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YOUR AUTHORITY IN SELF-TESTING
EMERGENCY LIGHTING

A DESIGN-LED RANGE OF


Fastel
Luminaires

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Ultimate innovation

At P4 when it comes to developing new products for our  range our watchwords are innovation and effectiveness.

Design-led in our approach, we make it our business to create and deliver what our customers need; the most cost and energy effective self-testing luminaires which exceed existing standards requirements, ensuring compliance with safe evacuations in the event of an emergency, or failure of mains lighting.

 are suitable for all types of installation and every environment; education, general healthcare, mental healthcare, transportation, sports, leisure, retail and commercial offices. We cater for every demand, no matter the size.

WHY USE P4 FASTEL LUMINAIRES?

- Our products are specifically designed for purpose.
- We pioneer the very best technology to incorporate in the design.
- Advice available on latest legislation standards and developments.
- Our products are easy to install, maintain and repair.
- Full installation and support provided.
- Aesthetically pleasing, our  blend easily into almost any décor.
- Energy efficient, our products bring substantial energy and operational cost savings.
- Proven long service life and extended battery warranties.



Leading the way to greater safety

P4's exceptionally well designed range of **Fastel Luminaires** has taken emergency escape lighting to new heights, capable of assisting with safe evacuation along escape routes, and through open areas, in the most extreme of conditions; in an emergency or in the event of a mains lighting failure.

The luminaires use LEDs to provide cost benefits to our customers. Typically LEDs will last at least 50,000 hours which dramatically reduces the cost of replacing lamps. They also give greater integrity of light with focused light distribution, whilst their compact size encourages greater design possibilities.

Surface mounted or recessed, all **Fastel Luminaires** incorporate fully automatic self-testing and offer discreet, stylish installations easily achieving international standards for levels of illuminance. **Fastel Luminaires** and **Fastel Luminaires** are related product ranges and are available with **Fastel** technologies incorporated. e.g. **Fastel Standalone**, **Fastel Link**, **Fastel Wireless** or **Fastel SRM**.

P4 is committed to environmental best practice and continuous reduction in our carbon footprint. A significant energy saving is achieved in our LED range of luminaires compared to conventional 8 Watt emergency luminaires, or conversions of mains fluorescent luminaires.

All self-contained emergency luminaires include **Fastel** fully automatic self-testing technology as standard which helps ensure compliance with BS5266 and the Regulatory Reform (Fire Safety) Order 2005. The removal of the need for manual testing provides opportunity for significant cost saving and frees up facilities management resources for effective use elsewhere. For medium or larger premises **Fastel Link**, **Fastel Wireless** or **Fastel SRM** addressable technology can provide remote monitoring and control. All our products are provided with P4's unique 6 year battery warranty.



Ground breaking technology

Fastel (Fully Automatic Self-Testing Emergency Lighting) pioneered by us here at P4 over 26 years ago, is recognised by the industry as the most robust, reliable and cost-effective system in emergency lighting.

Fastel technology - consisting of communications and monitoring systems **Fastel Link**, **Fastel Wireless**, **Fastel SRM** and conversion technology **Fastel Within** - ensures that once installed, P4 emergency lighting luminaires, conversions of mains luminaires and fire safety signs will automatically self-test on a regular basis.

Our **Fastel** technology carries out self-testing to a regime that exceeds the requirements of national and international standards. By not having to manually test systems it saves our customers valuable manpower - freeing up time which can be put to effective use elsewhere.

This benefit is of utmost importance in today's busy marketplaces. All businesses want to automate as many routine tasks as possible and **Fastel** technology does this in a heartbeat, whilst enabling demonstrable compliance with regulatory requirements.

This helps to ensure the occupier of the premises complies with their legal obligations under the Regulatory Reform (Fire Safety) Order 2005.

Each and every one of our lighting products comply with and, indeed, exceed the requirements of UK and European standards such as BS EN 60598-2-22 and BS EN 62034.

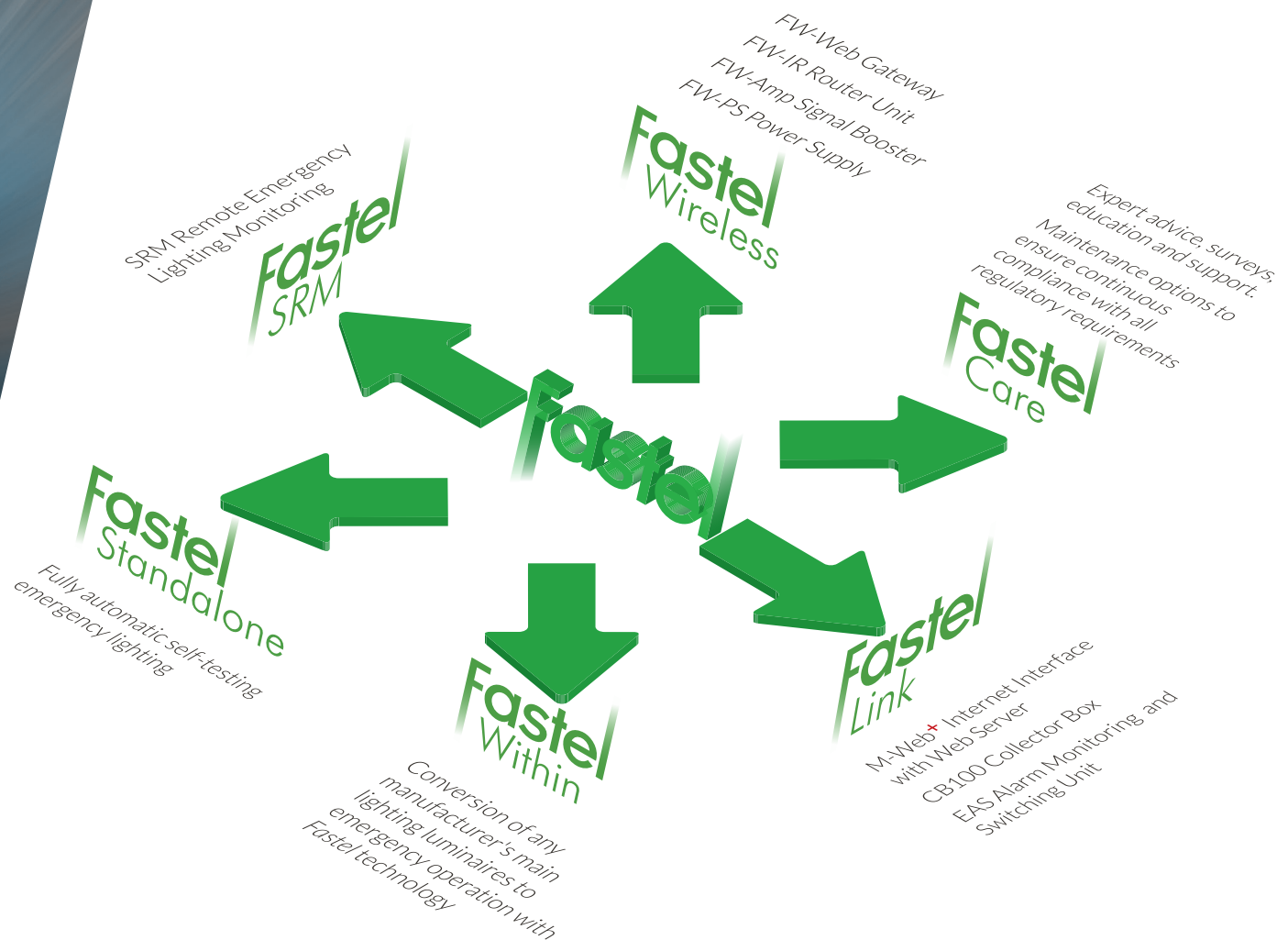
As the first independent solely dedicated emergency lighting manufacturer to gain certification under the British Approvals for Fire Equipment (BAFE) SP203-4 scheme, we make it a priority to invest in the continued development of our skills to stay a step ahead.

Furthermore, **Fastel** technology offers remote monitoring and control of even the largest emergency lighting installation through a desktop computer, laptop, tablet or smartphone. It couldn't be easier.

And, with one eye on the benefits to our customers, the operational cost savings rapidly repay the total capital cost of the installation and produce significant annual savings in compliance costs.

By choosing P4 **Fastel Luminaires**, **Fastel Lumasigns** and **Fastel** technologies you are assured of a solution that leads the way in improving safety in the workplace, public buildings, educational establishments, hotels, healthcare, leisure or retail centres and heritage buildings.

Our iconic *Fastel* solutions



THE MOST ROBUST, RELIABLE AND COST-EFFECTIVE
SYSTEMS AND SERVICE IN EMERGENCY LIGHTING








How it works

A microprocessor within the *Fastel* inverter or driver module automatically self tests in excess of the requirements of the BS EN 50172 / BS 5266 Pt.8.

- Eight days after an uninterrupted mains supply is connected, the unit undertakes fully rated duration commissioning test, checking both lamp and battery capacity, followed by continued discharge to a preset deep discharge protection point. The unit is then fully recharged for 48 hours, indicated by the green flashing indicator LED.
 - Eight days after the commissioning test the two minute functional test checks that the emergency lamp operates from the battery.
 - Every eight days a further two minute functional test again checks that the emergency lamp operates from the battery.
 - The test programme performs 10 consecutive functional test cycles, then on the 11th cycle the unit will carry out a duration test to check both lamp operation and battery capacity. The battery is then fully recharged for 48 hours, indicated by the green flashing LED. This sequence of functional test cycles followed by a rated duration test is repeated until the 44th test when a duration test is carried out to a preset deep discharge point before the unit is fully recharged for 48 hours, indicated by the green flashing indicator LED.
- Notes:**
- Once the mains supply is reconnected after an interruption of greater than 5 minutes, the battery will be fully recharged for 48 hours, indicated by the green flashing indicator LED and the test cycle will resume.
 - A test cannot be carried out within 24 hours of the previous test or a mains failure exceeding 5 minutes.
 - To ensure that adjacent units do not test simultaneously, all test sequences programmed into the integral microprocessor controllers are randomly set during production to test up to +12 hours from the nominal cycle.

LED Indication

	Green flashing - Battery charging for approx. 48 hours after switch on, following reconnection of mains supply or following duration tests.
	Solid Green - System healthy, or self testing if lamp illuminated in test mode.
	Flashing Red plus sounder* - Fault condition. Battery capacity or connection fault.
	Flashing Red (interrupted) plus sounder* - Fault condition. Lamp fault.
	LED extinguished - Mains failure/disconnection or faulty inverter.

* Sounder operates for 10 seconds every hour until the fault is rectified. Note: sounder is not available on *Fastel Wireless* versions of some luminaires - consult P4.



MonoLED

PRODUCT DESCRIPTION

Where particular locations and hazards need emergency illumination, BS 5266 Part 10 and appendix D of BS 5266 Part 1 sets out levels of illuminance that must be achieved.

To meet these, P4's high intensity single LED can provide the required illuminance. MonoLED can either be recessed or surface mounted, using a single 3W white LED enclosed behind a polycarbonate cover.

This is either white for general installation, red to highlight fire equipment or green for first aid/accessibility equipment. The alternative red or green colours bring attention to the fire or first aid equipment that is being illuminated.

The MonoLED is rapidly becoming the standard fitting to use where a particular location or hazard must be illuminated to carry out safety procedures, complete critical minor medical treatment or assist evacuation.

In addition to *Fastel Standalone* emergency lighting versions, addressable versions are available for remote monitoring and control with *Fastel Link*, *Fastel SRM* or *Fastel Wireless* technology. 6 year battery warranty in self-contained models. Mains lighting versions are also available.

KEY FEATURES AND BENEFITS

- Flame retardant polycarbonate.
- Supplied as standard in white, alternative colours available.

Images not to scale



Recess mounted MonoLEDs showing optional coloured covers



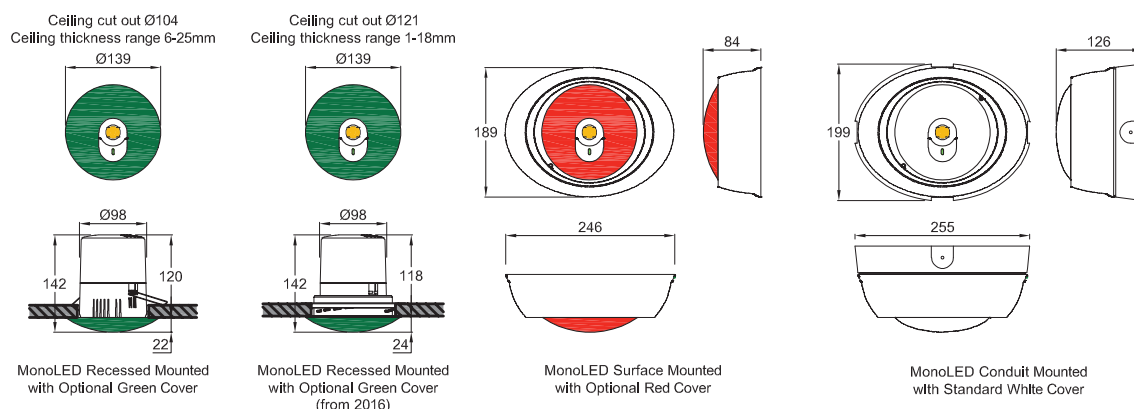
MonoLED Range

Fastel Technology

Product code

<i>Fastel Standalone</i>	MONO4/RC/S/M3/WH	Recess mounted, 4 cells, Non-maintained/Maintained, 3 hours, White
	MONO4/SC/S/M3/WH	Surface mounted 4 cells Non-maintained/Maintained, 3 hours, White
	MONO4/CC/S/M3/WH	Conduit surface mount 4 cells, Non-maintained/Maintained, 3 hours, White
	MONO4/RC/S/M3/WH/AL	Recess mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
	MONO4/SC/S/M3/WH/AL	Surface mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
<i>Fastel Link and Fastel SRM</i>	MONO4/RC/SRM/M3/WH	Recess mounted, 4 cells, Non-maintained/Maintained, 3 hours, White
	MONO4/SC/SRM/M3/WH	Surface mounted 4 cells Non-maintained/Maintained, 3 hours, White
	MONO4/CC/SRM/M3/WH	Conduit surface mount 4 cells, Non-maintained/Maintained, 3 hours, White
	MONO4/RC/SRM/M3/WH/AL	Recess mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
	MONO4/SC/SRM/M3/WH/AL	Surface mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
<i>Fastel Wireless</i>	MONO/RC/FW/M3/WH	Recess mounted, Non-maintained/Maintained, 3 hours, White
	MONO/CC/FW/M3/WH	Conduit surface mounted, Non-maintained/Maintained, 3 hours, White
Mains voltage versions	MONO/RC/230/WH	Recess mounted, 230v Mains operation, White
	MONO/SC/230/WH	Surface mounted, 230v Mains operation, White
Front cover colour options	The list of product codes above designates MonoLED luminaires with white front covers. If products are required with Red or Green front covers it is necessary to change the part of the code shown as "/WH/" to "/RD/" for Red or "/GN/" for Green. If in doubt, please contact the company for clarification.	

MonoLED Recessed, Surface and Conduit Surface Mounted Dimensions



MonoLED Range Specification

(Recessed*/Surface*/Conduit Surface*) mounted LED emergency lighting luminaire with high intensity white 3 Watt LED with IP54 polycarbonate cover, mounted in a RAL9016 white, low profile fascia plate with purpose designed lens, suitable for specific hazard illumination. Class II insulated, all plastic housing of flame retardant ABS and polycarbonate complying with 850° hot wire test.

Recessed mounted models to be retained into 104mm dia. mounting hole in ceilings of 6mm to 25mm (1mm to 18mm from 2016) thickness by spring clips (P4 "twist lock" mounting system from 2016). Surface mounted models to be fixed to ceiling by a zinc plated steel mounting plate with conduit and BESA box cable entries. Conduit surface mounted models to be fixed to BESA box by zinc plated steel mounting plate with skirt moulding trim to mounting surface.

Anti ligature models to have TORX™ head retaining screws and to be supplied with "anti-pick" installation sealant.

230v ± 10% a.c 50/60 Hz input.

(Emergency lighting Luminaire(s) to have rechargeable Nickel Cadmium Battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication by a single multi function bi-colour LED indicator*/ Mains Luminaire(s)*).

All emergency lighting versions to be (*Fastel Standalone*/Fastel Link*/Fastel SRM*/Fastel Wireless**).

As **MonoLED** [insert product code]

*Delete as appropriate



BiLED

PRODUCT DESCRIPTION

The P4 BiLED incorporates exceptionally high photometric performance in a discrete and versatile LED emergency lighting luminaire range.

Addressable versions are available for remote monitoring and control. Fully automatic self-testing models are available for non-maintained operation and in *Fastel Standalone*, *Fastel Link*, *Fastel SRM* and *Fastel Wireless* technologies. P4's unique 6 year battery warranty is included.

Utilising alternative light distribution lenses permits wide spacing of luminaires whilst meeting minimum illuminance requirements of installations on escape routes and also in open areas, thus minimising installation costs.

BiLED Recess Mounted Luminaires are simply and easily installed into ceilings through the 42mm hole required to mount the attractive fascia and heat sink into the ceiling. BiLED Surface Mounted Luminaires can be mounted directly onto solid ceilings. Mains lighting versions are also available.

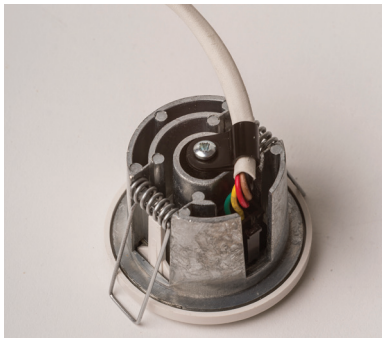
KEY FEATURES AND BENEFITS

- High efficiency white LEDs.
- Exceptional light output and excellent colour rendering.
- Pre-wired with a 2 metre length of 6 core LSOH connection cable for ease of installation.
- Provides opportunity to reduce initial capital outlay and installation costs.

Images not to scale



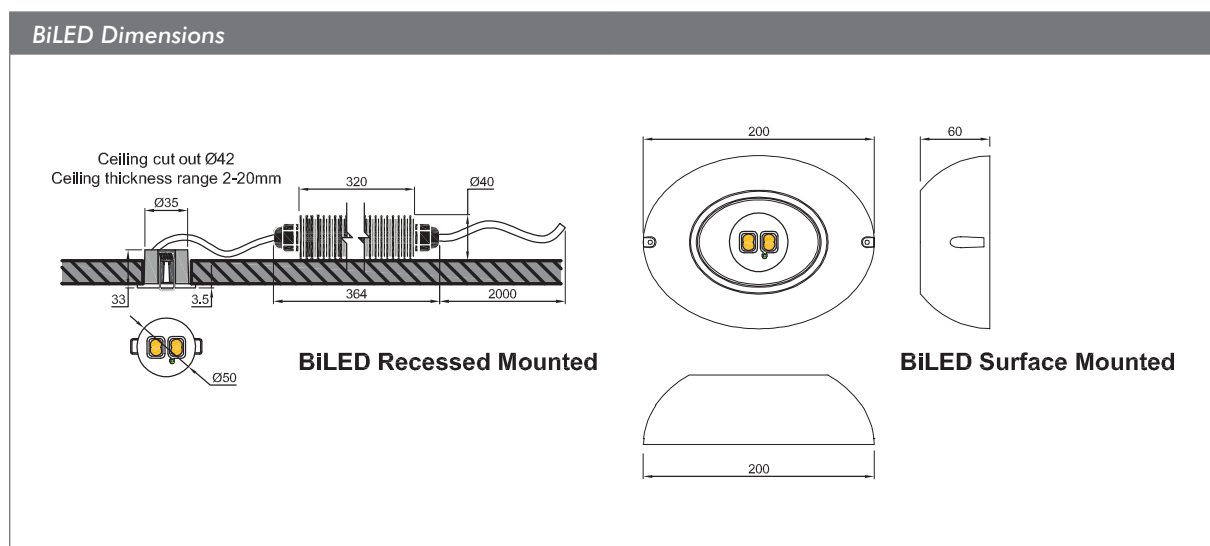
High intensity white LEDs



Rear of recess mounted BiLED heat sink



BiLED Range		
Fastel Technology	Product code	
<i>Fastel Standalone</i>	BIER/RC/S/M3/WH	Escape Route, Recess mounted, Non maintained/Maintained, 3 hours, White
	BIOA/RC/S/M3/WH	Open Area, Recess mounted, Non maintained/Maintained, 3 hours, White
	BIER/SC/S/M3/WH	Escape Route, Surface mounted, Non maintained/Maintained, 3 hours, White
	BIOA/SC/S/M3/WH	Open Area, Surface mounted, Non maintained/Maintained, 3 hours, White
<i>Fastel Link and Fastel SRM</i>	BIER/RC/SRM/M3/WH	Escape Route, Recess mounted, Non maintained/Maintained, 3 hours, White
	BIOA/RC/SRM/M3/WH	Open Area, Recess mounted, Non maintained/Maintained, 3 hours, White
	BIER/SC/SRM/M3/WH	Escape Route, Surface mounted, Non maintained/Maintained, 3 hours, White
	BIOA/SC/SRM/M3/WH	Open Area, Surface mounted, Non maintained/Maintained, 3 hours, White
<i>Fastel Wireless</i>	BIER/RC/FW/M3/WH	Escape Route, Recess mounted, Non maintained/Maintained, 3 hours, White
	BIOA/RC/FW/M3/WH	Open Area, Recess mounted, Non maintained/Maintained, 3 hours, White
	BIER/SC/FW/M3/WH	Escape Route, Surface mounted, Non maintained/Maintained, 3 hours, White
	BIOA/SC/FW/M3/WH	Open Area, Surface mounted, Non maintained/Maintained, 3 hours, White
Mains voltage luminaires	BIER/RC/230/WH	Escape Route, Recess mounted, Mains operation, White
	BIOA/RC/230/WH	Open Area, Recess mounted, Mains operation, White
	BIER/SC/230/WH	Escape Route, Surface mounted, Mains operation, White
	BIOA/SC/230/WH	Open Area, Surface mounted, Mains operation, White



BiLED Range Specification

Recessed mounted LED emergency lighting luminaire with two high intensity white 1 Watt LEDs with polycarbonate lenses, mounted in a RAL9016 white, discrete fascia plate, suitable for (escape route*/open area*) illumination. Class II insulated, all plastic flexible enclosure of flame retardant ABS complying with 850° hot wire test.

Installed through 42mm dia. access hole and retained in ceilings of 2mm to 20mm thickness by spring clips. Complete with 2m, 6 core flexible LS0H connection cable.

230v ± 10% a.c 50/60 Hz input.

(Rechargeable Nickel Metal Hydride Battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication by a single multi function bi-colour LED indicator /Mains Luminaire(s)*)

All emergency lighting versions to be (*Fastel Standalone*/Fastel Link*/Fastel SRM*/Fastel Wireless**).

As **BiLED** [insert product code]

*Delete as appropriate



TriLED

PRODUCT DESCRIPTION

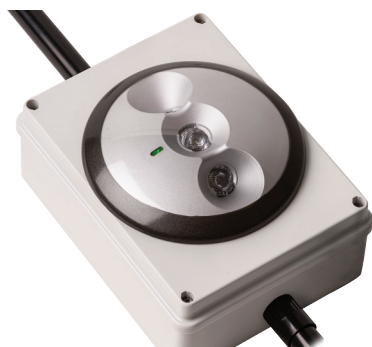
The P4 TriLED high intensity white LED range is available in three versions: ceiling recessed, surface mounted and conduit surface mounted.

TriLED uses lenses to carefully control light distribution, ensuring optimum emergency lighting illuminance along escape routes. These luminaires cost effectively achieve the one Lux minimum illuminance required by current standards.

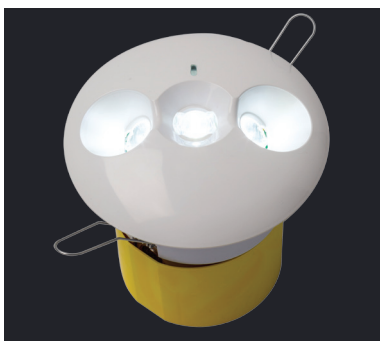
This is an unobtrusive fitting which blends easily into any environment, and will be ready to assist evacuation when an emergency or mains lighting failure occurs. Addressable versions are available for remote monitoring and control.

Fully automatic self-testing models are available for non-maintained and maintained operation and in all **Fastel** technologies i.e. **Fastel Standalone**, **Fastel Link**, **Fastel SRM** and **Fastel Wireless**. P4's 6 year battery warranty is included. Mains lighting versions also available.

Images not to scale



TriLED IP65 conduit mounted



TriLED recess mounted

KEY FEATURES AND BENEFITS

- Discrete, blends easily into almost any décor.
- Energy efficient light sources – lower power requirements and running costs.
- An optional clear polycarbonate cover provides an easy wipe clean surface.



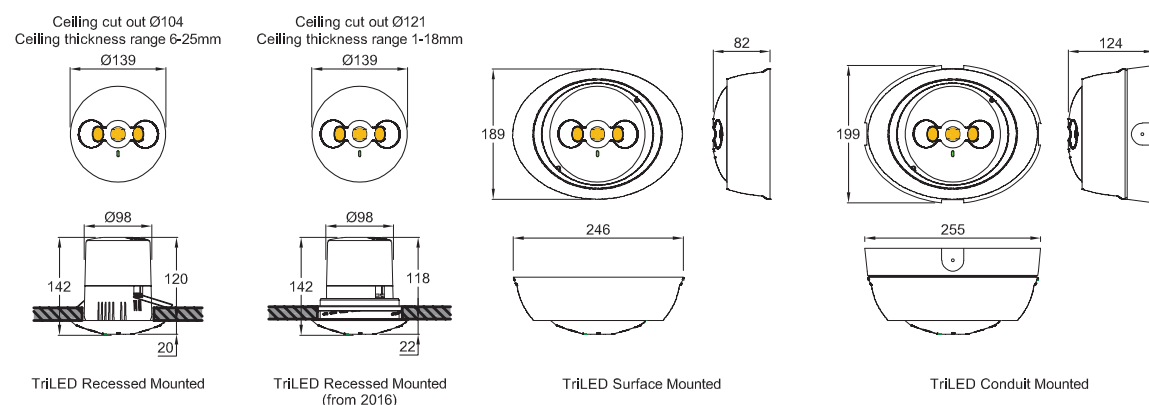
CE 850°C



TriLED Range

Fastel Technology	Product code	
Fastel Standalone	TRI4/RC/S/M3/WH	Recess mounted, 4 cells, Non-maintained/Maintained, 3 hours, White
	TRI4/SC/S/M3/WH	Surface mounted 4 cells Non-maintained/Maintained, 3 hours, White
	TRI4/CC/S/M3/WH	Conduit surface mount 4 cells, Non-maintained/Maintained, 3 hours, White
	TRI4/RC/S/M3/WH/AL	Recess mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
	TRI4/SC/S/M3/WH/AL	Surface mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
	TRI4IP65/CC/S/M3/GR	IP65, Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, Grey
Fastel Link and Fastel SRM	TRI4/RC/SRM/M3/WH	Recess mounted, 4 cells, Non-maintained/Maintained, 3 hours, White
	TRI4/SC/SRM/M3/WH	Surface mounted 4 cells Non-maintained/Maintained, 3 hours, White
	TRI4/CC/SRM/M3/WH	Conduit surface mount 4 cells, Non-maintained/Maintained, 3 hours, White
	TRI4/RC/SRM/M3/WH/AL	Recess mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
	TRI4/SC/SRM/M3/WH/AL	Surface mounted 4 cells, Non-maintained/Maintained, 3 hours, White, Anti Ligature
	TRI4IP65/CC/SRM/M3/GR	IP65, Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, Grey
Fastel Wireless	TRI4/RC/FW/M3/WH	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	TRI4/SC/FW/M3/WH	Surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	TRI4/CC/FW/M3/WH	Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
Mains voltage luminaires	TRI/RC/230/WH	Recess mounted, 230v Mains operation, White
	TRI/SC/230/WH	Surface mounted, 230v Mains operation, White

TriLED Recessed, Surface and Conduit Surface Mounted Dimensions



TriLED Range Specification

(Recessed*/ Surface*/Conduit surface*/ IP65 conduit surface*) mounted LED emergency lighting luminaire with high intensity white 1 Watt LEDs mounted in a RAL9016 white, low profile fascia plate with purpose designed lenses, suitable for escape route illumination. Class II insulated, all plastic housing of flame retardant ABS complying with 850° hot wire test.

Recessed mounted models to be retained into 104mm dia. mounting hole in ceilings of 6mm to 25mm (1mm to 18mm from 2016) thickness by spring clips (P4 "twist lock" mounting system from 2016). Surface mounted models to be fixed to ceiling by a zinc plated steel mounting plate with conduit and BESA box cable entries. Conduit surface mounted models to be fixed to BESA box by zinc plated steel mounting plate with skirt moulding trim to mounting surface.

Anti ligature models to have TORX™ head retaining screws and to be supplied with "anti-pick" installation sealant.

IP65 conduit mounted models to be suitable for conduit through wiring.

230v ± 10% a.c 50/60 Hz input.

(Emergency lighting Luminaire(s) to have rechargeable Nickel Cadmium Battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication by a single multi function bi-colour LED indicator*/ Mains Luminaire(s)*).

All emergency lighting versions to be (Fastel Standalone*/Fastel Link*/ Fastel SRM*/ Fastel Wireless*).

As **TriLED** [insert product code] *Delete as appropriate



QuadLED

PRODUCT DESCRIPTION

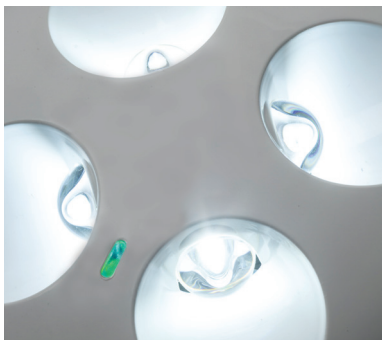
P4's QuadLED range is ideal for use in open areas in which there are no defined escape routes. This environment requires an emergency lighting standard minimum level of illuminance of 0.5 Lux to be achieved throughout the core area.

The QuadLED emergency lighting luminaire is specifically designed for such locations, enabling widespread distribution of light to achieve the minimum illuminance with excellent uniformity.

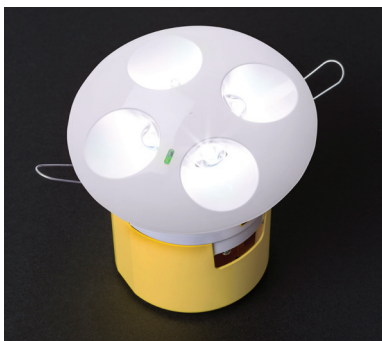
Its four high intensity white LEDs and bubble lenses are elevated to optimise the uniform spread of light over a wide area. The QuadLED range is available in three versions: ceiling recessed, surface mounted and conduit surface mounted.

Addressable versions are available for remote monitoring and control. Fully automatic self-testing models are available for all **Fastel** technologies i.e. **Fastel Standalone**, **Fastel Link**, **Fastel SRM** and **Fastel Wireless**. P4's 6 year battery warranty is included. Mains lighting versions are also available.

Images not to scale



QuadLED LED detail



Recess mounted QuadLED

KEY FEATURES AND BENEFITS

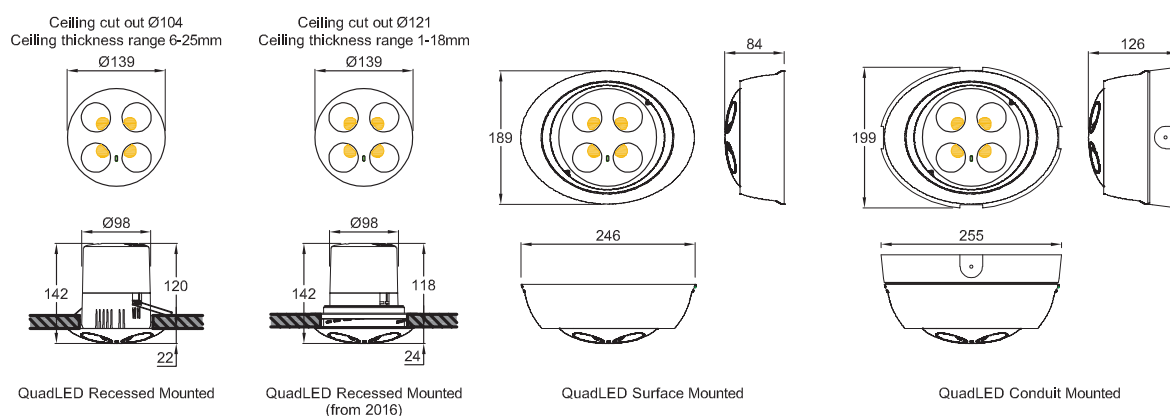
- QuadLED is unobtrusive and blends easily into almost any décor.
- High efficiency white LEDs.
- Incorporate fully automatic self-testing as standard.
- An optional clear polycarbonate cover provides an easy wipe clean surface.



QuadLED Range

Fastel Technology	Product code	
Fastel Standalone	QUAD4/RC/S/M3/WH	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/SC/S/M3/WH	Surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/CC/S/M3/WH	Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/RC/S/M3/WH/AL	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White, Anti Ligature
	QUAD4/RC/S/M3/WH/AL	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White, Anti Ligature
	QUAD4IP65/CC/S/M3/GR	IP65, Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, Grey
Fastel Link and Fastel SRM	QUAD4/RC/SRM/M3/WH	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/SC/SRM/M3/WH	Surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/CC/SRM/M3/WH	Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/RC/SRM/M3/WH/AL	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White, Anti Ligature
	QUAD4/RC/SRM/M3/WH/AL	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White, Anti Ligature
	QUAD4IP65/CC/SRM/M3/GR	IP65, Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, Grey
Fastel Wireless	QUAD4/RC/FW/M3/WH	Recess mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/SC/FW/M3/WH	Surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
	QUAD4/CC/FW/M3/WH	Conduit surface mounted, 4 cells, Non maintained/Maintained, 3 hours, White
Mains voltage luminaires	QUAD/RC/230/WH	Recess mounted, 230v Mains operation, White
	QUAD/SC/230/WH	Surface mounted, 230v Mains operation, White

QuadLED Recessed, Surface and Conduit Surface Mounted Dimensions



QuadLED Range Specification

(Recessed*/ Surface*/Conduit surface*/ IP65 conduit surface*) mounted LED emergency lighting luminaire with high intensity white 1 Watt LEDs mounted in a RAL9016 white, low profile fascia plate with purpose designed lenses, suitable for anti panic open area illumination. Class II insulated, all plastic housing of flame retardant ABS complying with 850° hot wire test.

Recessed mounted models to be retained into 104mm dia. mounting hole in ceilings of 6mm to 25mm (1mm to 18mm from 2016) thickness by spring clips (P4 "twist lock" mounting system from 2016). Surface mounted models to be fixed to ceiling by a zinc plated steel mounting plate with conduit and BESA box cable entries. Conduit surface mounted models to be fixed to BESA box by a zinc plated steel mounting plate with skirt moulding trim to mounting surface.

Anti ligature models to have TORX™ head retaining screws and to be supplied with "anti-pick" installation sealant.

IP65 conduit mounted models to be suitable for conduit through wiring.

230v ± 10% a.c 50/60 Hz input.

(Emergency lighting Luminaire(s) to have rechargeable Nickel Cadmium Battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication by a single multi function bi-colour LED indicator*/ Mains Luminaire(s)*).

All emergency lighting versions to be (Fastel Standalone*/Fastel Link*/ Fastel SRM*/ Fastel Wireless*).

As **QuadLED** [insert product code] *Delete as appropriate



SatiLED™ & SatiLite™ LED

PRODUCT DESCRIPTION

Images not to scale



SatiLED & SatiLite LED modules mounted in ceiling

Providing the most cost effective fully compliant emergency lighting for corridors and open areas, P4 SatiLED luminaires use SatiLite LED modules for optimum emergency lighting distribution from a centrally positioned driver unit.

High performance, high intensity white LEDs are located in attractive and discrete, fully recessed SatiLite LED modules that can be located in positions that most effectively illuminate the escape route or open area.

Individual SatiLite LEDs are fully monitored, any failure is reported back to the central driver unit and onto the communications bus for **Fastel Link** and **Fastel SRM** versions.

In the unlikely event of all SatiLite LEDs failing, an auxiliary high intensity, white LED housed in the remote driver unit is illuminated.

Photometric data is provided to enable installers to correctly position the SatiLite LED modules to meet specified minimum illuminance requirements of installations on escape routes or in open areas.

Fully automatic self-testing models are available for non-maintained and maintained operation and in **Fastel Link** and **Fastel SRM** addressable versions for remote monitoring and control. P4's 6 year battery warranty is included for the rechargeable battery.

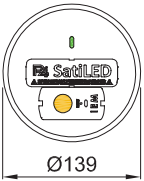
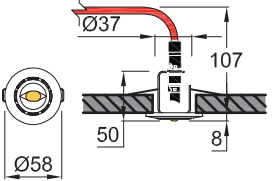


KEY FEATURES AND BENEFITS

- Discrete, fully recessed SatiLite LED modules, powered from SatiLED central driver unit.
- High intensity, energy efficient white LEDs.
- Exceptional emergency lighting escape route or area coverage, reduces initial capital purchase and installation costs.
- Compliant pre-prepared fire protected cables available with the SatiLite LED modules make connection to the driver unit simple and quick.

SatiLED and SatiLite LED Range		
Fastel Technology	Product code	
Fastel Standalone	N/A	
Fastel Link and Fastel SRM	SATIER/RC/SRM/M3/WH*	Escape route, Recess mounted, Non maintained/Maintained, 3 hours, White
	SATIOA/RC/SRM/M3/WH*	Open area, Recess mounted, Non-maintained/Maintained, 3 hours, White
Fastel Wireless	N/A	
Mains voltage luminaires	N/A	

*Supplied with 4 SatiLite LED modules.

SatiLED and SatiLite Dimensions		
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>SatiLED</p> </div> <div style="text-align: center;">  <p>SatiLite</p> </div> </div>		

SatiLED Range Specification

Ceiling Recessed LED emergency lighting luminaire system, suitable for escape route or anti panic open area illumination.

Ceiling recessed, Class II insulated, central driver unit capable of driving up to four SatiLite LED modules. Housing constructed of flame retardant ABS and polycarbonate complying with 850° hot wire test, to be retained into ceilings using unique P4 "twist lock" mounting system. Auxiliary high output white LED housed in central driver unit to be automatically operated in case of failure of operation of all SatiLite LEDs.

SatiLite LED modules with high intensity white 1 Watt LEDs and purpose designed lenses mounted in RAL9016 white, low profile ceiling recessed fascia plates, suitable for escape route or anti panic open area illumination. SatiLite LED modules to be connected to SatiLED central driver unit by fire retardant cable system complying with BS5266 Part 1 requirements for centrally supplied system interconnection.

230v ± 10% a.c 50/60 Hz input.

Rechargeable Nickel Cadmium Battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication, including individual LED monitoring by a single multi function bi-colour LED indicator. Easily replaceable primary battery for three hours emergency operation of auxiliary LED, with local LED indication of use of the auxiliary battery.

All emergency lighting versions to be (Fastel Link*/ Fastel SRM*).

As **SatiLED** [insert product code]

*Delete as appropriate



Gamma

PRODUCT DESCRIPTION

P4's Gamma is a flush mounted LED general purpose luminaire with a white moulded ABS fascia plate and clear prismatic diffuser.

Gamma utilises a strip of high intensity white LEDs, resulting in low energy usage and low running cost, particularly if the unit is used continuously for normal lighting use as well as emergency lighting.

Available with alternative colour finishes if required, Gamma is ideal in retail and commercial applications as well as healthcare environments.

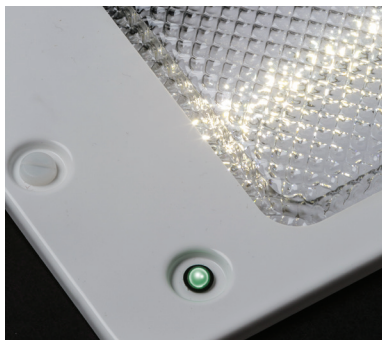
Sign legends may be applied to provide information signs for units recessed into walls. Alternative finishes specified by product code suffix. All luminaires are designed and built to BSEN 60598-2.22. Batteries in self-contained models have a six year life warranty.

In addition to **Fastel Standalone** and mains versions, fully automatic, self testing models for remote monitoring and control are available for non-maintained and maintained operation in **Fastel Link**, **Fastel SRM** and **Fastel Wireless** versions.

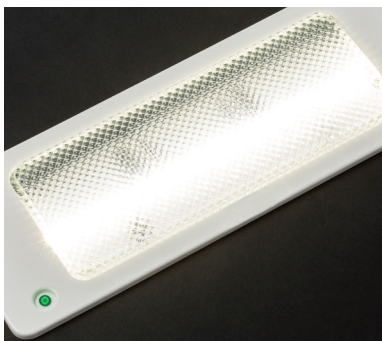
KEY FEATURES AND BENEFITS

- Very discrete. Easily blends with general lighting layouts.
- Minimal recessing depth required from front face of wall or ceiling.
- Energy efficient, low running costs for maintained operation.
- Ideal for retail, commercial and healthcare environment applications.

Images not to scale



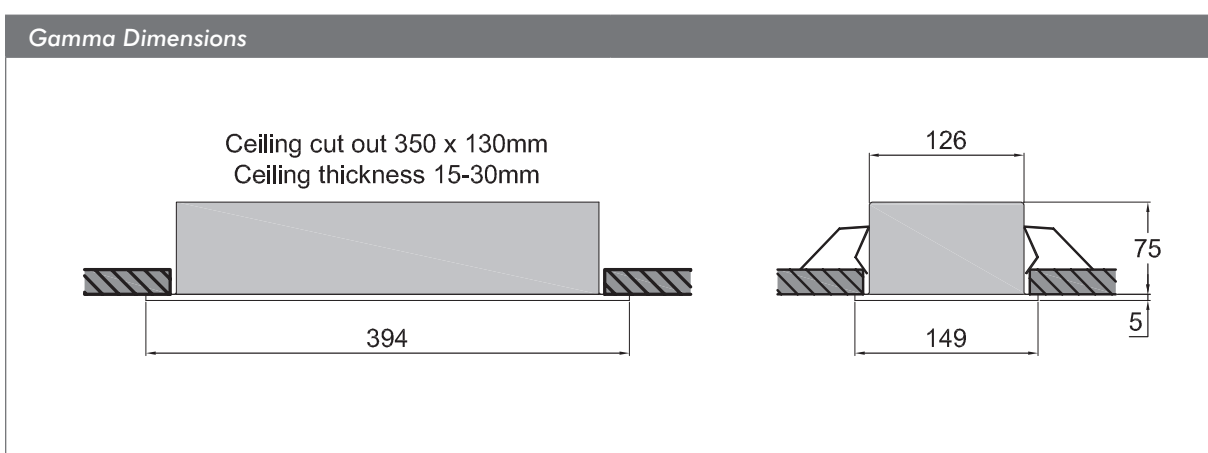
Gamma indicator LED detail



Gamma clear prismatic diffuser



Gamma Range		
Fastel Technology	Product code	
Fastel Standalone	GAMMA/RC/S/M3/WH	Recess mounted, Non-maintained/Maintained, 3 hours, White
Fastel Link and Fastel SRM	GAMMA/RC/SRM/M3/WH	Recess mounted, Non-maintained/Maintained, 3 hours, White
Fastel Wireless	GAMMA/RC/FW/M3/WH	Recess mounted, Non maintained/Maintained, 3 hours, White
Mains voltage luminaires	GAMMA/RC/230/WH	Recess mounted, 230v Mains operation, White
Front cover colour options	Standard colour finish White (suffix = /WH); Alternative colour finishes specified by suffix; RAL colour = /RAL [Insert RAL number], Brass = /BR, Chrome = /CH	



Gamma Range Specification

Flush mounted general purpose luminaire for ceiling or wall mounting that may also be used as a sign luminaire. (White*/RAL [insert RAL number]*/Brass*/Chrome*) finish with high-intensity white LED light strip.

To be retained into a cut out of 350x130mm in a ceiling or wall surface of 15mm - 30mm thickness by spring clips.

(230v \pm 10% ac 50/60Hz*/50v ac/dc*/110v ac/dc*) input.

(Emergency lighting Luminaire(s) to have rechargeable battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic, self-testing facility and status indication by a single multi function dual-colour LED indicator*/Mains Luminaire(s)*).

All emergency lighting versions to be (Fastel Standalone*/Fastel Link*/ Fastel SRM*/ Fastel Wireless*).

As **Gamma** [insert product code]

* Delete as appropriate



Klippa

PRODUCT DESCRIPTION

This is a weatherproof, vandal resistant, general purpose bulkhead luminaire suitable for applications requiring an IP65 degree of ingress protection.

This P4 product uses 8W fluorescent lamp or high intensity LED light sources for wide light distribution when mounted either on walls or ceilings.

Fully automatic self-testing, LED and 8W fluorescent self-contained models are available, as well as LED & 8W fluorescent mains versions.

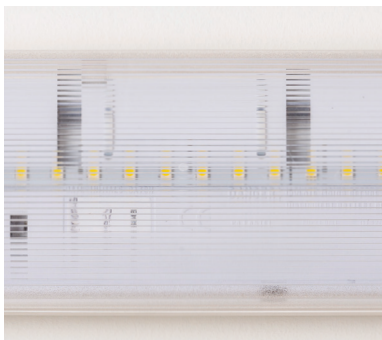
All luminaires meet the requirements of BSEN 60598-2.22. 6 year battery warranty for self-contained models.

Addressable versions are available for remote monitoring and control. Fully automatic self-testing models are available in **Fastel Standalone**, **Fastel Link**, **Fastel SRM** and **Fastel Wireless**.

KEY FEATURES AND BENEFITS

- Optional pictogram signage and semi-recessing kits available.
- Suitable for internal or external use.
- Klippa Luminaires may also be used as exit signs (with a PSK Pictogram Signage Kit).

Images not to scale



Klippa LED strip



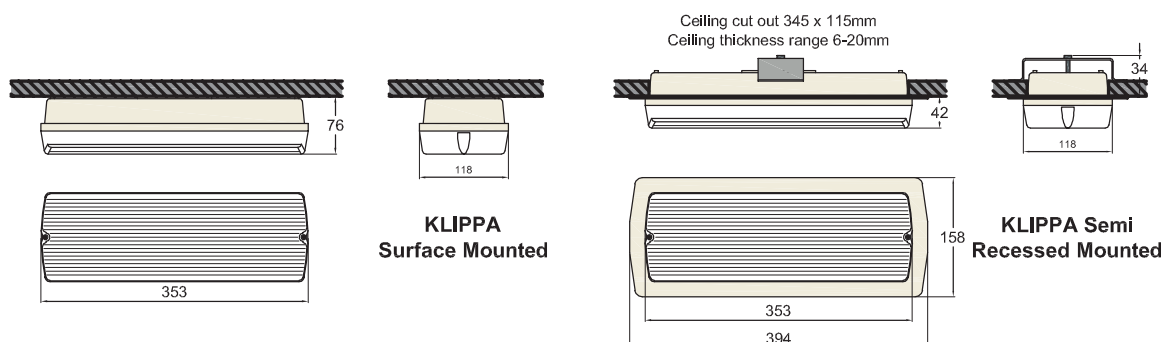
Surface mounted Klippa with PSK Pictogram Signage Kit



Klippa Range

Fastel Technology	Product code	
Fastel Standalone	KLED/SC/S/M3/WH	Surface mounted, LED, Non maintained/Maintained, 3 hours, White
	K8/SC/S/M3/WH	Surface mounted, 8W T5 Fluorescent, Non maintained/Maintained, 3 hours, White
Fastel Link and Fastel SRM	KLED/SC/SRM/M3/WH	Surface mounted, LED, Non maintained/Maintained, 3 hours, White
	K8/SC/SRM/M3/WH	Surface mounted, 8W T5 Fluorescent, Non maintained/Maintained, 3 hours, White
Fastel Wireless	KLED/SC/FW/M3/WH	Surface mounted, LED, Non maintained/Maintained, 3 hours, White
Alternative Voltage Options	KLED/SC/230/WH	Surface mounted, LED, Mains operation, White
	K8/SC/230/WH	Surface mounted, 8W T5 Fluorescent, Mains operation, White
Options (product code suffix)	PSK	Pictogram Signage Kit
	SRK	Semi-recessing Kit (White)

Klippa Dimensions



Klippa Range Specification

Surface mounted/Semi recessing, general purpose IP65, vandal resistant bulkhead luminaire. White polycarbonate base with clear ribbed diffuser. (Semi recessing kit to have white finish).

Suitable for through wiring with (8W T5 fluorescent lamp*/High intensity LED strip light source*) and capable of accepting sign pictogram kit.

230V \pm 10% ac 50/60 Hz input.

(Emergency lighting Luminaire(s) to have 3 hours emergency duration Nickel Cadmium rechargeable battery with 6 years warranty and to incorporate fully automatic, self-testing facility and status indication by single multi function, dual-colour LED indicator* / Mains Luminaire(s)*).

All emergency lighting versions to be (Fastel Standalone*/Fastel Link*/Fastel SRM*/ Fastel Wireless*).

As Klippa [insert product code]

*Delete as appropriate



P4 Disc

PRODUCT DESCRIPTION

Ideal for corridors and staircases, the P4 Disc Luminaire is an attractive, low profile circular LED luminaire that provides excellent mains lighting, coupled with an effective emergency lighting option.

High performance white LEDs arranged on a circular PCB ensures whole luminaire diameter is evenly illuminated. An opalescent lens effectively diffuses the light output preventing glare from individual LEDs.

Moulded in white FR ABS with a hinged opal polycarbonate lens, FR ABS surround that can be coated to provide alternative colour finishes, retained in position by clips with optional security screws, can be wall or ceiling mounted.

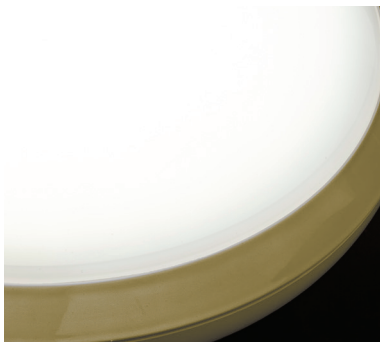
Two models, both with an IP65 degree of protection, to suit any interior or exterior location. The standard P4 Disc model delivers 1,470 lumens output from a 20 Watt LED array PCB in mains operation, whilst the large P4 Disc Luminaire delivers 2,287 lumens output from a 30 Watt LED array PCB.

In emergency lighting operation the same LED array PCB is supplied from an integral self-testing driver and battery that delivers either 3 or 15 Watts of power into the LEDs, providing adequate emergency lighting to light escape routes and open areas in accordance with the requirements of BS 5266.

An optional, internal microwave sensor allows the mains illumination of P4 Disc Luminaires to be switched on automatically upon sensing people moving within 1-12metres (adjustable).

Addressable versions are available for remote monitoring and control. Fully automatic self-testing models are available in **Fastel Standalone**, **Fastel Link**, **Fastel SRM** and **Fastel Wireless** versions. Batteries in self-contained models have a six year life warranty. Mains lighting versions are also available.

Images not to scale



Optional brass finish



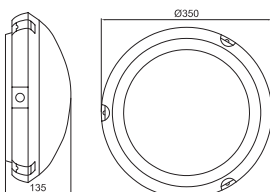
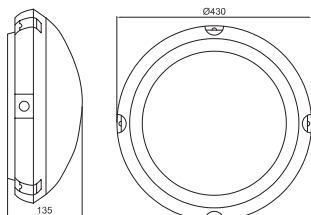
Security screws avoid unauthorised access



KEY FEATURES AND BENEFITS

- Aesthetically pleasing, low profile circular luminaire with opalescent polycarbonate lens.
- Low energy, high light output with even light distribution and excellent colour rendering.

P4 Disc Range				
Fastel Technology	Product code	Specify colour option	Specify microwave sensor	
		White = /WH	Required = /MS	
		Chrome = /CH	Not required =	
		Brass = /BR	(leave blank)	
Fastel Standalone	P4D20LED3/SC/S/M3	/WH or /CH or /BR	/MS or (blank)	20 Watt, Surface mounted, 3 Watt emergency, Non maintained/maintained, 3 hours
	P4D20LED15/SC/S/M3	/WH or /CH or /BR	/MS or (blank)	20 Watt, Surface mounted, 15 Watt emergency, Non maintained/maintained, 3 hours
	P4D30LED3/SC/S/M3	/WH or /CH or /BR	/MS or (blank)	30 Watt, Surface mounted, 3 Watt emergency, Non maintained/maintained, 3 hours
	P4D30LED15/SC/S/M3	/WH or /CH or /BR	/MS or (blank)	30 Watt, Surface mounted, 15 Watt emergency, Non maintained/maintained, 3 hours
Fastel Link and Fastel SRM	P4D20LED3/SC/SRM/M3	/WH or /CH or /BR	/MS or (blank)	20 Watt, Surface mounted, 3 Watt emergency, Non maintained/maintained, 3 hours
	P4D20LED15/SC/SRM/M3	/WH or /CH or /BR	/MS or (blank)	20 Watt, Surface mounted, 15 Watt emergency, Non maintained/maintained, 3 hours
	P4D30LED3/SC/SRM/M3	/WH or /CH or /BR	/MS or (blank)	30 Watt, Surface mounted, 3 Watt emergency, Non maintained/maintained, 3 hours
	P4D30LED15/SC/SRM/M3	/WH or /CH or /BR	/MS or (blank)	30 Watt, Surface mounted, 15 Watt emergency, Non maintained/maintained, 3 hours
Fastel Wireless	P4D20LED3/SC/FW/M3	/WH or /CH or /BR	/MS or (blank)	20 Watt, Surface mounted, 3 Watt emergency, Non maintained/maintained, 3 hours
	P4D30LED3/SC/FW/M3	/WH or /CH or /BR	/MS or (blank)	30 Watt, Surface mounted, 3 Watt emergency, Non maintained/maintained, 3 hours
Mains voltage luminaires	P4D20LED/SC/230	/WH or /CH or /BR	/MS or (blank)	20 Watt, Surface mounted, Mains operation
	P4D30LED/SC/230	/WH or /CH or /BR	/MS or (blank)	30 Watt, Surface mounted, Mains operation

P4 Disc Dimensions	
<p>P4 Disc 20W dimensions</p> 	<p>P4 Disc 30W dimensions</p> 

P4 Disc Range Specification

IP65, surface mounted circular luminaire with opalescent lens incorporating hinged LED array PCB for (mains*/emergency lighting *) operation with optional microwave sensor.

(350mm, 20Watt*/430mm, 30Watt*) diameter FR ABS housing for wall or ceiling mounting with hinged Polycarbonate lens and FR ABS surround, affixed to the housing with tool-less clips.

Circular LED array PCB, with high intensity white LEDs is hinged within housing and LED driver and emergency lighting control equipment is attached to the rear of the PCB or mounted within the luminaire housing.

Input connections terminated inside the luminaire housing.

230V \pm 10% ac 50/60 Hz input.

(Rechargeable Nickel Cadmium Battery with 6 years warranty for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication by a single multi-function bi-colour LED indicator */Mains luminaire*).

All emergency lighting versions to be (Fastel Standalone*/Fastel Link*/Fastel SRM*/Fastel Wireless*).

As **P4 Disc** [insert product code] *Delete as appropriate



BulkLED

PRODUCT DESCRIPTION

BulkLED wall mounted IP65 weatherproof luminaires are the perfect solution for clearly illuminating building exits and walkways, particularly where the environment is both harsh and dirty.

A stylish and energy saving alternative to conventional bulkhead luminaires, BulkLED products can be either mains only operated or used as emergency lighting luminaires strategically mounted to illuminate exits and escape routes. Installation is quick and easy with provisions for both rear entry and surface conduit wiring to a back plate assembly. The enclosure is then hinged to the back plate with weather seals in position on all mating surfaces to maintain protection from water and dust ingress and retained by a security screw.

LED illumination provides substantial energy savings over both tungsten halogen and fluorescent light sources. A cast aluminium body ensures robustness and vandal resistance whilst the LED fascia plate, incorporating three 1 Watt high intensity white LEDs, is protected by a clear polycarbonate lens sealed to the body to maintain enclosure integrity.

Addressable versions are available for remote monitoring and control in **Fastel Link** and **Fastel SRM**. P4's unique 6 year battery warranty is included.

KEY FEATURES AND BENEFITS

- A cast aluminium body ensures it is robust and vandal resistant.
- Installation is both quick and easy.
- Body casting removable from back plate.
- LED illumination provides substantial energy savings.
- Optional daylight switching sensor.

Images not to scale



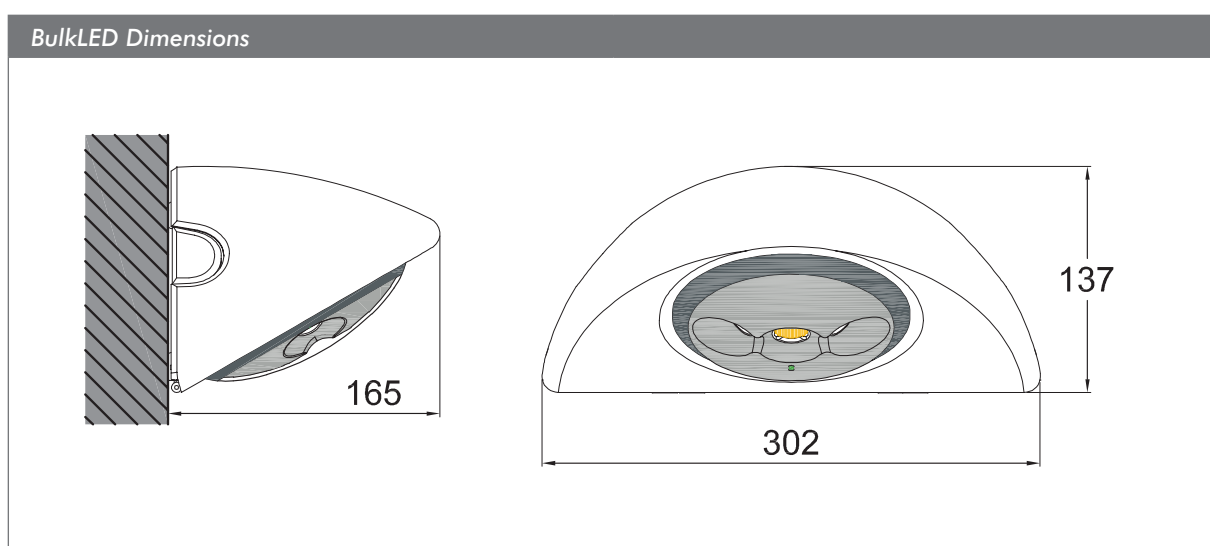
BulkLED LED detail



BulkLED enclosure may be hinged down and removed from back plate



BulkLED Range		
Fastel Technology	Product code	
Fastel Standalone	BULK/SW/S/M3/BL	Surface mounted, Non-maintained/Maintained, 3 hours, Black
	BULK/SW/S/M3/WH	Surface mounted, Non-maintained/Maintained, 3 hours, White
	BULK/SW/S/M3/SL	Surface mounted, Non-maintained/Maintained, 3 hours, Silver
Fastel Link and Fastel SRM	BULK/SW/SRM/M3/BL	Surface mounted, Non-maintained/Maintained, 3 hours, Black
	BULK/SW/SRM/M3/WH	Surface mounted, Non-maintained/Maintained, 3 hours, White
	BULK/SW/SRM/M3/SL	Surface mounted, Non-maintained/Maintained, 3 hours, Silver
Fastel Wireless	N/A	
Mains voltage luminares	BULK/SW/230/BL	Surface mounted, 230v Mains operation, Black
	BULK/SW/230/WH	Surface mounted, 230v Mains operation, White
	BULK/SW/230/SL	Surface mounted, 230v Mains operation, Silver
Options (product code suffix)	/D	Integral daylight switching sensor



BulkLED Range Specification

Surface mounted IP65 cast aluminium alloy LED emergency lighting luminaire. Incorporating high intensity white 1 Watt LEDs mounted in a silver flame retardant ABS fascia with purpose designed lenses for optimum light distribution. With a clear polycarbonate fascia cover suitable for external escape route illumination.

Body to be hinged from and demountable from wall mounted back plate with optional BESA box mounting.

Input connections to be screw terminated inside the luminaire housing.

230v \pm 10% a.c 50/60 Hz input.

(Emergency lighting Luminaire(s) to have rechargeable Nickel Cadmium Battery with 6 years warranty, for three hours emergency duration. To incorporate fully automatic self-testing facility and status indication by a single multi-function bi-colour LED indicator*/ Mains Luminaire(s) / integral daylight switching sensor*).

All emergency lighting versions to be (*Fastel Standalone*/Fastel Link*/ Fastel SRM**).

As **BulkLED** [insert product code]

*Delete as appropriate



LED Floodlight

PRODUCT DESCRIPTION

A low maintenance, low energy solution to flood lighting requirements, P4 LED floodlights are a power saving alternative to halogen and metal halide floodlights. The P4 range of LED floodlights which are available in emergency lighting or mains lighting only versions, provide high intensity, white floodlighting from low energy LED arrays that are available in 4 power options and a choice of warm white (3000°K) or cool white (5000°K) colours.

The IP65 die cast aluminium alloy housings make them suitable for mounting in exposed locations that are subject to wet or dirty conditions. They are ideal for external area lighting or perimeter lighting.

P4 LED floodlights can be supplied with a black, white or silver finish to blend into their surroundings.

Matching emergency lighting versions incorporate integral self-testing control equipment and can be either standalone or integrated into a P4 **fastel** addressable emergency lighting system.

KEY FEATURES AND BENEFITS

- IP65, die cast aluminium enclosures available in black, white or silver.
- Lower power consumption than halogen or metal halide floodlights of equivalent output.

Image not to scale



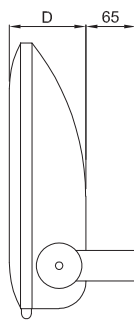
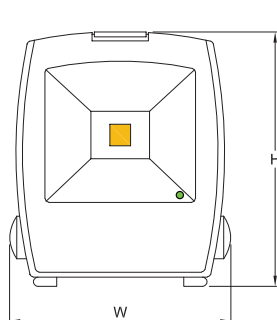
Security screws lock LED Floodlights into the correct position



LED Floodlight Range

Fastel Technology	Product code	Specify colour option	
		Black = /BL	White = /WH
		Silver = /SL	
Fastel Standalone	HPFL10K3/SC/S/N3	/BL or /WH or /SL	10 Watt, 3000K, Surface mounted, NM/M, 3hours
	HPFL10K5/SC/S/N3	/BL or /WH or /SL	10 Watt, 5000K, Surface mounted, NM/M, 3hours
	HPFL30K3/SC/S/N3	/BL or /WH or /SL	30 Watt, 3000K, Surface mounted, NM/M, 3hours
	HPFL30K5/SC/S/N3	/BL or /WH or /SL	30 Watt, 5000K, Surface mounted, NM/M, 3hours
	HPFL50K3/SC/S/N3	/BL or /WH or /SL	50 Watt, 3000K, Surface mounted, NM/M, 3hours
	HPFL50K5/SC/S/N3	/BL or /WH or /SL	50 Watt, 5000K, Surface mounted, NM/M, 3hours
	HPFL100K5/SC/S/N3	/BL or /WH or /SL	100 Watt, 5000K, Surface mounted, NM/M, 3hours
Fastel Link and Fastel SRM	HPFL10K3/SC/SRM/N3	/BL or /WH or /SL	10 Watt, 3000K, Surface mounted, NM/M, 3hours
	HPFL10K5/SC/SRM/N3	/BL or /WH or /SL	10 Watt, 5000K, Surface mounted, NM/M, 3hours
	HPFL30K3/SC/SRM/N3	/BL or /WH or /SL	30 Watt, 3000K, Surface mounted, NM/M, 3hours
	HPFL30K5/SC/SRM/N3	/BL or /WH or /SL	30 Watt, 5000K, Surface mounted, NM/M, 3hours
	HPFL50K3/SC/SRM/N3	/BL or /WH or /SL	50 Watt, 3000K, Surface mounted, NM/M, 3hours
	HPFL50K5/SC/SRM/N3	/BL or /WH or /SL	50 Watt, 5000K, Surface mounted, NM/M, 3hours
	HPFL100K5/SC/SRM/N3	/BL or /WH or /SL	100 Watt, 5000K, Surface mounted, NM/M, 3hours
Fastel Wireless	N/A		
Mains voltage luminaires	HPFL10K3/SC/230	/BL or /WH or /SL	10 Watt, 3000K, Surface mounted, Mains operation
	HPFL10K5/SC/230	/BL or /WH or /SL	10 Watt, 5000K, Surface mounted, Mains operation
	HPFL30K3/SC/230	/BL or /WH or /SL	30 Watt, 3000K, Surface mounted, Mains operation
	HPFL30K5/SC/230	/BL or /WH or /SL	30 Watt, 5000K, Surface mounted, Mains operation
	HPFL50K3/SC/230	/BL or /WH or /SL	50 Watt, 3000K, Surface mounted, Mains operation
	HPFL50K5/SC/230	/BL or /WH or /SL	50 Watt, 5000K, Surface mounted, Mains operation
	HPFL100K5/SC/230	/BL or /WH or /SL	100 Watt, 5000K, Surface mounted, Mains operation

LED Floodlight Dimensions



Version	Wide (W)	Height (H)	Depth (D)
10W	143mm	175mm	80mm
30W	220mm	280mm	95mm
50W	295mm	350mm	100mm
100W	380mm	422mm	127mm

LED Flood Light Range Specification

Surface mounted LED floodlight in die cast aluminium alloy housing with toughened glass lens, having IP65 degree of protection, for mains lighting*/ emergency lighting*) operation.

High intensity (10Watt*/30Watt*/50Watt*/100Watt*) (warm white (3000°K)*/cool white (5000°K)*) LED array with 60° beam angle.

Colour rendering index to be >80.

(Emergency lighting Luminaire(s) to have a rechargeable Nickel Cadmium Battery with 6 years warranty, for three hours emergency duration and fully automatic self-testing facility with status indication by a single multi-function bi colour LED indicator*/ Mains Luminaire(s)*).

Emergency lighting versions to be (Fastel Standalone*/Fastel Link*/Fastel SRM*).

Input 85-265v ac 50/60 Hz.

As **LED Floodlight** [insert product code]

*Delete as appropriate



LED Hi-Bay

PRODUCT DESCRIPTION

High efficiency, high light output Luminares ideal for industrial applications, warehousing and sports halls. These LED Hi-Bay Luminares can be provided with an emergency lighting option.

Image not to scale



Substantial cast aluminium fins take heat away from the LEDs



LED Hi-Bay control gear is remote from LEDs

Housed in die-cast aluminium enclosures with external heat sink fins, they can be provided with either a clear or prismatic lens. The enclosure has a powder coated finish over a chromate conversion coating for extended service life.

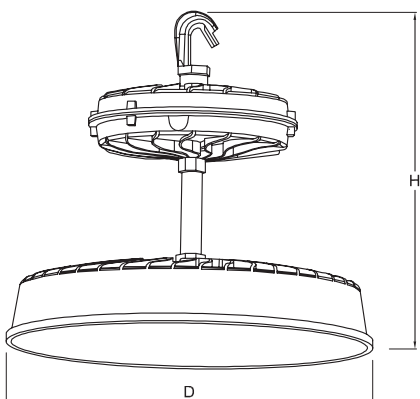
A disc PCB array of high light output LEDs delivers 16,405 (HB195) or 27,382 (HB300) lumens from the clear glass lens or 15,773 (HB195) or 22,542 (HB300) lumens from the prismatic lens in mains operation.

KEY FEATURES AND BENEFITS

- Effective light output at high mounting heights for industrial, warehousing and sports hall applications.
- High output white LED array.
- Colour rendering index >82.
- Expected lamp life of 50,000 hours.
- Mains lighting versions complemented by integral emergency lighting versions.
- Self-testing emergency lighting available in **Fastel Standalone** versions and addressable emergency lighting versions with integrated **Fastel Link** or **Fastel SRM** technology.



LED Hi Bay Range		
Fastel Technology	Product code	
Fastel Standalone	HB195CG/SC/S/M3	195 Watt, Clear lens, surface mounted, Non maintained/maintained, 3 hours
	HB195PG/SC/S/M3	195 Watt, Prismatic lens, surface mounted, Non maintained/maintained, 3 hours
	HB300CG/SC/S/M3	300 Watt, Clear lens, surface mounted, Non maintained/maintained, 3 hours
	HB300PG/SC/S/M3	300 Watt, Prismatic lens, surface mounted, Non maintained/maintained, 3 hours
Fastel Link and Fastel SRM	HB195CG/SC/SRM/M3	195 Watt, Clear lens, surface mounted, Non maintained/maintained, 3 hours
	HB195PG/SC/SRM/M3	195 Watt, Prismatic lens, surface mounted, Non maintained/maintained, 3 hours
	HB300CG/SC/SRM/M3	300 Watt, Clear lens, surface mounted, Non maintained/maintained, 3 hours
	HB300PG/SC/SRM/M3	300 Watt, Prismatic lens, surface mounted, Non maintained/maintained, 3 hours
Fastel Wireless	N/A	
Mains voltage luminaires	HB195CG/SC/230	178.5 Watt, Clear lens, surface mounted, Mains operation
	HB195PG/SC/230	178.5 Watt, Prismatic lens, surface mounted, Mains operation
	HB300CG/SC/230	291 Watt, Clear lens, surface mounted, Mains operation
	HB300PG/SC/230	291 Watt, Prismatic lens, surface mounted, Mains operation

LED Hi-Bay Dimensions											
											
	<table> <thead> <tr> <th>Model</th><th>Diameter (D)</th><th>Height (H)</th></tr> </thead> <tbody> <tr> <td>HB195</td><td>413mm</td><td>416mm</td></tr> <tr> <td>HB300</td><td>566mm</td><td>416mm</td></tr> </tbody> </table>	Model	Diameter (D)	Height (H)	HB195	413mm	416mm	HB300	566mm	416mm	
Model	Diameter (D)	Height (H)									
HB195	413mm	416mm									
HB300	566mm	416mm									

LED Hi-Bay Range Specification:

LED Hi-Bay Luminaire with circular front face housed in die cast aluminium enclosure with (clear*/prismatic*) lens. Housing to have external cooling fins for heat control and separate gear box attached to the PCB enclosure/reflector by steel conduit tube.

Colour correlated temperature of LEDs to be 5000°K and the colour rendering index to be at least 82.

Luminaire output in mains operation to be 16,405 lumens (HB195) or 27,382 lumens (HB300) with clear lens or 15,773 lumens (HB195) or 22,542 lumens HB300 with (178.5Watt (mains only)*/195 Watts (mains and emergency lighting)*) total system input power.

Emergency lighting control equipment to provide 15Watts of power to LED array in emergency operation.

(Emergency lighting Luminaire(s) to have rechargeable Nickel Cadmium or Nickel Metal Hydride battery with 6 years warranty, for 3 hours emergency duration and fully automatic self-testing facility with status indication by a single multi-function bi colour LED indicator*/ Mains Luminaire(s)*).

Emergency lighting versions to be (Fastel Standalone*/Fastel Link*/Fastel SRM*).

120-277v 50/60Hz Input.

As **LED Hi-Bay Luminaire** [insert product code]

*Delete as appropriate



LED Flat Panel

PRODUCT DESCRIPTION

P4 LED panels provide cost effective, energy efficient alternatives to 595 x 595mm and 1195 x 595mm (nominal 600 x 600mm and 1200 x 600mm) fluorescent lay-in modular luminaires.

Housed in an anodised aluminium frame with an opal polycarbonate diffuser P4 panels mount directly into T-bar ceiling grids or alternatively can be surface or pendant mounted through the use of optional mounting kits.

Using edge lighting of the panels, which are purpose designed to transmit light through them and emit it downward, there is little evidence of the position of the LEDs and excellent uniformity of illumination is achieved.

P4 panels are available as emergency lighting or mains lighting luminaires so that complete lighting schemes can be installed with identical energy saving panels throughout.

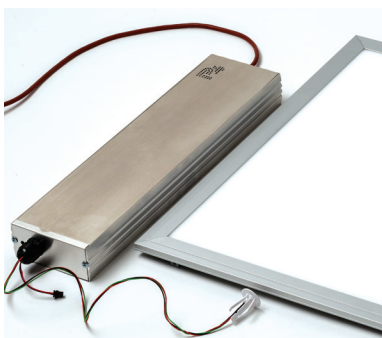
The light output achieved by P4 panels operating from high efficiency LED drivers make them a popular choice with energy managers who can readily demonstrate payback on their investment to replace fluorescent lighting within energy efficiency targets.

Remote monitoring and control options available through P4's addressable *Fastel Link*, *Fastel SRM* and *Fastel Wireless* versions.

KEY FEATURES AND BENEFITS

- Low energy, aesthetically pleasing LED panels that can be mounted into a suspended ceiling, surface mounted, wire or rod suspended.
- Available in 595 x 595mm and 1195 x 595mm sizes to replace most lay-in fluorescent luminaires and fits most T-bar systems.
- Emergency and mains lighting versions available for complete schemes.
- High efficiency white LEDs with an expected service life of at least 50,000 hours.
- Mains dimming drivers available for mains and emergency versions.

Images not to scale



A remote control box houses emergency lighting gear



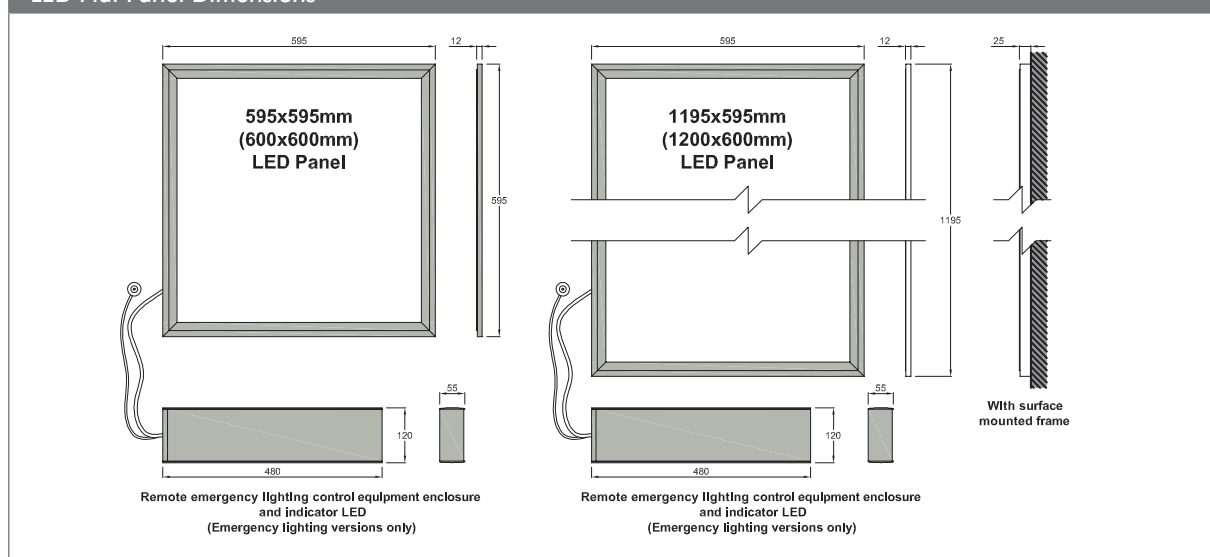
Neatly mitred corners of LED Flat Panels



LED Flat Panel Range

Fastel Technology	Product code	
Fastel Standalone	P4PAN60052/RC/S/M3/AA	595 x 595mm, 52W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
	P4PAN120080/RC/S/M3/AA	1195 x 595mm, 80W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
	P4PAN1200100/RC/S/M3/AA	1195 x 595mm, 100W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
Fastel Link and Fastel SRM	P4PAN60052/RC/SRM/M3/AA	595 x 595mm, 52W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
	P4PAN120080/RC/SRM/M3/AA	1195 x 595mm, 80W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
	P4PAN1200100/RC/SRM/M3/AA	1195 x 595mm, 100W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
Fastel Wireless	P4PAN60052/RC/FW/M3/AA	595 x 595mm, 52W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
	P4PAN120080/RC/FW/M3/AA	1195 x 595mm, 80W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
	P4PAN1200100/RC/FW/M3/AA	1195 x 595mm, 100W, Recess mounted, LED, Non maintained/Maintained, 3 hours, Anodised aluminium
Mains voltage luminaires	P4PAN60042/RC/230/AA	595 x 595mm, 42W, Recess mounted, LED, Mains operation, Anodised aluminium
	P4PAN120070/RC/230/AA	1195 x 595mm, 70W, Recess mounted, LED, Mains operation, Anodised aluminium
	P4PAN120090/RC/230/AA	1195 x 595mm, 90W, Recess mounted, LED, Mains operation, Anodised aluminium
Optional accessories	595 x 595mm panels	1195 x 595mm panels
	LPE225	LPE245
	LPEPC	LPEPC
	LPEPR	LPEPR
		Surface mounting kit, including anodised aluminium frame and hardware
		Wire suspension kit, includes stainless steel wires and hardware
		Rod suspension kit, includes stainless steel rods and hardware

LED Flat Panel Dimensions



LED Flat Panel Range Specification

LED edge illuminated panel Luminaires suitable for (installation into T-bar suspended ceilings*/surface mounting*/wire suspension*/rod suspension*).

Correlated colour temperature (CCT) of 4000°K with a colour rendering index (CRI) of 80 and typical 130° distribution.

Typical input power (42W for 595 x 595mm panel*/70W for 1195 x 595mm panel*/90W for 1195 x 595mm panel*) (for mains luminaire*/for emergency lighting luminaire*) (52W for 595 x 595mm panel*/80W for 1195 x 595mm panel*/100W for 1195 x 595mm panel*).

In mains operation, panels shall provide a typical output of (3,332 lumens for 595 x 595mm panel (42W)*/5,562 lumens for 1195 x 595mm panel (70W)*/ 6,341 lumens for 1195 x 595mm panel (90W)*).

(Emergency lighting panel Luminaire(s) to have a rechargeable Nickel Cadmium Battery with 6 years warranty, for 3 hours emergency duration and fully automatic self-testing facility and status indication by a single multi-function bi-colour LED indicator*/ Mains Luminaire(s)*).

Emergency lighting versions to be (Fastel Standalone*/Fastel Link*/ Fastel SRM*/ Fastel Wireless*).

Input voltage: 100-240v 50 Hz.

As **LED Flat Panel** [insert product code]

*Delete as appropriate



Linear LED IP65

PRODUCT DESCRIPTION

P4 Linear LED IP65 Luminares are the ideal product choice for exterior lighting, industrial applications and car park areas.

This range of non-corrosive linear LED luminaires provides a robust, weather resistant solution for mains and integral emergency lighting in any wet or dirty location. The two models in this range offer LED versions of the most popularly used sizes of fluorescent lamp products that they replace.

Available in 1268mm (4ft), 21 and 46 Watt versions and 1568mm (5ft), 32 and 70 Watt versions, P4 Linear LED IP65 Luminares offer the benefit of significantly increased energy performance over fluorescent equivalents as well as much greater light source (lamp) life.

Injection moulded in grey FR ABS, the housing is attached to the opalescent polycarbonate lens by stainless steel clips. High performance white LEDs are arranged on a linear PCB inside the housing which acts also as a reflector.

In mains operation, the 1,268mm (4ft) version has an output of 1,988 Lumens (PLIN 21) 4,457 Lumens (PLIN 46) and the 1,568mm (5ft) version has an output of 3,040 Lumens (PLIN 32) 6,818 Lumens (PLIN 70). In emergency lighting operation the same PCB is supplied from an integral self-testing driver and battery that delivers 3 Watts into the LEDs, permitting these versions to provide emergency illumination of escape routes or open areas complying with BS 5266 requirements.

An emergency lighting "Pod" option is available to retrofit emergency lighting to mains luminaires. Complete with microwave sensor, the "Pod" provides emergency lighting over a large area from the inbuilt 3 Watt high intensity white LED and wide area lens.

Images not to scale



Stainless steel clips retain diffusers



Optional emergency lighting "Pod" attached to the end of a mains luminaire



KEY FEATURES AND BENEFITS

- Linear non corrosive luminaires suitable for wet and dirty locations.
- High efficacy LEDs and drivers produce exceptional light output performance.
- Higher power emergency lighting versions available
- Fully automatic self-testing emergency lighting versions match mains lighting models.
- Significant energy savings over equivalent length fluorescent luminaire.

Linear LED IP65 Range		
Fastel Technology	Product code	
Fastel Standalone	PLIN21LED/SC/S/M3/GR PLIN46LED/SC/S/M3/GR PLIN32LED/SC/S/M3/GR PLIN70LED/SC/S/M3/GR	21Watt, 4Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 46Watt, 4Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 32Watt, 5Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 70Watt, 5Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey
Fastel Link and Fastel SRM	PLIN21LED/SC/SRM/M3/GR PLIN46LED/SC/SRM/M3/GR PLIN32LED/SC/SRM/M3/GR PLIN70LED/SC/SRM/M3/GR	21Watt, 4Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 46Watt, 4Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 32Watt, 5Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 70Watt, 5Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey
Fastel Wireless	PLIN21LED/SC/FW/M3/GR PLIN46LED/SC/FW/M3/GR PLIN32LED/SC/FW/M3/GR PLIN70LED/SC/FW/M3/GR	21Watt, 4Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 46Watt, 4Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 32Watt, 5Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey 70Watt, 5Ft, LED Surface Mounted, Non maintained/Maintained, 3 hours, Grey
Mains voltage luminaires	PLIN21LED/SC/230/GR PLIN46LED/SC/230/GR PLIN32LED/SC/230/GR PLIN70LED/SC/230/GR	21 Watt, 4Ft, LED Surface mounted, Mains operation, Grey 46 Watt, 4Ft, LED Surface mounted, Mains operation, Grey 32 Watt, 5Ft, LED Surface mounted, Mains operation, Grey 70 Watt, 5Ft, LED Surface mounted, Mains operation, Grey
Optional Emergency lighting format	POD3	Emergency lighting LED "Pod" to fit to linear luminaires. Including microwave sensor and 3 Watt LED with control equipment (fitted inside luminaire)

Linear LED IP65 Dimensions

Optional emergency lighting "Pod"

900

F

L1

L2*

38

* Overall length including optional alternative emergency lighting "Pod"

105

33

W

Version	Wide (W)	Fixings (F)	Length 1 (L1)	Length 2 (L2)
LPIN21	105mm	1000mm	1268mm	1393mm
LPIN32	105mm	1200mm	1568mm	1693mm
LPIN46	163mm	1000mm	1268mm	1393mm
LPIN70	163mm	1200mm	1568mm	1693mm

Linear LED IP65 Range Specification

Surface mounted, IP65, Linear LED Luminaire with opalescent lens, for (emergency lighting */mains lighting*) operation.

Housing to be injection moulded in FR ABS with an opalescent FR polycarbonate cover retained by stainless steel clips. Length/LED power to be (1268mm (4Ft), 21Watts*/1268mm (4Ft), 46Watts*/1568mm (5Ft), 32Watts*/1568mm (5Ft), 70Watts*).

LED array PCB to form luminaire gear tray and reflector with control equipment mounted on the rear and in the housing.

Colour correlated temperature of LEDs to be 4000°K and the colour rendering index to be >80.

Luminaire output in mains operation to be (1,988 Lumens (PLIN21)*/4,457 Lumens (PLIN46)*/3,040 Lumens (PLIN32)*/6,818 Lumens (PLIN70)*).

(Emergency lighting Luminaire, incorporating rechargeable NiCd battery with 6 years warranty, for 3 hours emergency duration and fully automatic self-testing facility with status indication by a single multi-function bi colour LED indicator*/Mains Luminaire / Mains with emergency lighting "Pod"*).

Emergency lighting versions to be (Fastel Standalone*/Fastel Link*/Fastel SRM*/Fastel wireless*).

220/240v 50/60 Hz Input.

As **Linear LED IP65 Luminaire** [insert product code] *Delete as appropriate



Twinspot

PRODUCT DESCRIPTION

Self-Testing Non Maintained, 3 Hour, Twin Spot Fitting with two 6W LEDs. Standard and high output options available with all the advantages of a P4 **Fastel** emergency unit. Maintenance is minimised with fully automatic self-testing and batteries have a 6 year warranty. Available in addressable **Fastel Link**, **Fastel SRM** and **Fastel Wireless** versions for remote monitoring and control.

KEY FEATURES AND BENEFITS

- Flame retardant ABS housing.
- IP54 degree of protection for mounting in damp and dirty locations.
- Projectors must be locked in position.

Contact P4 for full details.



Twinspot luminaires are often used for the emergency lighting of aisles between pallet racking and open industrial or warehouse areas.

Warning Notes:

1. Providing fully compliant emergency lighting installations using only Twinspot luminaires is very difficult and often impossible. Therefore it is recommended that alternative emergency lighting luminaires such as IP65 Linear LED luminaires should be used if possible.
2. Twinspot luminaires can achieve the prescribed levels of emergency lighting illuminance in these locations; however care must be taken to achieve at least minimum prescribed levels of illuminance without exceeding the permitted maximum diversity ratio.
3. When installed in aisles between pallet racking and similar locations, consideration must be given to the possibility of blocking the beams from the Twinspot by pallet racking machinery or similar equipment and emergency lighting not being provided as required.
4. Similarly emergency lighting may be blocked by persons at the back of a group escaping such that those at the front of the group are not provided with adequate emergency lighting.
5. A Twinspot emergency lighting installation is more likely to be fully compliant if Twinspots are installed at both ends of the route illuminated, however Twinspot luminaires must be mounted well above the line of site of persons using escape routes from premises in which they are installed and no less than 3 metres above floor level, in order to avoid disability glare.
6. To comply with BS EN 60598-2-22, Twinspot luminaire projectors must be locked into position after installation to ensure that the distribution of emergency lighting cannot be changed by adjustment of the projectors. Unless conforming to this requirement a Twinspot emergency lighting installation cannot be considered to comply with BS5266 Pt 1.

P4's product ranges and technologies

Fastel

Fastel
Luminaires

Fastel
Lumasigns

Fastel
SRM

Fastel
Wireless

Fastel
Standalone

Fastel
Link

Fastel
Within

Fastel
Care

Excellent value with ultimate peace of mind

At P4 we are renowned for our support for all of our customers in the operation and maintenance of their **Fastel** installations. Our optional **Fastel Care** solutions offer a level of product and after-sales service that is second to none.

We continue to support our customers in the operation and maintenance of their **Fastel** installations, providing bespoke maintenance packages as well as unbiased and informed advice on layout alterations and upgrades. By taking out optional **Fastel Care**, our customers remain safe in the knowledge we take on responsibility for their continued compliance.

Dedicated to exceptional customer service, we like to think we go beyond the usual obligations by offering warranties on our systems and products in excess of what others on the market offer - **giving you peace of mind for the years to come.**



YOUR AUTHORITY IN SELF-TESTING EMERGENCY LIGHTING



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IN PEOPLE



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