

# YOUR AUTHORITY IN SELF-TESTING EMERGENCY LIGHTING

## FASTEL FULLY AUTOMATIC SELF-TESTING EMERGENCY LIGHTING

Long recognised as the most reliable and effective system in the UK, P4's industry leading *fastel* emergency lighting monitoring and control system includes exciting new features for 2017.

## SYSTEM FEATURES

- New *fastel* FWS supports full integration of wired and wireless communication to emergency luminaires and signs.
- New M-web FWSD unit includes a touch screen display for local management of the system.
- Up to 250 luminaires and signs can now be directly connected to the new M-web FWSD unit.
- *Fastel* connection to luminaires and signs use mesh networks to ensure secure communications.
- Wireless transmission between buildings and areas avoids expensive cable runs.
- Wired connection to luminaires and signs can be used where wireless signal transmission is difficult.
- System output can be displayed as HTML pages on a web browser via any LAN using TCP-IP protocol.
- Data can be sent directly to BMS and data processing systems via GSM link to cloud servers for remote monitoring.

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# *Fastel* FWS system

*Fastel* FWS system provides wired and wireless communication to luminaires and signs in a single system



P4 Fastel FWS emergency lighting system schematic

*Fastel* FWS is an exciting development that enables fully addressable self testing emergency lighting to be installed in all types of premises without the need for bus wiring between luminaires.

P4's **fastel** FWS addressable emergency lighting systems can connect the full range of **fastel** interior and exterior self testing luminaires and signs or **fastel** conversions of mains lighting luminaires from any manufacturer, into a network using a combination of 2 core bus wiring and a mesh wireless network.

*fastel* FWS is an ideal solution for premises and areas in which it is difficult to install additional wiring such as heritage buildings, buildings that are continuously occupied or in which access is difficult. Also in buildings or areas with solid ceilings and in buildings or areas that are remote from one another. It may be more cost effective to install a *Mireless* solution rather than adding communications wiring to existing installations. The replacement of key switch emergency lighting installations with a *Mireless* system can often be proved cost effective with a payback of the investment achieved typically within 2 years and considerably reduced through life cost.

Specify a P4 *Fastel* FWS emergency lighting installation using *Fastel* or *Fastel* luminaires, signs or conversions and you are assured of products that will significantly improve safety in the workplace, public buildings, hotels, leisure centres and prestigious homes, whilst providing peace of mind of full compliance with all known applicable legislation and standards.

### M-WEB FWSD UNIT

The new P4 M-web FWSD supervision unit for P4's Emergency Lighting Systems features an Ethernet interface with integrated web server. Housed in a flame retardant ABS enclosure, the FWSD unit now also features a touch screen for local supervision access to the connected system.

Connection may be made to any LAN Network via a TCP-IP protocol or to a BMS interface via the RS232 or RS485 ports. The BMS interface can also be arranged to transmit output data to a cloud server for remote monitoring.

The M-web FWSD unit can supervise a combination of wired and wireless emergency lighting luminaires and signs.

The M-web FWSD wired emergency lighting bus interface can be connected directly to a maximum of 125 *castel* self testing emergency lighting luminaires and signs, using a simple 2 wire bus. In addition the M-web FWSD is capable of direct connection with up to another 125 *Fastel* emergency lighting luminaires and signs via a mesh wireless network.



#### M-web FWSD Central Supervision Unit Specification

The Emergency Lighting System shall be monitored and controlled by an M-web FWSD Central Supervision Unit. The M-web FWSD Central Supervision Unit shall comprise an Ethernet interface with integrated web server for monitoring and control of emergency lighting luminaires connected to a Fastel Link bus wire connected system or Fastel Wireless mesh network.

Connection shall be to a LAN network using TCP-IP communication protocol or to a BMS system or similar using the RS232 or RS485 ports.

The M-web FWSD Central Supervision Unit shall be capable of operating on a single fixed IP address or dynamically addressed using DHCP protocol.

The M-web FWSD Central Supervision Unit shall be capable of either direct connection of up to 250 emergency lighting luminaires or up to 63 connected CB/FWS Collector Boxes.

The M-web FWSD Central Supervision Unit shall be capable of monitoring and controlling up to 15,750 luminaires and displaying live information about the status of all connected luminaires as HTML pages to be viewed using web browser software.

The M-web FWSD Central Supervision Unit shall be capable of continuously scanning the connected network of luminaires to obtain status information from each lighting unit.

The M-web FWSD Central Supervision Unit shall incorporate the following:

- Local indication status of "communicating", "everything OK" or "faulty emergency light"
- Adjustment of the testing day and time for all individual emergency lighting luminaires to suit local requirements
- Recording of all faults
- Storage of all information concerning each emergency lighting unit
- Automatic configuration of the system
- Data protection through password control
- Records four years of test results
- Automatic testing carried out on a nominal seven-day cycle in full compliance with BS EN 1838/BS 5266 Pt.7 requirements
- 2 sets of volt free relay contacts to be available for output of fault alarm if required
- Email facility is available to facilitate fault information to be sent to two designated recipients as required
- Facility is available to monitor volt free fire alarm contacts and switch emergency lighting on if required
- Modbus data output to be available for connection to BMS or graphical display software
- 230v ± 10% 50/60Hz input.

As P4 M-web FWSD Central Supervision Unit with Ethernet interface and web server.

Larger numbers of emergency lighting luminaires or signs may be connected by adding CB/FWS Collector Boxes, each of which can monitor and control a network of *fastel* emergency lighting luminaires and signs and transmit the collected data back to an M-web FWSD unit to which they are connected.

The M-web FWSD is used as a central supervision unit and continuously scans the whole installation sending control data to the connected devices and gathering information about the functioning of all of the connected emergency luminaires and signs.

The M-web FWSD unit will transmit all of the information it has gathered from the connected *fastel* emergency lighting units to web navigator software such as Internet Explorer, Firefox, Edge or Safari, where it is displayed as HTML pages by the navigator software. Additionally, using the RS232/485 ports from the M-web FWSD unit, the same data can be

### **CB/FWS COLLECTOR BOX**

To connect more than 125 *fastel* and 125 *fastel* luminaires and signs to a M-web FWSD unit, a CB/FW Collector Box is required to collect data, marshall it and resend the data to the M-web FWSD unit.

Connected to a M-web FWSD unit via radial data bus cable 28v (2x1.5mm singles or twin) of up to 2,000 metres in length, up to a further 125 *fastel* luminaires and signs and up to 125 *fastel* luminaires and signs may be connected through each CB/FWS Collector Box.

The CB/FWS Collector Box requires permanent un-switched 230v mains power and collects information from fastel and fastel equipped emergency luminaires. fastel luminaires and signs are connected by a wired bus with a maximum length of 2,000 metres from Collector Box to furthest emergency luminaire.

**CB/FWS** Collector Box specification

transmitted to a building management or similar system where it can be configured to show status and trigger alarms if any fault condition is detected.

The M-web FWSD unit is able to retain information about luminaire and sign testing, which is carried out automatically and in accordance with the requirements of emergency lighting standards for a period of 4 years, ensuring complete compliance with current legislation.

By accessing the M-web FWSD unit either through web navigator software or via the RS232/485 ports, it is possible to change the configuration of the M-web FWSD unit or individual connected emergency lighting units. The M-web FWSD unit incorporates an email facility which can be programmed to periodically send current status information to selected recipients.

*Fastel* luminaires and signs are linked to the CB/FWS Collector Box by a mesh wireless network that ensures multiple routes for data transmission and thereby providing high system integrity.



The CB/FWS Collector Box shall gather and marshall data from up to 125 Fastel Link enabled self testing luminaires and signs, and up to 125 Fastel Wireless enabled self testing luminaires and signs.

The CB/FWS Collector Box shall re-transmit data onto a communications bus to a M-web FWSD unit.

The CB/FWS Collector Box module shall be DIN rail mounted in a flame retardant, injection moulded enclosure with grey back box and clear polycarbonate front cover, through which the inbuilt indicator LEDs shall be visible in normal use.

A LED function indicator shall display "communicating", "everything OK" or "faulty emergency light" conditions.

Input and output communications terminals, pre-wired to multi-way terminal strip, shall be fuse protected and operate on a non polarised nominal 28v d.c. bus.

An unswitched  $230v \pm 10\%$  ac 50/60Hz fused supply shall be required.

2 sets of volt free relay contacts shall be provided for fault monitoring as required.

As P4 CB/FWS Collector Box.

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