

ONLITE central eBox MS1700

Central emergency lighting unit

Art. no. 22176472

Application

LPS/CPS system with integral test apparatus for supplying and monitoring emergency and escape sign luminaires for 230V AC / 216V DC.

The ONLITE central eBox MS1700 is a central power supply designed to EN 50171 and therefore provides an emergency power source for emergency lighting installations to EN 50172. It can be used as a central battery supply (CPS) or as a group battery supply (LPS). When used as a LPS in 1h emergency operation, the total power must be less than 1500W, and in 3h emergency operation it must be less than 500W.

The system is designed to charge eighteen 12V monobloc batteries. There are three empty slots available for ONLITE central eBox OCM's (output circuit modules).

The system can be equipped with four optional circuit outputs (ONLITE central eBox SCM) to external sub-distribution stations (emergency power sub-distribution stations). A system bus networks together the sub-stations and also external devices such as phase monitors, 230V switching-input modules and remote display.

An ONLITE central eBox system can be expanded to up to 30 final circuits each containing 20 emergency or escape sign luminaires. Up to 100 independent eBox systems can be networked together via Ethernet (TCP/IP) for Web-browser based monitoring and visualization without the need for additional software.

To reduce the fire loading and final-circuit cabling costs, sub-distribution stations can optionally be used in each fire compartment, available as E00/IP20, E00/IP65 models or E30 circuit-integrity maintenance model.

Design notes

If the general lighting fails, battery-backed central power supplies, as long as they are receiving power from the general mains, must switch on all the emergency and escape sign luminaires which are in non-maintained mode or which are "off" in continuous lighting mode, and power these luminaires also from the mains. The power supply is only switched to DC operation (battery operation) if there is a total black-out of the mains supply or if the mains voltage is too low, and when in test mode. To ensure this happens, phase monitoring is used in the sub-distribution circuits of the general power supply. The general lighting circuits must be monitored by providing the miniature circuit breakers with auxiliary contacts. The auxiliary contact loop can be taken e.g. to the Alarm input on an ONLITE central eBox BPD (Bus Phase Detector).

The rear Z-rail mounting allows cables to be inserted from above or below. Integral viewing window; housing closure along three edges; designed like a vehicle hood or bonnet allowing wide access for wiring.

18 monobloc OGiV type batteries with a 12Ah or 24Ah capacity can be housed according to the overall layout in the battery compartments provided in the bottom section of the control cabinet. The cable connection sets required are placed in the cabinet.

Sealed, rechargeable OGiV High Performance VRLA batteries with extremely low gas emission and the latest design (lead/calcium in absorbent glass mat technology) are used and have a useful service life of 10 years at 20 degrees Celcius, equivalent to EUROBAT class: High Performance.

The relevant battery sets are not included so must be ordered separately. Rated operating period: 0.5h / 1h / 2h / 3h / 5h / 8h



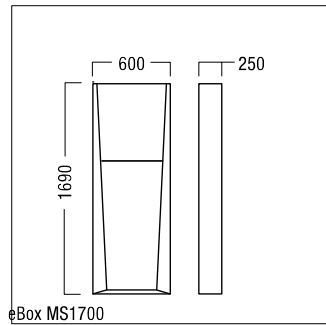
Functional description

The main settings are entered using a wizard at a graphics compatible 4.3" colour touch display. Circuit links and addresses for individual luminaires can be set using Notebook and the P2P interface (RJ45 socket) on the front panel. The WEB user interface provides information such as the system diagram, the predicted life time of the battery or the test logbook. Alarms can be forwarded via the integral e-mail function.

The following functions are available for the final circuits (ONLITE central eBox OCM):

- Individual addressing and monitoring by DALI (ONLITE central eBox OCM-ECD): status and name display per luminaire in conjunction with DALI LED power supplies by means of 2-wire communication. Adjustable emergency lighting level for the respective DALI circuit or even for each individual luminaire. Combination of maintained and non-maintained modes. DALI "in" function for integrating an external lighting management system.
- Individual addressing and monitoring by Powerline (ONLITE central eBox OCM-ECP): Status and name display per luminaire in conjunction with ONLITE central PLC DALI interface, ONLITE central PLC relay or an ONLITE central PLC LED driver; bidirectional communication with the emergency and escape sign luminaires is performed using Powerline via the mains input line in the final circuit. Adjustable emergency lighting level for the final circuit concerned or even for each individual luminaire. Combination of maintained and non-maintained modes possible. DALI "in" function for integrating an external lighting management system.
- Circuit monitoring (ONLITE central eBox OCM-ECC): Each final circuit containing all the emergency and escape sign luminaires can be calibrated by a sensor on the module, which enables power monitoring. Maintained or non-maintained modes are available for each output circuit. Optional modules can be used to integrate external switching inputs for switching the entire final circuit.

Dimension



Technical data

Nominal voltage	230 V AC $\pm 10\%$, 50 Hz
Power	5.5 kVA (fully populated, load-dependent)
Power loss	50 W (full load)
Miscellaneous	Testing: TÜV Rheinland / CE / EN 50171 for EN 50172 compliant installations
Housing material	sheet steel, powder coated
Dimensions	1690 x 600 x 250 (L x W x H, in mm)
Installation	Wall-mounted cabinet
Case colour	light grey (RAL 7035)
Protection type	IP20
Miscellaneous	Slots: for 3 ONLITE central eBox OCMs
Permissible ambient temperature t_a	0 °C ... +40 °C ideal 20°C => max. service life of batteries
Miscellaneous	Slots: for 4 ONLITE central eBox SCMs
Protection class	Class I
Weight	Approx. 80 kg