Clevertronics

SIMPLIFYING
EMERGENCY LIGHTING
for Healthcare

Clevertronics

Does your Healthcare facility comply to the regulatory requirements for emergency lighting?

In Australia and New Zealand, regulatory requirements for emergency lighting are defined by several standards and building codes. These requirements ensure the safety of building occupants by providing adequate lighting during power failures or other emergencies.

Why is Emergency Lighting Essential?

Emergency lighting, including exit and emergency luminaires, ensures that occupants can safely exit a building when the normal lighting fails due to power loss or other emergency events. Each luminaire is equipped with a battery and must provide light for at least 90 minutes after a power outage.

Where is Emergency Lighting Required?

The National Construction Code (NCC) in Australia and the New Zealand Building Codes F6 & F8 specify the classes of buildings and areas where emergency lighting is required. In general, any government or commercial building occupied by employees, customers, or the public, as well as common areas of multi-residential buildings, must have emergency lighting.

Where Are Emergency Lights Installed?

Exit signs must be clearly visible and illuminated at all times. They should be placed above exit doors, at the top of staircases, and at any directional changes to guide occupants along the “egress path” to a final exit or evacuation point.

Emergency lights should be installed at regular intervals to illuminate the egress paths. The specific placement of these lights depends on the type of light fitting, building shape, and ceiling height.

Key Regulations to Follow

To ensure a safe environment and avoid significant penalties, it is crucial to meet the minimum legal requirements outlined by the standards:

- ✓ **Battery Duration**: Emergency lights must operate for at least 90 minutes on battery power
- ✓ **Regular Testing**: Exit lights must be tested every six months to ensure they are functioning correctly
- ✓ **Annual Maintenance**: Emergency lights need to be cleaned annually to maintain optimal visual performance
- ✓ **Charging Confirmation**: A status LED indicator is required to verify that the light is charged and operating correctly
- ✓ **Brightness & Coverage Requirements**:
  - Floor areas must maintain a minimum light level of 0.2 lux
  - Isolated darker areas require a minimum light level of 1.0 lux
- ✓ **Record Keeping**: Record and document all test results, defects, and maintenance in a logbook

Providing **emergency lighting guidance** and **support** for **Healthcare** facilities

Healthcare facilities are complex. The constant change, repurposing and growth to meet the ongoing requirements means a Healthcare engineer's role is demanding. Emergency lighting as a regulation can also be challenging without the right Healthcare Engineer to oversee the requirements.

Fortunately, technology has enabled the move to a simpler cost-effective and intelligent outcome.

Healthcare Engineers can now tick emergency lighting maintenance off the regular to-do list and be confident in meeting compliance regulations

Clevertronics **Product Range**

Exits

Dynamic Exits

Emergency Lights

Battens

Circulars & Bulkheads

Partners in **Compliance**

There are over 250 Healthcare facilities that have trusted Clevertronics to provide them with the right emergency lighting system and ongoing support

The Royal Children's Hospital Melbourne

WESTMEAD HOSPITAL

Sutherland Hospital & Community Health Services

FIONA STANLEY hospital

Calvary

The Royal Melbourne Hospital

dental health services victoria
oral health for better health

We understand your environment and our products are **built and designed for these conditions**

NO INTERFERENCE

Clevertronics has both powerline and RF technology to deploy where most suitable

MENTAL HEALTH

Specialised solutions have been developed for more sensitive applications

SPECIALISED

Surgical, cardiac and clean rooms solutions

The **ultimate cost-effective emergency lighting solution** for your needs

Zoneworks HIVE & L10 Lithium Nanophosphate

Together, Clevertronics Zoneworks HIVE & L10 Lithium Nanphosphate products, deliver the ultimate cost-effective solution for Healthcare facilities.

- 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 AS/NZS 2293.3
- Easy installation as project or upgrade
- Lifetime Technical Support

LTS LIFETIME TECHNICAL SUPPORT

* Please check out our website for more details on our LTS program https://clevertronics.com.au/lifetime-technical-support

L10 LITHIUM NANOPHOSPHATE®
OPTIMUM
NOTHING ELSE COMPETES WITH NANOPHOSPHATE®

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% with L10 Nanophosphate, it's that simple.

ZONEWORKS® HIVE

Zoneworks HIVE is the world's most advanced emergency lighting system with over 2,500 sites installed across the UK, Australia and New Zealand.

Zoneworks HIVE simplifies the system backbone installation and maintenance to only a single RF controller required for every 1000 fittings. Dynamic Self-Managed meshing allows scalability to 10's of thousands of fittings simple, faster and more reliable.

- Remote or on-site testing and monitoring
- Web-based interface and reporting includes maintenance log and full test results
- Complimentary Lifetime Technical Support

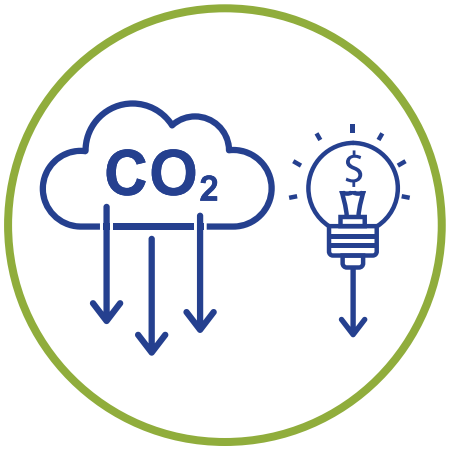
Outcomes of a **world-class compliant emergency lighting solution** in your Healthcare facility

COMPLETE SOLUTION

A complete and compliant standard and emergency lighting system, including circulars, battens, exits and emergency lights, designed in line with the latest standards as per As/NZS 2293.3 and AS/NZS 60598.1

SIMPLIFICATION

A testing and monitoring system that automatically initiates the required 6- monthly function and annual discharge tests, which can be programmed at times which are least disruptive to residents



PEACE OF MIND

12-year maintenance-free exit and emergency lights with a 10-year warranty to reduce the need for ongoing maintenance and replacements

ENERGY & CARBON REDUCTION

A reduced energy and carbon footprint from low energy LED lights and long-life Lithium Nanophosphate© battery technology

SAFETY & COMPLIANCE

Peace of mind knowing your healthcare facility has addressed the legal requirements for a safe and compliant emergency lighting system

Clevertronics Invisible Graphic Emergency Exit Blade for Dementia Patients

The Clevertronics Invisible Graphic Emergency Exit Blade is specifically designed to address the unique challenges of healthcare facilities. This innovative product is crafted to ensure the safety of patients, particularly those with dementia or other mental disabilities, by eliminating unnecessary distractions and confusion during normal operations.

Key Features:

• **Discreet Design:** During regular operation, the Invisible Graphic Emergency Exit Blade appears unilluminated, blending seamlessly with its surroundings. This design prevents patients from being distracted or confused by exit signs during normal activities.

• **Automatic Illumination:** In the event of a power outage or emergency, the exit sign immediately illuminates, providing clear and effective guidance to the nearest exit. This ensures that patients can easily find their way to safety when it matters most.

• **Enhanced Safety:** By only illuminating in emergencies, the sign reduces the risk of patients with cognitive impairments inadvertently attempting to exit the building under normal conditions.

• **Regulatory Requirements:** Developed as a performance-based solution, the Invisible Graphic Emergency Exit Blade can be certified by a fire engineer to meet project-specific compliance requirements. This tailored approach provides design flexibility and confidence that every installation meets the highest safety standards.

The Clevertronics Invisible Graphic Emergency Exit Blade is an essential safety feature for healthcare facilities, providing a thoughtful solution that prioritises the well-being and safety of vulnerable patients.

Manually switched version available on request

Clevertronics **Exits**

	Product	Description	IP Rating	IK Rating	ZW Hive
1	**Cleverfit Pro (24m)**	Slimline exit with slide connect steel bracket for easy install. Suits both wall or ceiling mount	IP20	-	✓
2	**Ultrablade Pro Recessed (24m)**	Ceiling recessed mounted, low profile, blade style exit, designed for architectural requirements	IP20	-	✓
3	**Ultrablade Pro Surface Mount (24m)**	Surface mounted, low profile, blade style exit, designed for architectural requirements	IP20	-	✓
4	**Form (20m)**	Featuring an elegant and size optimised anodised aluminium frame, the Form is a versatile architectural solution available in multiple configurations	IP20	-	✓
5	**Weatherproof (24m)**	Robust and weatherproof exit designed for wall or ceiling mount applications	IP66/67	IK10	✓
6	**Invisible Graphic (24m)**	Recessed or Surface Mounted, invisible graphic exit blade	IP20	-	✓

Case Study
Dynamic Exits in United Aldersgate

Uniting

Background
Uniting Aldersgate is a comforting aged care home in Lilyfield, in the heart of Sydney's vibrant inner west.

GHD was appointed by Stephen Edwards Constructions to undertake a fire engineering assessment for this home and appointed Clevertronics to deliver Emergency Lighting with **CleverEVAC Dynamic Signage**.

The Challenge
An edge-case scenario had arisen regarding the location and usage of an external fire egress stairway due to the site constraints. The external stairs could become unsafe during particular fire scenarios involving the underground carpark and/or the bedrooms and rooms near the egress. A solution was needed to assist in directing building occupants to an alternative exit.

The Solution & Result
GHD had developed a Fire Engineering Performance Solution design which utilised the functionality of the CleverEVAC exit signage system.

In the scenario where a fire event occurred in the immediate vicinity of the stairwell, the Dynamic Signage helps to guide staff and residents towards an alternative exit, away from the affected stair, using both positive and negative reinforcement.

This was achieved using a combination of Dynamic RED X and Dynamic GREEN signage, as shown on the next page.

The research on dynamic signage carried out by the Fire Safety Engineering Group (FSEG) at the University of Greenwich, UK, was a contributing factor to the choice made by GHD engineers to include Dynamic EXIT signage to support the egress solution.

The outcome of the solution was a successful application, installation and commissioning of the CleverEVAC Dynamic EXIT signage solution. It had mitigated the need to undertake additional design and remedial works which would have been required to address the edge-case scenario.

Clevertronics **Dynamic Exits**

	Product	Description	IP Rating	IK Rating	ZW Hive
1	**CleverEvac Dynamic Green**	Displays Illuminated green arrow, when activate, to enhance exit path	IP20	-	✔
2	**CleverEvac Dynamic Green Blade**	Blade style exit, displays Illuminated green arrow, when activate, to enhance exit path	IP20	-	✔
3	**CleverEvac Dynamic Red X**	Displays red cross when activated to alter those evacuating to seek alternative exit. Also has Dynamic Green function	IP20	-	✔
4	**CleverEvac Dynamic Red X Blade**	Blade style exit, displays red cross when activated to alter those evacuating to seek alternative exit. Also has Dynamic Green function	IP20	-	✔
5	**CleverEvac SoundEscape**	Broadcast audible location sounds such as 'Exit Here'. Available with Dynamic Green & Dynamic Red	IP20	-	✔

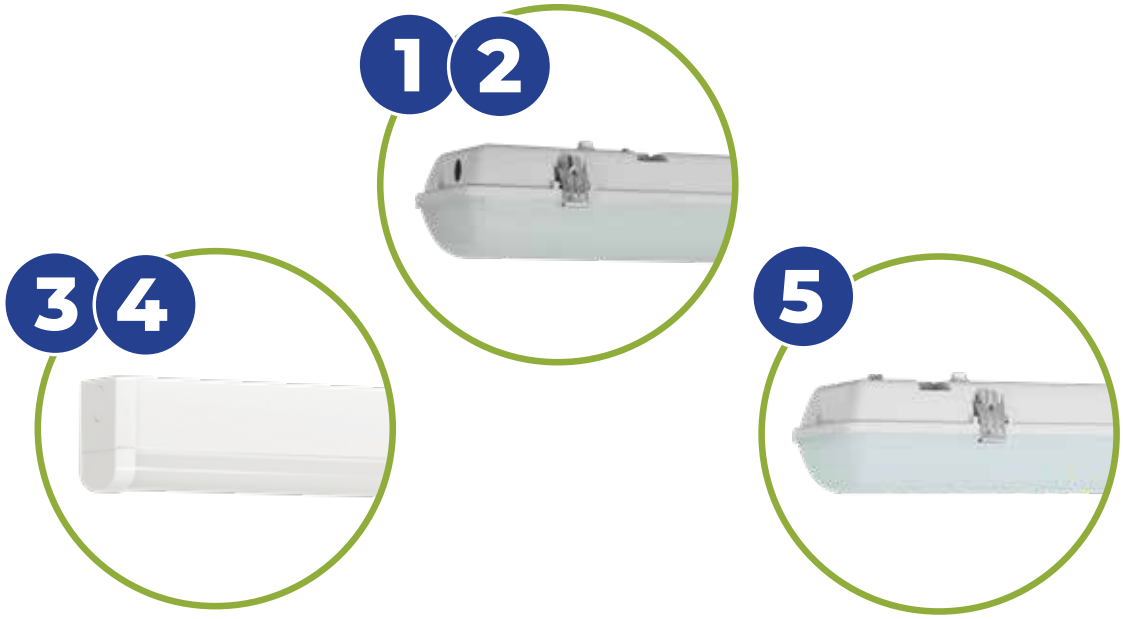
CleverEVAC is a system and suite of dynamic and adaptive EXIT signs that **provide increased visibility, audible cues, and negative enforcement options.** Dynamic mode is triggered either by a 24VDC or voltage free open/close signal from the fire detection or other building safety system.

Clevertronics
Emergency Lights

Product	Description	IP Rating	IK Rating	ZW Hive
1 **Lifelight Pro Recessed**	Recessed mounted, lithium powered LED emergency	IP20	-	✓
2 **Lifelight Pro Recessed Splashproof**	Splash resistant, recessed mounted, lithium powered LED emergency light	IP44	-	✓
3 **Lifelight Pro Surface Mount**	Surface mounted, lithium powered LED emergency	IP20	-	✓
4 **Lifelight Pro Surface Mount Weatherproof**	Weatherproof, surface mounted, lithium powered LED emergency light	IP65	-	✓
5 **Supalite**	LED emergency flood light with dual swivel heads	IP20	-	✓
6 **Supalite Weatherproof**	Weatherproof LED emergency flood light with dual swivel heads	IP65	-	✓

** Lamp head only*

Clevertronics
Battens & Circulars



Product	Description	IP Rating	IK Rating	ZW Hive
1 **Circlite**	All new sleek design featuring switchable colour and optional sensor	IP20	-	✓
2 **Circlite Emergency**	Lithium powered All new sleek design featuring switchable colour and optional sensor	IP20	-	✓
3 **Epic Indoor**	Indoor batten range featuring switcable color and optional sensor	IP20	-	✓
4 **Epic Indoor Emergency**	Lithium powered indoor batten range featuring switchable color and optional sensor	IP20	-	✓
5 **Argonaut Plus**	High efficacy, switchable colour and dual output	IP65	IK08	✓
6 **Argonaut Plus Emergency**	Lithium powered emergency, high efficacy, switchable colour and dual output	IP65	IK08	✓

Clevertronics Battens, Circulars, & Bulkheads are available in both emergency and standard lighting configurations

Case Study
Sutherland Hospital Staged Emergency Lighting Upgrade

Sutherland Hospital & Community Health Services

Background

Sutherland Hospital, located in Caringbah, south of Sydney, was established in 1958 and is a major metropolitan and teaching hospital with 375 inpatient beds. Over the years, the hospital has undergone various extensions and renovations, resulting in the use of different emergency lighting systems, ranging from manually tested fittings to automated systems.

The **Clevertronics Zoneworks HIVE** system was introduced during the Stage 1 upgrade and chosen again for Stage 2 works.

The Challenge

Before the upgrades, Sutherland Hospital's emergency and exit lighting systems were outdated and inconsistent with current standards. The existing lighting fixtures were inefficient, unreliable, and posed potential risks during emergencies. Financial constraints made incremental upgrades essential. The hospital faced challenges with multiple systems, diverse testing regimes, and support issues. Maintaining older NiCd battery-powered fittings and compliance records was difficult. The primary goal was to simplify compliance and reduce maintenance costs.

The Solution

The hospital upgraded to **Clevertronics Zoneworks HIVE** technology. HIVE offers several advantages over traditional systems, including advanced automatic-testing capabilities, energy efficiency with LED technology, ease of installation and maintenance, and reliability.

The Stage 1 upgrade involved installing Lithium Premium exit and emergency luminaires and a **Zoneworks HIVE** testing system. This system simplifies future upgrades and ensures compliance, with over 800 Zoneworks HIVE luminaires installed across two stages, allowing future expansions with minimal complexity and reduced capital budgets.and commissioning of the **CleverEVAC Dynamic EXIT** signage solution. It had mitigated the need to undertake additional design and remedial works which would have been required to address the edge-case scenario.

The Result

The upgrade to **Clevertronics Zoneworks HIVE** technology has yielded significant benefits for Sutherland Hospital:

· **Enhanced safety:** The new emergency lighting system provides reliable illumination in the event of an emergency, ensuring the safe evacuation of patients, staff, and visitors.

· **Improved compliance:** HIVE's automatic testing capabilities help the hospital maintain compliance with relevant safety regulations and standards.

· **Energy and maintenance savings:** The reliable and efficient LED technology of LP Premium has reduced energy consumption and lower operating costs for the hospital.

· **Minimal disruptions:** The seamless installation process minimises disruptions to hospital operations, allowing critical services to continue without interruption.

Mark Deluca, Sutherland Hospital's engineering and maintenance manager, says, "The implementation of Zoneworks as an upgrade has been relatively painless, especially given that we have a busy aging hospital. The minimal infrastructure requirements and factory support provided to ACIA gave us great comfort to undertake the emergency lighting upgrade as part of our operational maintenance strategy". He goes on to say, "We are already seeing the results with simplified compliance testing and the reassurance that we have long life fittings that won't need to be touched for many years to come".

The upgrade of the emergency and exit lighting system at Sutherland Hospital to Clevertronics Zoneworks HIVE technology represents a significant investment in safety, compliance, efficiency, and sustainability. By leveraging the advanced features of HIVE, the hospital has enhanced its ability to provide a safe environment for patients, staff, and visitors while realising cost savings and ensuring compliance with regulatory requirements. These successfully staged upgrades serve as a model for other healthcare facilities seeking to modernise their emergency lighting infrastructure.

Notes

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