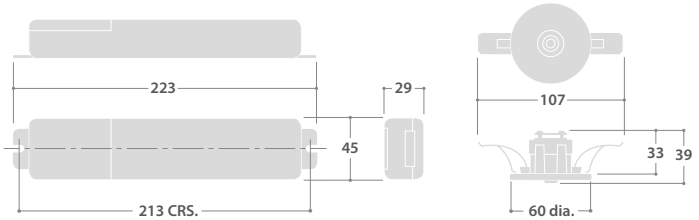
ACCESSORY

DESCRIPTION	CAT. No.
T-bar mounting bracket for recessed version	**SLA 13101**

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

DIMENSIONS

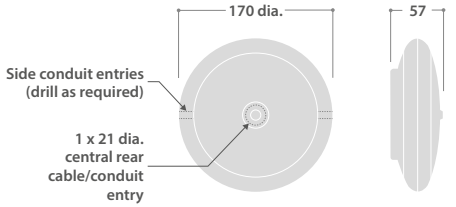
Recessed version



Minimum void depth (when passing controller through cut-out) = 225

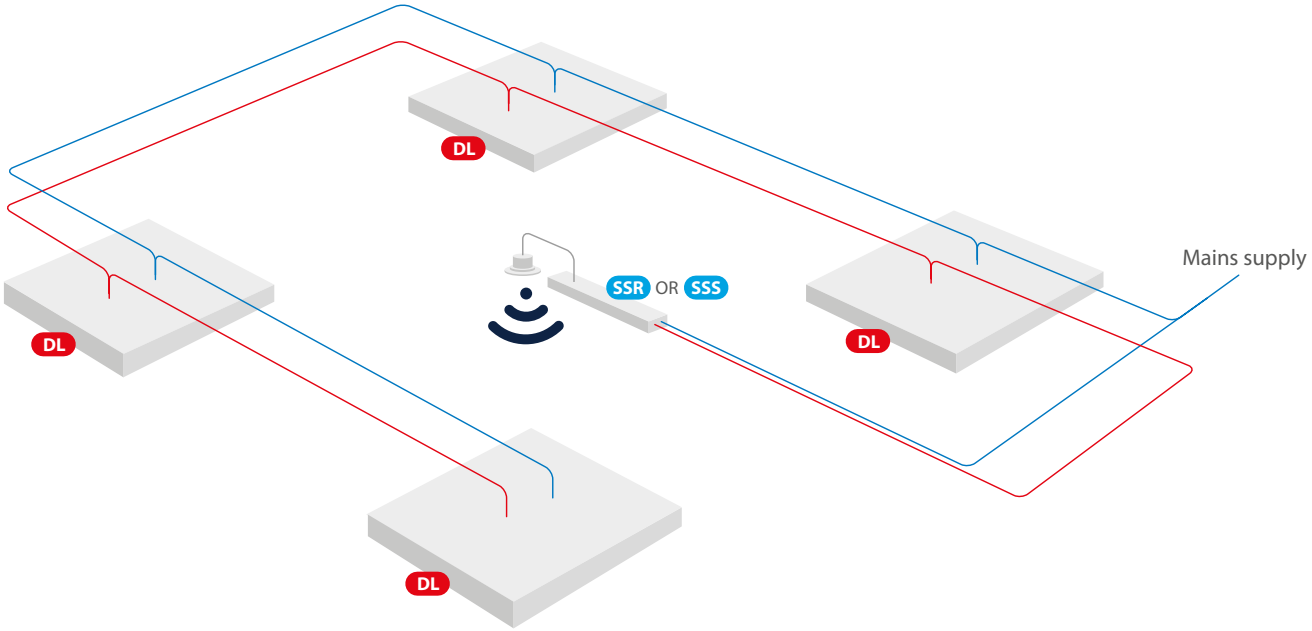
Cut-out - 50 dia.

Surface version



Sensor connected to controller by 900mm lead

Wiring application with recessed or surface SmartScan Stand-alone Sensor



SSR SmartScan Stand-alone Sensor - Recessed *(SS 18650)*

OR

SSS SmartScan Stand-alone Sensor - Surface *(SS 18651)*

DL DALI luminaire

Mains 3-core

DALI 2-core

The SmartScan Sensor will turn the luminaires on and off based on presence detection and dim according to daylight level/maintained illuminance. It will provide wireless connectivity for group control.

SmartScan Platform 2 Energy Reporting

The Stand-alone Sensor is fully compatible with SmartScan Platform 2 Energy Monitoring. The website will report the combined total circuit parameters of all the luminaires controlled by the Stand-alone Sensor.

Suitable luminaires

Luminaires must be fitted with DALI control gear (suffix Thorlux luminaire catalogue number with "**A**").

A maximum of 10 DALI drivers can be connected to each Stand-alone Sensor (some luminaires may have more than one driver).

NOTE: Status monitoring of connected luminaires is not available when using the SmartScan Stand-alone sensor.

Not suitable for use with SmartScan emergency luminaires. Use Firefly or similar dedicated SmartScan luminaires.

SmartScan Programmer

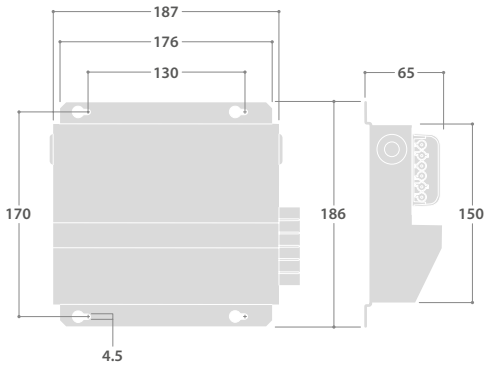
Simple and fast setting of operational parameters from ground level.

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Programmer - Smart Internal	**LCM 10777SS**	0.6
SmartScan Programmer - Smart External	**SC 14228SS**	0.6

SmartScan Hub

Allows integration of non-Smart luminaires into the SmartScan system.



RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Hub - Conventionally wired	**SS 17718**	0.86
SmartScan Hub - Modular wired	**SS 17718TEE**	0.86

Non-Smart luminaires can be plugged into the Smart Hub using a factory fitted 1m connection lead (suffix luminaire catalogue number with **SHL**). For further details see **www.thorlux.com/smart**

ACCESSORIES

3-way luminaire to Hub connection lead stripped at one end **0.75mm²**
(for non factory fitted luminaires)
3m - **LCM 14822**

3-way Hub extension lead **0.75mm²**
3m - **LCM 14823**

Circuit splitter
LCM 14928

SmartScan Dongle and Software

SmartScan Dongle

SPECIFICATION

- Enables control of ColourActive luminaires via ColourActive App.
- Enables live occupancy profiling when used with Occupancy Profiling Software
- USB dongle can be powered from a computer or dedicated USB power supply

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
SmartScan Dongle	**SS 18549**	0.08

ColourActive App

SPECIFICATION

- SmartScan control of preset scenes or colour temperature (if ColourActive luminaires installed)
- Create custom scenes incorporating colour temperature settings
- App available for iOS or Android

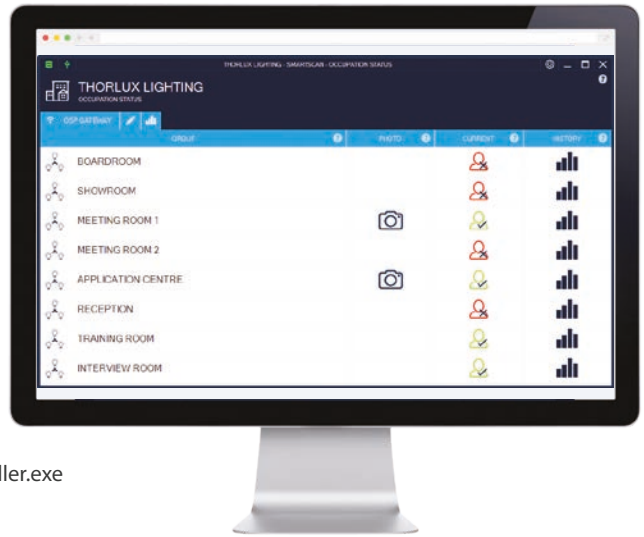
Download on the App Store

GET IT ON Google Play

Occupancy Profiling Software

SPECIFICATION

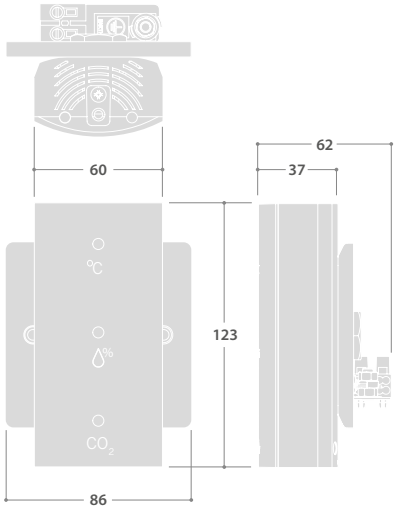
- Monitor live occupancy of up to 15 rooms
- Available for windows PCs at www.thorlux.com/files/smartscan-installer.exe



Air Quality Sensor

Lexi fitted with Air Quality Sensor

DIMENSIONS



INDOOR AIR QUALITY SENSOR

IP40

SPECIFICATION

- Polycarbonate body finished white (RAL9016)
- Monitors temperature, humidity and CO_2 throughout the day
- Uploads data to SmartScan website daily (Gateway required)
- Coloured LED indicators show status
- Can be supplied factory-fitted to a LEXI exit sign or stand-alone for installation on a single gang pattress

RANGE

DESCRIPTION	CAT. No.	APPROX. kg
Air quality Sensor	**AQS 19181**	0.15

Available pre-fitted to a LEXI exit sign. Suffix LEXI catalogue number with **AQS** e.g. **WLX17463AQS**

SmartScan Wireless Standards Compliance:
Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1
Australasia: ACMA 2014 Radio Communication Standard 2014
Thorlux Patented Wireless Technology - GB2575724

SmartScan Specification

Each luminaire shall be equipped with an 'intelligent' electronic sensor providing movement detection, light level sensing and an infra-red receiver for programming and remote control. Luminaires shall be capable of being linked together to form motion groups. Linking shall be possible using a two core bus or wirelessly using an 868/922 MHz transceiver. Movement detected by one sensor will be signalled to all other sensors in its group. No bus power supply or other ancillary control devices will be required to facilitate such operation.

Sensors shall be capable of 'absence' mode operation in conjunction with a scene control plate or infra-red handset.

Each sensor shall provide individual dimming of the luminaire and maintain a set illumination level. Grouped dimming shall not be acceptable for daylight control. Sensors shall be fully programmable and reconfigurable using a hand held infra-red programmer. The programmer shall be capable of reading back and displaying current sensor settings and power/maintenance monitoring information from individual luminaires. Monitoring can be reset by the user. Sensors to be capable of operating DALI and DSI digital ballasts.

Emergency luminaires shall be self-test with built in wireless capability, operating on the same wireless network as the standard intelligent luminaires. Tests can be initiated using an infra-red programmer as well as retrieving emergency operational status information.

The system shall be monitored by a central wireless Gateway. This device will upload system status and energy performance to a website for users to view in a graphical format.

Wireless connectivity

Luminaires shall be capable of being inter-connected wirelessly. Operational frequency shall be 868/922 MHz with low data rates - less than 1%. The system shall work on a mesh networking principle. Programmable settings can be altered from floor level using an infra-red programming device.

'Touch' scene control

Sensors shall be capable of responding to scene controls from a wall-mounted touch sensitive control plate or a hand-held remote controller. Each sensor shall be individually programmed and reconfigurable for each scene. The system shall be capable of setting either fixed scenes which are a percentage of full output, or automatic scenes which will maintain an illumination level expressed as a percentage of the standard light level setting.

Scene control plates shall be of the capacitive sensing type. Each function shall have a status LED that will display the current system status. Scene plates shall be printed to suit the application, and matching infra-red remote controllers shall also be available. Remote controllers should be supplied with wall brackets and optional locking mechanisms.

Each control group shall be capable of using multiple scene control plates and its current setting will automatically display on all scene plates. When the area is vacated, the whole system should automatically revert to 'ECO' energy saving mode.

Addition of non-intelligent 'slave' luminaires

The system shall be capable of switching non-intelligent 'slave' luminaires based upon movement detection of the main group of intelligent luminaires and shall be capable of being reconfigured for all conditions - i.e. normal (automatic/ECO) operation, scene and vacant conditions.

Emergency luminaires

Emergency luminaires shall be self-contained LED type, capable of communicating status via the wireless mesh network to the Gateway. System test times and other parameters shall be programmed via the website, this information shall be automatically downloaded to the Gateway. The Gateway shall control all emergency testing and reporting automatically.

Website system monitoring

All luminaires shall report status to the Gateway once per day. This will include failure status, energy performance data, occupancy profile and air quality information. These records shall be uploaded to a website periodically where the data will be stored securely and displayed in graphical format. The website will also store supporting site documentation including 'as fitted' drawings, interactive drawings, commissioning certificates and any other documentation required by the end user.

SmartScan ColourActive luminaires

Luminaires shall use dual-populated PCBs with both 3000K and 6500K LEDs. All luminaires shall be fitted with dual channel DALI device type 8 control gear, fully compatible with BS EN 62386-209:2011, so that the outputs can be mixed to create a range of colour temperatures from 3000K to 6500K

Colour temperature automatic control

A single wireless-enabled colour temperature control Gateway shall provide full automatic control for the installation. A secure, dedicated graphical web page, accessible only to authorised users, shall allow colour temperatures to be assigned to specific times of day. It shall be possible to select a preset schedule and also to save configurations as user-defined presets. It shall be possible to automatically limit the rate of transition so that colour temperature changes are imperceptible to the user.

The colour control Gateway shall wirelessly communicate with all compatible luminaires using 868/922 MHz transceivers and mesh network technology.

Colour temperature manual control

Sensors shall be capable of responding to colour temperature controls from a wall-mounted touch sensitive control plate or a smartphone app, available for both iOS and Android operating systems. The touch sensitive control plate shall offer selectable outputs of 3000/4000/5000/6500K.

Colour temperature control plates shall be of the capacitive sensing type. Each function shall have a status LED which shall display the current system status. Each control group shall be capable of using multiple scene control plates and its current setting will automatically display on all scene plates. When the area is vacated the whole system shall automatically revert to automatic global colour setting.

The smartphone app shall use a dedicated USB dongle with on-board wireless capability to interface with the mesh network.

It shall offer the capability of manually selecting colour temperatures in a range from 3000K to 6500K in steps of 100K.

The smartphone app shall be capable of combining SmartScan scenes with set colour temperatures to produce location-specific scenes which set colour temperature and lumen outputs.

Environmental credentials

The manufacturer shall be independently certified to ISO14001. The manufacturer's processes shall be carbon offset via a quantifiable carbon offsetting scheme and shall include emissions from the lighting manufacturer's vehicles used for delivery and other project associated mileage.

Short specification text

Intelligent luminaires to be fitted with integral Smart sensor providing daylight harvesting, maintained illuminance, presence/absence detection and scene setting. The system shall be capable of group presence communication ensuring luminaires can illuminate in groups and with individual scene setting control using 868/922 MHz wireless mesh connectivity with building wide link address capability. System to include seamless integration of wireless emergency lighting luminaires. All aspects are to be programmable from floor level using an infra-red remote control programmer. The system to provide daily maintenance status reports, energy performance data, occupancy profiling information and air quality data for viewing on remote website with the capability to store drawings and documentation.

Download specification text from:
www.thorlux.com/smartscantext

Site Services

Commissioning Service

Thorlux offers a professional on-site commissioning service to ensure that SmartScan products are configured to provide the desired performance and return on investment. Commissioning begins with identifying the end-user's project requirements and ends with ensuring that the installed systems satisfy these requirements.

Commissioning of lighting is now an integral part of the requirements for new buildings and major refurbishments under Building Regulations. Paragraph L1(b)(iii) of Schedule 1 to the Building Regulations requires fixed building services to be commissioned by testing and adjustment as necessary to ensure that they use no more fuel and power than is reasonable in the circumstances.

Thorlux offers a full on-site commissioning and maintenance service using our own, highly qualified engineering team.

All engineers are Thorlux trained and hold all relevant industrial qualifications, including:

- **PASMA scaffold certification**
- **IPAF powered access operation such as scissor and boom lifts 3A and 3B**
- **Annual asbestos awareness training**
- **CSCS skills card**
- **CIS Electrical Safety card**
- **CBS criminal records check**

Service Plus

Thorlux will monitor and maintain new installations for 12 months from the commissioning date.

After this period products are still covered by our standard 5 year warranty.

In addition to the standard warranty, Thorlux can offer an extended service where our engineers will continue to monitor and maintain your lighting system, this is known as Service Plus.

Service Plus offers:

- **Constant off-site monitoring of your installation by Thorlux**
- **On-site, in hours attendance by Thorlux qualified and certified engineers to rectify any system issues**
- **An annual inspection visit to check settings and change, where necessary, to optimise energy savings and user comfort**
- **Peace of mind that your system is fully maintained**

SmartScan Van

On the road with the #SmartScanVan

Bringing the SmartScan experience to a town near you!

Book your demo at thorlux.com/smartscanvan

SmartScan demonstrations cover :-

- Internal energy saving lighting management
- External energy saving lighting management
- Tuneable white control (Circadian rhythm)
- Web based status and energy monitoring
- Emergency luminaires, testing and compliance
- Occupancy profiling
- Air quality sensing
- Interactive drawings
- ColourActive control

Thorlux Lighting

Designers, manufacturers and suppliers of professional lighting systems

INDUSTRIAL LUMINAIRES
COMMERCIAL LUMINAIRES
FLOODLIGHTING LUMINAIRES
ARCHITECTURAL LUMINAIRES
HEALTHCARE LUMINAIRES
HAZARDOUS AREA LUMINAIRES
RETAIL AND DISPLAY LUMINAIRES
CONTROLS AND SYSTEMS

A DIVISION OF F.W. THORPE PLC

Thorlux Carbon Offsetting Project:
www.thorlux.com/trees

The information given in this catalogue is typical and must not be interpreted as a guarantee of individual product performance and/or characteristics. We reserve the right to alter specifications and designs without prior notice.

Thorlux Lighting
Merse Road
North Moons Moat
Redditch
Worcestershire
B98 9HH
England

T +44 (0)1527 583200
F +44 (0)1527 584177
E thorlux@thorlux.co.uk
W www.thorlux.com

Direct UK Sales Line: 01527 583222

Thorlux Lighting Ireland
Unit G6
Riverview Business Park
Nangor Road
Gallanstown
Dublin 12
Ireland

T +353 (0)1 460 4608
F +353 (0)1 460 4609
E thorlux@thorlux.ie
W www.thorlux.ie

Thorlux Lighting Deutschland
Ernst Gnoß Strasse 7
40219 Düsseldorf
Deutschland

T +49 (0)211 695 603-10
F +49 (0)211 695 603-11
E thorlux@thorlux.de
W www.thorlux.de

Thorlux Lighting Australasia Pty Ltd.
31 Cross Street
Brookvale
Sydney
NSW 2100
Australia

T 1300 04 32 32
T +61 (0)2 9907 1261
E thorlux@thorlux.com.au
W www.thorlux.com.au

Registered No. ABN 139 400 507

Thorlux Lighting LLC
Office 334
European Business Centre
Green Community
Dubai Investment Park 1
PO Box 33484
Dubai
United Arab Emirates

T +971 (0)2 654 4060
E sales@thorlux.ae
W www.thorlux.ae

bsi. ISO 9001 Quality Management ISO 14001 Environmental Management
FM 10913 EMS 532104

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