



EMERGENCY & EXIT LIGHTING SOLUTIONS for Schools

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Does your school comply to the UK regulatory requirements for emergency lighting?

In the UK there is a regulatory requirement to provide emergency lighting with educational premises.

Emergency and exit lighting is designed to provide illumination in the event of a power outage or other emergency situation, allowing occupants to safely evacuate the premises.

In the UK, the Regulatory Reform (Fire Safety) Order 2005* requires that all schools have adequate emergency lighting in place. This means that emergency lighting must be installed and maintained in a way that ensures the safety of all occupants, including students and staff.

What are the regulations?

- Provide a safe means of escape, including emergency exit route, exits and necessary signage.
- Adequate illumination in conjunction with emergency lighting of sufficient intensity, when normal lighting fails.
- Ensure all systems are tested in accordance to the relevant standards and maintenance with repairs conducted in a timely manner.

What emergency lighting do you need at your school?

Emergency lighting is a legal requirement and covers:

- Open Area Lighting: Illumination to reach an escape route
- Escape Route Lighting: Illumination for escape routes, including escape route signage
- High Risk Task Area Lighting: Ensures the safety of staff and students involved in tasks which could be dangerous without adequate lighting



*England and Wales: Regulatory Reform (Fire Safety) Order 2005; Scotland: The Fire (Scotland) Act 2005; Northern Ireland: Fire and Rescue Services (Northern Ireland) Order 2006 No. 1254 (N.I.9) and the Fire Safety Regulations (Northern Ireland).



Can I afford to upgrade my emergency and exit lighting?

When discussing emergency lighting at schools across the UK there are usually **these main questions**:

1. Do we need to be **compliant**?

The answer to this one is Yes. Based on our discussions with schools, they were unaware of the regulations. There was a common misconception that schools don't need emergency lighting as they only operate in the day. In the UK, the Regulatory Reform (Fire Safety) Order 2005 requires that all schools have adequate emergency lighting in place. This means that emergency lighting must be installed and maintained to ensure the safety of all occupants, including students and staff. Being compliant shouldn't be a burden, though, as technology advancements now ensure that emergency and exit lighting can be operational for 12+ years without needing maintenance.

2. Are we compliant?

Once the regulations are understood, conducting an audit can identify the status of the emergency lighting in your school. The audit involves liaising with the responsible person and other key stakeholders to understand any specific requirements that may need to be addressed. Reviewing the fire risk assessment and current emergency and exit lighting compliance records/logbook and walking the site to document findings.

3. How can I achieve **compliance** within my **budget**?

With the advancements in exit and emergency lighting technology cost effective compliance is achievable for all schools. The biggest issue with compliance has always been the ongoing costs to maintain and replace fitting on a regular basis. Schools with old technology luminaires will be replacing 35% of the fittings on an annual basis and this is a cost burden. Emergency and exit lighting is an essential life safety device that shouldn't be in a constant state of repair.

Now with exit and emergency luminaires with 12+ years of maintenance-free service that cost burden has gone. Combined the luminaires with a simple to manage wireless testing and monitoring system you will have peace of mind without the added costs. Incremental installation can also be managed over time, so there is not one significant upfront cost. Managing compliance within any budget is now achievable.

Three pillars of a costeffective compliant emergency lighting solution



Long life LED emergency and exit luminaires

- Long service design life luminaires that require little or no maintenance over a 12 year period.
- A 10 year warranty to ensure no unexpected future costs.
- A 50% reduction in energy costs / carbon footprint.
- Up to 89% carbon reduction.



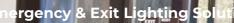
Wireless automatic monitoring and testing system

- A fully automatic wireless testing and monitoring system that requires one single controller to manage the luminaires throughout the school.
- Ability to test on site or remotely.
- Management of multiple sites / academies from the one system.



Complimentary Lifetime Technical Support

- Full commissioning and handover of a functioning emergency lighting system.
- Complimentary Lifetime Technical Support to ensure the system is working as expected.





Emergency and exit lighting **design** process

Before installing emergency and exit lighting in any school it is important to conduct a thorough audit. This will provide the information required to design a compliant scheme for each school. The audit is comprehensive and involves reviewing the layout of the school's buildings and infrastructure.



STEP 1



Review the fire risk assessment and current emergency and exit lighting compliance records/logbook to assess the current state.

STEP 2



Walk the site and undertake an audit. Liaise with the responsible person and other key stakeholders to understand any specific requirements that may need to be addressed.

STEP 3



Create a report based on the audit findings identifying risks, and areas of non compliance.

STEP 4



Evaluate the emergency and exit lighting options based on the outcomes with a focus on identifying the lowest total cost of ownership.

STEP 5



Publish and present the findings from the audit and the proposal for upgrading to a compliant and costeffective system.

STEP 6



Plan and install a new compliant emergency lighting system, including training and ongoing lifetime support.

Once the audit is **complete** a proposal of **compliant options** is presented to suit the school's **budget and expectation**.

∢.....

Near each first aid post



Key emergency and exit lighting **points of emphasis**

There are many areas where emergency and exit lighting is required throughout your school.

The points of emphasis are critical to identify during the audit to ensure the egress paths to the exits are compliant.



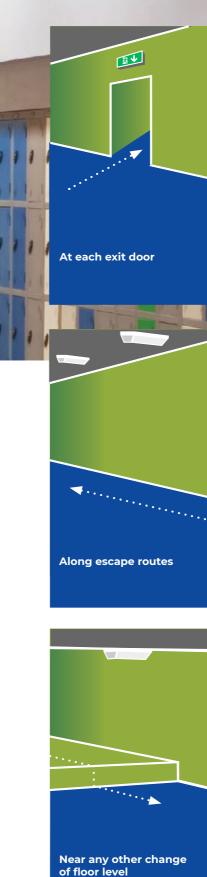
Push bars











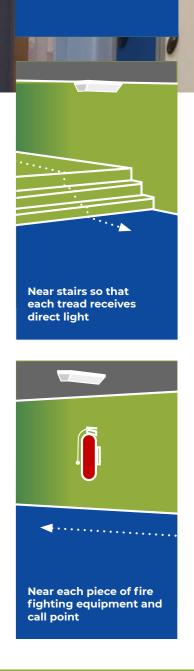


of corridors

← 2

At each change of

direction



For the State of t

Cold A GgHhII JKEL MmNn Oo





Outcomes of a worldclass compliant emergency lighting solution in your school



LUMINAIRES

A compliant emergency lighting system, designed in line with the latest standards as per BS 5266-1.



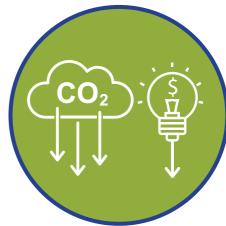
SYSTEM

A testing and monitoring system that automatically initiates the required monthly function and annual discharge tests. Provides all logbook requirements in one place.



WARRANTY

Twelve-year
maintenance-free
exit and emergency
luminaires with a ten
year warranty to reduce
the need for ongoing
maintenance and
replacements.



CARBON & ENERGY

A reduced energy and carbon footprint from low energy LED luminaires and Lithium Iron Phosphate battery technology.



SAFE & LEGALLY COMPLIANT

Peace of mind knowing your school has addressed the legal requirements required to have a safe and compliant emergency lighting system.



Where is emergency and exit lighting located in schools?

Every school is different in size, scale, layout and the types of facilities available. All building structures though legally require emergency and exit lighting.

The orientation of the buildings will determine the type and quantity of luminaires required. Ceiling height for example, impacts the type of luminaire that can be used to ensure adequate light is delivered to the egress path.

(3)



Classrooms



Stairwells



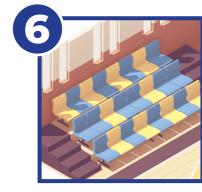
Cafeterias



Chapels



Gymnasiums



Theatres



Offices



Halls & Walkways



Why Clevertronics?

Clevertronics is a **specialist emergency** and exit lighting company with a mission to make **emergency lighting easy**.



Clevertronics

 Extensive experience in designing cost-effective compliant emergency lighting solutions for over 100 schools in the UK.



- **35+ research and development** engineers
- Over 450 specialised staff



- State of the art engineering and testing laboratories
- ISO9001 and ISO14001 accredited





Installed in over 10,000
major sites across the UK,
Australia and New Zealand



The Ultimate Cost-Effective Clevertronics Emergency Lighting **Solution for Schools**

- Designed for 12+ year maintenance free operation
- 10 year warranty including batteries
- World's most advanced emergency lighting system
- Reduction in energy costs and carbon footprint
- Tested to BS EN 60598-2-22
- Incremental fitting upgrade as existing luminaires fail
- Lifetime Technical Support



Dynamic Self-Managed Meshing Emergency Lighting System

- Single controller to manage up to 1,000 exit and emergency luminaires
- · Remote or on site testing and monitoring
- Complimentary Lifetime Technical Support













Exits





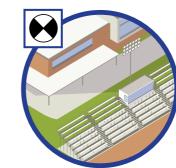




Emergency Lighting





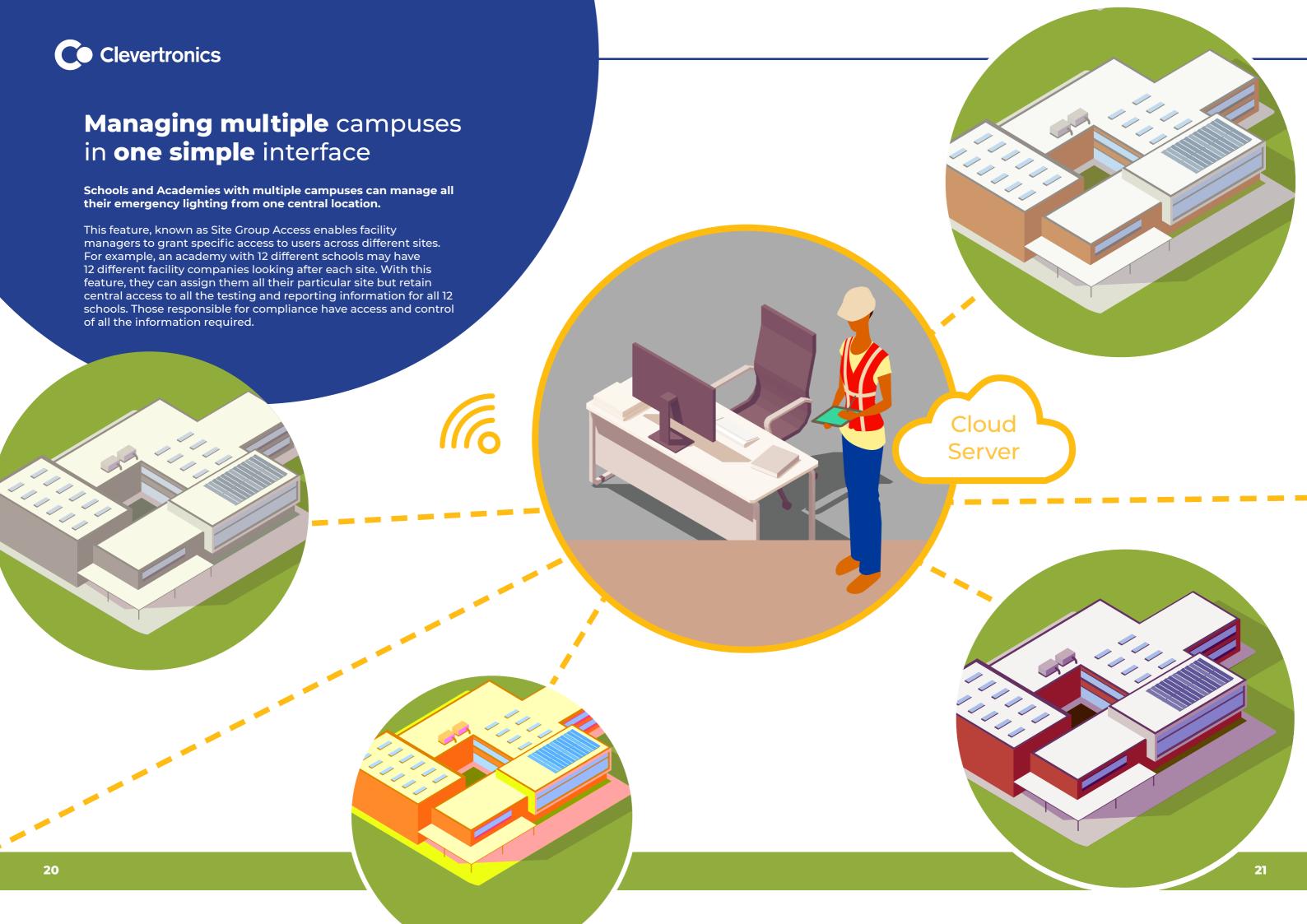


Outdoor Egress Paths













Reduce your school's carbon footprint

In 2021 the UK government set the world's most ambitious carbon reduction plan, to reduce carbon emissions by 78% by the year 2035.

Buildings contribute greatly to UK carbon emissions therefore building owners, designers, maintenance professionals and installers are seeking practical ways to reduce operational and embodied carbon emissions. The right emergency lighting can contribute toward net zero.

The Leading global sustainability experts AECOM, recently conducted a carbon study on the use of emergency lighting products in buildings, we asked "What impact would result in using the latest technologies within a building's carbon footprint?"

The AECOM study compared a typical installation of 1000 self-contained emergency light fittings with various battery technology and testing systems.

The battery technology included:

· NiCd, NiMH and L10 Lithium Nanophosphate

The testing Systems included:

Manual test, DALI, RF and Zoneworks XT HIVE

The assessment focuses on the "differences" in the carbon impact of the different combinations of battery and testing systems used to provide an overall carbon impact scenario.

Key measures in the assessment included:

- Operational Energy Consumption
- Fittings Replacement
- Driving for testing and maintenance
- Original and replacement batteries
- Waste Disposal
- Extra hardware and components.

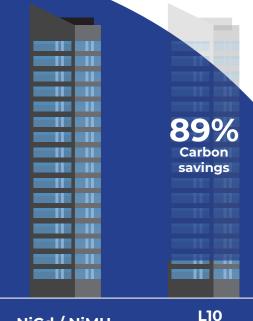
The most sustainable, emergency lighting solution available

The study made some key findings:

- L10 Nanophosphate and Zoneworks XT HIVE can reduce carbon emissions by up to 89%.
- L10 Nanophosphate alone has a lower carbon footprint in comparison to Ni-Cd/Ni-MH and other Lithium chemistry batteries which require on average between 4-6 cells to achieve the same result.
- Per single battery, the NiCd/NiMH battery has an embodied carbon impact around 1.5 times greater than L10 Nanophosphate.
- L10 Nanophosphate with a 12 year design life last 3 times longer than NiCd and NiMH alternatives
- Additional hardware and cabling for wired DALI systems increases the carbon output by 45t CO2e for a 1,000 fitting installation compared to Zoneworks XT HIVE.

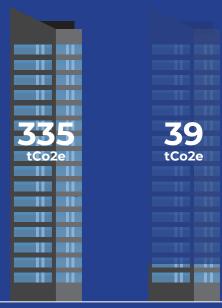
The findings are clear, Clevertronics products and solutions were found to give considerable carbon reduction benefits compared to other conventional emergency lighting systems on the market.

"A carbon saving of up to 89% compared to other products on the market by switching to Clevertronics Technologies."





Nanophosphate



NiCd / NiMH

L10 Nanophosphate

AECOM



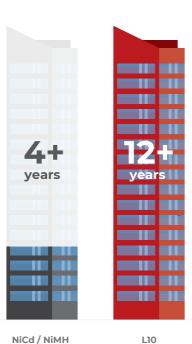
ANOPHOSPHATE®

Unrivalled luminaire performance



L10 Lithium Nanophosphate range has completely revolutionised the global emergency lighting market by improving the maintenance free service life of emergency lighting from 4 years to **12+ years**.

L10 ensures a compliant emergency lighting solution without the maintenance cost burden and high carbon footprint of others. Reduce your emergency lighting costs by 80% and carbon output by 89% with L10 Nanophosphate, it's that simple.



Nanophosphate

- 12+ year maintenance free service life8 Year Warranty
- · 8 Year Warranty (Manual, self test, DALI)
- · 10 year warranty (Zoneworks XT HIVE)
- · 89% reduction in Carbon output
- The incredible unrivalled product performance is achieved through smart electronic and luminaire design combined with Nanophosphate battery technology, providing twice the battery life of any other lithium battery technology and three times of any NiCd and NiMH alternatives
- Over 1,000,000 L10 Nanophosphate luminaires are installed across Australia, NZ and the UK
- Supported by 10 years of on site data and 12 years of long term testing

The **right emergency lighting solution** for your needs

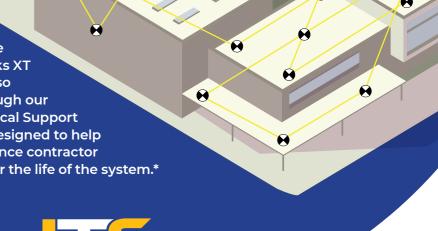


Clevertronics has spent over twenty years developing dedicated emergency lighting systems that have one purpose; making it easier to achieve emergency lighting compliance. Easy to understand, install, test and maintain with a system of your choice.

Zoneworks is the world's most advanced emergency lighting system with over 2,500 sites installed across the UK, Australia and New Zealand. Zoneworks XT HIVE reduces the backbone hardware requirements to a single RF controller with dynamic self-managed meshing technology, making your emergency lighting simpler, faster, reliable and more sustainable than ever before.

The functionality includes a clean web-based interface, both on PC and SMART devices. Integration with other networked building management services can be achieve seamlessly.

Testing and monitoring of all luminaires can be managed remotely to save time and money. With the Zoneworks XT HIVE platform, Clevertronics also includes ongoing support through our complimentary Lifetime Technical Support (LTS) program. This service is designed to help the building owner & maintenance contractor manage the on-going health for the life of the system.*



^{*} Please check out our website for more details on our LTS program https://clevertronics.co.uk/lifetime-technical-support



City of Oxford College

The Background

Activate Learning is a forward-thinking education group that aims for far-reaching, progressive change and impact through learning.

Running multiple education environments across the Oxford area, including the City of Oxford College.

Introduced to us by our installing partner Powercor, Activate Learning were looking to improve emergency lighting compliance, energy and maintenance costs.

The Challenge

Activate Learning self-manage facilities across the various premises they operate and were looking to implement and achieve the following:

- · A reduction in their emergency lighting maintenance costs
- Improve testing and compliance levels for emergency lighting and the associated costs.
- Long lifetime and energy-saving luminaires, easy-to-manage testing capabilities and continual regulatory compliance reporting were clear outcomes that the new emergency and exit lighting solution had to cover.

The Solution

After surveying the buildings during an audit, we understood the current situation. This provided the required baseline data required to build the proposal that matched the needs and expectations of Active Learning. Any proposal evaluates two key areas, the testing and monitoring system and the actual emergency and exit luminaires.

With extensive experience in the school market, we could identify that the Zoneworks XT HIVE system would be the perfect option.

Project Name

City of Oxford College

Location

Oxford, United Kingdom

Industry Application

Education

Project Type

Existing Emergency Lighting Upgrade

Year

2020 ongoing

Contractor

Powercor

EndUser/FM

Activate Learning

Product Range

L10 Lithium Nanophosphate

Testing System

Zoneworks XT HIVE

Products Featured

Lifelight PRO Recessed, Lifelight PRO SM, Ultrablade Pro SM, Circlite/Disc-Luminaire

Zoneworks XT HIVE is the most advanced emergency lighting system in the world and is also the simplest to operate and manage, making it perfect for schools.

One single controller is used to wirelessly mesh with up to 1,000 luminaires, so the installation required no cabling or extra hardware. This reduces the risk of ongoing maintenance or replacement of additional parts and devices.

When selecting emergency and exit luminaires, the most significant decision is the maintenance-free period. This dramatically impacts the ongoing cost of any emergency and exit lighting installation. Performing maintenance (replacing batteries, drivers etc.) is costly and time-consuming and leaves the school with non-compliance during these periods

Another key consideration is the illuminance performance of the luminaires. Higher specified products will in many cases, allow a greater spacing of emergency luminaires resulting in a lower overall qty of fittings installed.

The decision was to select the L10 Nanophosphate range of luminaires. This covered the long life and energy saving luminare objective from Activate Learning and also reduced the need for ongoing maintenance for 12+ years.

Activate Learning selected the Lifelight Pro recessed and surface mount luminaires for emergency applications and the Ultrablade Pro blades for the exits.

The Circlite was selected for external applications, which provides guidance to external mustering points outside the building.

The Result

Working in partnership with Powercor, Activate Learning now benefits from a state-of-the-art emergency lighting system. Maintenance costs have been eliminated and regulatory testing and compliance has vastly improved with the addition of the Zoneworks XT HIVE monitoring and testing system.

Moreover, the site now has 12+ years of maintenance-free emergency and exit luminaires installed. This ensures that maintenance cost savings and compliance will be achieved on an ongoing basis.

Clevertronics also includes ongoing support through our complimentary Lifetime Technical Support (LTS) program. This service is designed to help the building owner & maintenance contractor manage the ongoing health for the life of the system.

Find Out More

City Of Oxford College is another quality project delivered by Clevertronics. If you would like further information about this case study or are interested in understanding more about Emergency and Exit lighting within your building, contact Clevertronics for a site audit, demonstration, and cost analysis report.

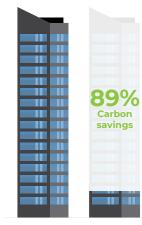






Sustainability: Carbon Impact

L10 Nanophosphate and Zoneworks XT HIVE can reduce carbon emissions by up to 89%



NiCd / NiMH

Nanophospha

* Findings based on recent AECOM carbon study on the use of emergency lighting products in buildings



Community College Bishops Castle

The Background

Community College Bishops Castle are a proud and successful 11-16 school in South Shropshire, covering a wide geographical area with students from more than twenty primary schools, including Wales.

With multiple buildings hosting 400+ students and teachers, the upkeep and management of the college's emergency lighting system is paramount to its users' safety.

The Challenge

The college is part of Shropshire County Council's network of education establishments, and The Property Services Group (PSG) Shropshire are responsible for the running, maintenance, upgrades, and repairs to the buildings incorporated in the grounds. The emergency lighting system required replacement to ensure that the facilities were compliant, as the incumbent luminaires were failing and becoming expensive and difficult to manage.

Clevertronics were invited to submit a scheme that would completely update the estate with a sophisticated yet easy-to-use testing and monitoring system. Emergency and exit luminaires that required little to no maintenance was a critical requirement. The existing fittings required maintenance or replacement regularly, which was time-consuming and costly but also difficult to schedule without disrupting the students and teachers. The project had to be delivered within a very tight timeframe when students were on term break.

The Solution

28

After surveying the site, it was clear to meet the challenges posed by the college, L10 Lithium
Nanophosphate luminaires would match the requirements of the college. L10 provides a 12+ year maintenance-free life which is unrivalled in the industry.
Also, it delivers an 89% carbon reduction over products

Project Name

Community College Bishops Castle

Location

Shropshire, West Midlands, United Kingdom

Industry ApplicationEducation

Project Type

Existing Emergency Lighting Upgrade

Year

2021

Contractor

Shropshire County Council, PSG Shropshire, DR. E. Contractors Ltd, Rexel Shrewsbury

Product Range

L10 Lithium Nanophosphate

Testing System

Zoneworks XT HIVE

L10 provides a 12+ year maintenance-free life which is unrivalled in the industry.



The final design proposal of L10 Nanophosphate and Zoneworks XT HIVE testing system achieved the desired requirements outlined earlier. Using Lifelight Pro emergency lighting luminaires also enabled increased spacing between fittings, which reduced the overall luminaires required throughout the site. The Zoneworks XT HIVE system was perfect for the college, with only one controller required to wirelessly mesh all the L10 luminaires across multiple buildings into one system. The XT HIVE system can automatically conduct all monthly and yearly function tests and generate logbooks and compliance reports.

This solution exceeded the expectations of the college and was signed off for installation.







The Result

This multi-site estate has 380 L10 Nanophosphate emergency and exit fittings that are wirelessly connected to a Zoneworks XT HIVE controller. Clevertronics also includes ongoing support through our complimentary Lifetime Technical Support (LTS) program. This service will assist Community College Bishops Castle & the responsible compliance officer in managing the ongoing health for the system's life.

Pete Brown (BEng Hons I. Eng MIET), Electrical Engineer at Property Services Group (PSG), commented on installing the new Clevertronics emergency and exit lighting solution. "We used Clevertronics because they provided a guaranteed networked system using the latest luminaire and system technology. This means that we will save maintenance costs as we don't have to have the system inspected to maintain compliance at the school, thereby reducing the overall lifecycle costs for the project."

Find Out More

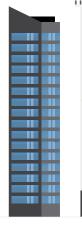
Community College Bishops Castle is another quality project delivered by Clevertronics. If you would like further information about this case study or are interested in understanding more about Emergency and Exit lighting within your building, contact Clevertronics for a site audit, demonstration, and cost analysis report.

-66

We will save maintenance costs as we don't have to have the system inspected to maintain compliance at the school, thereby reducing the overall lifecycle costs for the project.

Sustainability: Carbon Impact

L10 Nanophosphate and Zoneworks XT HIVE can reduce carbon emissions by



iCd / NiMH

Nanophospha

* Findings based on recent AECOM carbon study on the use of emergency lighting products in buildings.



Martin Wilson Primary School

The Background

Built in 1986, Martin Wilson Primary School is part of the Shropshire Council's educational establishment, providing a welcoming and nurturing learning environment for children from 3 to 11 years of age.

In January 2020, Clevertronics was contacted by the Property Services Group (PSG) of Shropshire County Council to discuss emergency and exit lighting due to failing, older exit and emergency lighting across their estate. Nathan Davies, Senior Electrical Surveyor for PSG Shropshire Council, said, "One of the main reasons for contacting Clevertronics was because we wanted to understand what new products and technologies were in the marketplace to help them increase their efficiencies and also remain compliant." Continuing, Nathan said, "We were aware Clevertronics were in the UK educating the market about using lithium battery technology in emergency lighting fittings.

The Challenge

Like most companies, the challenges at Martin Wilson revolved around the fact that their existing emergency and exit lighting is always under constant repair and maintenance. When this happens, it impacts many areas, including cost, interruptions, safety, and compliance.

Property Service group outlined what they would like to achieve with a new solution:

- Reduce the annual expenditure on luminaire and battery replacement
- Reduce the energy with efficient LED luminaires
- Improve the way they currently monitor and test the emergency lighting system so they can continue to meet regulatory compliance in a more effective manner

Project Name

Martin Wilson Primary School

Location

Oxford, United Kingdom

Industry Application

Education

Project Type

Existing Emergency Lighting Upgrade

Year

2020 Ongoing

Number of Fittings

Contractor

Powercor

Product Range

L10 Lithium Nanophosphate

Testing System

Zoneworks XT HIVE

One of the main reasons for contacting Clevertronics was because we wanted to understand what new products and technologies were in the marketplace to help them increase their efficiencies and also remain compliant.

The Solution

The clear solution to reduce the ongoing expenses was to install the L10 Nanophospahte range of exit and emergency luminaires. The L10 Nanophosphate range of exit and emergency luminaires provides over 12 years of maintenance-free operation, significantly reducing maintenance and replacement costs by over 80%.

The L10 LED luminaires are also designed with energy efficiency in mind which is achieved through LED technology, smart electronic design and Lithium Nanophosphate battery technology. Lithium Nanophosphate batteries reduce energy by up to 50% compared to NiCd and NiMH alternatives.

A demonstration of the Zoneworks XT HIVE was conducted across the site during the audit, which was well received. Nathan commented, "Once we had experienced a demo of the Zoneworks XT HIVE system, it was clear that it would revolutionise the way we conduct our testing and compliance reporting. We would no longer need to manually carry out the monthly and annual flash and duration tests and could conduct these remotely or onsite.

The Result

PSG is pleased with how the system was installed and is operating. Even with the COVID-19 pandemic hitting the team midway through the project, it did not stop the system from being installed and commissioned. Allan Dunderdale, Regional Sales Manager at Clevertronics, says, "We couldn't believe what was happening with COVID-19, but luckily our Zoneworks XT HIVE system is centrally commissioned and managed remotely. We could complete the project for the customer without delays. Even COVID-19 couldn't stop us!"

Find Out More

Martin Wilson Primary School is another quality project delivered by Clevertronics. If you would like further information about this case study or are interested in understanding more about Emergency and Exit lighting within your building, contact Clevertronics for a site audit, demonstration, and cost analysis report.







Sustainability: Carbon Impact

L10 Nanophosphate and Zoneworks XT HIVE can reduce carbon emissions by up to 89%



* Findings based on recent AFCOM carbon study on the use of emergency lighting products in



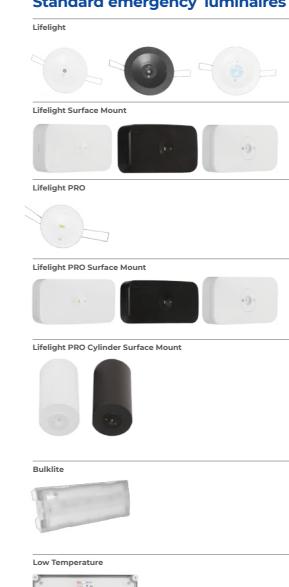
Standard exits

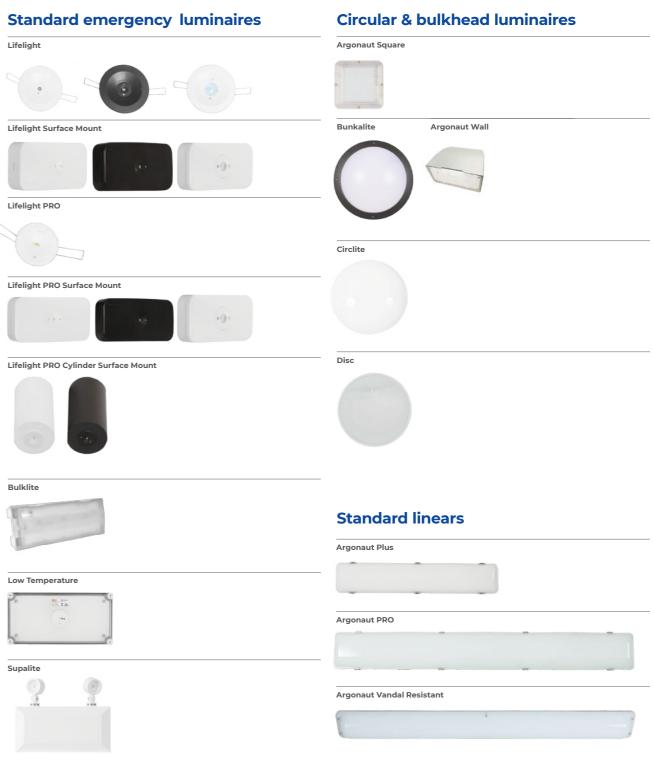
Form Exit

Product Range Overview

Cleverfit Exits Weatherproof Exits Cleverfit Pro Exit Ultrablade Pro Surface Mount Exits Ultrablade Pro Recessed Exit Jumbo 50m Exits

Specialty exits





Contact us to discuss any special product needs



Notes



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