Smart Controls

LCM 10777SS - SmartScan Programmer

INTRODUCTION TO THE SMART SYSTEM

The Smart system provides a simple, effective means of controlling luminaires independently or in groups (zones). Significant energy savings and reduced operating costs may be achieved due to the system's control of light levels and presence detection.

SMART LUMINAIRES

The Smart System is factory set to provide approximately 500 lux with a PIR time delay of 10 minutes. These light level settings are approximate and will vary according to conditions such as carpet colour etc.

The Smart Programmer allows alteration of the factory set values to tailor the installation to the users requirements.

The system provides the following features:-

1. OCCUPANCY SENSING - each luminaire has a detection angle of approximately 90° which covers an area 5 metres diameter at a mounting height of 2.4 metres. Any detection by one luminaire will trigger a signal to switch on the other connected luminaires in the zone.

2. LIGHT MEASUREMENT REGULATION - The output is regulated so that the ambient light (artificial+natural daylight) remains at a constant level (maintained illuminance and daylight linking).

3. INFRA-RED CONTROL - The Smart Remote Transmitter enables the light level to be adjusted remotely for individual or group control of the luminaires. The Smart Programmer enables more complex and permanent adjustments to light levels, time delays and switching patterns etc. The Smart

Scene IR Remote allows group dimming control and scene selection.

4. MANUAL CONTROL - with the addition of a 'push-to-make', wall switch (not supplied) the group of luminaires can be dimmed and switched ('push-to-make' switch cannot be used with SmartScan). The addition of a Smart Touch control plate enables group dimming control and scene selection.

5. SMARTSCAN WIRELESS CONTROL - With the addition of an optional plug on radio module Smart sensors can communicate through a mesh radio network for group linking, scene setting and remote energy monitoring.

6. SMARTSCAN EMERGENCY LUMINAIRES - SmartScan compatible emergency luminaires can be programmed, tested and diagnosed with the Smart Programmer.

THE SMART PROGRAMMER

The Smart Programmer has six 'touch pad' buttons.

DISPLAY

On the first LCD line the menu point is displayed. On the second line, the status line, the possible settings for this menu point are shown. During a data transmission, the actual transmission status (as well as any error messages) is shown.

TECHNICAL DATA

■ Dimensions : 198 x 121 x 52mm

■ Power : 4-off AA/1.5V Battery *(supplied)*

BASIC PARAMETERS

LIGHT LEVEL - Factory set to 70. May be set from 1-100 (dimming for maintained illuminance) or MAX (no dimming). (The factory setting of 70 will typically achieve approx. 500 lux average maintained illuminance at 2.4 metres luminaire centres).

TIME DELAY - Factory set to 10 minutes. The luminaires will switch off after an absence period of 10 minutes. Other time delays which may be set are:- 10h, 9h, 8h, 7h, 6h, 5h, 4h, 3h, 2h, 1h, 45, 30, 20, 15, 10, 5, 3, 2mins. 1min and 30secs. Alternatively a 'continuous' setting may be selected.

SECURITY LEVEL - Factory set to 10%. May be set between 1 - 100%. This allows the user to set a level that the luminaire dims to, following the time delay period (dependent upon ballast dimming range capability).

IF VACANT - Factory set to OFF. Switches the luminaires off when the TIME DELAY (see above) expires. If set to any other value, luminaires go to the SECURITY LEVEL setting (see above) for the programmed period. If set to CONT the luminaires will stay on at the SECURITY LEVEL indefinitely.

PIR - Factory set to ACTIVE. Provides conventional PIR control (i.e. luminaires dim/switch off when area is vacated and raises light level/switch on when area is re-occupied). Change options are:-
INACTIVE = PIR functions are deactivated.
OFF ONLY, = luminaires are dimmed/switched off but NOT switched on again when area is re-occupied. A 'push-to-make' switch or scene plate will be required to switch luminaires on.
NOTE: SmartScan requires a SmartScan Scene plate.

PIR SENSITIVITY - Factory set to 4. The PIR sensitivity can be adjusted to suit each area, the range is Min, 1-5 and Max.

BRIGHT-OUT - Factory set to YES. When the illuminance level exceeds the maintained illuminance level by 50% for 10 minutes the luminaires will switch off. When the illuminance level falls below the maintained illuminance setting the luminaires will switch on. When bright-out is set to NO, the luminaires will dim but not switch off.

POWER UP - Factory set to ON. Switches luminaires back on after power is restored due to a mains power interruption. Luminaires then switch off as per PIR programming. May be set to OFF but the luminaires will only switch on only when presence is detected after power restoration.

HOLD OVERRIDE - Factory set to NO. After the time delay has expired and new presence is detected the luminaire will revert to automatic mode and ignore any manual override that had been set (using Smart Remote or Scene Control). If changed to YES, manual override settings will be retained permanently.

MOTION LINE : V1/V2 - The Smart System was upgraded in April 2008. If new equipment is installed in installations that took place before this date, this parameter has to be set to 'V1' for correct operation.

MIN LAMP - Factory set to 10%. Sets the minimum dim level for the Smart Luminaire. The range is 1%-100% (dependent upon ballast/driver dimming range capability).

BURN IN TIME - Factory set to off. If set to 100h the system will not dim or switch the luminaires for 100 hours. This may be used to burn in new lamps if required by the lamp manufacturer.

DSI/DALI - Factory set to DALI. The Smart System uses DALI ballasts/drivers as standard but it can be used with DSI ballasts/drivers if required.

SCENE PARAMETERS *
* NOT AVAILABLE ON SMART LCM

Scenes can be selected using either the Smart Scene IR Remote or Smart Touch wall mounted control plate.

Luminaires can be programmed with a fixed output between 0% and 100% (will not dim with daylight) or to a maintained light level from 10% to 200% of the normal light level (will dim with daylight). E.g. If the room is illuminated to 500 lux and scene 1 is set to 'automatic 50%' the room will be maintained at a light level of 250 lux when scene 1 is selected (dependent upon ballast dimming range capability).

Please Note - any of the three scenes may be set to 'automatic'. If this parameter is chosen the luminaire will ignore that particular scene request and remain in a fully automatic mode.

Please Turn Over . . .

Scene Parameters Continued . . .

Luminaires can be programmed to react individually to scenes. For example in a classroom a scene could be set so that the luminaires adjacent to the teaching wall may turn off whilst the remaining luminaires dim.

There are three programmable scenes:

SCENE 1 - Default settings to Fixed Output 50%.

SCENE 2 - Default settings to Fixed Output 25%.

SCENE 3 - Default settings to Off.

Please Note - that the **Smart Touch, SmartScan Touch** and **Smart Scene IR Remotes** all have Scene 3 labelled as 'OFF'. It may cause confusion if this parameter is changed from the factory default setting.

Test Start – This feature allows easy testing of the Smart circuit. All time delays are set to 25 seconds and bright-out is disabled.

Test End – Reverts all basic parameters back to the programmed setting.

Short Circuit Motionline – This feature is designed to determine if there are any factors that could be causing the luminaires to switch on when the area is vacated. The command will short circuit the Motionline for 10 minutes. The luminaires will synchronise then dim to off. After 1 minute all luminaires will act independently with regards to presence. After 10 minutes the short circuit is removed and all luminaires revert back to the programmed setting.
NOTE: Not available on SmartScan. Only used with wired Motionline projects - not wireless.

The **Smart Programmer** contains all of the commands that can be sent using the **Smart Remote** (LCM13479) and the **Smart Scene handsets** (LCM14816/7/9).

All commands are located in the IR REMOTE menu.

TO PROGRAM ALL BASIC AND SCENE PARAMETERS

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	**SMART Programmer**
2	Scroll to the <downld/progr> menu	⬆⬇	**<downld/progr>**
3	Select the menu <downld/progr>	✔	**download all**
4	Read all the parameters from the Smart Luminaire into the Smart Programmer	📶	**download all Reading..... OK**
5	All parameters are now memorised in the programmer. Exit this menu point.	✖	**<downld/progr>**
6	Scroll to the <basic param> setting	⬆⬇	**<basic param>**
7	Press (**Select**). Parameter and current status are now on the top line. Second line shows available programming range for this parameter.	✔	**light level: 70 1-100/max**
8	To change the light level press the (**Select**) button. *(A Asterix in the upper corner indicates access of the program mode).*	✔	**light level: 70* 1-100/max**
9	Use the scroll buttons, to select the required value (e.g. 65)	⬆⬇	**light level: 65* 1-100/max**
10	To exit the setting mode press (**Esc**). The new selected value will now be displayed on the first line.	✖	**light level: 65 1-100/max**
11	The next parameter can now be selected	⬇	**t-delay: 10 min 30s-10h/cont**
12	Select this parameter. Option name and current status are now displayed on the top line.	✔	**t-delay: 10 min* 30s-10h/cont**
13	Use the scroll buttons, to select the required value (e.g. 15min)	⬆⬇	**t-delay: 10 min* 30s-10h/cont**
14	To exit the setting mode press (**Esc**). The new selected value will now be displayed on the first line.	✖	**t-delay: 10 min 30s-10h/cont**
15	**Repeat this procedure until all other parameters as listed above (i.e. PIR, Bright-out, etc.) are set as required**		
16	Once all parameters have been set, exit by pressing (**Esc**).	✖	**<basic param>**

	FUNCTION	BUTTON	DISPLAY
17	Scroll to scene parameters	⬆⬇	**<scene param>**
18	Press (**Select**). Option name and current status are now on the top line. Second line shows available programming range for this parameter.	✔	**Scene1: fix 50% Fix[1-100%]/ automatic[10-200%]/ automatic**
19	To change Scene 1 press the (**Select**) button. *(A Star in the upper corner indicates access of the program mode).*	✔	**Scene1: fix50%***
20	Use the scroll buttons, to select the required value (e.g. 75%)	⬆⬇	**Scene1: fix75%***
21	To exit the setting mode press (**Esc**). The new selected value will now be displayed on the first line.	✖	**Scene1: fix75%**
22	The next parameter can now be selected	⬇	**Scene2: fix25%**
23	**Repeat this procedure to set Scenes 2 and 3**		
24	Once all parameters have been set, exit by pressing (**Esc**).	✖	**<scene param>**
25	Scroll to <downld/progr>	⬆⬇	**<downld/progr>**
26	Select the <downld/progr> menu	✔	**download all**
27	Scroll to 'program all'	⬆⬇	**program all**
28	To configure the SMART SENSOR with the chosen parameters press (**Send**). *During the data upload, the luminaire will switch off and after the data transfer will operate in the automatic mode according to the new settings.*	📶	**program all Sendng..... OK**
	Now all parameters are memorised in the Smart Luminaire (Please Note - each luminaire can have unique parameters if required)		

Check that all transmitted parameters have been confirmed by a (**Sending..... OK**), otherwise correct programming cannot be guaranteed.

If the **Smart Luminaire** is used in combination with electronic ballasts that run the lamps at a frequency of approx. 38kHz there could be interference that makes programming of the luminaire more difficult.

In such a case we suggest the luminaire is switched off with a **Smart Remote** before programming. The distance of control to luminaire with the **Smart Remote** may also be reduced.

TO ALTER A SINGLE PARAMETER

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	SMART Programmer
2	Scroll to the <basic param> setting	⬆⬇	<basic param>
3	Press (Select). Option name and current status are now on the top line. Second line shows available programming range for this parameter.	✔	light level: 70 1-100/max
4	Select the parameter to be changed (e.g. bright-out from yes to no).	⬆⬇	Bright-out: yes Yes/no
5	Select (Read) to interrogate the actual set value from the luminaire.	📡	Bright-out: yes Reading..... OK

	FUNCTION	BUTTON	DISPLAY
6	To change 'bright-out press the (Select) button. *(A Star in the upper corner indicates access of the program mode).*	✔	**Bright-out: yes*** Yes/no
7	Use the scroll buttons, to select the required value (e.g. no)	⬆⬇	**Bright-out: no*** Yes/no
8	To exit the setting mode press (Esc). The new selected value will now be displayed on the first line.	✖	**Bright-out: no** Yes/no
9	The (Send) button will now update the chosen parameter in the Smart Luminaire.	📡	**Bright-out: no** Sending..... OK
	Repeat this procedure until all parameters are set to the required values		

SMART POWER MONITORING

The **Smart System** records its operational usage within the **Smart** sensor. This information can be downloaded via the **Smart Programmer** (LCM 10777SS). Each luminaire will have a different energy profile depending on its location and settings.

Average luminaire dim level is stored but does not include ballast losses which be can be as much as 10% of full luminaire power. A small amount of power is also used whilst the luminaires are off.

Each Smart Sensor records the following data:

HOURS POWERED TOTAL = <HoursPowr> (0 seconds - 136 years, non-resettable)

HOURS POWERED SINCE LAST RESET = <R-HoursPw> (0 seconds - 136 years)

HOURS LAMP ON SINCE LAST RESET = <R-HoursON> (0 seconds - 136 years)

AVERAGE DIM LEVEL WHILST LAMPS ON = <DSlavg> (This will record lamp dim level for

a maximum of 4,000 hours 'on time' due to the large amount of memory that the process requires).

Energy monitoring is normally done over a set period of time after the luminaires have been commissioned. To ensure correct results the power monitoring counters have to be reset using the **Smart Programmer** (LCM 10777SS) before the trial takes place.

HOW TO RESET THE POWER MONITORS

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	SMART Programmer
2	Scroll to the <downld/progr> setting	⬆⬇	<downld/progr>
3	Select the menu setting <downld/progr>	✔	download all

	FUNCTION	BUTTON	DISPLAY
4	Scroll to the 'reset PwrMonitor' setting	⬆⬇	reset PwrMonitor
5	Point the programmer at the Smart Luminaire and press the (Send) button	📡	sending......OK
	Repeat Step 5 for every Smart Luminaire you wish to reset		

HOW TO DOWNLOAD THE POWER MONITORS DATA

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	SMART Programmer
2	Scroll to the <monitors> setting	⬆⬇	<monitors>
3	Select the menu <monitors>	✔	DSlmon
4	Scroll to 'R-HoursPw:00:00'	⬆⬇	R-HoursPw:00:00
5	Point the programmer at the Smart Luminaire and press the (Read) button.	📡	reading......OK
6	Hold the Programmer in place until the display reads *(reading.....OK)*		R-HoursPw:XXXXXh
7	Make a note of this time, then scroll to 'R-HoursON: 00:00'	⬆⬇	R-HoursON: 00:00
8	Point the programmer at the Smart Luminaire and press the (Read) button.	📡	reading......OK

	FUNCTION	BUTTON	DISPLAY
9	Hold the Programmer in place until the display reads *(reading.....OK)*		R-HoursON:XXXXXh
10	Make a note of this time, then scroll to the 'DSlavg: 0%' setting	⬆⬇	DSlavg: 0%
11	Point the programmer at the Smart Luminaire and press the (Read) button.	📡	reading......OK
12	Hold the Programmer in place until the display reads *(reading.....OK)*		DSlavg:XXX XX%
	Make a note of these values and repeat this process for every Smart Luminaire you wish to monitor		
8	To turn off the Smart Programmer, press and hold the (Esc) button.	✖	

GENERAL - SmartScan adds wireless communication capability to Smart and SmartScan emergency luminaires.

SmartScan uses wireless mesh technology to provide unrivalled wireless performance, the following wavelengths are used:

> 868MHz in EU countries
> 922MHz in Australasia

The SmartScan plug on module is factory installed on the back of the Smart, Smart High-bay and Smart External sensors.

DEFAULT SETTINGS - Each SmartScan luminaire is delivered without any addresses set and radio (RF) communications disabled. It is important to set addresses correctly.

LED STATUS - SmartScan luminaires provide status feedback through various LEDs on each unit. The factory default is for radio status Indication to be disabled to avoid user nuisance. This can be enabled using the programmer.

MENU OPTIONS - SMARTSCAN SENSORS AND SMARTSCAN EMERGENCY MENU:

DOWNLOAD ALL - Downloads all SmartScan settings into the Smart programmer.

PROGRAM ALL- Uploads all settings to the SmartScan luminaire.

BUILDING ADDRESS - Identifies devices that are within the same system and forms the boundary for the wireless mesh to prevent adjacent buildings communicating. The building address can be set between 1-254.

GROUP ADDRESS - The control group, all luminaires with the same building address and the same group address will work together for presence detecton and scene control. Up to 254 different zones can be created in one building. The group address can be set between 1-254.

DEVICE ADDRESS- The unique device address within each group. This is used to identify individual luminaires on the system. The device address can be set between 1-254.

LINK ADDRESS (TX AND RX) - The link address allows presence detection signals to be transmitted between different groups of luminaires. Each group can be set to transmit or receive an independent link address enabling occupancy in one area to keep another linked un-occupied area illuminated. The link transmit (TX) or link receive (RX) addresses can be set between 1-254.

READ UNIQUE DEVICE ID (UDID) - When a luminaire is connected to the SmartScan Gateway via the mesh network it is issued with a unique device ID number. This is used by the system to track luminaires if group or device addresses are changed by the user. The 'UDID' can be between 1 and 500.

RF TRANSMIT - All SmartScan luminaires are delivered with RF disabled. RF must be enabled after addresses are set to allow communication.

RADIO LED - Radio traffic indication is turned off by default to avoid user nuisance. It can be enabled for commissioning and testing purpose.

JOIN RADIO NETWORK - Sends a join request from the luminaire to the SmartScan Gateway. Once accepted the Gateway will issue a UDID and request luminaire status. **Note: wait 60 seconds between re-issuing join requests.**

SEND PING REQUEST - Sends a ping request to the SmartScan Gateway to check radio communication.

LEAVE RADIO NETWORK - Send a message to the SmartScan Gateway to remove the luminaire from the network. Once accepted the UDID is removed from the luminaire. **Note: If you remove a luminaire without leaving the radio network the system will report the unit as faulty.**

RADIO MODULE PLUGGED IN - Checks that the Smart sensor has the SmartScan radio module connected. The answer is either Y (Yes) or N (No).
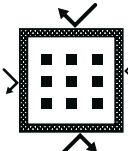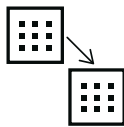
DALI TUNNEL- Enables or disables the wireless DALI tunnel (Central control). This can be set to Di (Disable) or En (Enable).

STATUS LED INDICATOR

SMART SENSOR & HIGH LEVEL SENSOR INDICATOR

EVENT	DEFAULT BEHAVIOUR
Bright-out	Green LED - fast flash (1 second ON, 1 second OFF)
IR Remote Control receive	Red LED - flashes twice
IR Programmer receive	Red LED - flashes 3 times
Motion detection	-
Motionline short circuit	Red LED - fast flash (1 second ON, 1 second OFF)
100 hour burn in	Red LED - permanent ON

SMARTSCAN INDICATORS

EVENT	DEFAULT BEHAVIOUR	IF ENABLED BY SMARTSCAN PROGRAMMER
RF transmitted	LEDs OFF	Blue LED - flashes once
RF received	LEDs OFF	LEDs OFF
RF inhibit	LEDs OFF	Yellow LED - flashes once every 8 seconds
Join/leave/ping network request	Blue LED - flashes for a maximum of 60 seconds	Blue LED - flashes for a maximum of 60 seconds
Join/leave/ping network successful response	**Smart:** Green LED - flashes 10 times	**Smart:** Green LED - flashes 10 times
	Emergency: Amber LED - flashes 10 times	**Emergency:** Amber LED - flashes 10 times
	NOTE: If no response is received after 60 seconds, the LED stops flashing, and reverts to normal display (as defined above based on Short Address).	
Join/leave/ping network unsuccessful response	**Smart:** Red LED - flashes 10 times	**Smart:** Red LED - flashes 10 times
	Emergency: LEDs OFF	**Emergency:** LEDs OFF

SMARTSCAN EMERGENCY MODULES

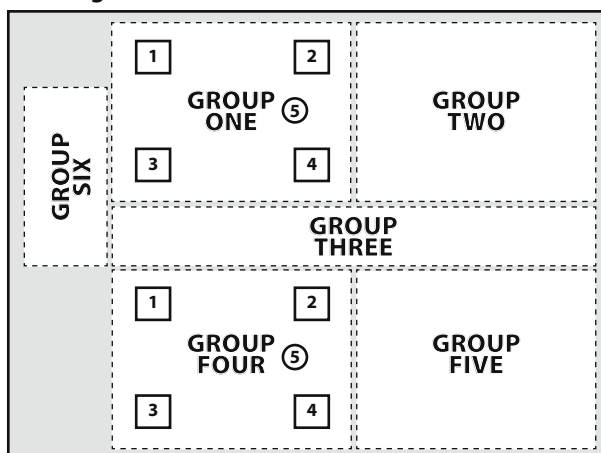| FAULT	ELP	TRIDONIC	MACKWELL
Normal mode	Green LED - ON	Green LED - ON	Green LED - ON (Pulses every 10 seconds)
Commissioning	Green LED - slow flash	Green LED - ON	Green LED - slow flash
Function test	Green LED - fast flash	Green LED - fast flash	Green LED - fast flash
Duration test	Green LED - slow flash	Green LED - slow flash	Green LED - slow flash
Lamp fault/open circuit/short circuit	Red LED - ON	Red LED - ON	Red LED - fast flash
Battery fault	Red LED - slow flash	Red LED - slow flash	Red LED - slow flash
Charge fault/Circuit fault	Red LED - fast flash	Red LED - fast flash	Red LED - fast flash
Emergency mode	LED OFF	LED OFF	LED OFF
Identification	Red/Green LED - slow flash	Red/Green LED - slow flash	Red/Green LED - slow flash

ESSENTIAL CONFIGURATION

Each **SmartScan** device requires programming with two addresses. A third device address and fourth link address is optional. Programming is carried out using the Smart Programmer. In order to prevent areas of a building inadvertently communicating it is essential that addresses are correctly set and we recommend they are recorded for future reference.

1. ESSENTIAL

BUILDING ADDRESS

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

The building address can be set between 1-254.

2. ESSENTIAL

GROUP ADDRESS

The control group, all luminaires with the same building address and the same group address will work together for presence detection and scene control. Up to 254 different groups can be created in one building.

The group address can be set between 1-254.

3. OPTIONAL

DEVICE ADDRESS

The unique device address within each group. This is used to identify individual luminaires within a group.

The device address can be set between 1-254.

4. OPTIONAL

LINK ADDRESS

The link address allows presence detection signals to be transmitted between different groups of luminaires. Each group can be set to transmit or receive an independent link address enabling occupancy in one area to keep another linked un-occupied area illuminated.

The link transmit (TX) or link receive (RX) addresses can be set between 1-254.

5. ESSENTIAL

Enable RF communications.

BUILDING, GROUP & DEVICE ADDRESS - Example

= Building   = Group   = Device

Building 1

Building 2

BUILDING 1

All luminaires within groups 1-6 have their building address set to 1, and their relevant group address set. This will ensure that all lights in Building 1, and only Building 1, communicate within their group, but groups do not communicate with each other. The device address is used to identify individual luminaires on the system when using platform 2.
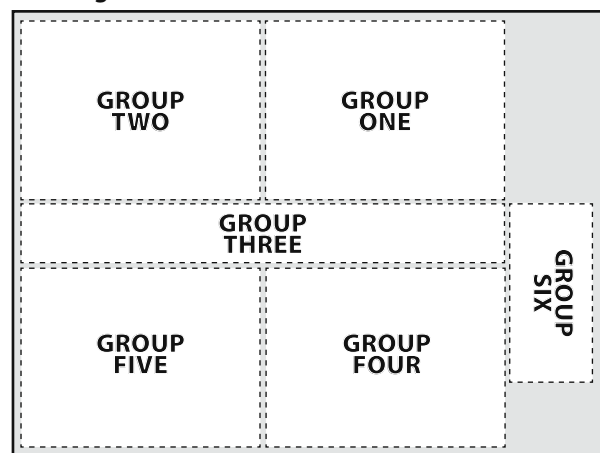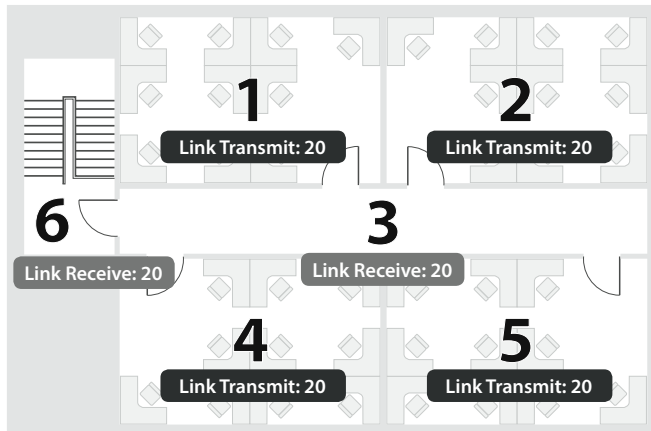
BUILDING 2

By setting the building address to 2, these luminaires will not communicate with the adjacent building. All luminaires within a group will communicate, but groups will remain separate.

LINK ADDRESS - Example

The Link Address feature of **SmartScan** provides additional communication within a building, across different groups, to provide linking, such that when one group is switched on another group can be switched on too – often known as "Corridor Hold".

EXAMPLE OF CORRIDOR HOLD

PROGRAMMING:

All groups are set to the same unique building address.

The link "transmit" and link "receive" addresses are set to **20**. *(Up to 254 different link transmit and link receive addresses may be set across a building.)*

Each group is set to its own address **(1 to 6)**

The four offices **(Groups 1,2,4,5)** are set to transmit link address **20**.

The stairwell **(Group 6)** and corridor **(Group 3)** are set to receive link address **20**.

OPERATION:

The stairwell **(6)** and corridor **(3)** will illuminate when occupancy is detected then switch off when vacated.

However, if any of the offices **(1,2,4,5)** are occupied then the stairwell **(6)** and corridor **(3)** will remain illuminated.

Each office will operate independently.

It may be desirable to only set half of the luminaires in the stairwell **(6)** and corridor **(3)** to remain illuminated and this can be achieved by selecting certain luminaires to link 'receive' but not others.

PROGRAMMING SINGLE PARAMETERS

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	
2	Scroll to the <SmartScan Sensors> menu	⬆⬇	**<SmartScan Sensors>**
3	Select the menu <SmartScan Sensors>	✔	**download all <SmartScan only>**
4	Use the scroll buttons, to select the required address	⬆⬇	**link tx ad: non none/1-254**
5	Select this parameter. Option name and current status are now displayed on the top line.	✔	**link tx ad: non* none/1-254**
6	Use the scroll buttons, to select the required address	⬆⬇	**link tx ad: 123* none/1-254**
7	To exit the setting mode press (**Esc**). The new selected value will now be displayed on the first line.	✖	**link tx ad: 123 none/1-254**
8	The (Send) button will now, update the chosen parameter in the Smart Luminaire	⬚	**link tx ad: 123 Sending.......OK**

PROGRAMMING ALL PARAMETERS AT ONCE

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	
2	Scroll to the <SmartScan Sensors> menu	⬆⬇	**<SmartScan Sensors>**
3	Select the menu <SmartScan Sensors>	✔	**download all <SmartScan only>**
4	Load all the parameters from the Smart Luminaire into the Smart Programmer	⬚	**download all Reading..... OK**
5	All parameters are now memorised in the programmer.		
6	Scroll to the building setting	⬆⬇	**building: 123 address 1-254**
7	To change the address press the (**Select**) button. *(A Star in the upper corner indicates access of the program mode).*	✔	**building: 123* address 1-254**
8	Use the scroll buttons, to select the required address	⬆⬇	**building: 123* address 1-254**
9	To exit the setting mode press (**Esc**). The new selected value will now be displayed on the first line.	✖	**building: 123 address 1-254**
10	The next parameter can now be selected	⬇	**group addr: 123 address 1-254**
11	Select this parameter. Option name and current status are now displayed on the top line.	✔	**group addr: 123* address 1-254**
12	Use the scroll buttons, to select the required address	⬆⬇	**group addr: 123* address 1-254**
13	To exit the setting mode press (**Esc**). The new selected value will now be displayed on the first line.	✖	**group addr: 123 address 1-254**
14	Repeat the steps above to set device address in each area as required.		
15	**Set link TX (link transmit) and link RX (link receive) addresses as required**		
16	Once all addresses have been set scroll to program all	⬆⬇	**program all <SmartScan only>**
17	Press the send button, hold the programmer in place until the screen reads OK	⬚	**program all Sending..... OK**

Now all parameters are memorised in the Smart Luminaire
(Please Note - each luminaire can have unique parameters if required)

NOTE: **RF Transmit - can be enabled or disabled from the SmartScan menu When disabled all radio transmissions are stopped.**

SMARTSCAN EMERGENCY LUMINAIRES

The Smart programmer can be used to commission, test and interrogate SmartScan emergency luminaires.

To commission emergency luminaires use the SmartScan Emergency menu and follow the procedure on page 6.

To perform manual testing and fault diagnosis on emergency luminaires use the Emergency Status menu.

TO INITIATE A FUNCTION OR DURATION TEST

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	Thorlux IRPR Version 1.90
2	Scroll to the <Emergency Status> menu	⬆⬇	**<Emergency Status>**
3	Select the menu <Emergency Status>	✓	**Start function test**
4	To start function test press send	📶	**Start function sending...**
5	Scroll to start duration test	⬆⬇	**Start duration test**
6	To start duraction test press send	📶	**Start duration sending...**
7	To stop a function or duration scroll to stop test	⬆⬇	**Stop test**
8	Press send	📶	**Stop test sending...**

TO READ EMERGENCY STATUS

	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	Thorlux IRPR Version 1.90
2	Scroll to the <Emergency Status> menu	⬆⬇	**<Emergency Status>**
3	Select the menu <Emergency Status>	✓	**Start function test**
4	Scroll to Read test status	⬆⬇	**Read test status**
5	Press Read	📶	**Read test status**
6	Scroll to Emergency Status	⬆⬇	**Emergency Status 000000**
7	Press select to define status	✓	**Emergency Status* 000000**
8	Scroll through to see emergency status	⬆⬇	**Emergency Status* 00000000**
9	Autotest inhibit y/n	⬆⬇	**InhibitMode: n***
10	Function test complete y/n	⬆⬇	**FunctiTestDone: y***
11	Duration test complete y/n	⬆⬇	**DuratiTestDone: y***
12	Battery charged y/n	⬆⬇	**BatteryCharged: y***
13	Function test pending y/n	⬆⬇	**FuncTestPendin: y***
14	Duration test pending y/n	⬆⬇	**DuraTestPending: y***

TO READ EMERGENCY FAULT STATUS

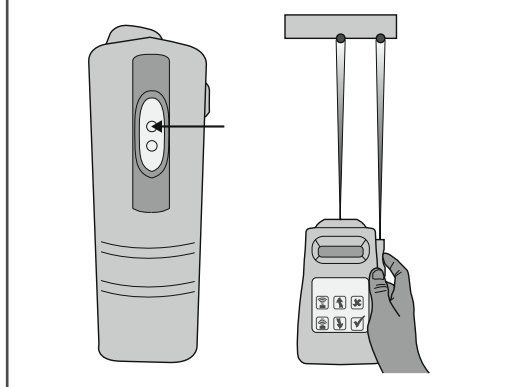|	FUNCTION	BUTTON	DISPLAY
1	Switch on the Smart Programmer	✖	Thorlux IRPR Version 1.90
2	Scroll to the <Emergency Status> menu	⬆⬇	**<Emergency Status>**
3	Select the menu <Emergency Status>	✓	**Start function test**
4	Scroll to Read test status	⬆⬇	**Read test status**
5	Press Read	📶	**Read test status**
6	Scroll to Failure Status	⬆⬇	**Failure Status 00000000**
7	Press select to define status	✓	**Failure Status* 00000000**
8	Scroll through to see fault status	⬆⬇	**Failure Status* 00000000**
9	Circuit failure y/n	⬆⬇	**CircuitFailure: n***
10	Battery duration test failure y/n	⬆⬇	**BateryDuraFail: n***
11	Battery failure y/n	⬆⬇	**BatteryFailure: n***
12	Emergency lamp failure y/n	⬆⬇	**EmergeLampFail: n**
13	Function test maximum delay exceeded y/n	⬆⬇	**FuncTestExceed: n***
14	Duration test maximum delay exceeded y/n	⬆⬇	**DuraTestExceed: n***
15	Function test failed y/n	⬆⬇	**FunctiTestFail: n***
16	Duration test failed y/n	⬆⬇	**DuratiTestFail: n***

STATUS AND ERROR MESSAGES

When the **Send Button** 📶 is pressed, **Sending . . . . .** appears on the bottom line of the display. If the transmission is successful, **OK** appears briefly on the right hand side of the bottom line.

When the **Read Button** 📶 is pressed, **Reading . . . . .** appears on the bottom line. If the reception is successful, **OK** appears briefly on the right hand side of the bottom line. In both conditions, the programmer will attempt data transfer three times, shown as **#1** followed by **#2** followed by **#3** on the bottom line. If, after 3 attempts, the transfer of data is not successful, **Link Error** appears on the bottom line. Possible causes could be that the programmer isn't being pointed directly at the Pod, is too far away, or is being masked by IR from the lamps within the luminaire. Resolve the issue and try again.

Only one **SmartScan device** in view of the programmer.

The Smart Programmer should only communicate with one luminaire at a time. If luminaires are close together use the supplied **IR tube** to ensure correct operation.
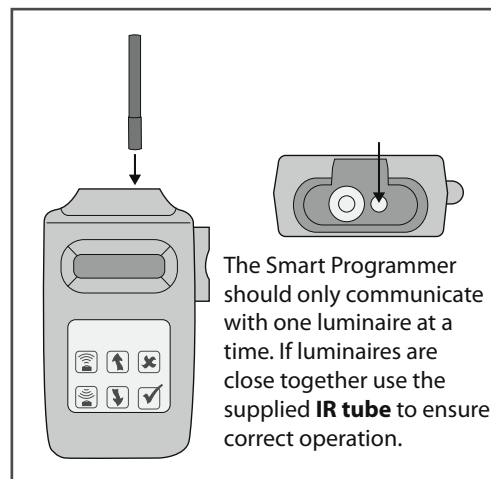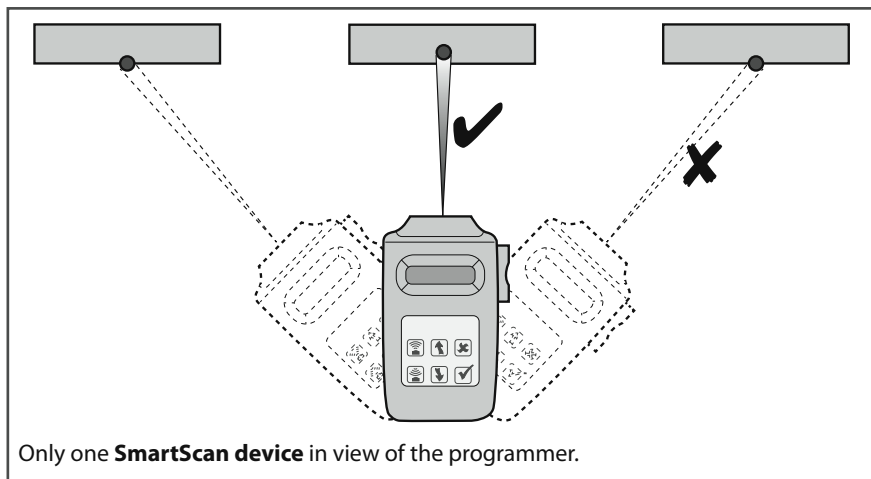
When programming at height the programmer has a built in laser to assist with alignment.

MAINTENANCE

The **Smart Programmer** should not be subjected to undue mechanical shock or extremes of temperature. Clean only with a clean dry cloth.

MODIFICATIONS

Thorlux products should not be modified. Any modification may render the product unsafe and will invalidate any Safety/ Approval marks.

GB - NOTICE TO CONTRACTOR - PLEASE PASS THIS LEAFLET TO THE END-USER.
FR - A L'ATTENTION DE L'INSTALLATEUR - MERCI DE TRANSMETTRE CE DOCUMENT À L'UTILISATEUR.
DE - HINWEIS AN DIE MONTAGEFIRMA - BITTE GEBEN SIE DIESE INFORMATION AN IHREN KUNDEN WEITER.
IT - AVVISO PER CONTRACTOR - LA PREGHIAMO DI INFORMARE ILLUSTRATIVO ALLE UTENTE FINALE.
SE - INFORMATION TILL ENTREPRENÖREN – VÄNLIGEN VIDAREBEFORDRA DETTA INFORMATIONSHÄFTE TILL SLUTANVÄNDAREN.
ES - NOTA AL CONTRATISTA – POR FAVOR HAGA LLEGAR ESTE FOLLETO AL CLIENTE FINAL.
NL - MEDEDELING VOOR DE AANNEMER: GEEF DEZE INFORMATIE DOOR AAN DE EIND GEBRUIKER.
N0 - NOTAT TIL ELEKTRIKER – VÆR VENNLIG Å GI DETTE SKRIV TIL SLUTTBRUKER.
PL - INFORMACJA DLA MONTAŻYSTY – PROSZĘ PRZEKAZAĆ INSTRUKCJĘ MONTAŻOWĄ DLA ODBIORCY.