



CENTRAL BATTERY SUPPLY SYSTEMS VS SELF-CONTAINED BATTERY SYSTEMS FOR EMERGENCY LIGHTING

All emergency lighting systems are designed to provide illumination of the escape routes through a building, thus enabling the safe movement of people to the final exits. They are also used to ensure that essential safety items such as first-aid points, fire-alarms and fire-fighting equipment can be readily located when the mains lighting is extinguished.

What is the best option?

Both self-contained and central power supply systems have their own merits depending on the project, generally, the decision to use either a central battery or a self-contained system is likely to be cost determined. If an installation has longevity low maintenance as a priority then central battery may be the best option. If it is just a case of capital expenditure, and longevity and low maintenance are not significant factors, then self-contained is the best option.

Self-contained luminaires

Self-contained emergency luminaires provide the simplest and quickest solution as they contain their own batteries and operate independently. They are less time-consuming to install, easy to extend or alter at a later date, and are usually the most cost-effective solution for small-to-medium sized projects. The cost of installation is relatively cheap as no special cabling is required and they offer greater system integrity as each luminaire is independent of the others, so no special sub-circuit monitoring is required.

However, future maintenance issues arise as they have a battery life of only 3-5 years, with battery replacement taking approximately one hour per fitting and possible access equipment, this can represent a significant ongoing cost for the building operator. This can also be affected by the environmental conditions which may vary from the system, and batteries may be affected by relatively high or low temperatures.

Central battery systems

Central battery systems are normally used for the larger projects where the number of emergency luminaires starts to rise into the hundreds. For a large multi-storey office block, a central battery would be the best option to keep the ongoing operational costs at a minimum. An AC/AC static inverter system can be connected directly to the suitably designed mains luminaires, without having to make any modification to the luminaires, and they operate at full light output under both 'mains healthy' and 'mains failed' conditions making the whole system straight forward. The control of maintained lights or signs under a central battery system is by sub circuit monitors which will energise the system when a sub circuit fails.

Another major advantage is battery life in a central system is maximised and is usually at least 10 years. When replacement is eventually necessary, this is a quick and simple operation that avoids the disruption caused by having to access and dismantle numerous fittings in public areas.

Central systems are simple to test, simple to maintain, provide completely unobtrusive emergency lighting and offer long-term cost advantages.

CONCLUSION

The final decision on which type of system you implement will largely depend on the relative priorities for the system. Our experts can advise you on the most suitable system for your project, contact us today for more information. If you would like to find out more about emergency lighting systems and their design requirements and applications we can arrange free lunch and learn [CPD Seminars](#) at your premises which are accredited by CIBSE.

