2013

klik Lighting connection and control catalogue

klik
making the connection

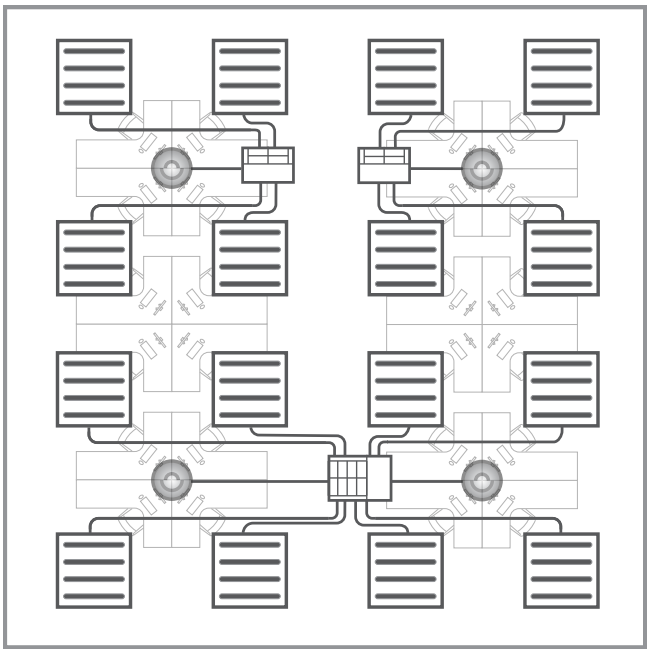
klik is the lighting connection system for all lighting designs. From a conduit based system, to an installation fully pluggable from distribution board up to luminaire.

klik.LDS

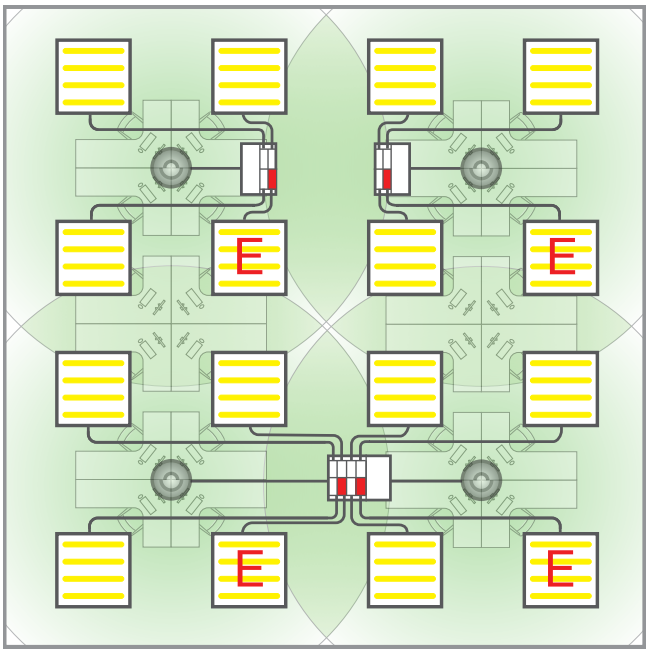
Typical application open plan office with limited daylight

In many applications standard luminaires are still the desired solution. This may be due to the amount of natural light available, the project budget or a requirement to have constant output from all luminaires. These luminaires can be connected using a KLDS box and controlled by a hard wired occupancy sensor and / or wall switch.

Where two groups of luminaires are located close together a larger KLDS box can be used as a dual circuit device. This allows two groups of individually controlled luminaires to be fed from a single box.



Luminaires can be connected as a single group or two groups can be controlled from one box.



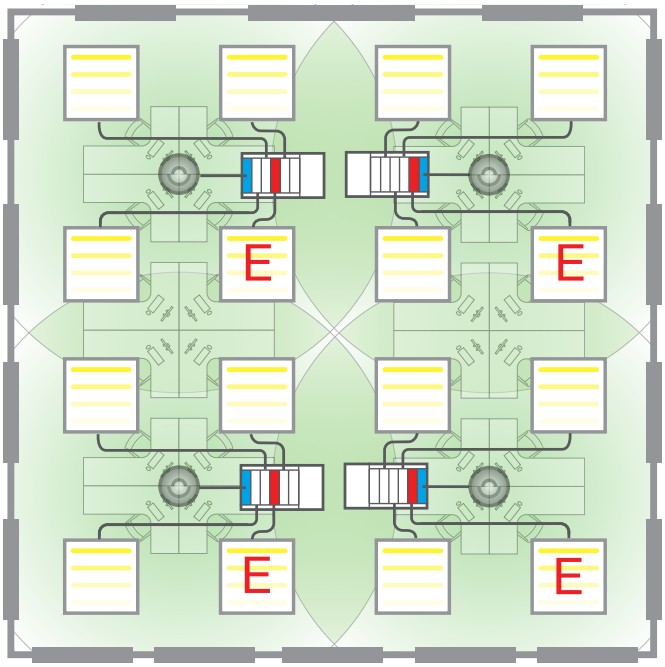
The positioning of occupancy sensors needs to ensure that there are no areas outside of the detection range.

klik.system

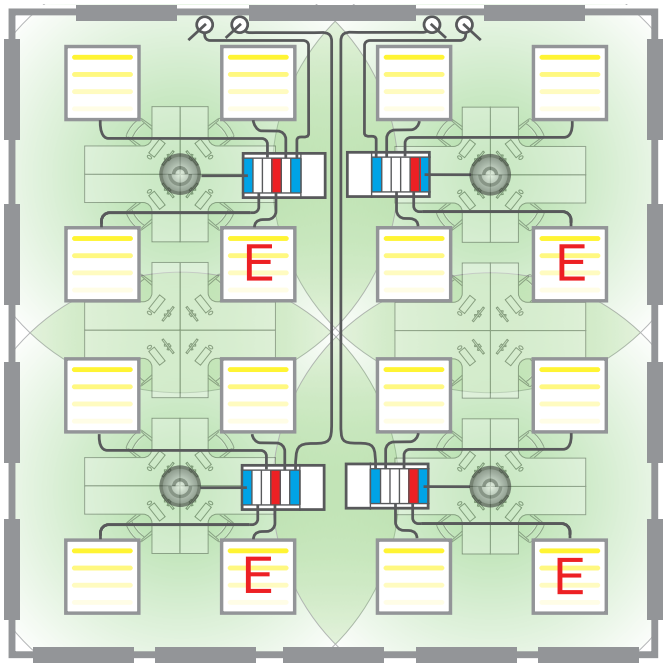
Typical application open plan office with available daylight

Where there is a good level of natural daylight available the use of digitally controlled dimmable ballasts offer both improved comfort for the occupants of the building and potential savings in energy costs.

Digital ballasts control the luminaire output and are driven by an occupancy sensor with a photocell and a digital output. This means that when an area is occupied the luminaires will only add additional light to supplement the available natural light in order to reach the desired level.



With digital control as the available daylight changes due to time of day or year, the photocell ensures that ambient light level is constant.



To achieve even greater control a wall switch can be easily added to allow override up, down, on or off.

klik.system project

As lighting projects become more complex the service support required by the electrical industry has increased. klik.system is an approach to meeting the demands of these projects.

To fully support our customers we understand that we are entering into a partnership as opposed to a customer supplier relationship. This relationship has to start at the design stage of the project and continue beyond the commissioning stage.

We have developed a bespoke software package which allows us to match our distribution system to your lighting design. The software carries out all of the required calculations for cable sizing and outputs a comprehensive list of products by part number, building area, and installation stage e.g. 1st fix or 2nd fix.

klik.system has a full range of products which allow pluggable connection from distribution board to luminaire. The product range has been designed for quick and effective installation removing the risk of incorrect or poor terminations.

The pluggable distribution board supplies individual circuits to the area distribution box via a home run cable. These individual circuits then supply the luminaires in areas or groups as defined in the lighting design. Switching is carried out by local wall switches and / or occupancy sensors.

Design

Experienced in lighting distribution and controls, our design and quotation team use a dedicated software package to produce a complete design to your specification. Once quoted, we will contact you to confirm it has been received, is clear and meets your requirements. At this stage we can add to, or change the design as necessary to meet any changes to the specification.

Delivery

A dedicated team will fulfil the orders as required for dispatch direct to site. The klik.system components will be grouped to your requirements and delivered to your schedule.

Product

The lighting distribution system will be configured from a selection of standard and made to order products. All of these products meet the relevant British Standards and when combined to create a prefabricated wiring system comply with BS 8488. Full training on the installation and functionality of a klik.system project can be provided, at our Telford premises, your premises or on-site.

Technical support & commissioning

A dedicated team of technical support engineers are on hand to assist with any system issues arising during installation. Most klik.system products will be easily set up on-site by installers. However, some of the more in-depth control systems will require commissioning. We can quote for this service as part of the project.

klik from concept...

Building designs are increasingly influenced by legislation and green issues. This coupled with ever increasing pressure on the construction industry to complete projects with reduced manpower, and in less time, has presented an opportunity to look at construction in a different way.

...to commissioning

Specifiers and installers have, for a number of years, been keen to exploit the benefits of prefabricated wiring systems as an alternative to conventional fixed wiring systems.

We have developed the klik.system approach to ensure that the benefits of offsite manufacture can be exploited, whilst assuring compliance with BS 8488:2009+A1:2010 (Prefabricated wiring systems intended for permanent connection in fixed installations).

A bespoke software package is used to produce a calculated klik.system design which includes drawings and delivery schedules.

With klik.system individual prefabricated wiring sections are plugged together on-site to provide the complete system from distribution board to the luminaires.

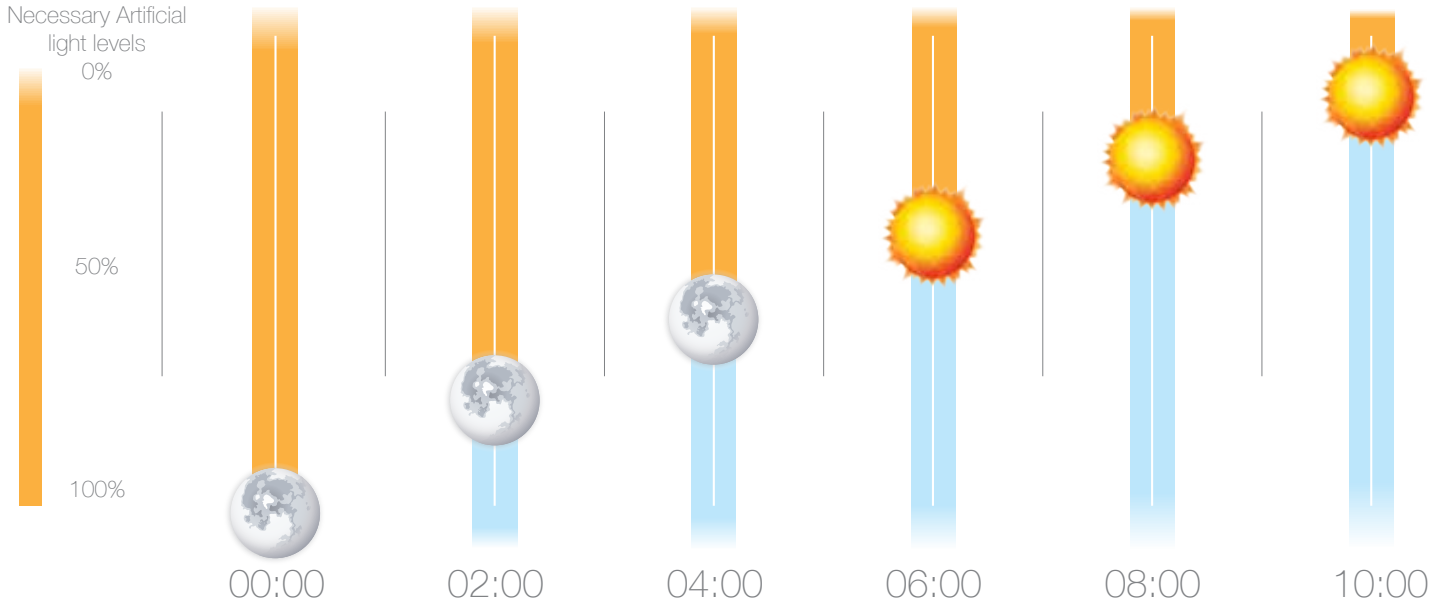
As control systems become ever more complex we offer a commissioning service to carry out this process for you, ensuring you achieve your desired functionality.

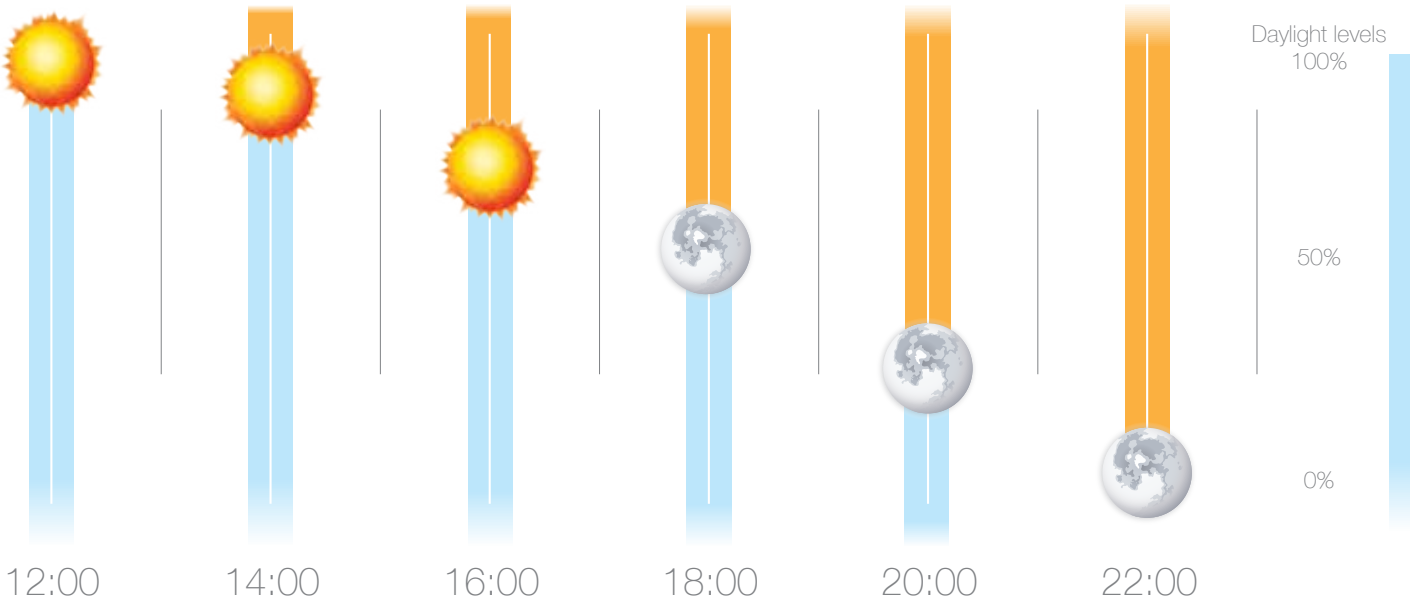
Increasing your control

Lighting can account for up to 50% of a buildings power usage, a lighting system designed to utilise natural daylight will switch off lighting when not needed often with a positive effect upon the buildings occupants. Hence a lighting system utilising available natural daylight is desirable.

klik.system offers the ability to monitor natural daylight and adjust artificial light accordingly. The daylight is monitored via a photocell within the occupancy sensor. This means that if a room is unoccupied the lights will not come on, and if the room is occupied the minimum amount of energy is used to achieve the desired light levels.

This sets a number of challenges for building design, as from concept the look and feel of an area is hugely influenced by the brightness and direction of light. This influence may be very different within the same area at different times of day or year. Hence having the ability to maintain a constant light level is essential.




Daylight levels
100%
50%
0%
12:00
14:00
16:00
18:00
20:00
22:00

klik
specification

N Neutral
L Line
SL Switched Live
CPC Circuit Protective Conductor
DA+ Digital +
DA- Digital -
EM Emergency

		Application				Control				Linking					
		Standard luminaire	Standard luminaire with emergency	Digital luminaire (DSI/DALI)	Digital luminaire with emergency (DSI/DALI)	Wallswitch hard wired	Occupancy sensor hard wired	Pluggable wallswitch	Pluggable Occupancy sensor	Daisy chaining	Distribution boards	Occupancy sensor linking via KNX	Non-standard length leads	Validated design	Commissioning
Family	Product	SL/N/CPC	SL/N/CPC/EM	L/N/CPC/DA+/DA-	L/N/CPC/DA+/DA-/EM										
klik.LDS p16-41	PCR2000	✓													
	CR64AX	✓	✓												
	KLDS4 -12	✓	✓			✓	✓								
klik.system p42-55	KLPCR/7	✓	✓	✓	✓			✓	✓			✓			
	KLMB*W	✓	✓	✓	✓	✓	✓	✓	✓			✓			
	Luminaire lead	✓	✓	✓	✓	✓	✓	✓	✓						
klik.system Project p56-75	Pluggable DB									✓	✓			✓	✓
	Area distribution box									✓	✓		✓	✓	✓
	Pluggable marshalling box	✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓
	Dual supply marshalling box	✓	✓	✓	✓			✓	✓	✓	✓			✓	✓
	2-way block	✓	✓					✓		✓				✓	✓
	Tee-Piece							✓	✓	✓	✓	✓		✓	✓
	Luminaire Tee-Piece	✓	✓	✓	✓			✓	✓	✓	✓			✓	✓
	Link Leads									✓	✓		✓	✓	✓
	Luminaire lead	✓	✓	✓	✓								✓	✓	✓

klik.LDS	
Standard	BS 5733:2010 BS 6792
Main terminals	16A
Socket Outlet	6A
Flexible conductor terminals (switch)	10A

klik.system	
Standard	BS 5733:2010 BS 61535:2006
Main terminals	16A
Socket Outlet	16A

klik.system project	
Standard	BS 8488:2009+A1:2012 complies with relevant standard for component parts
Main terminals	16A
Socket Outlet	16A

Occupancy sensor
specification

Family		Product	Hard wired connection	Pluggable	Standard relay control	Digital	Adjustment at sensor	Adjustment via remote control	Programmable via ETS software	Photocell	Wallswitch override	Absence
Hard wired occupancy sensor	klik.LDS p16-41	EEK513W	✓		✓		✓	✓		✓	✓	✓
		EEK510B	✓		✓		✓	✓		✓	✓	✓
		EEK001	✓		✓		✓	✓		✓	✓	
		EEK002						✓				
		EEK005						✓				
Pluggable occupancy sensor	klik.system p42-55	EEK513P		✓		✓	✓		✓	✓		✓
		EEK515P		✓	✓		✓	✓		✓	✓	✓
		EEK523P		✓		✓	✓	✓		✓	✓	✓
		EEK525P		✓		✓	✓	✓		✓	✓	✓
		EEK520B	✓			✓	✓	✓		✓	✓	✓
		EEK001						✓				
		EEK002						✓				
Standard Digital & KNX Occupancy sensor	klik.system Project p56-75	TKK513P		✓	✓			✓	✓	✓	✓	✓
		TKK515P		✓	✓			✓	✓	✓	✓	✓
		TKK523P		✓		✓		✓	✓	✓	✓	✓
		TKK525P		✓		✓		✓	✓	✓	✓	✓
		TCC510S						✓	✓	✓	✓	✓
		EEK513P	✓	✓		✓	✓		✓	✓		✓
		EEK515P		✓	✓		✓	✓		✓	✓	✓
		EEK523P		✓		✓	✓	✓		✓	✓	✓
		EEK525P		✓		✓	✓	✓		✓	✓	✓
		EEK520B	✓			✓	✓	✓		✓	✓	✓
		EEK001						✓		✓	✓	
		EEK002						✓		✓	✓	

Occupancy sensor		
Standard	IEC 60669-1 IEC 60669-2-1	
Switching capacity	Standard	16A AC1
	Digital	24 Ballasts
Cable	All cables LS0H insulated	

klik.LDS

Lighting Distribution System

With the klik connector, luminaires can be plugged in seconds, with absolute safety and without circuit isolation. The secure mechanical and electrical connection gives complete confidence in the systems integrity.

Today there is pressure on all areas of construction is to reduce costs. The installation speed of klik.LDS makes a significant contribution to both the on-site wiring and on-going maintenance costs, whether from a single outlet PCR or a multi-outlet marshalling box.

Marshalling boxes
KLDS

The klik connector system, brings plug-in convenience and versatility for lighting.

It is a unique modular plug and socket interface that provides simultaneous mechanical and electrical connection in one click-in action.

Luminaires can be connected in seconds, in absolute safety, without circuit isolation. All live contacts are inaccessible and the earthing connection is made before any other.

The advantages for you:

- Quick and easy plug-in convenience.
- Simultaneous mechanical and electrical connection in a single click action. Earthing connection is made before any other.
- klik exceeds the relevant British Standard requirements and enables compliance with IET Wiring Regulations and Safety Regulations.

Technical data:

- Complies with BS 5733:2010.
- Main terminal capacity 5 x 4mm^2.
- Flexible conductor capacity 1 x 1mm^2.
- Main terminals rated 16 Amp, each socket outlet rated 6 Amp, flexible conductor terminals rated at 10Amp.
- Aluminium extruded body.
- All socket outlets factory connected and tested.

Quick tips

1

Suspended

klik can be hung from the ceiling suspension system via drop rod and Caddy Clips™. *Caddy clip is a registered trade mark of Erico Europa (GB) Ltd.*

2

Terminal cover

Compact design and the ability to remove and replace the cover without disturbing connections.

3

Socket outlets

Each socket outlet will accept 3 or 4 pin plugs.

4

Dual switching

Single or dual switching capability can be selected via a copper link. The removal of this link allows the control of two lighting circuits from one marshalling box.

5

Terminal blocks

A separate terminal block is provided for connection of flexible cords, in line with wiring regulations. Large barriers between terminals provide segregation.

6

Occupancy Sensor

Control of the KLDS box is achieved via Hager occupancy sensor and / or wall switch to allow manual override.

- Complies with BS 5733.
- Main terminal capacity 5 x 4mm$^{2.}$
- Flexible conductor terminal capacity 1 x 1mm$^{2.}$
- Main terminals rated 16 Amps. Each socket outlet rated 6 Amps. Flexible conductor terminals rated at 10 Amps.
- All socket outlets factory connected and tested.
- Aluminium extruded body.
- All plastic 'V0' rated.
- Socket outlets accept either klik lighting (3 pin) plugs, klik AX (4 pin) plugs and klik pre-wired leads.
- Cable entries will accept 20mm or can be drilled out to 25mm.
- Self-retained cover screw.

For mounting methods see page 37.
For product standards see page 34.

Marshalling Boxes

No of Outlets	Dimensions h x w x d (mm)	Pack qty.	Cat ref.
4	222 x 238 x 73	1	**KLDS4**
6	222 x 288 x 73	1	**KLDS6**
8	222 x 338 x 73	1	**KLDS8**
10	222 x 388 x 73	1	**KLDS10**
12	222 x 438 x 73	1	**KLDS12**

KLDS4

KLDS6

KLDS4

KLDS10

KLDS12

- Presence detection mode: Allows lighting to be controlled ensuring that lighting is only energised when people are in the detection area.
- Absence detection mode: Requires lighting to be activated by a wall switch or remote control to switch lighting on. Lighting then remains on during presence and switches off after time out period from last presence detection. Offers potentially the best energy savings.
- Wall switch override allows lighting state to be changed between states.
- High sensitivity detection will react to small movements, such as somebody working at a desk up to 5m diameter.
- Motion detection will react to larger movements, such as walking up to 7m diameter.
- Integral photocell 5 - 1000 lux. Lux setting can be increased and decreased in increments of 100 lux.
- EEK001 programming tool is easy to use with 2 memory settings to enable repeatability.
- EEK002 remote control comes with a wall mounting bracket for storage and allows room occupant to have control of lighting output.
- Time out adjustment:
  2 - 57 mins with remote programmer.
  1 min - 1 hour with potentiometer.
- Switching capability - relay
  Incandescent Halogen - 2300W.
  Halogen ELV via ferromagnetic or electronic transformer - 1500W.
  Compact Fluorescent - 23 x 23W.
  Parallel compensated fluorescent tubes - 1000W
  Fluorescent via electronic ballast - 1000W.
- Walk test mode.
- Factory presets:
  Lux = 400
  Time = 20 min
  Test mode for 2 min.
- 3m 1.5mm^2 Low Smoke Zero Halogen.
- Can be flush mounted through a 60mm hole, utilises spring clips to ensure a fast and secure mounting method.
- All parts factory connected and tested.
- Time and photocell can be set by controller EEK001 or potentiometer.

For technical information see pages 39-41.
For product standards see page 34.

EEK510B

Occupancy Sensors

Description	Pack qty.	Cat ref.
Standard Occupancy Sensor, Pre-Wired 3m	1	**EEK513W**
Standard Occupancy Sensor, Pre-Wired 5m	1	**EEK515W**
Standard Occupancy Sensor (without cable)	1	**EEK510B**
Surface Mount Kit	1	**EEK005**

EEK001

EEK002

Programming Tool & Remote Controller

Description	Pack qty.	Cat ref.
Programming Tool	1	**EEK001**
Remote Control	1	**EEK002**

- Complies with BS 6972 and BS 5733:2010.
- PCR2000 comprises of; plug cat. ref. P22, socket cat ref. S27 Cover, cat. ref. A1
- PCR2000 provides loop-in terminal bank wiring within integral surface mounting socket base.
- PCR2000 base terminals accepts 2 x 4mm^2 conductor.
- 6 Amp 250V A.C.
- Sockets have 4 terminations: line, neutral, earth and loop-in.
- Plugs have 3 terminations: line, neutral and earth.
- Static loading - 5kg maximum
- Fixing: 50.8mm Standard Diagonal (BESA).

For wiring diagrams see page 36.
For product standards see page 34.

PCR2000

6 Amp 3 Pin Ceiling Rose & Cover

Dimensions	Pack qty.	Cat ref.
75mm Diameter x 44mm, 7mm Back Projection	10	**PCR2000**

A1

6 Amp 3 Pin Ceiling Rose Cover

Dimensions	Pack qty.	Cat ref.
White Ceiling Rose Cover 75mm Diameter x 44mm	10	**A1**

- Complies with BS 6972 and BS 5733.
- Suitable for use with any klik lighting or klik.AX socket and klik.LDS.
- P22 plug is supplied in plug-in Ceiling Rose, Cat No. PCR2000.
- Luminaire plugs are designed for incorporation by OEM's.
- Plugs have 3 terminations: live, neutral and earth.
- Static loading when load suspended by flexible cord - 5kg maximum.

Warning
Plugs must not be fitted on the supply side of any installation - they must be connected to the load / fitting / appliance side of the installation.
For product standards see page 34.

P22

3 Pin Plug

Description	Fixing	Pack qty.	Cat ref.
With Cord Grip and Cover, 57mm x 25mm x 25mm	Lead	10	**P22**

- Complies with BS 6972 and BS 5733.
- All suitable for use with any standard klik lighting plug.
- S27 socket is supplied in plug-in ceiling rose, Cat No. PCR2000.
- S27 socket will accept A1 cover.
- 6 Amp 250V A.C.
- S26/TC socket is an S26 architrave socket pre-assembled with a trunking clamp.

For installation information see page 36.
For product standards see page 34.

Round Socket

Description	Fixing	Pack qty.	Cat ref.
74mm Diameter x 7mm 7mm Back Projection	50.8mm Standard Diagonal (BESA)	10	**S27**

S27

Ultra Flush Round Socket

Description	Fixing	Pack qty.	Cat ref.
86mm Diameter x 1.5mm 10mm Back Projection	60.3mm Standard Vertical	10	**S28**

S28

3 Socket Module

Description	Fixing	Pack qty.	Cat ref.
54mm x 28mm x 13mm Complete with Panel Mounting Kit	Panel Cut-Out 58mm x 32mm	10	**S20/MOP**

S20/MOP

Ultra Flush Socket

S21

Description	Fixing	Pack qty.	Cat ref.
86 x 36 x 1.5mm 10mm Back Projection	60.3mm Standard Vertical	10	**S21**

Architrave Socket

S26

Description	Fixing	Pack qty.	Cat ref.
86 x 33 x 6mm 7mm Back Projection	60.3mm Standard Vertical	10	**S26**

6 Amp Lighting Trunking Socket with Clamp

S26/TC

Dimensions (mm)	Fixing	Pack qty.	Cat ref.
86 x 33 x 6 7mm Back Projection	Via Integral Trunking Clamp	10	**S26/TC**

- Complies with BS 6972 and BS 5733.
- Comprehensive range of pre-wired klik lighting plugs and ceiling roses reduces on-site installation time and cost.
- All leads have crimped ends to eliminate breakage, and minimise on-site cable preparation.
- PVC flexible cord, complies with BS 6500.
- Low smoke zero halogen flexible cord, complies with BS 6500 and BS 7211.

For wiring diagrams see page 35.
For product standards see page 34.

Pre-Wired 6 Amp Plug-In Ceiling Roses

PCR2000/1.0

Length	Pack qty.	PVC Cat ref.	Low smoke zero halogen Cat ref.
1 Metre 0.75mm² Flexible Cord	10	**PCR2000/1.0**	**PCR2000/LSF/1.0**
2 Metre 0.75mm² Flexible Cord	10	**PCR2000/2.0**	**PCR2000/LSF/2.0**
3 Metre 0.75mm² Flexible Cord	5	**PCR2000/3.0**	**PCR2000/LSF/3.0**
4 Metre 0.75mm² Flexible Cord	5	**PCR2000/4.0**	**PCR2000/LSF/4.0**
2 Metre 1.00mm² Flexible Cord	10	**PCR2000/1.0PVC/2**	**PCR2000/1.0LSF/2**
3 Metre 1.00mm² Flexible Cord	5	**PCR2000/1.0PVC/3**	**PCR2000/1.0LSF/3**
4 Metre 1.00mm² Flexible Cord	5	**PCR2000/1.0PVC/4**	**PCR2000/1.0LSF/4**
5 Metre 1.00mm² Flexible Cord	5	**PCR2000/1.0PVC/5**	**PCR2000/1.0LSF/5**

Pre-Wired 6 Amp Plugs

P22/1.0

Length	Pack qty.	PVC Cat ref.	Low smoke zero halogen Cat ref.
1 Metre 0.75mm² Flexible Cord	10	**P22/1.0**	**P22/LSF/1.0**
2 Metre 0.75mm² Flexible Cord	10	**P22/2.0**	**P22/LSF/2.0**
3 Metre 0.75mm² Flexible Cord	5	**P22/3.0**	**P22/LSF/3.0**
4 Metre 0.75mm² Flexible Cord	5	**P22/4.0**	**P22/LSF/4.0**
2 Metre 1.00mm² Flexible Cord	10	**P22/1.0PVC/2**	**P22/1.0LSF/2**
3 Metre 1.00mm² Flexible Cord	5	**P22/1.0PVC/3**	**P22/1.0LSF/3**
4 Metre 1.00mm² Flexible Cord	5	**P22/1.0PVC/4**	**P22/1.0LSF/4**
5 Metre 1.00mm² Flexible Cord	5	**P22/1.0PVC/5**	**P22/1.0LSF/5**

- Complies with BS 6972 and BS 5733.
- CR64AX comprises of; Plug Cat ref. P64AXR Socket Cat ref. S64AX and Cover Cat. ref. A1.
- **CR64AX/R** Plug Cat ref. P64AXR Socket Cat ref. S64AX and Cover Cat ref. A1/R.
- 6 Amp 250V A.C.
- Sockets have 5 terminations: line, neutral, earth, auxiliary and loop-in.
- Plugs have 4 terminations: line, neutral, earth and auxiliary.
- Static loading when load suspended by flexible cord - 5kg maximum.

For wiring diagrams see page 35.
For product standards see page 34.

CR64AX

CR64AX/R

6 Amp 4 Pin Ceiling Rose & Cover

Description	Pack qty.	Cat ref.
White Cover with 75mm Diameter x 44mm, 7mm Back Projection	10	**CR64AX**
Red Cover with 75mm Diameter x 44mm, 7mm Back Projection	10	**CR64AX/R**

A1/R

6 Amp 3 Pin Ceiling Rose Cover

Dimensions	Pack qty.	Cat ref.
White Ceiling Rose Cover 75mm Diameter x 44mm	10	**A1**
Red Ceiling Rose Cover 75mm Diameter x 44mm	10	**A1/R**

- Complies with BS 6972 and BS 5733.
- Special purpose 4 pin plug, suitable only for use with klik AX sockets and klik LDS.
- P64AXR plug as supplied in plug-in ceiling rose, Cat. No. CR64AX.
- 6 Amp 250V A.C.
- Plugs have 4 terminations: line, neutral, earth and auxiliary.
- Static loading when load suspended by flexible cord - 5kg maximum when used with S64AX socket.

Warning
Plugs must not be fitted on the supply side of any installation - they must be connected to the load / fitting / appliance side of the installation.

For product standards see page 34.

P64AX/R

6 Amp 4 Pin Plugs

Description	Fixing	Pack qty.	Cat ref.
White with Cord Grip and Cover, 57mm x 25mm x 44mm	Lead	10	**P64AX**
Red with Cord Grip and Cover, 57mm x 25mm x 44mm	Lead	10	**P64AX/R**

- Complies with BS 6972 and BS 5733.
- Sockets suitable for use with any klik lighting or klik AX plug.
- All sockets have 5 terminations: line, neutral, earth, auxiliary and loop-in.
- For special purpose applications eg: emergency lighting.
- S64AX socket is supplied in plug-in ceiling rose, Cat ref. CR64AX.
- S64AX socket will accept A1 A1/R cover.
- S65AX supplied with M3.5 x 25mm fixing screws.

For product standards see page 34.

S60AX/MOP

Socket Module

Description	Fixing	Pack qty.	Cat ref.
54mm x 37mm x 13mm Complete with Panel Mounting Kit	Panel Cut-Out 58mm x 59mm	10	**S60AX/MOP**

S64AX

Round Socket

Description	Fixing	Pack qty.	Cat ref.
74mm Diameter x 7mm 7mm Back Projection	50.8mm Standard Diagonal (BESA)	10	**S64AX**

S65AX

Single Gang Square Socket

Description	Fixing	Pack qty.	Cat ref.
86 x 86 x 9mm 5mm Back Projection	60.3mm Standard Horizontal	10	**S65AX**

- Complies with BS 6972 and BS 5733.
- PVC flexible cord: BS 6500.
- Low smoke zero halogen flexible cord: BS 6500 and BS 7211.

For product standards see page 34.

CR64AX/1.0

Pre-Wired 6 Amp Plug-In Ceiling Roses

Length	Pack qty.	PVC Cat ref.	Low smoke zero halogen Cat ref.
1 Metre 0.75mm² Flexible Cord	10	**CR64AX/1.0**	**CR64AX/LSF/1.0**
2 Metre 0.75mm² Flexible Cord	10	**CR64AX/2.0**	**CR64AX/LSF/2.0**
3 Metre 0.75mm² Flexible Cord	5	**CR64AX/3.0**	**CR64AX/LSF/3.0**
4 Metre 0.75mm² Flexible Cord	5	**CR64AX/4.0**	**CR64AX/LSF/4.0**
2 Metre 1.00mm² Flexible Cord	10	**CR64AX/1.0PVC/2**	**CR64AX/1.0LSF/2**
3 Metre 1.00mm² Flexible Cord	5	**CR64AX/1.0PVC/3**	**CR64AX/1.0LSF/3**
4 Metre 1.00mm² Flexible Cord	5	**CR64AX/1.0PVC/4**	**CR64AX/1.0LSF/4**
5 Metre 1.00mm² Flexible Cord	5	**CR64AX/1.0PVC/5**	**CR64AX/1.0LSF/5**

- Complies with BS 6972 and BS 5733.
- PVC flexible cord: BS 6500.
- Low smoke zero halogen flexible cord: BS 6500 and BS 7211.

For product standards see page 34.

Pre-Wired 6 Amp Plugs - White Plug

P64AX/1.0

Length	Pack qty.	PVC Cat ref.	Low smoke zero halogen Cat ref.
1 Metre 0.75mm² Flexible Cord	10	**P64AX/1.0**	**P64AX/LSF/1.0**
2 Metre 0.75mm² Flexible Cord	10	**P64AX/2.0**	**P64AX/LSF/2.0**
3 Metre 0.75mm² Flexible Cord	5	**P64AX/3.0**	**P64AX/LSF/3.0**
4 Metre 0.75mm² Flexible Cord	5	**P64AX/4.0**	**P64AX/LSF/4.0**
2 Metre 1.00mm² Flexible Cord	10	**P64AX/1.0PVC/2**	**P64AX/1.0LSF/2**
3 Metre 1.00mm² Flexible Cord	5	**P64AX/1.0PVC/3**	**P64AX/1.0LSF/3**
4 Metre 1.00mm² Flexible Cord	5	**P64AX/1.0PVC/4**	**P64AX/1.0LSF/4**
5 Metre 1.00mm² Flexible Cord	5	**P64AX/1.0PVC/5**	**P64AX/1.0LSF/5**

Pre-Wired 6 Amp Plugs - Red Plug

P64AXR/1.0

Length	Pack qty.	PVC Cat ref.	Low smoke zero halogen Cat ref.
1 Metre 0.75mm² Flexible Cord	10	**P64AXR/1.0**	**P64AXR/LSF/1.0**
2 Metre 0.75mm² Flexible Cord	10	**P64AXR/2.0**	**P64AXR/LSF/2.0**
3 Metre 0.75mm² Flexible Cord	5	**P64AXR/3.0**	**P64AXR/LSF/3.0**
4 Metre 0.75mm² Flexible Cord	5	**P64AXR/4.0**	**P64AXR/LSF/4.0**
2 Metre 1.00mm² Flexible Cord	10	**P64AXR/1.0PVC/2**	**P64AXR/1.0LSF/2**
3 Metre 1.00mm² Flexible Cord	5	**P64AXR/1.0PVC/3**	**P64AXR/1.0LSF/3**
4 Metre 1.00mm² Flexible Cord	5	**P64AXR/1.0PVC/4**	**P64AXR/1.0LSF/4**
5 Metre 1.00mm² Flexible Cord	5	**P64AXR/1.0PVC/5**	**P64AXR/1.0LSF/5**

- Complies with BS 5733.
- To complement the range of klik products a selection of moulded mounting boxes is available for either flush or surface mounting.

For product standards see page 34.

MB2

Round Surface Box

Dimensions	Fixing	Pack qty.	Cat ref.
85mm Diameter x 31mm	50.8mm Standard Diagonal (BESA)	10	**MB2**

Architrave Flush Box

Dimensions	Fixing	Pack qty.	Cat ref.
80 x 29 x 20mm	60.3mm Standard Vertical	10	**MB3/E**

- This product will provide an alternative to hard wiring external lighting connections.
- Interfaces two AX 6 Amp sockets into a weather-proof enclosure.
- Fast connection during fit out.
- Suitable for use in arduous / wet environments.
- Quick and secure method for lighting connections in arduous areas.
- Complies with BS 5733, BS EN 60529, BS EN 60670-1.

For product standards see page 34.

WKAX2

IP66 2 Gang Socket

Optional padlock

Dimensions h x w x d (mm)	Pack qty.	Cat ref.
140 x 155 x 90mm	1	**WKAX2**

Product Description	klik Product identification	BS number	Description
klik Lighting Distribution System	KLDS	BS 5733:2010	General requirements for Electrical Accessories
Occupancy Sensor	EEK*W	IEC 60669-1, IEC 60669-2-1	Switches for household & similar fixed electrical installations Part 2-1 for Electronic switches.
Mounting Boxes	MB	BS 6972:1988	General requirements for Luminaire supporting couplers for domestic, light industrial & commercial use
Mounting Boxes	MP	BS 5733:2010	General requirements for Electrical Accessories
klik Ceiling Roses, Plugs, Outlets & Pre-Wired Leads	S, P, PCR	BS 5733:2010 BS 6972:1988	General requirements for Electrical Accessories General requirements for Luminaire supporting couplers for domestic, light industrial & commercial use
IP66 Outdoor Enclosure	WKAX2	BS 5733:2010 BS EN 60529:1992 BS EN 60670-1:2005	General requirements for Electrical Accessories Degrees of protection provided by enclosures Boxes and enclosures for Electrical Accessories for household and similar
PVC Flexible Cord	PVC	BS 6500:2000	Flexible cords rated to 300/350V for use with appliances & equipment intended for domestic, office & similar environments.
LSF Flexible Cord	LSF	BS 6500:2000 BS 7211:1998	Flexible cords rated to 300/350V for use with appliances & equipment intended for domestic, office & similar environments.

Product Materials
klik plugs and sockets feature solid brass terminals and phosphor bronze contacts for good conductivity. Moulded components are manufactured from high quality thermoplastics.

klik Terminal Capacities

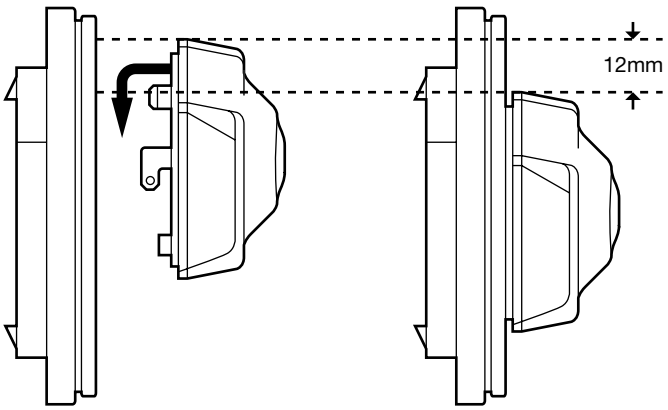
	Number of Conductors				
	0.75mm²	**1.0mm²**	**1.5mm²**	**2.5mm²**	**4.0mm²**
Socket Outlets	-	5	4	3	2
Plugs P22, P64X, P26	1	1	-	-	-

Cables for klik Plugs

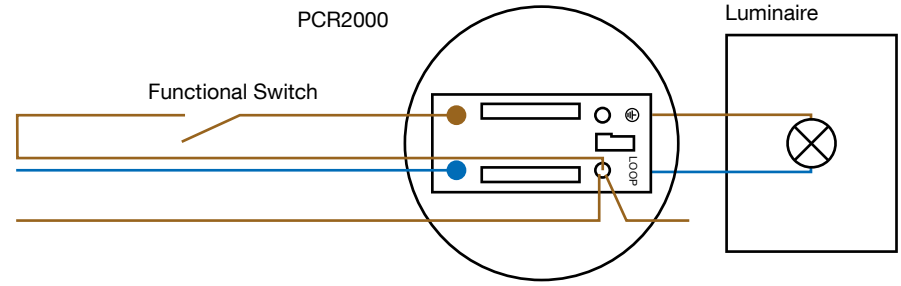
	0.75mm² PVC / LSF 3 Core	**0.75mm² PVC / LSF 4 Core**	**1.0mm² PVC / LSF 3 Core**	**1.0mm² PVC / LSF 4 Core**
P22	Y	-	Y	-
P64AX	Y	Y	Y	Y

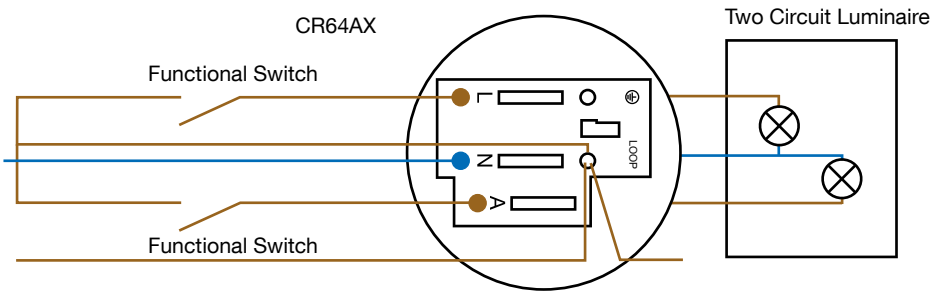
Application Notes
The mating face of each interface module must be mounted 0.1mm minimum proud of its proposed surround. Engaged plug sits centrally on socket but a minimum of 12mm extra clearance should be maintained north of the upper load grip to allow plug travel.

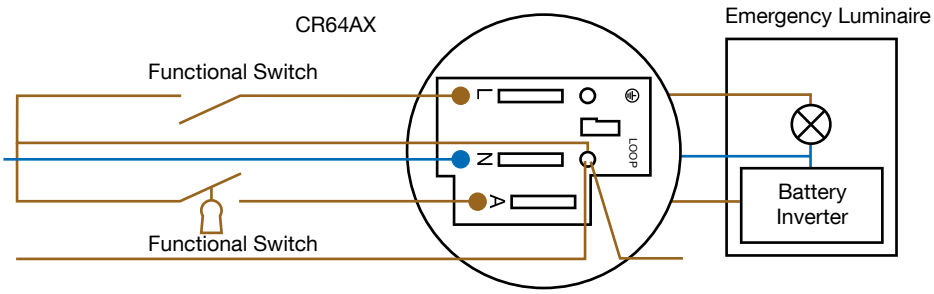
For specific information contact our technical support helpline on: 0870 6076677



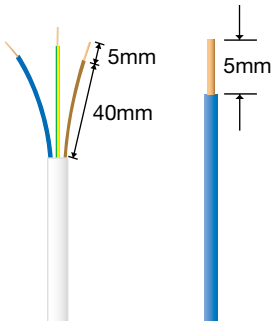
These wiring diagrams are typical examples of the applications shown.

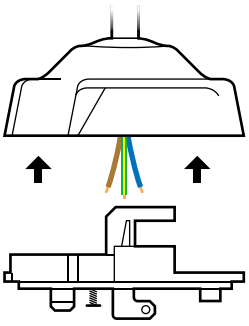


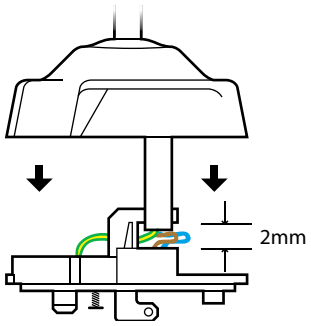


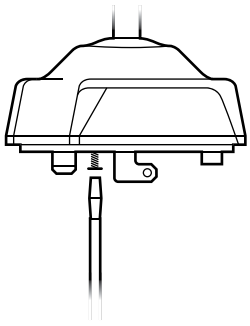


Note: Earth connections omitted for clarity









1. Strip cable as above - Note: Trim cable tails to double over for better terminal contact.
2. Remove plug cover.
3. Pass cable through plug cover centre hole.
4. Terminate conductors into terminals.
5. Push outer sheath of cable firmly into jaws of sheath grip, making sure that at least 2mm of sheath protrudes below the grip.
6. Refit cover.

---

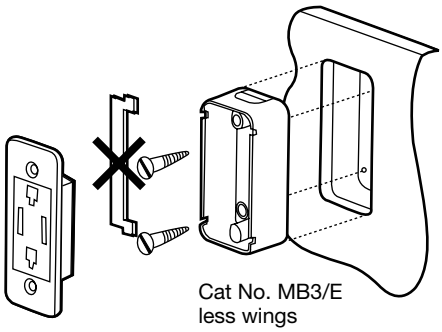
klik Mounting Box Installation

Cable entry through spout in base of box for maximum wiring space.

MB2 knockouts in base and sides. Supplied with M4 x 20mm long fixing screws.

MB3/E is dual purpose box for flush mounting in solid or partition walls. Provided with mounting wings for partition use. Supplied with M3.5 x 20mm long fixing screws. Cable entry in one end.

Flush Mounting for Solid Walls

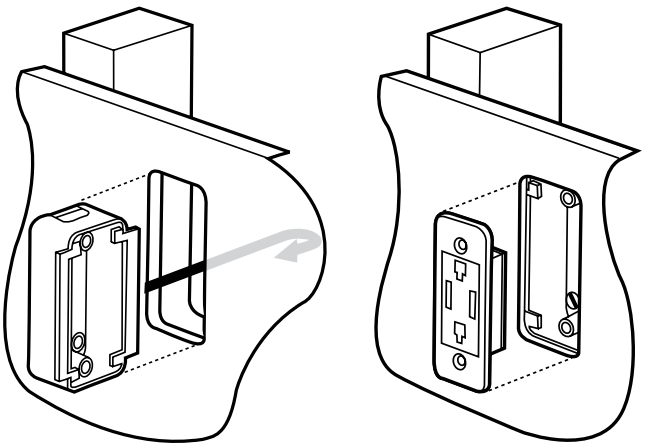


Cat No. MB3/E
less wings

Cat No. S21

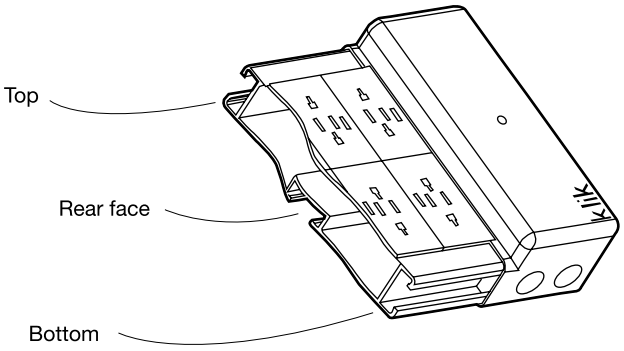
Flush Mountings for Partition Walls

The mounting wings act as a flange, stopping the box from being pulled out of the partition.



Cat No. MB3/E

Mounting Methods
- Hanging from ceiling suspension system with Caddy Clips™
- Direct fixing to lighting trunking
- Direct fixing to ceiling or wall with No. 8 screws

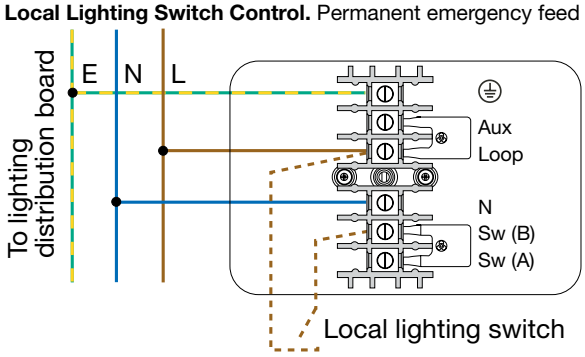


Drop rods on sides

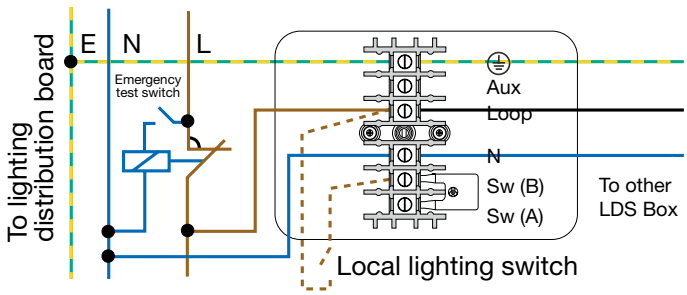
Screw to surface

Drop rods on rear

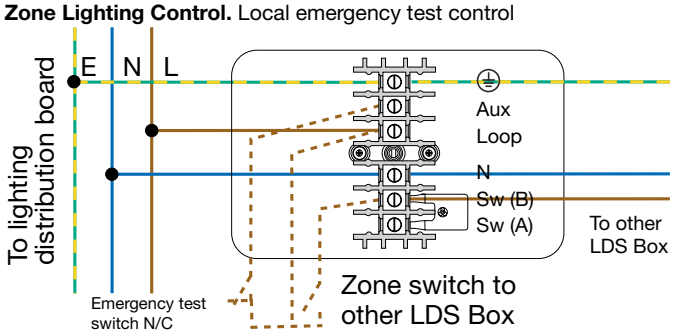
Local Lighting Switch Control. Permanent emergency feed



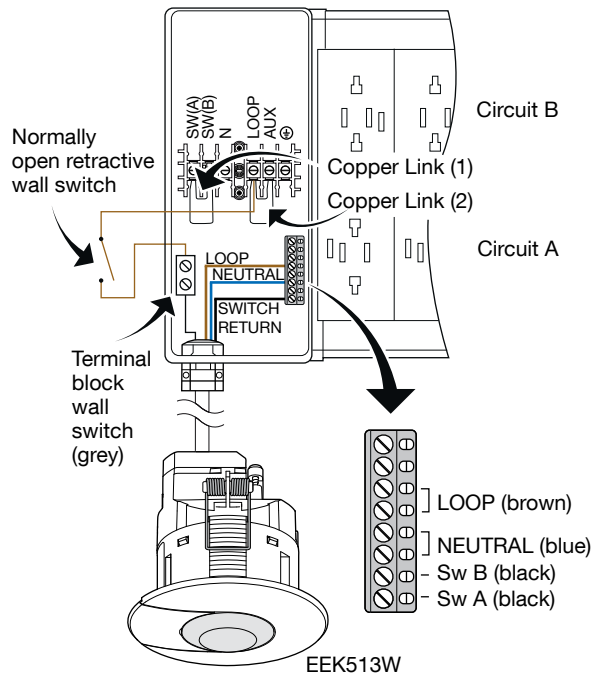
Local Lighting Switch Control. Centralised emergency test via keyswitch



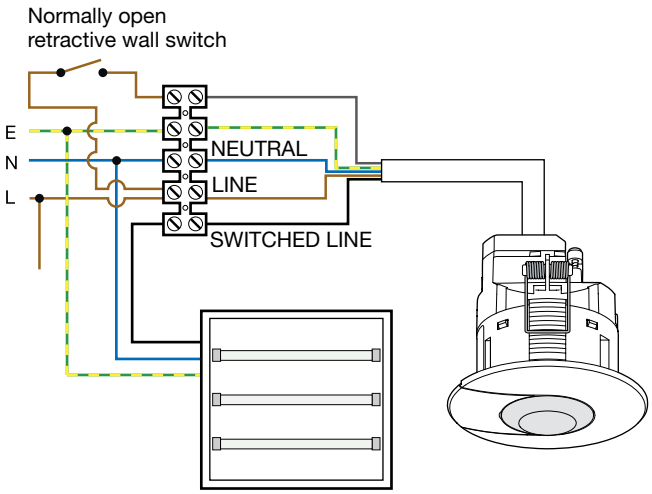
Zone Lighting Control. Local emergency test control



klik.LDS with all ways switched by a single Hager EEK513W occupancy sensor

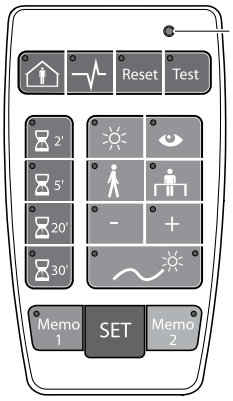


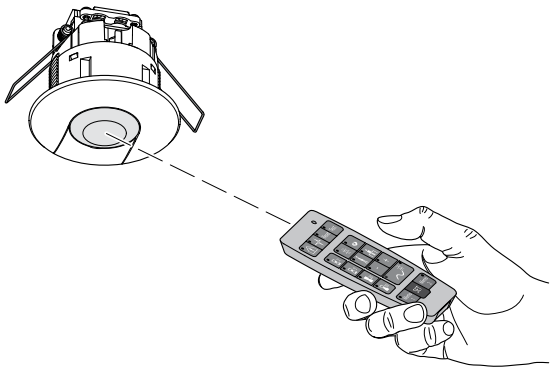
Connected directly to a single luminaire

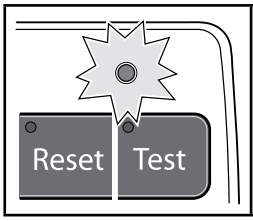


Switch wire to be connected as required.

Description EEK001







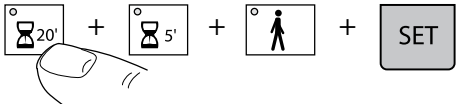
The acknowledgment LED blinks during the sending of the IR message.

Technical specification
Power supply:1x 3V CR2032
Shelf life of battery: 2½ years
Protection index: IP 30

Use
The remote control allows the user to set or modify presence detector settings. When the potentiometer is on auto test it allows single and multiple settings.
The SET key is used to send the IR messages to the occupancy sensors. Multiple settings can be stored in Memo 1 and Memo 2 and re-called to set several devices.

Single setting
Example: reset

Multiple settings
Define the parameters to be changed and press SET to send.
Example: for 25 minutes and corridor use, press 20', 5' and corridor.

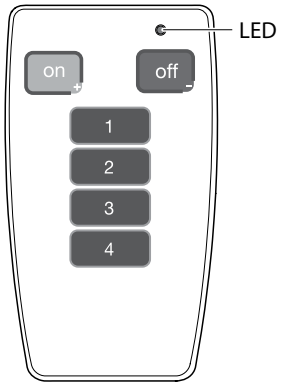


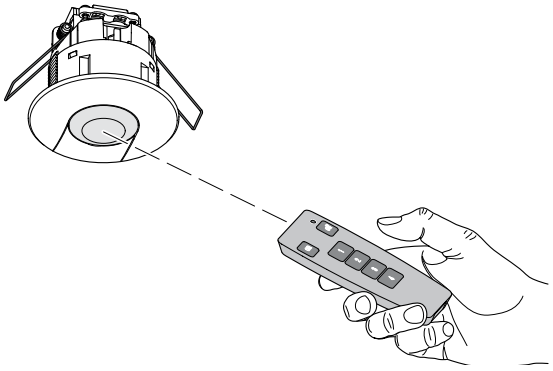
In the case of 2 opposite states the green LED denotes ON and red LED denotes OFF (except Presence / Absence).
When no function is selected all LED's are OFF.

Settings available

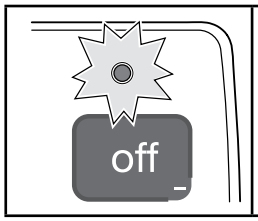
Key	Meaning	Indication	Function
	Presence	Green LED on	Presence on (automation mode)
	Absence	Red LED on	Absence on (semi automatic mode)
	Power Up	Green LED on	The light is automatically switched on for 30 seconds after power up
		Red LED on	During warm up phase, the light output is off
Reset	Reset	LED on	To return to factory settings (Lux = 400, time = 20 min, presence on, power up off and cell active)
Test	Test	LED on	To validate the detection area
	Time	LED on	To set the time It is possible to add times together e.g. press 2' and 5' for a time value of 7'
	Day level 1000 Lux	LED on	To set the value to 1000 Lux
	Learn	LED on	To learn the current Lux level
	Corridor 200 Lux	LED on	To set the value to 200 Lux
	Office 400 Lux	LED on	To set the value to 400 Lux
+	Lux +	LED on	To increase the Lux level (+100)
-	Lux -	LED on	To decrease the Lux level (-100)
	Active cell	Green LED on	The light is continuously measured
	Passive cell	RED LED on	The sensor will not switch the light off even if the ambient luminosity is sufficient
Memo and set Key	**Meaning**	**Indication**	**Function**
Memo 1	Press	LED is on until a setting is changed	To load/unload Memo 1
	Long press	LED is on for 5s, then will blink until released. After release, the LED goes off in case of setting change	To save the current setting as Memo 1
Memo 2	Press	LED is on until a setting is changed	To load/unload Memo 2
	Long press	LED is on for 5s, then will blink until released. After release, the LED goes off in case of setting change	To save the current setting as Memo 2
SET	Short press (<5s)	LED flashes	To send an IR message of the current setting
	Long press (>5s but <10s) only available if no setting active	LED blinks until release press	To toggle automatic mode on DALI/DSI

Description EEK002





Use
The remote control allows the user to set or modify settings on the presence detectors EEK513W and EEK510B.
Each button corresponds to a command.



The acknowledgment LED blinks during the sending of the IR message.

Technical specification
Power supply: 1x 3V CR2032
Shelf life of battery: 3½ years
Protection index: IP 30

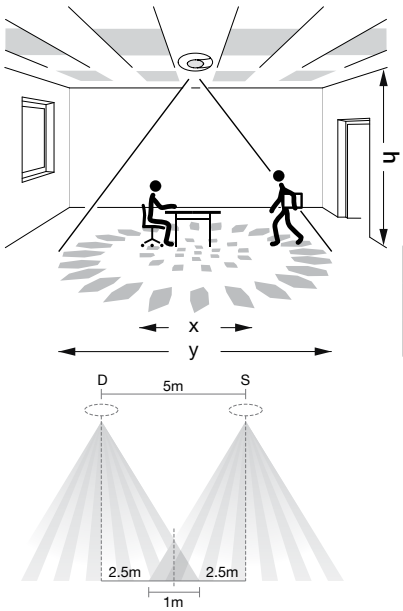
Settings available

Key	Action	Function	Product Type
on +	Short Press (< 5s.)	On	EEK513W / EEK510B
	Long Press (> 5s.)	Dim up	EEK513W / EEK510B
off -	Short Press	Off	EEK513W / EEK510B
	Long Press (> 5s.)	Dim down	EEK513W / EEK510B
1	Short Press	To start scene 1	
	Long Press (> 5s.)	To start scene 1	
2	Short Press	To start scene 2	
	Long Press (> 5s.)	To start scene 2	
3	Short Press	To start scene 3	
	Long Press (> 5s.)	To start scene 3	
4	Short Press	To start scene 4	
	Long Press (> 5s.)	To start scene 4	

Technical Characteristics

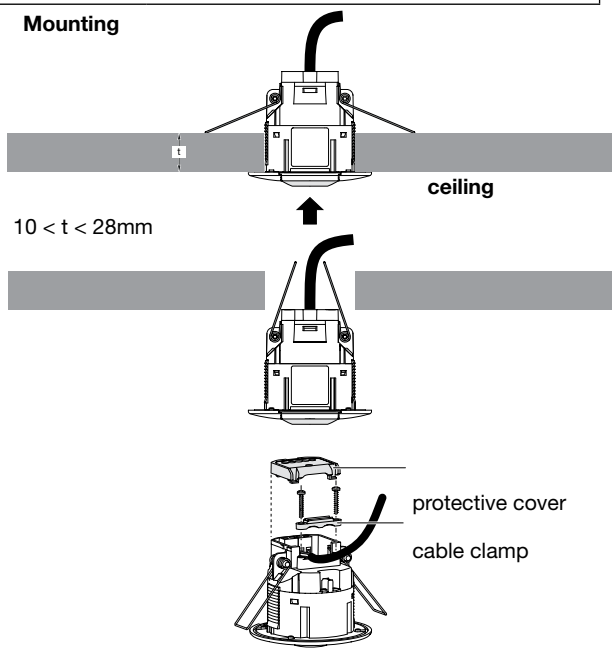
	EEK513P / EEK515P	EEK523P / EEK525P
Detection range	motion area: diameter 7m (product installed at 2½m height) presence area: diameter 5m (product installed at 2½m height)	
Supply voltage	230 V AC + 10% -15%	
Frequency	50/60 Hz	
Local lux threshold setting	5 to 1000 lux	3 modes available
Local time setting	1 min to 1hr	
Commissioning via installer remote control	EEK001 for power up, absence / presence mode, timer active / passive cell	
Control with IR user remote control	EEK002 for ON / OFF override	EEK002 for ON / OFF override and dimming up / down
Output	16A AC1 relay output (cut live): - 2300W incandescent or 230V halogen: > 26000 cycles - 1500W VLV halogen lamps with ferromagnetic or electronic transformer: > 35000 cycles - 1000W / 130 µF parallel compensated fluo tube: > 50000 cycles -23 x 23W fluo-compact with electronic ballast: > 20000 cycles	14V / 50mA (for a DALI bus with 24 ballasts) - No isolation between the mains and the DALI bus
Push button input	phase input for absence / presence detection (semi-automatic / automatic mode) same phase as power supply.	to dim up / down and absence / presence detection (semi-automatic / automatic mode) same phase as power supply.
Terminals	for 1.5mm² rigid / flexible wires	
Power dissipation	300mW	60mW
Isolation class	II	
Protection	IP41 / IK03	
Operating temperature	-10°C to +45°C	
Storage temperature	-20°C to +60°C	
Standards	IEC 60669-1, IEC 60669-2-1	

Detection areas

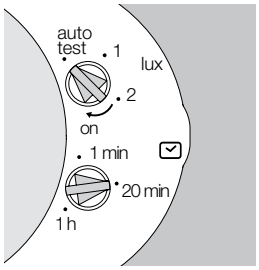


h	2.5m	3m	3.5m
x	5m	5m	5m
y	7m	8m	9m

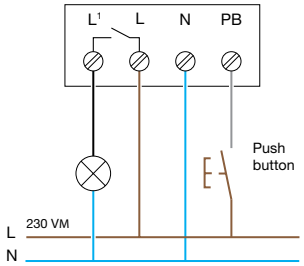
Mounting



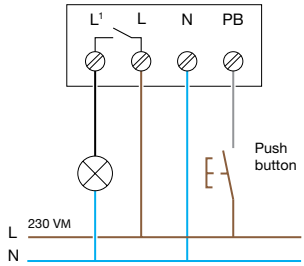
Settings EEK513P/EEK515P
EEK523P/EEK525P



Wiring diagram
EEK510B (no cable supplied)



EEK513W (Cable supplied connected to OS)



klik.system

Secure connection system

klik.system can be used as a simple stand-alone digital lighting control unit or as part of a more complex building management system for distribution of power and data.

The klik.system range of unique plug and play connectors has been enhanced with a choice of products ideal for electrical contractors who want to add digital lighting control solutions to their offer.

Occupancy sensors

Pluggable standard and digital

Our range of occupancy sensors detect infra-red radiation and ambient light levels to provide simple and cost effective means of lighting control.

The EEK range of sensors should be mounted in the centre of the group of luminaires to be controlled and the optimum all round coverage is achieved with the unit mounted at a height of 2.5m. The coverage for these sensors at this height is approximately 5m diameter for small movement such as working at a desk, and 7m for larger movements such as walking.

The advantages for you:

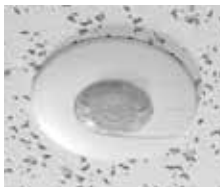
- Digital switching capability, **up to 24 DSI or DALI ballasts.**
- Automatically detects and configures to DSI or DALI ballasts.
- Integral photocell allows for lighting control which can provide energy savings by not operating when sufficient natural light levels exist.
- Wide operating range to suit most commercial applications. Allows overrun of lighting to be customised to installation.
- Available pre-wired, reduces installation time on site and requirement for non-standard cable.

Technical data:

- Integral photocell 5 - 1000 lux
- Detection:
  High sensitivity detection up to 5m diameter
  Motion detection up to 7m diameter
- Time out adjustment:
  2 min - 57 min with remote programmer
  1 min - 1 hour with potentiometer
- Pre-wired cable:
  3m 1.5mm^2 Low Smoke Zero Halogen for Relay model
  3m 0.75mm^2 Low Smoke Zero Halogen for Digital model

Quick tips

1



Integral Photocell

Automatic lighting control which can provide energy savings by not operating when sufficient natural light levels exist.

2

Potentionmeters

Hidden behind a discreet sliding cover the potentiometers allow limited control of sensors.

3

Lux setting via remote

Allows set point to be increased or decreased in 100 lux steps on digital light fittings from the EEK001 remote programmer. Makes adjustment of photocell set point convenient.

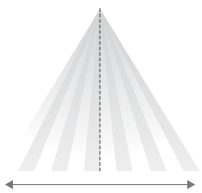
4

Time out adjustment

Wide operating range to suit most commercial applications. Allows overrun of lighting to be customised to installation.

Digital Switching

Up to 24 DSI or DALI ballasts. Automatic detection of ballast type.



Detection

High sensitivity detection will react to small movements, such as somebody working at a desk. Motion detection will react to larger movements, such as walking.

EEK001 Programming Tool

Programming tool is easy to use with 2 memory settings to enable repeatability.

EEK002 Remote Control

Comes with a wall mounting bracket for storage and allows room occupant to have control of lighting output.

The KLMB marshalling box allows the connection and control of multiple luminaires. The LMB utilises a robust extruded aluminium body.

- 7 Pole
- 4, 6, 8, 10, 12 Outlet
- 16A Rated
- BS 5733
- Short circuit tested: 1500A conditional rating

For mounting methods see page 54.
For product standards see page 50.

KLMB4W

KLMB6W

7 Pin Marshalling Boxes

Description	Rating	Cat ref.
4 Way	16A	**KLMB4W**
6 Way	16A	**KLMB6W**
8 Way	16A	**KLMB8W**
10 Way	16A	**KLMB10W**
12 Way	16A	**KLMB12W**

- All sensors are pluggable directly into the marshalling box giving a significant time saving on installation.
- Presence detection mode: Allows lighting to be controlled ensuring that lighting is only energised when people are in the detection area.
- Absence detection mode: Requires lighting to be activated by a wall switch or remote control to switch lighting on. Lighting then remains on during presence and switches off after time out period from last presence detection. Offers potentially the best energy savings.
- Wall switch override allows lighting state to be changed between states or dimmed up and down on digital fittings.
- High sensitivity detection will react to small movements, such as somebody working at a desk up to 5m diameter
- Motion detection will react to larger movements, such as walking up to 7m diameter.
- Integral photocell 5 - 1000 lux. Lux setting can be increased and decreased in increments of 100 lux.
- EEK001 programming tool is easy to use with 2 memory settings to enable repeatability.
- EEK002 remote control comes with a wall mounting bracket for storage and allows room occupant to have control of lighting output.
- Time out adjustment:
  2 - 57 mins with remote programmer.
  1 min - 1 hour with potentiometer.
- Switching capability - relay
  Incandescent Halogen - 2300W.
  Halogen ELV via ferromagnetic or electronic transformer - 1500W.
  Compact Fluorescent - 23 x 23W.
  Parallel compensated fluorescent tubes - 1000W
  Fluorescent via electronic ballast - 1000W.
- Digital switching capability.
  Up to 24 DSI or DALI ballasts.
- Walk test mode.
- Factory presets:
  Lux = 400
  Time = 20 min
  Test mode for 2 min.
- 3m 1.5mm^2 Low Smoke Zero Halogen for Relay model.
  3m 0.75mm^2 Low Smoke Zero Halogen for Digital model.
- Can be flush mounted through a 60mm hole, utilises spring clips to ensure a fast and secure mounting method.
- All parts factory connected and tested.
- Time and photocell can be set by controller EEK001 or potentiometer.

For technical details see page 51-53.
For product standards see page 50.

EEK513P

Occupancy Sensors

Description	Cat ref.
Standard Relay Sensor complete with 3m Lead and Plug LS0H	**EEK513P**
Standard Relay Sensor complete with 5m Lead and Plug LS0H	**EEK515P**
Digital Sensor complete with 3m Lead and Plug LS0H	**EEK523P**
Digital Sensor complete with 5m Lead and Plug LS0H	**EEK525P**
Programming Tool	**EEK001**
Remote Control	**EEK002**

TKK513P

KNX Occupancy Sensors
KNX allows the linking of sensors to create notional areas and corridors. Also allowing outputs of sensors to be linked utilising ETS software and associated KNX products.

Description	Cat ref.
KNX Relay Sensor complete with 3m Lead and Plug LS0H	**TKK513P**
KNX Relay Sensor complete with 5m Lead and Plug LS0H	**TKK515P**
KNX Digital Sensor complete with 3m Lead and Plug LS0H	**TKK523P**
KNX Digital Sensor complete with 5m Lead and Plug LS0H	**TKK525P**
KNX Occupncy Sensor (without cable)	**TCC510S**
Programming Tool	**EEK001**
Remote Control	**EEK002**

The marshalling box is connected to the luminaire via a pre-wired plug and lead, all leads are low smoke zero halogen and are factory connected and tested

- 0.75mm² CSA
- 3M and 5M lengths
- Standard, Digital and Emergency Luminaires
- 6A Rated
- BS 5733
- BS EN 61535
- Short circuit tested: 1500A conditional rating
- Cable standard BS6500 & BS7211

For product standards see page 50.

KLT/3/0-75W

Luminaire Leads

Description	Cat ref.
Standard Luminaire Lead 3m, 0.75mm², 3 core LS0H	**KLB/3/0-75W**
Standard Luminaire Lead 5m, 0.75mm², 3 core LS0H	**KLB/5/0-75W**
Standard Luminaire + Emergency Lead 3m, 0.75mm², 4 core LS0H	**KLJ/3/0-75W**
Standard Luminaire + Emergency Lead 5m, 0.75mm², 4 core LS0H	**KLJ/5/0-75W**
Digital Luminaire Lead 3m, 0.75mm², 5 core LS0H	**KLP/3/0-75W**
Digital Luminaire Lead 5m, 0.75mm², 5 core LS0H	**KLP/5/0-75W**
Digital Luminaire Lead + Emergency 3m, 0.75mm², 6 core LS0H	**KLT/3/0-75W**
Digital Luminaire Lead + Emergency 5m, 0.75mm², 6 core LS0H	**KLT/5/0-75W**

7 pole Conduit Box / Surface Connector to allow the easy connection of digital lighting within traditional fixed wire installations. The connector is fitted directly to trunking or conduit allowing the luminaire to be connected / disconnected via the pluggable luminaire lead.

The connector is available as a stand alone product or complete with a pre-wired lead:

- 7 Pole
- 16A Rated
- Standards: BS 5733
- Short circuit tested: 1500A conditional rating

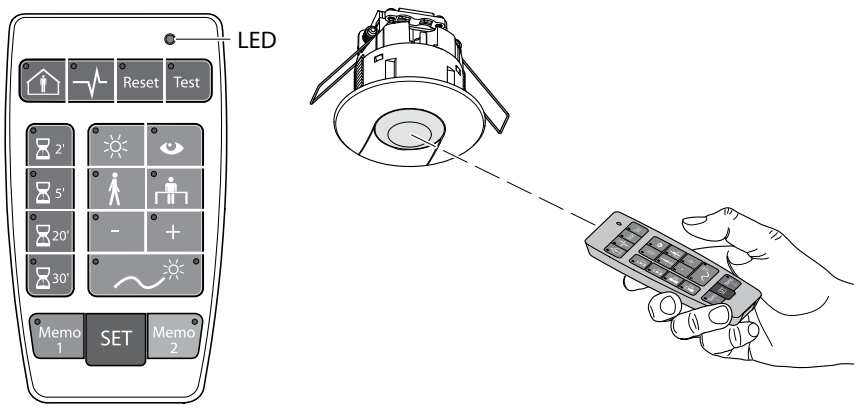
For product standards see page 50.

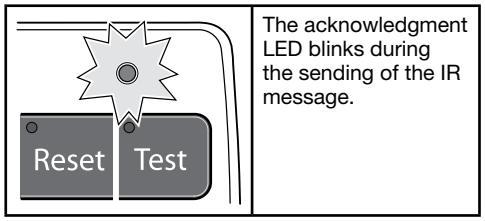
KLPCR/7

Conduit Box / Surface Connector

Description	Cat ref.
Conduit Box / Surface Connector	**KLPCR/7**

Product Description	klik Product identification	BS number	Description
klik.system Marshalling Boxes	KLMB*W	BS 5733:2010	General Requirements for Electrical Accessories.
Occupancy Sensor	EEK*	IEC 60669-1, IEC 60669-2-1	Switches for household & similar fixed electrical installations Part 2-1 for Electronic switches.
Conduit Box / Surface Connector	KLPCR/7	BS 5733:2010	General requirements for Luminaire supporting couplers for domestic, light industrial & commercial use.
Luminaire Leads	KLB*, KLJ*, KLP*, KLT*	BS 5733:2010 BS EN 61535	General Requirements for Electrical Accessories. Installation couplers intendend for permanent connection in fixed installations.
LS0H Flexible Cord	Supplied with luminaire lead	BS 6500:2000 BS 7211:1998	Flexible cords rated to 300/350V for use with appliances & equipment intended for domestic, office & similar environments.





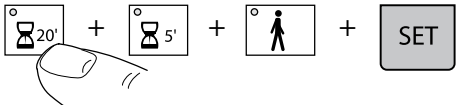
The acknowledgment LED blinks during the sending of the IR message.

Technical specification
Power supply:1x 3V CR2032
Shelf life of battery: 2½ years
Protection index: IP 30

Use
The remote control allows the user to set or modify presence detector settings. When the potentiometer is on auto test it allows single and multiple settings.
The SET key is used to send the IR messages to the occupancy sensors. Multiple settings can be stored in Memo 1 and Memo 2 and re-called to set several devices.

Single setting
Example: reset

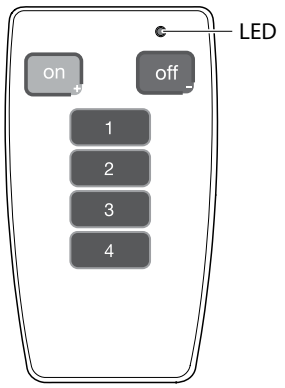
Multiple settings
Define the parameters to be changed and press SET to send.
Example: for 25 minutes and corridor use, press 20', 5' and corridor.

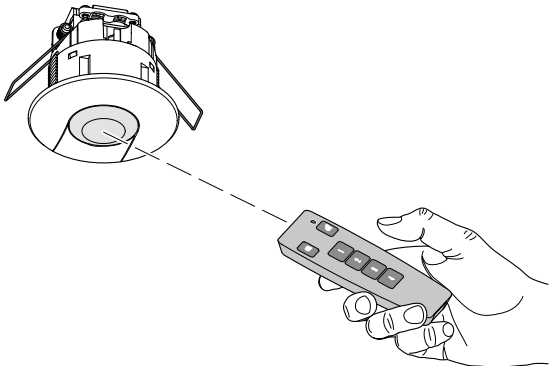


In the case of 2 opposite states the green LED denotes ON and red LED denotes OFF (except Presence / Absence).
When no function is selected all LED's are OFF.

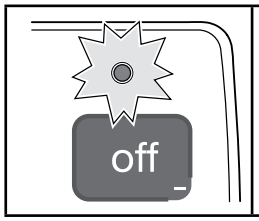
Settings available

Key	Meaning	Indication	Function
	Presence	Green LED on	Presence on (automation mode)
	Absence	Red LED on	Absence on (semi automatic mode)
	Power Up	Green LED on	The light is automatically switched on for 30 seconds after power up
		Red LED on	During warm up phase, the light output is off
Reset	Reset	LED on	To return to factory settings (Lux = 400, time = 20 min, presence on, power up off and cell active)
Test	Test	LED on	To validate the detection area
	Time	LED on	To set the time It is possible to add times together e.g. press 2' and 5' for a time value of 7'
	Day level 1000 Lux	LED on	To set the value to 1000 Lux
	Learn	LED on	To learn the current Lux level
	Corridor 200 Lux	LED on	To set the value to 200 Lux
	Office 400 Lux	LED on	To set the value to 400 Lux
+	Lux +	LED on	To increase the Lux level (+100)
-	Lux -	LED on	To decrease the Lux level (-100)
	Active cell	Green LED on	The light is continuously measured
	Passive cell	RED LED on	The sensor will not switch the light off even if the ambient luminosity is sufficient
Memo and set Key	**Meaning**	**Indication**	**Function**
Memo 1	Press	LED is on until a setting is changed	To load/unload Memo 1
	Long press	LED is on for 5s, then will blink until released. After release, the LED goes off in case of setting change	To save the current setting as Memo 1
Memo 2	Press	LED is on until a setting is changed	To load/unload Memo 2
	Long press	LED is on for 5s, then will blink until released. After release, the LED goes off in case of setting change	To save the current setting as Memo 2
SET	Short press (<5s)	LED flashes	To send an IR message of the current setting
	Long press (>5s but <10s) only available if no setting active	LED blinks until release press	To toggle automatic mode on DALI/DSI





Use
The remote control allows the user to set or modify settings on the presence detectors EEK513P/EEK515P and EEK523P and EEK525P
Each button corresponds to a command.



The acknowledgment LED blinks during the sending of the IR message.

Technical specification
Power supply:1x 3V CR2032
Shelf life of battery: 3½ years
Protection index: IP 30

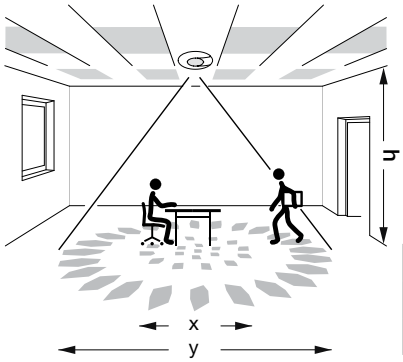
Settings available

Key	Action	Function	Product Type
on +	Short Press (< 5s.)	On	EEK513P / EEK515P EEK523P / EEK525P
	Long Press (> 5s.)	Dim up	EEK523P / EEK525P
off -	Short Press	Off	EEK513P / EEK515P EEK523P / EEK525P
	Long Press (> 5s.)	Dim down	EEK523P / EEK525P
1	Short Press	To start scene 1	EEK523P / EEK525P
	Long Press (> 5s.)	To start scene 1	
2	Short Press	To start scene 2	
	Long Press (> 5s.)	To start scene 2	
3	Short Press	To start scene 3	
	Long Press (> 5s.)	To start scene 3	
4	Short Press	To start scene 4	
	Long Press (> 5s.)	To start scene 4	

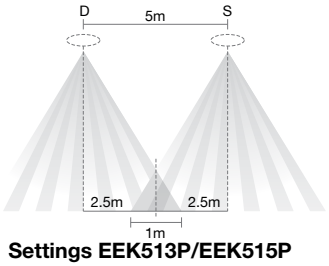
Technical Characteristics

	EEK513P / EEK515P	EEK523P / EEK525P
Detection range	motion area: diameter 7m (product installed at 2½m height) presence area: diameter 5m (product installed at 2½m height)	
Supply voltage	230 V AC + 10% -15%	
Frequency	50/60 Hz	
Local lux threshold setting	5 to 1000 lux	3 modes available
Local time setting	1 min to 1hr	
Commissioning via installer remote control	EEK001 for power up, absence / presence mode, timer active / passive cell	
Control with IR user remote control	EEK002 for ON / OFF override	EEK002 for ON / OFF override and dimming up / down
Output	16A AC1 relay output (cut live): - 2300W incandescent or 230V halogen: > 26000 cycles - 1500W VLV halogen lamps with ferromagnetic or electronic transformer: > 35000 cycles - 1000W / 130 µF parallel compensated fluo tube: > 50000 cycles -23 x 23W fluo-compact with electronic ballast: > 20000 cycles	14V / 50mA (for a DALI bus with 24 ballasts) - No isolation between the mains and the DALI bus
Push button input	phase input for absence / presence detection (semi-automatic / automatic mode) same phase as power supply.	to dim up / down and absence / presence detection (semi-automatic / automatic mode) same phase as power supply.
Terminals	for 1.5mm² rigid / flexable wires	
Power dissipation	300mW	60mW
Isolation class	II	
Protection	IP41 / IK03	
Operating temperature	-10ºC to +45ºC	
Storage temperature	-20ºC to +60ºC	
Standards	IEC 60669-1, IEC 60669-2-1	

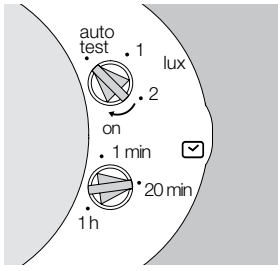
Detection areas



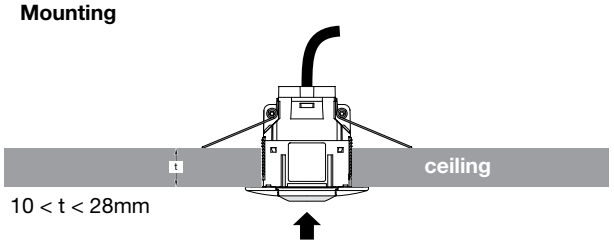
h	2.5m	3m	3.5m
x	5m	5m	5m
y	7m	8m	9m

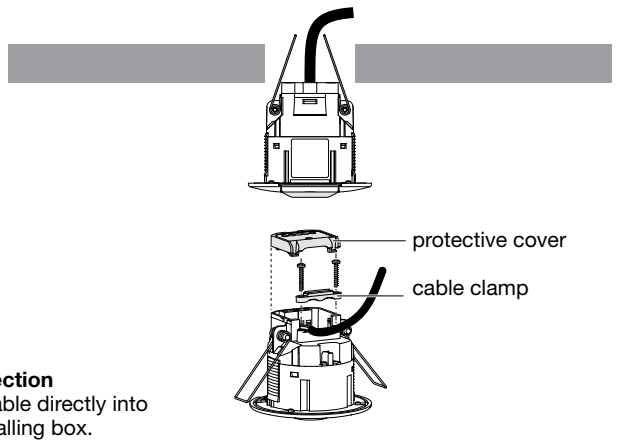


Settings EEK513P/EEK515P
EEK523P/EEK525P



Mounting

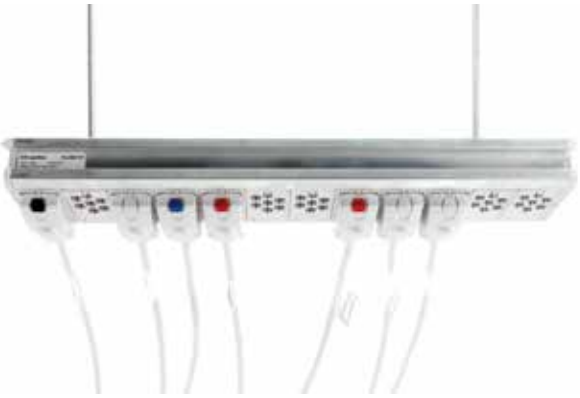




Connection
Pluggable directly into marshalling box.

Mounting Methods
- Hanging from ceiling suspension system with Caddy Clips™
- Direct fixing to lighting trunking
- Direct fixing to ceiling or wall with No. 8 screws

Drop rods to top via channel nut



Drop rods to top via channel nut

Screw or nail gun to surface via clip in attachment (attachment connects to top or rear extrusion).

Screw direct to surface

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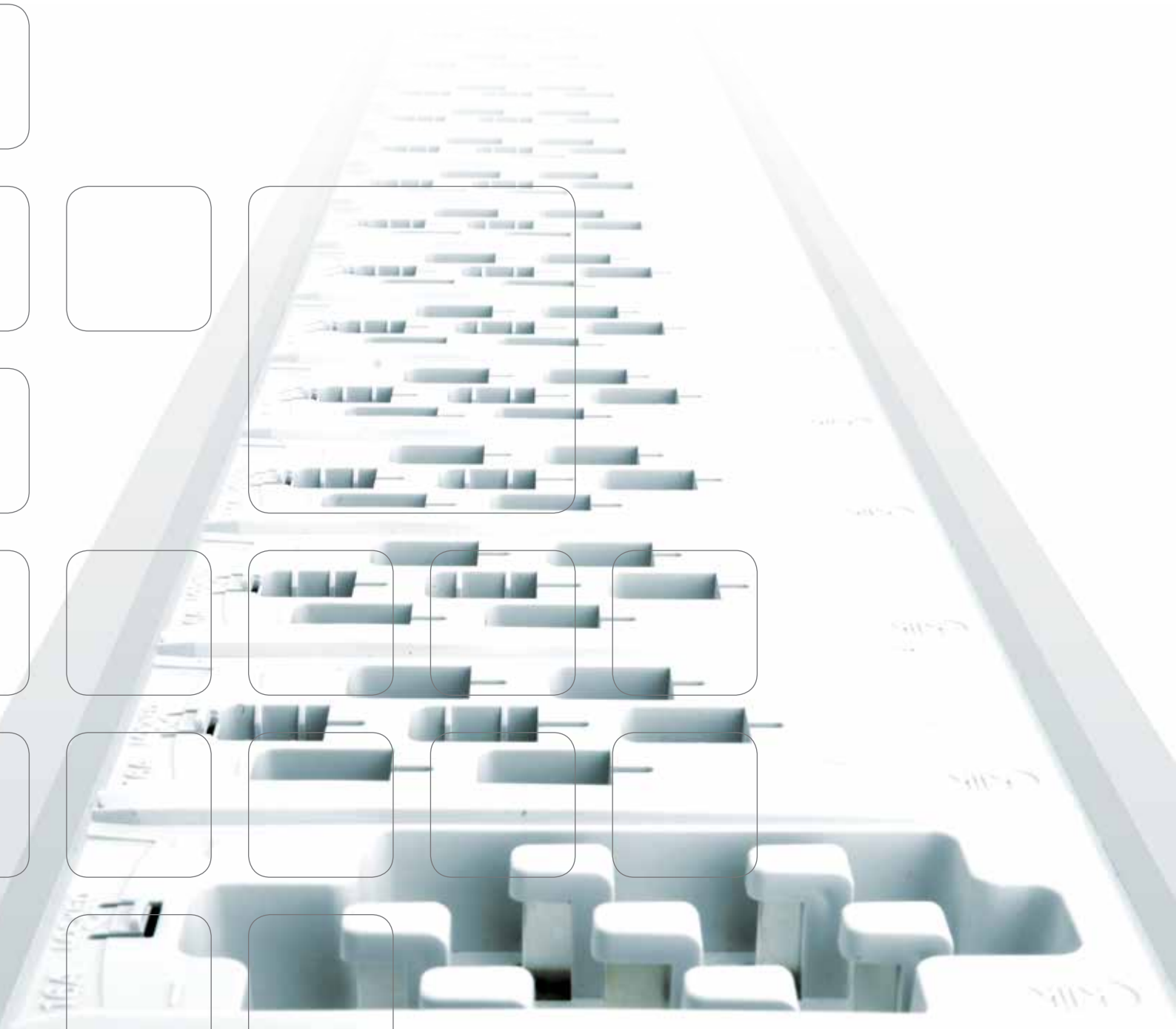
klik.system project

Secure connection system

klik.system project has been developed to offer you a complete package for lighting distribution and control. We understand that our customers need to be able to trust that the proposed designs comply to all relevant British Standards and be confident in the support offered by their manufacturing partners.



klik.system project
Reducing capital cost

Faster to install

Because klik.system can be totally pluggable from the distribution board to the final connection point, it is remarkably quick to install. Time on-site and therefore cost is dramatically reduced.

Semi-skilled installation

The unique design of klik.system prevents unsafe connection, with fully labelled parts which correspond to construction drawings and instructions. Therefore klik.system can be quickly and easily installed with a combination of semi-skilled and skilled labour.

Carbon Footprint

Whether it be a new build or renovation of an existing building, it is important to achieve a minimal carbon footprint. This may simply be:

1 **Social**
A social responsibility to make the environment cleaner, by reducing CO_2 emissions

2 **Regulations**
To comply with the Building Regulations

3 **Cost Savings**
Because electricity is expensive. Saving energy will lower costs to a business making it more competitive

Plug and Play

klik.system provides the ultimate in plug and play technology. The whole electrical distribution system can be designed to be fully pluggable from the distribution board to the final point of distribution e.g. a luminaire.

The fully pluggable klik.system allows the installation to be designed using a combination of standard and bespoke lengths of pre-wired plugs & sockets, all corresponding to construction information, for a quick and simple installation.

klik.system caters for the requirements of both distribution of mains electricity, and also for control data for lighting installations. This is provided for with a choice of 3, 4, 5, 6, or even 7 core pre-wired leads.

Leads are available in a variety of lengths and cross sectional areas to suit project requirements. Klik.system offers a choice of distribution methods.

Operating costs

Installing newer, more efficient systems with good controls will reduce lighting costs. klik.system can save energy and the cost of lighting in buildings by:

- Automatically turning off lighting when it is not required or when areas of the building are not occupied.

- Taking advantage of dimming technology in luminaires to regulate light output and supplement the available natural daylight to achieve required lux level.

- Giving flexibility to building design and the environment of its occupants. Ensuring that occupants can work in the building comfortably with localised control and reassurance whilst reducing energy consumption.

Increasing your control

klik.system is designed to give you the control you require for lighting in your building, this ensures that the minimum amount of energy is used, also allowing people to use the building in comfort and safety.

klik.system allows for a variety of control philosophies:

Basic manual system

For manual switching using pluggable switch drops for fast installation and reconfiguration if required.

Standard automatic system

This employs state of the art plug-in presence detectors complete with photocell technology. Automatically saving energy when areas are not occupied by switching lighting off, and not switching lighting on when sufficient natural daylight is available. Absence detection enables even more control and therefore energy savings.

Dimming connection system

This system uses our 5 and 6 core pre-wired plugs & sockets, enabling data from digital dimming detectors to control lighting. Using this system the lighting can be configured to the exact level required by the occupants of an area. The system takes into account the amount of available natural light and uses the minimum amount of power to raise the light level to the required lux.

Complete building system

Using klik.system alongside our tebis.TX we can implement a whole building system of control and wiring. With the use of KNX, a European building control standard, klik.system and tebis.TX can integrate lighting control with all other building services.

klik.systems' unique plug and play connector allows re-configuration of the building lighting distribution and control as the needs and use of the building change.

Where large offices are required to be sub-divided into smaller offices or vice versa, the klik.system can be simply re-configured with the addition of plug-in sensors, switches or control circuits linked as required.

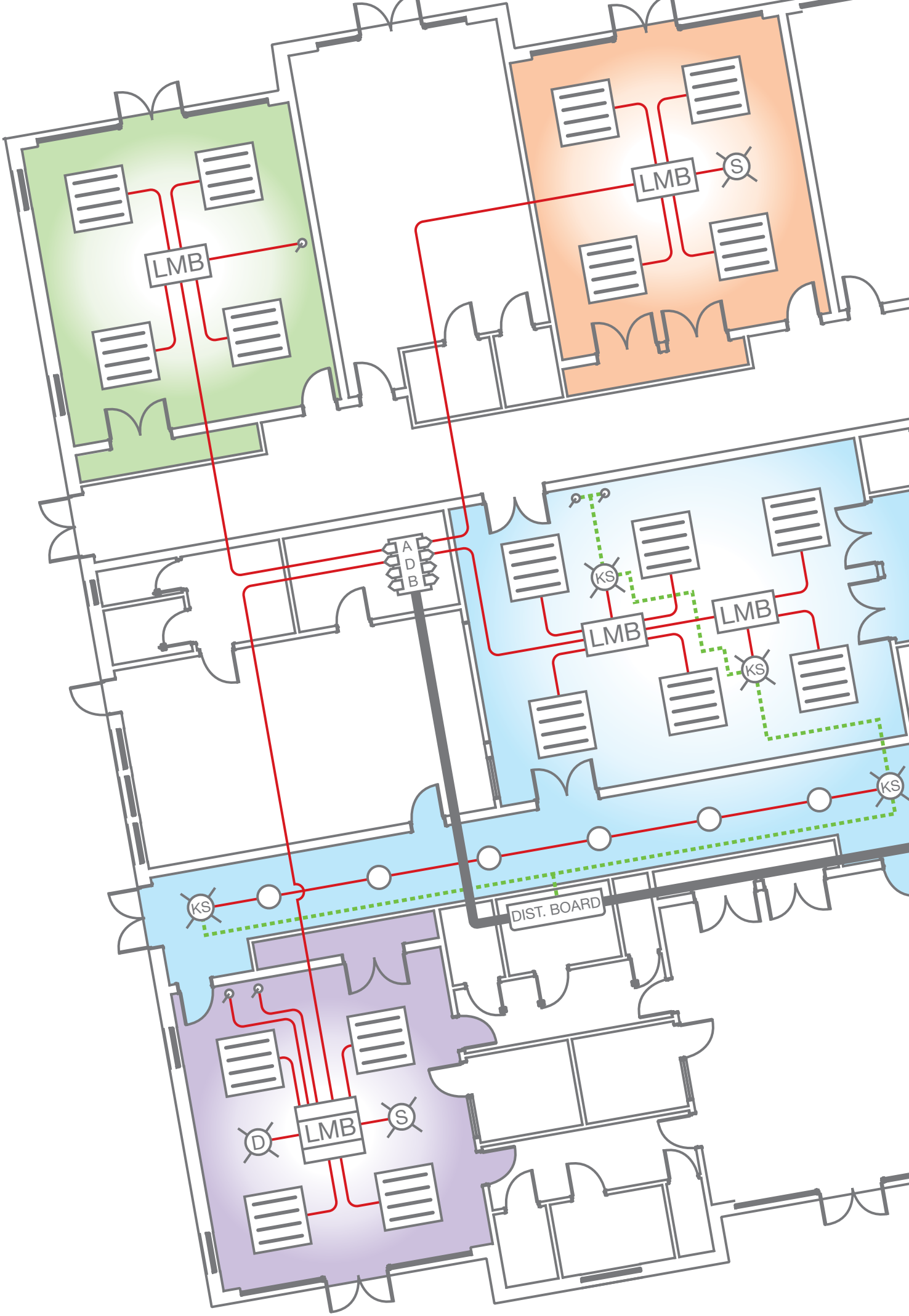
Upgrading of luminaires from on/off HF to Digital can also be catered for by a simple change to the pre-wired lead and sensor without the need to make changes to the Lighting Marshalling Boxes. To reduce disruption during maintenance periods the pre-wired leads can be disconnected on load.

klik.system also allows flexible configuration at commissioning where areas can be linked together. This is important in larger open plan areas where specification requires notional or actual corridors to be lit if any part of the area is occupied.

Building-wide common zones such as lift lobbies, stairways or break out areas can also be controlled so that the lighting is on whenever the building is occupied.

klik.system offers a comprehensive range of energy saving lighting control and distribution products to meet all requirements for a lower cost of ownership through increased energy efficiency and reduced maintenance requirements.

This system encompasses innovative cost-effective solutions, providing a fast payback for every area of the building, from the restrooms to large open plan offices.


LMB
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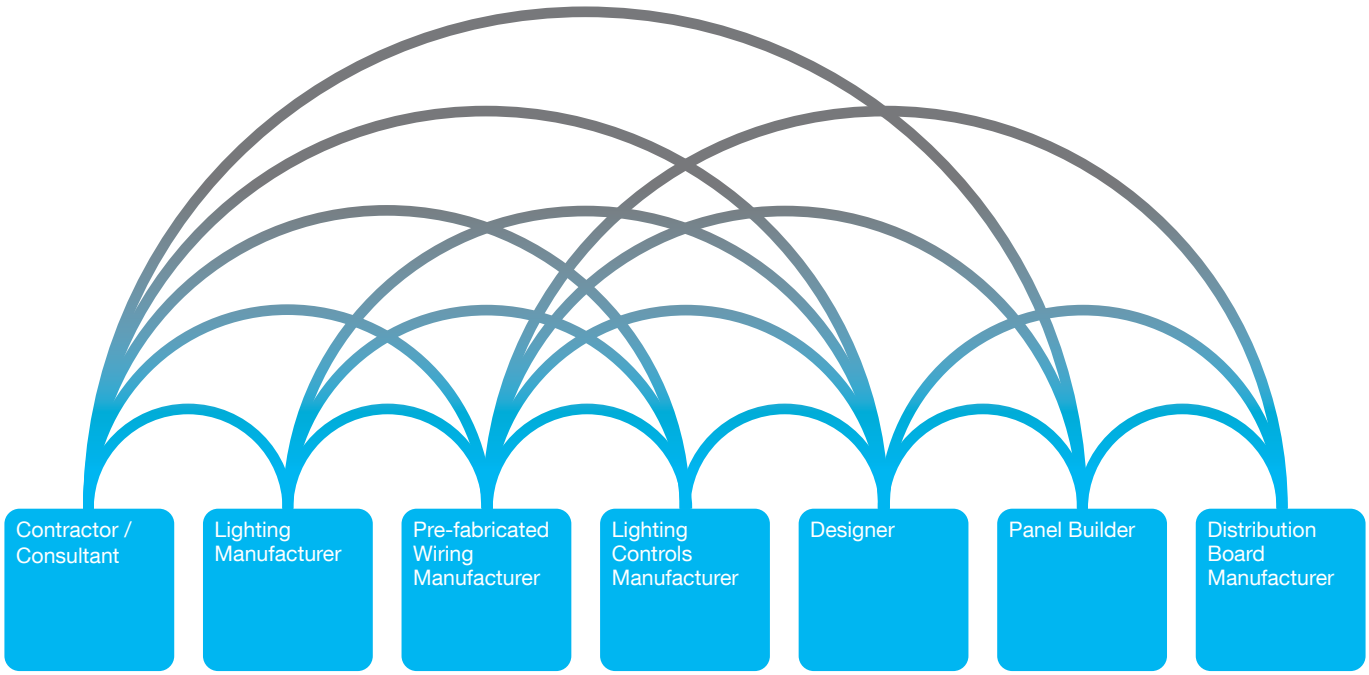
Communication

Presently when contractors look at installing a pluggable system they are required to liaise with a number of organisations. These may include the manufacturer of the chosen electrical distribution equipment. Once this is established a panel builder may be required to modify the equipment, add socket arrangements and complete any internal wiring.

A wiring system will then be required to distribute the power to all parts of the installation. This will require both specification for the cables and the required connector. The lighting controls manufacturer is required to ensure the desired functionality of the system. They also need to be involved in the choice of connector system to ensure compatibility with the control systems.

These manufacturers will also be required to talk to each other to ensure that the different parts of the system integrate on site to form a robust system.

Typical lines of communication for a project:



However, with klik.system project the contractor will only be required to liaise with us and the lighting manufacturer. From the building layout drawing, and the basic electrical design information, we will provide a design complete with electrical calculations. Distribution schedules, drawings and test information will be provided for the installer. With the whole system being provided by us, there is no risk of compatibility issues arising at any stage of the project.

Once the contractor is ready to install the klik.system the delivery can be broken down into stages aligned with the scheduled activities on site.

Lines of communication for a klik.system project:

Design software

With the release of BS 8488 (prefabricated wiring systems) in February 2009, more emphasis has been brought upon the availability of system design information for pre-fabricated wiring systems. To enable this we have developed a bespoke design software package. When a klik.system is chosen, compliance with British Standards is ensured.

The software can be split into 4 distinct areas:

The database

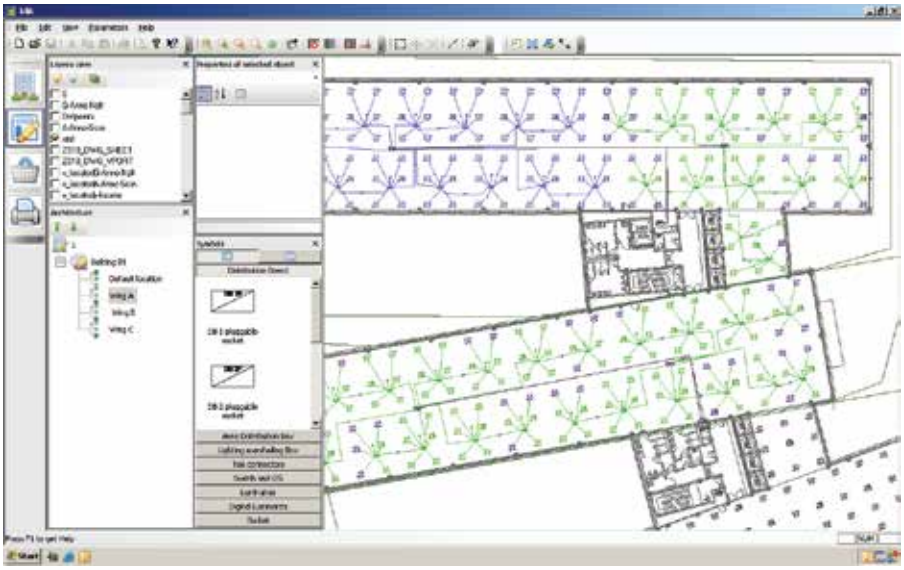
The software contains all of the project information, customer, client, design team and delivery details. Revision information is held within this area so that all amendments to the project are captured on the study. Design parameters are also added at this point giving information such as ceiling height and other relevant dimensions.

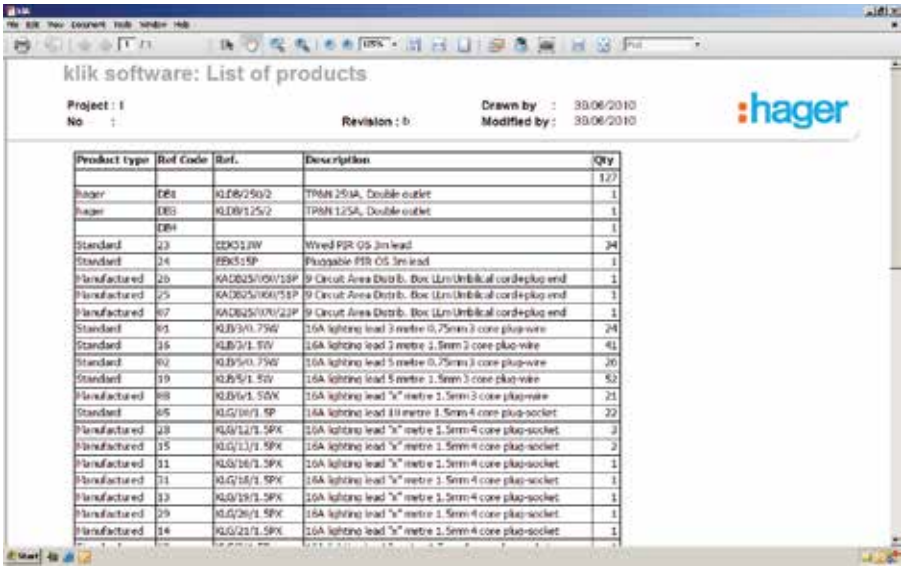
The study

Layout drawings of the project are imported into the software as a .dwg file. The klik.system products are then placed onto the layout to build the design.

The bespoke klik.system software automatically selects the correct reference of cable for the section of the design dependant upon the required function. This may be to accommodate the use of standard and emergency light fittings or luminaires with digital control.

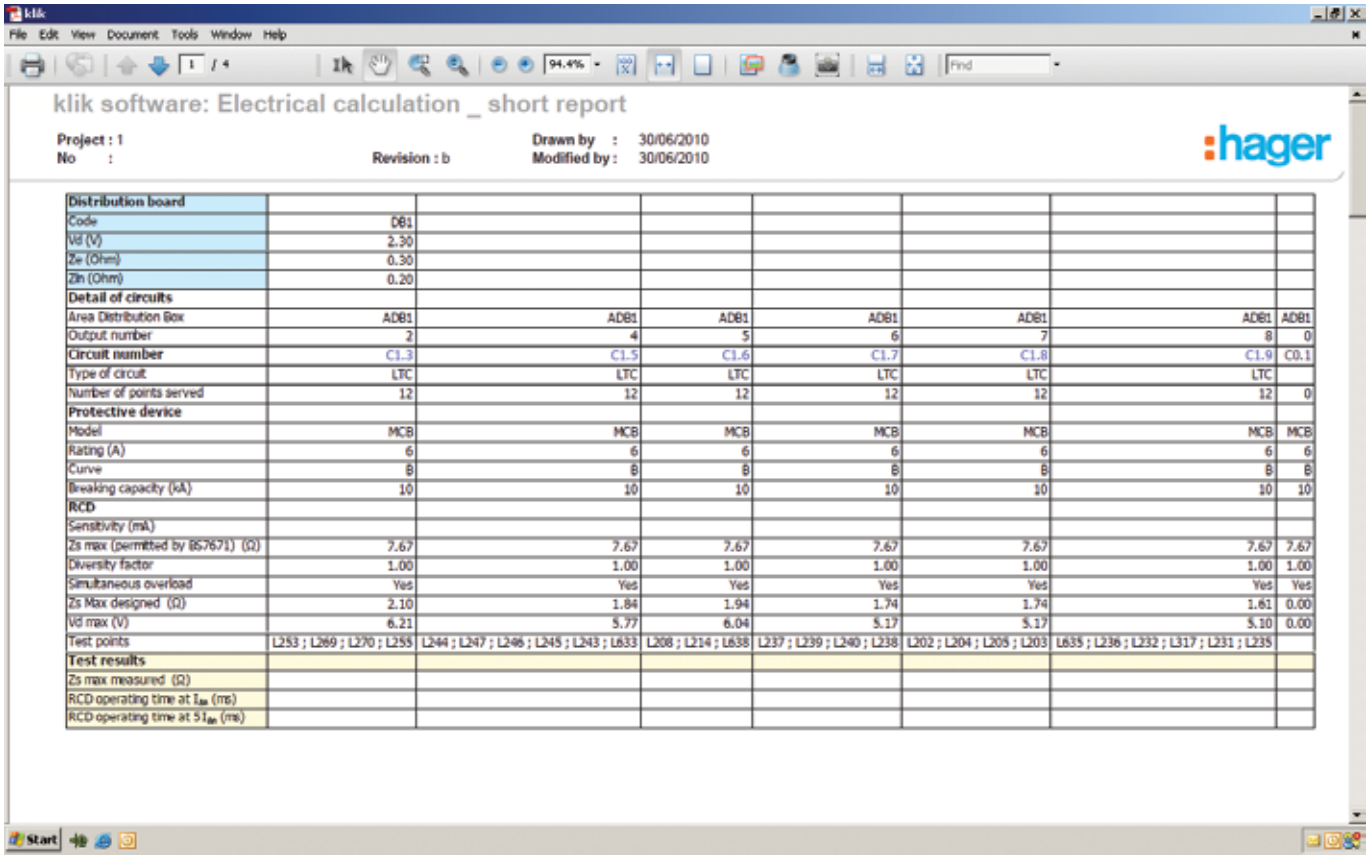
Klik.system software calculates the length of the individual cables, allowing for differences in ceiling and slab height as well as for any switch positions. The cross sectional area of all cable sections are then calculated dependant upon the length and electrical characteristics of the circuit to ensure compliance with BS 7671 (requirements for electrical installations, IET wiring regulations, 17th edition).





The software identifies the ideal test point on each circuit with Zs and voltdrop.

The approach and calculation methods set out in the specification for our klik software has been independently validated by ERA Technology Ltd (currently trading as Cobham Technical Services).



klik software: Electrical calculation _ short report

Project : 1
No :

Revision : b

Drawn by : 30/06/2010
Modified by : 30/06/2010

Distribution board							
Code	DB1						
Vd (V)	2.30						
Ze (Ohm)	0.30						
Zln (Ohm)	0.20						
Detail of circuits							
Area Distribution Box	ADB1	ADB1	ADB1	ADB1	ADB1	ADB1	ADB1
Output number	2	4	5	6	7	8	0
Circuit number	C1.3	C1.5	C1.6	C1.7	C1.8	C1.9	C0.1
Type of circuit	LTC	LTC	LTC	LTC	LTC	LTC	
Number of points served	12	12	12	12	12	12	0
Protective device							
Model	MCB	MCB	MCB	MCB	MCB	MCB	MCB
Rating (A)	6	6	6	6	6	6	6
Curve	B	B	B	B	B	B	B
Breaking capacity (kA)	10	10	10	10	10	10	10
RCD							
Sensitivity (mA)							
Zs max (permitted by BS7671) (Ω)	7.67	7.67	7.67	7.67	7.67	7.67	7.67
Diversity factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Simultaneous overload	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zs Max designed (Ω)	2.10	1.84	1.94	1.74	1.74	1.61	0.00
Vd max (V)	6.21	5.77	6.04	5.17	5.17	5.10	0.00
Test points	L253 ; L269 ; L270 ; L255	L244 ; L247 ; L246 ; L245 ; L243 ; L633	L208 ; L214 ; L638	L237 ; L239 ; L240 ; L238	L202 ; L204 ; L205 ; L203	L635 ; L236 ; L232 ; L317 ; L231 ; L235	
Test results							
Zs max measured (Ω)							
RCD operating time at $I_{\Delta n}$ (ms)							
RCD operating time at $5I_{\Delta n}$ (ms)							

The quotation

Quotations are also included within klik.system software. These quotations can be broken down by part type or area to suit the client's needs and includes a unique project part referencing system which is embedded into the .dwg file. This also allows the client to order parts of the system to suit the progress of the whole project.

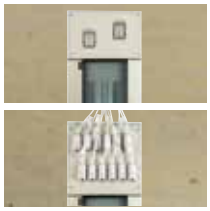
Printed outputs

The klik.system software enables the printing of quotations, part lists by area or section and electrical reports. A choice of electrical reports is provided detailing all the design information for the project. These reports also provide an aid to the final inspection of the installation with designed maximum Zs Volt drop and testing point information etc.

This section also produces all of the plots for construction drawings complete with part references to aid an efficient installation.

System components

1



Pluggable Distribution Board

Hager distribution board to suit requirements of the installation. The distribution board will be populated with protection devices as per the design and pre-wired to a multi-pole socket.

- Factory tested assembly
- Complete with internal connections
- BS EN 60439-3
- Short circuit tested:10kA conditional rating

2

Home Run

A Factory made multiple circuit distribution cable connected to the ADB.

- Fed with 27-core 4mm² SWA
- BS 6724 Cable
- BS EN 61984 Plug

3

Area Distribution Box (ADB)

A pluggable outgoing connection unit from which cables distribute to feed final circuits.

- 9 circuits from distribution boards
- Fed with 27-core 4mm² SWA
- BS 6724 Cable
- BS EN 61984 Plug
- BS EN 61439-2 Enclosure
- Short circuit tested: 10kA conditional rating

4

Lighting Marshalling Box (LMB/LDU)

A pluggable connection unit from which individual light fittings are fed.

- Pluggable supply
- 5, 7, 9, 11 Outgoing Ways
- 16A rated
- BS 5733:2010
- Short circuit tested: 1500A conditional rating

5

Sensors

Plug in presence detectors to suit control requirements.

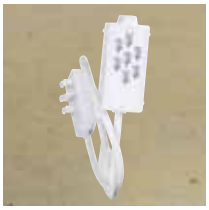
6

Tee Piece

In line connection unit to allow daisy chaining.

- Wired, Pluggable and Direct Connect to Luminaire
- Standard, Digital and Emergency Luminaire
- BS 5733:2010
- BS EN 61535
- Short circuit tested: 1500A conditional rating

7



Switch Blocks

A connection unit to enable two way switching.

8

Luminaire Lead

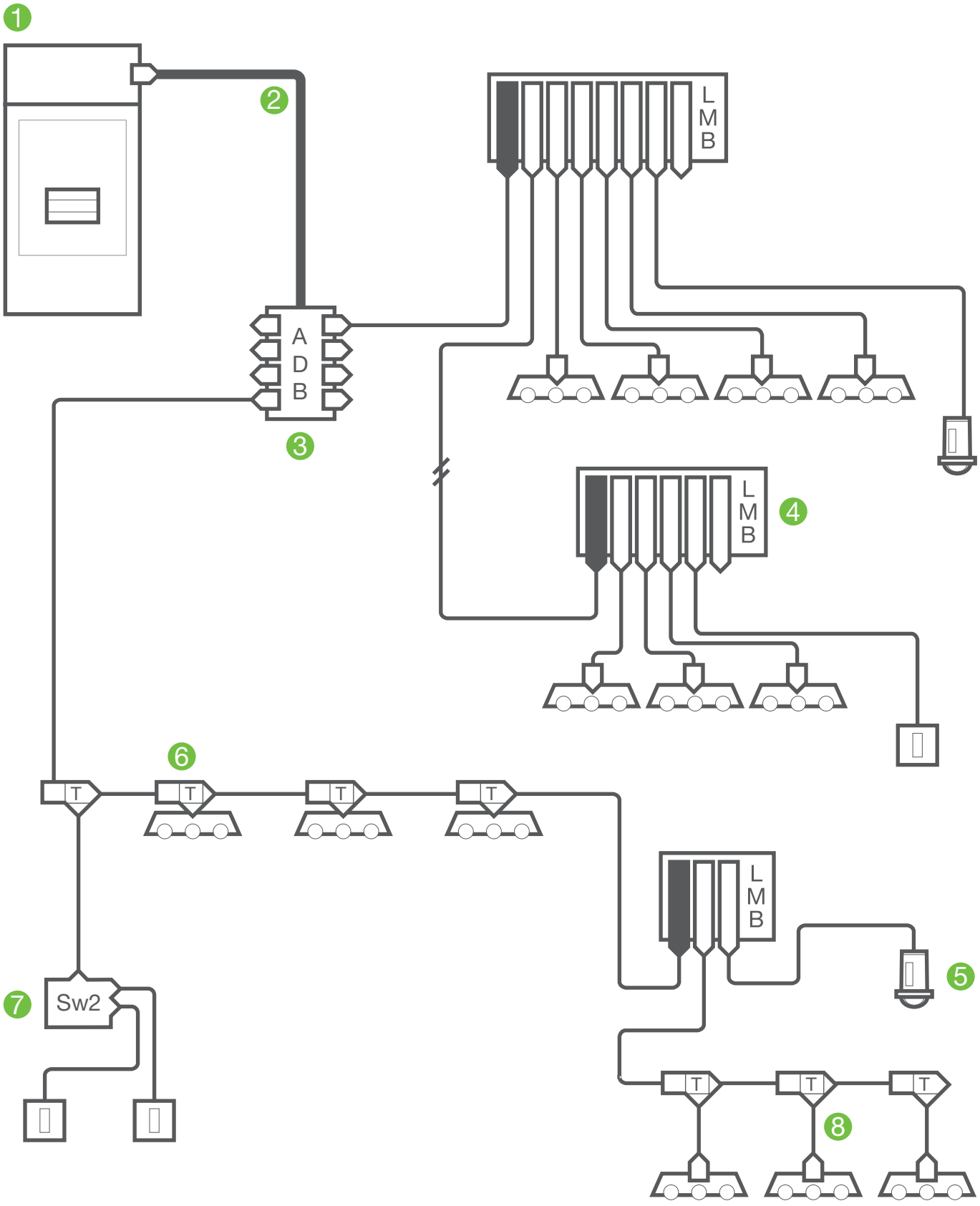
- Wired or Pluggable to Luminaire
- Standard, Digital and Emergency Luminaire
- Up to 16A rated
- BS 5733:2010
- BS EN 61535
- Short circuit tested: 1500A conditional rating

Hardwire Marshalling Box

- 7 Pole
- 4, 6, 8, 10, 12 Outlet
- 16A Rated
- BS 5733:2010
- Short circuit tested: 1500A conditional rating

Conduit Box / Surface Connector

- 7 Pole,
- 16A Rated,
- Standards: BS 5733:2010
- Short circuit tested: 1500A conditional rating



Notes: *Installation couplers to BS 61535 only are intended for connection and disconnection without load only.*
The installation coupler is not suitable for use in readily accessible areas.
BS 8488 - Prefabricated wiring systems to this standard by different manufacturers might not be compatible nor safely inter-connectable.
Installation coupler systems are not replacements for the national domestic plug and socket-outlet system.

Service offering

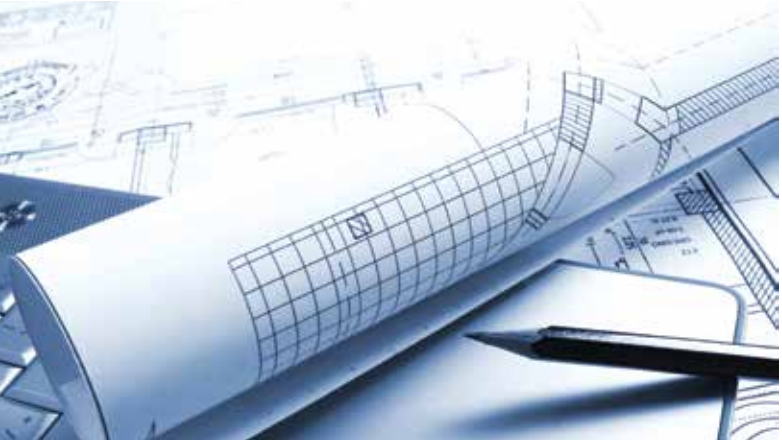
One of the characteristics of prefabricated wiring systems is that they are bespoke and made for a particular project. The product range is complemented by our specially developed klik.system service offer.

Sales

Highly trained, with an in depth technical understanding of klik.system, the engineers are able to discuss in detail both the pluggability and controls options available from klik.system to the designer/consultant for the project.

klik.system training

System installations are carried out by electrical contractors who have been trained to the relevant level of competence in klik.system. We will continually provide training to contractors from basic level through to advanced commissioning level. Our klik.system partners will have access to dedicated technical information and support from our systems technical engineers.



Design and quotation

Our design and quotation team use a dedicated software package to produce a fully marked up lighting distribution design layer drawing showing positions of products and cable runs. Volt drop and Zs calculations for the system based on design length and cross sectional area. A comprehensive product list, presented in your format, by room, area or floor. A quotation in the format you require and finally a schedule of circuits with all the klik.system information already completed.

Once your quote has been sent to you we will contact you to ascertain it has been received, is clear, and meets your requirements. At this stage we will add to, or change the design as necessary to meet any changes to specification.

Order process

Once the order has been received our system will break it down to sub-orders to match the delivery schedule and products required by room or area. You will receive an order and delivery schedule confirmation.

Delivery and logistics

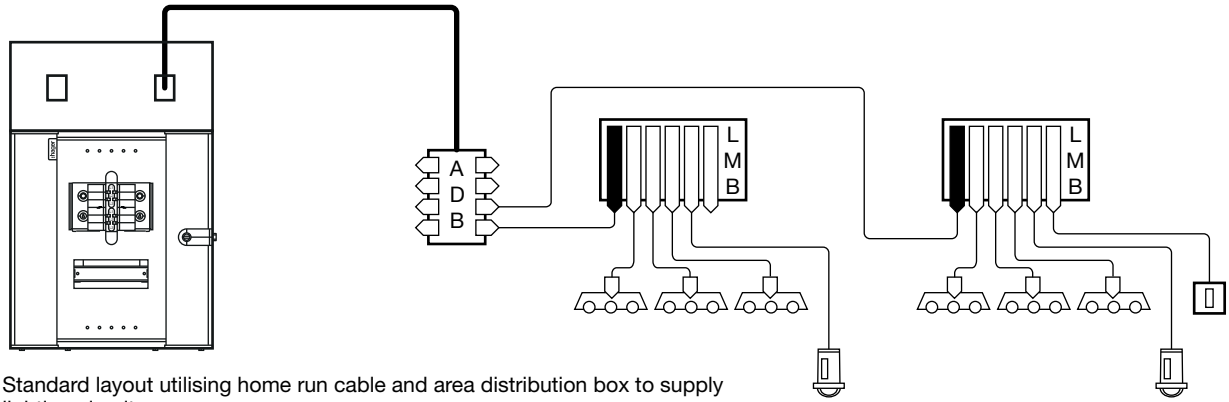
A dedicated team will fulfil the orders as required for dispatch direct to site. The klik.system components will be grouped to the customers requirements.

Technical support and commissioning

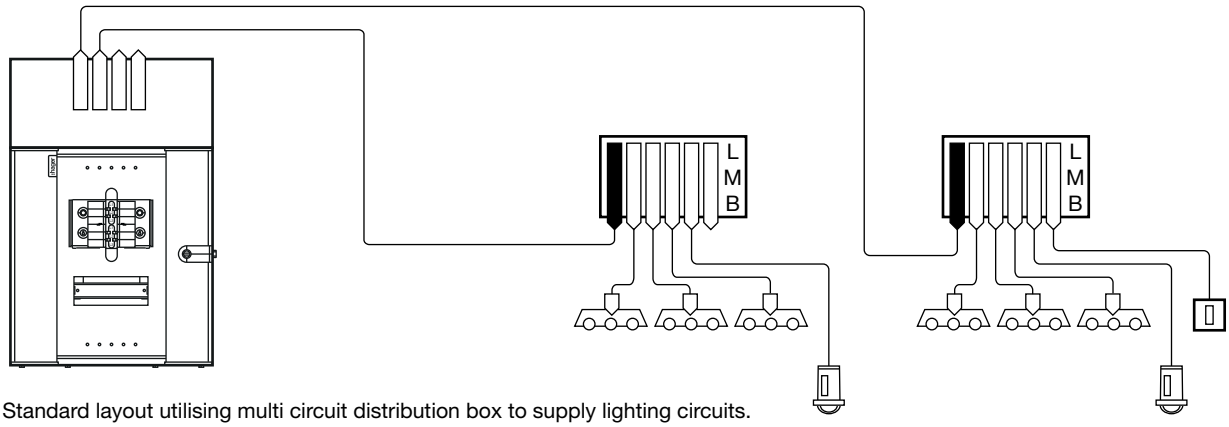
A dedicated team of Technical Support Engineers are on hand to assist with any system issues arising during installation.

Most klik.system products will be easily setup on site by installers. However, some of the more in-depth control systems may require commissioning, we can quote for this service as part of the project.

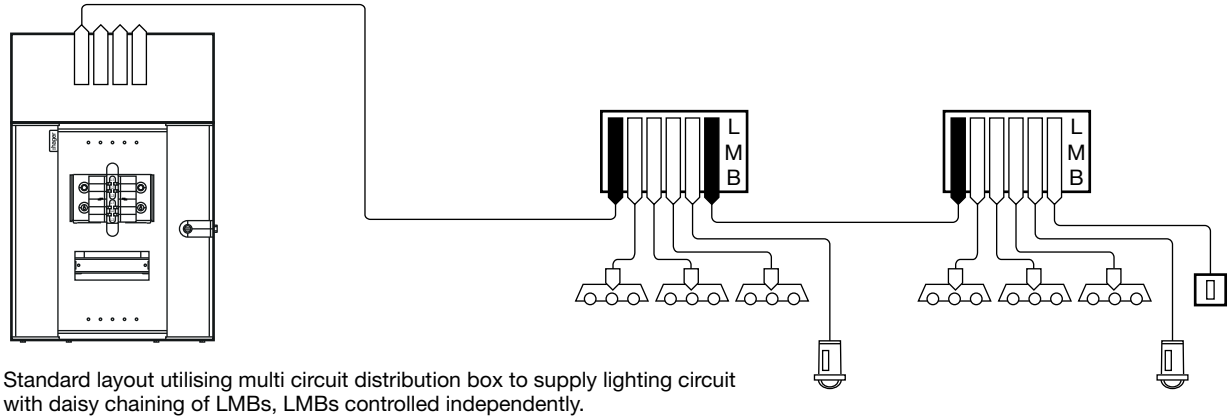
Product Description	klik Product identification	BS number	Description
klik.system Marshalling Boxes	KLMB*P	BS 5733:2010	General Requirements for Electrical Accessories.
Occupancy Sensor	EEK*	IEC 60669-1, IEC 60669-2-1	Switches for household & similar fixed electrical installations Part 2-1 for Electronic switches.
Conduit Box / Surface Connector	KLPCR/7	BS 5733:2010	General requirements for Luminaire supporting couplers for domestic, light industrial & commercial use.
Luminaire Leads	KLB*, KLJ*, KLP*, KLT*, KLE*	BS 5733:2010 BS EN 61535	General Requirements for Electrical Accessories. Installation couplers intendend for permanent connection in fixed installations.
Link Leads	KLA*, KLG*, KLK*, KLV*, KLZ*	BS 5733:2010 BS EN 61535	General Requirements for Electrical Accessories. Installation couplers intendend for permanent connection in fixed installations.
Switch Drop Leads	KLC*, KLD*, KLF*, KLH*, KLL*, KLM*, KLR*	BS 5733:2010 BS EN 61535	General Requirements for Electrical Accessories. Installation couplers intended for permanent connection in fixed installations.
LS0H Flexible Cord	Supplied with luminaire lead	BS 6500:2000 BS 7211:1998	Flexible cords rated to 300/350V for use with appliances & equipment intended for domestic, office & similar environments.
Pluggable Distribution Board	KLDB*	BS EN 60439-3	Low voltage switch gear and control gear assemblies,
Area Distribution Box	KADB*	BS EN 61984 (Plug) BS EN 61439-2 (Enclosure)	Connectors. Safety requirements and tests. Low-voltage switchgear and controlgear assemblies. Power switchgear and controlgear assemblies,
Home Run Cable	Supplied with KADB	BS 6724	Electric cables. Thermosetting insulated, armoured cables for voltages of 600/1000 V and 1900/3300 V, having low emission of smoke and corrosive gases when affected by fire



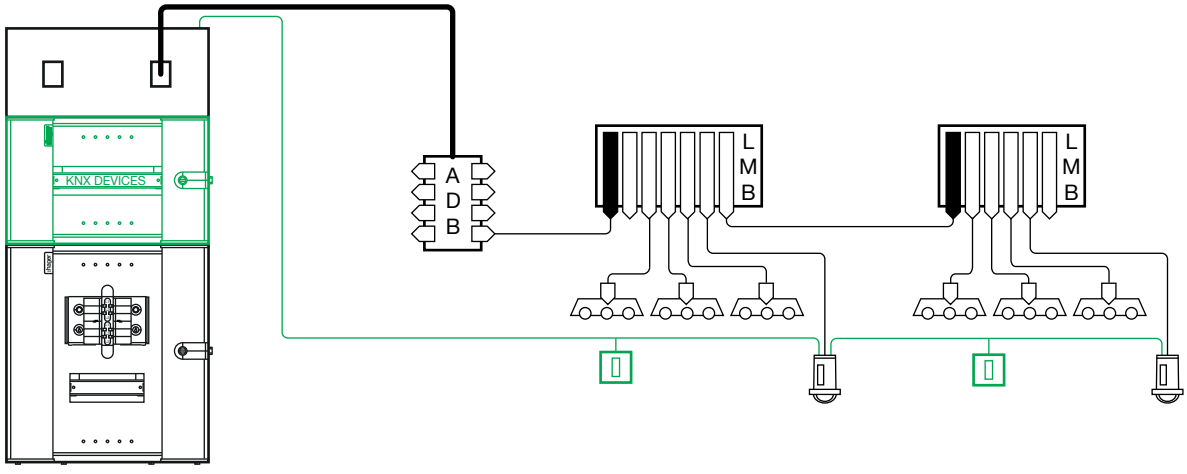
Standard layout utilising home run cable and area distribution box to supply lighting circuits.



Standard layout utilising multi circuit distribution box to supply lighting circuits.

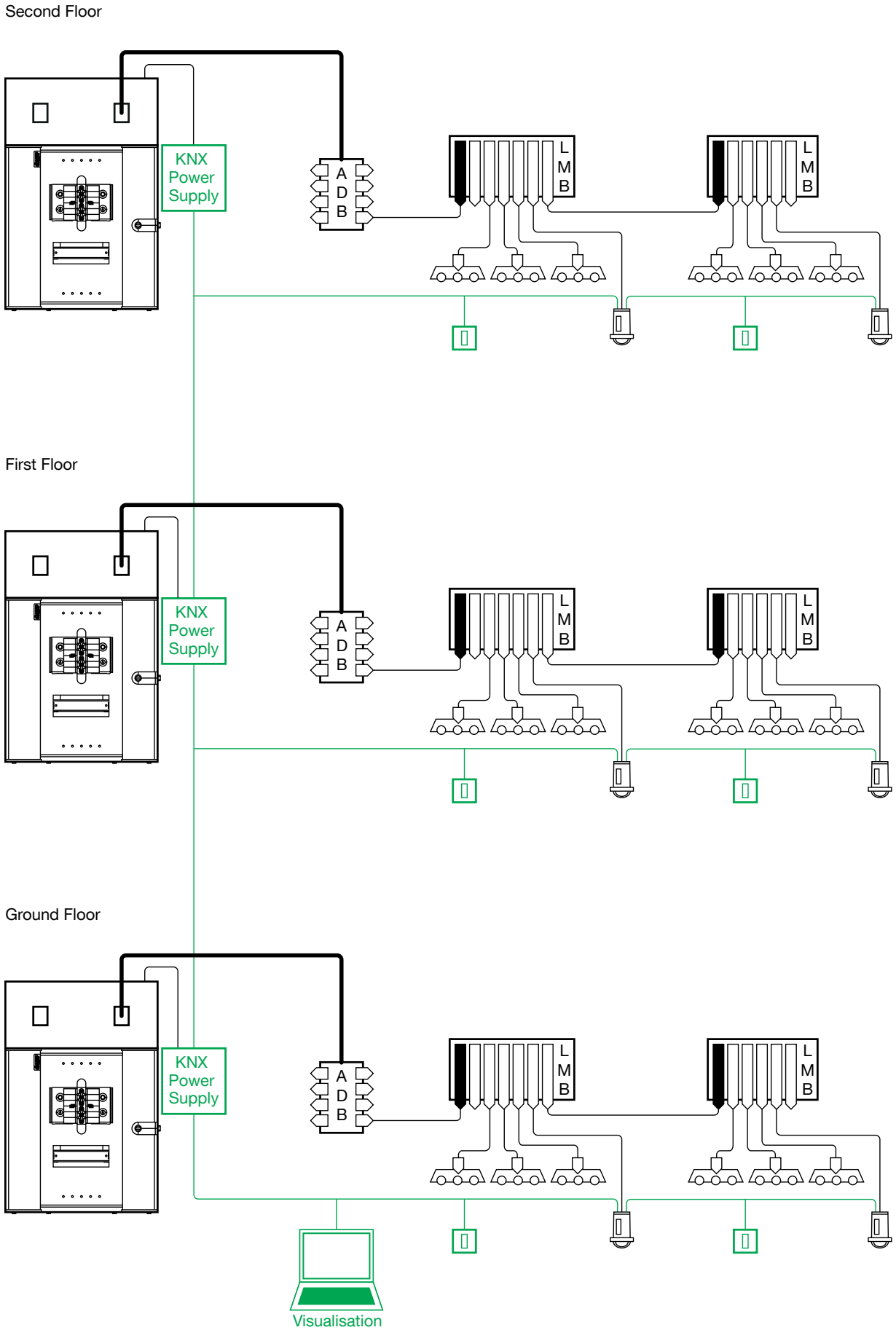


Standard layout utilising multi circuit distribution box to supply lighting circuit with daisy chaining of LMBs, LMBs controlled independently.

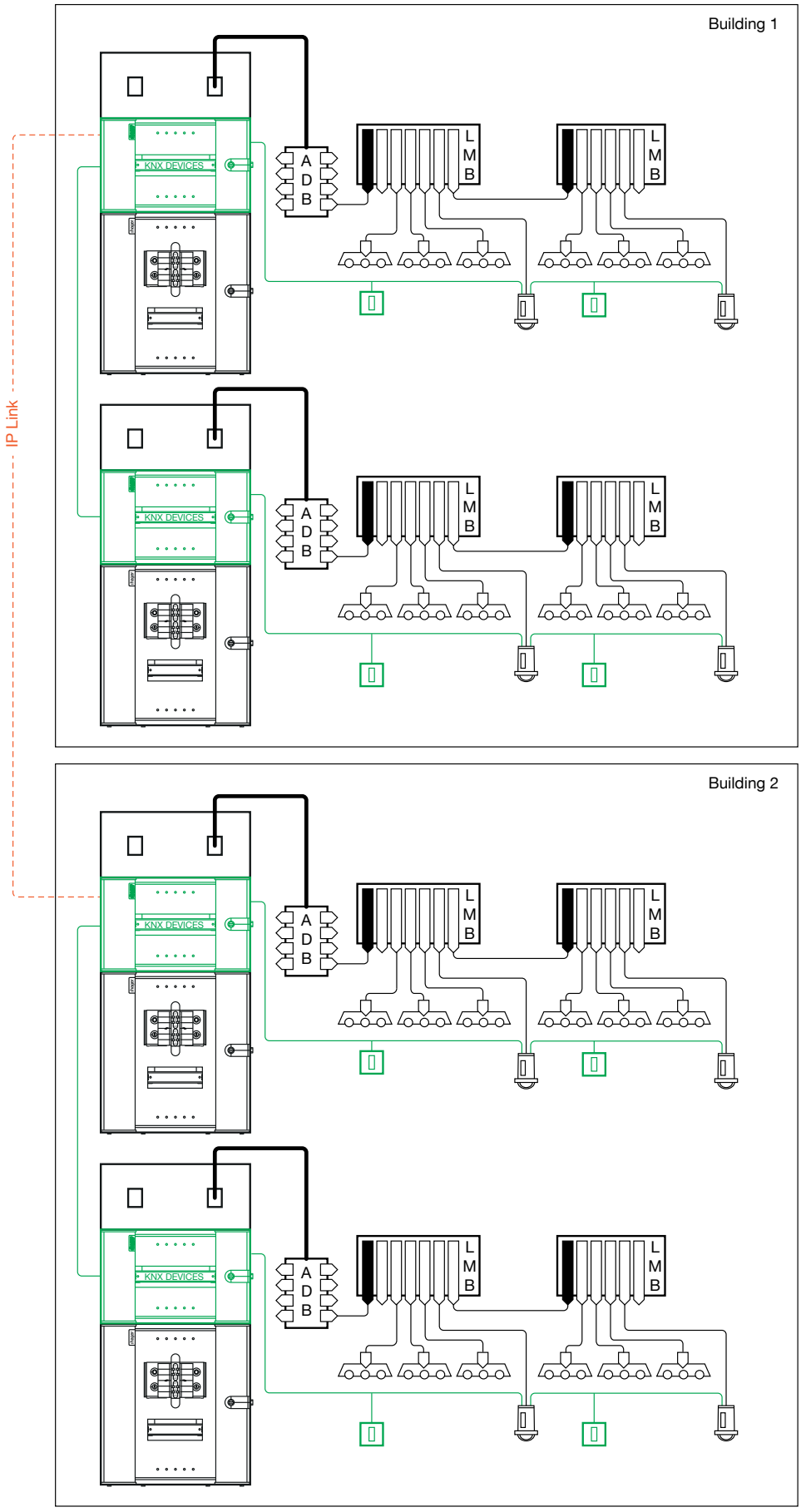


Standard layout utilising home run cable and area distribution box with control provided by KNX system.

Lighting controlled over multiple levels via KNX system with head end visualisation unit.



Separate buildings with KNX control linked via local area network.

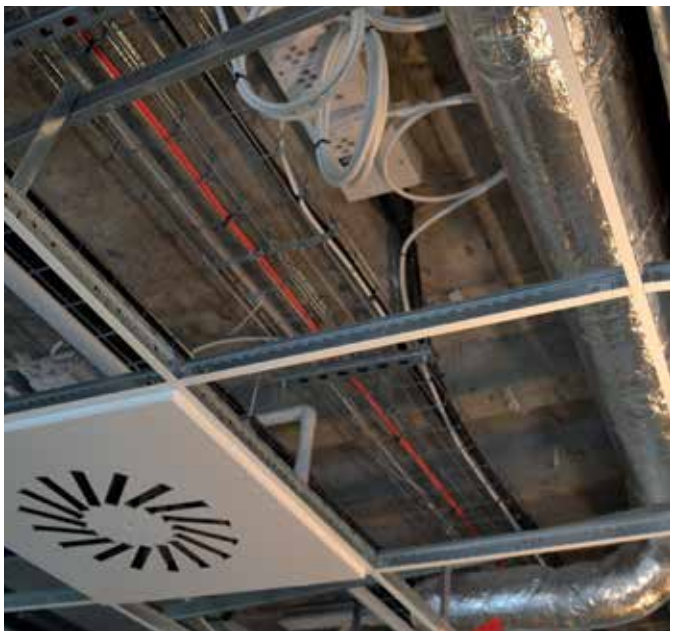


6 & 7 New Bridge Street

Burgin Contracting have achieved a 70 percent time saving on an electrical installation for prestigious central London offices by using klik.system.

The installation at 6-7 New Bridge Street in Central London has used klik.system from the distribution boards right through to final luminaires and lighting control. The prefabricated wiring system also provides power to fan coil units throughout the seven-storey building.

Andy Collinge, electrical operations manager for Burgin stated “The system has saved us significant time in the first fix because there are fewer hard wired connections to make. This labour saving translates into a cost saving on the job making us more competitive in the tender.”



Products and solutions

klik.system:

- klik.system ensures the benefits of prefabricated wiring systems can be exploited, whilst assuring compliance with BS 8488 (Prefabricated wiring systems intended for permanent connection in fixed installations).

Invicta 3:

- 11 Invicta 3 TP&N Boards were used, 3 for landloard supplies and 8 for tenants.

“In addition there will be significant savings when it comes to inspection and testing since the system has been designed and manufactured in a factory controlled environment, so it has been pretested. This in turn means that there should be less fault finding before we hand over the completed job and then reduced snagging afterwards.”

Burgin Contracting used 11 of our Invicta 3 TP&N distribution boards; three of these boards are for the landlord’s supplies and 8 for tenants. The dual distribution boards are all MID metered for both lighting and power to meet Part L2 and with MID approval can be used for billing tenants if the landlord chooses to do so.

The multi core home run cables from these boards supply area distribution boards (ADBs) in the ceiling void. These in turn are connected into lighting marshalling boxes (LMBs) via link leads. The luminaires then plug into the marshalling boxes as do the occupancy sensors that provide the lighting control.

The occupancy sensors switch the lighting on in response to presence and then switch the luminaires off after a time out period where there is no further presence detected. The occupancy sensors also contain a photocell so that the luminaires switch off if the available natural light is above a set level.

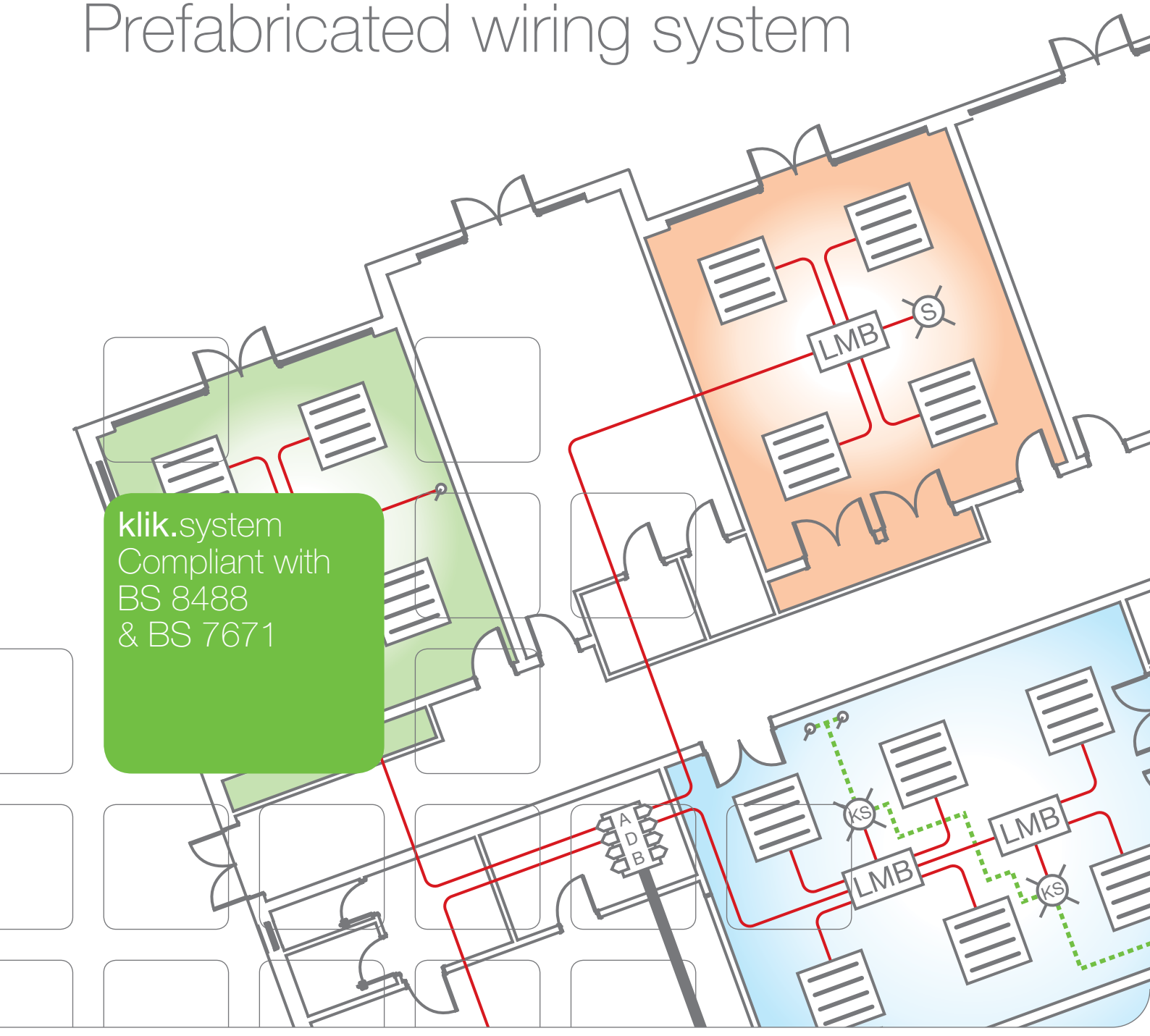
To ensure that the prefabricated wiring system complied with all of the relevant standards and regulations, we designed the system using our bespoke software package. This produced a fully calculated design, which included drawings, electrical calculations, test information and delivery schedules.

“All of the products were delivered complete with drawings that detail exactly what leads should be used where. All of the cables are labelled, so there was no problem in identifying the cables which are used for individual connections, so human error was minimised.” stated Andy Collinge.

As a manufacturer who supplies distribution boards, a lighting installation and control system and wiring accessories, we can provide all of the elements needed for a prefabricated wiring system. This minimises the problems that a contractor might have on site in liaising with several manufacturers, whilst maintaining all of the time saving benefits they would expect from a prefabricated wiring system.

In addition to this, our bespoke klik.system software does all of the necessary calculations, such as impedance, cable sizing and voltage drop, which are required for compliance with BS 7671. This validates the design and protects the contractor in design and build operations.

klik.system
Prefabricated wiring system



klik.system
Compliant with
BS 8488
& BS 7671

Want to know more about specifying prefabricated wiring systems, such as; system safety standards and achieving conformity with BS 7671 (Wiring Regulations) and BS 8488:2009+A1:2010.

Visit **www.hager.co.uk** for a free copy of our CPD certified 'Specification guide to prefabricated wiring systems'.

:hager

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