

CENTRAL BATTERY LOW VOLTAGE SYSTEM (CEBLV)



Description:

Today the LED light fittings are more popular in the emergency lighting systems due to their greater durability, lower energy consumption and lower temperature. In addition, the increasing requirements concerning the safety, reliability and independence of the systems and lowering costs of system installation created demand for a new system of **CEBLV** central battery which combines the above-mentioned functions.

Thanks to the applied output voltage of 24V DC compliant with protection class III, the **CEBLV** system ensures the power supply to consumers with Safety Extra-Low Voltage (SELV). The application of the SELV voltage ensures high level of safety of servicing of the system and its elements compliant with the currently valid regulations.

Furthermore, the system allows the safe performance of fire-extinguishing operation despite the existence of voltage at end circuits. The **CEBLV** system combines the advantages of decentralised autonomous systems with the comfort of using central battery systems.

The system is equipped with its own batteries which capacity depends on the load and the necessary time of power supply preservation in the supply mode. The system is particularly adapted to be used within a single fire zone.

The application of low voltage has another basic advantage, as it allows for the usage of a set of accumulators with smaller dimensions, and thus to reduce the dimensions of the cabinet and enable the installation of the system in places where one cannot fit a large-size central battery system.

The **CEBLV** unit can be powered with two kinds of voltage: 230V AC and 216V DC. This allows to connect the device to the central battery systems as substations without the necessity to install internal batteries. This functionality enables the usage of the system in buildings which require the central battery system and safety voltage in areas particularly exposed to electrical shocks.

MODULE CONTROLLER

The system's module controller has a large touch panel enabling both the current reading of the status of the system, circuits and fittings, and the introduction of all settings and parameters of the system with the use of the user interface.

The statuses are displayed in both graphic and text form. Using module controller one can assign a name to the fitting that will clearly help to identify the fittings installed in the system. It has a non-volatile memory storing all events and test results for the minimum period of 2 years, there is a menu with language selection options, system configuration and event log are saved on a SD card, normally in-built Ethernet interface enabling remote control of the system via the Internet, signalisation of the system status, automatic adding of fittings, configuration of the working modes and controls for every fitting.

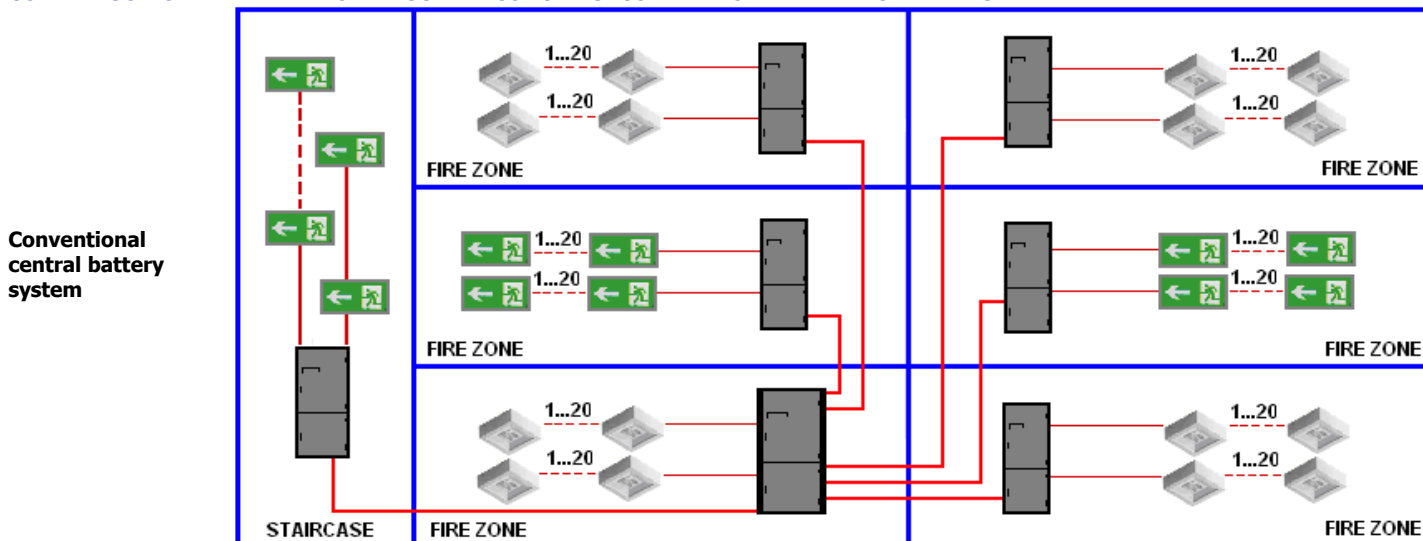
Touch Controller enables remote control of practically unlimited number of units from one central point. The controller ensures remote view, configuration and reading of events of every unit of the connected **CEBLV** system unit.



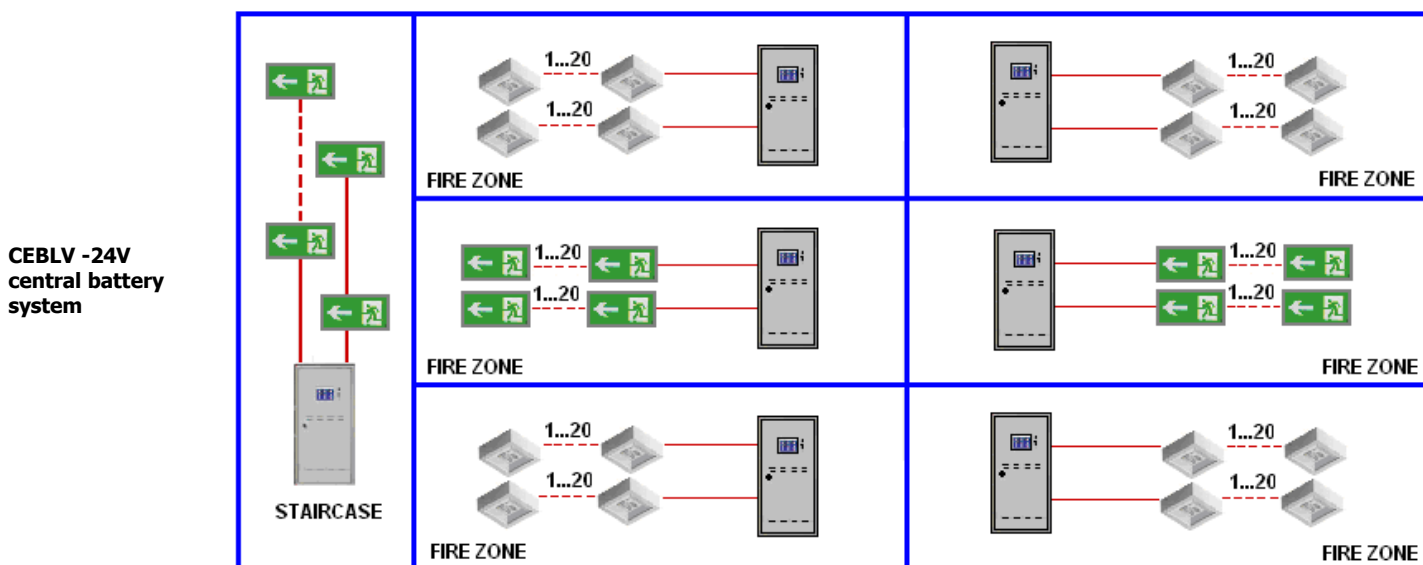
AVAILABLE FUNCTIONS IN THE TOUCH CONTROLLER:

- Start of the function test/ battery test
- System blockade on/off
- Access to the controller is secured by password
- Reading of the status of individual systems
- Status of the circuits
- Status of the fittings
- Programming of test schedule
- View of events in the system
- Programming of the working mode of the circuit/fitting

COMPARISON OF DIFFERENT POWER SUPPLY CONCEPTS: CONVENTIONAL AND DECENTRALISED



EVENT	RESULT
Failure of the main station	Failure of the entire emergency lighting system
Failure of cabling, main station – substation	Failure of the entire substation
Damage at the end circuit insulation	Shock threat to the service crew



EVENT	RESULT
Failure of the main station	No central system
Failure of cabling, main station – substation	Every system is independent, failure only in the fire zone
Damage at the end circuit insulation	Minimal shock threat, SELV

New Automatic Technology

The conventional installation of systems requires the specification of the work modes of individual circuits as early as the design phase. Any potential changes or mistakes can be very costly. In order to eliminate the above-mentioned inconveniences a new fully automatic technology controlling and steering every fitting in the circuit introduced.

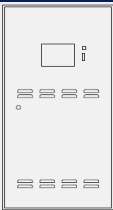
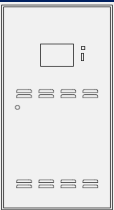
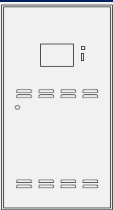
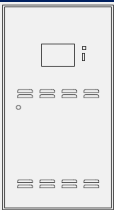
This technology enables the installation of fittings working in three modes: constant, switching and switching-dimming within one circuit. The fittings are programmed and controlled via power supply cabling. The applied technology does not require a dedicated communication cabling. This technology is possible with the use of appropriate address modules in the fittings. These modules are normally installed in fittings dedicated to the **CEBLV** system. Each address module has a unique address with the help of which it is clearly identifiable in the system.

Advantages of New Automatic Technology

Installation of fittings working in different modes: light, dark, switching, switching-dimming within one circuit which provides such benefits as, shorter length of cables, reduction of the number of circuits, lower installation costs, possibility of changes in the work mode of every lamp in the future. Conventional installation differs from New Automatic Technology in the following aspects, only one kind of fitting work at the end circuit, higher costs of installation, higher costs of later changes.

The **CEBLV** is normally equipped with the Ethernet plug which enables remote view of the status and configuration of the system via www site. With this solution almost everyone can remotely control the system without the necessity to purchase specialist software. It is sufficient to install an Internet browser. In order to connect the system to the Internet one should connect the system to the existing structural network in the building where it is installed. Every unit, circuit and fitting can be monitored via the website. The access to the website is secured by a password. Vast installations with many systems can be supervised in one central point with the use of the optional software. The software integration involves the connection to the existing structural network (LAN). Available remote functions are, start of function test/battery test, system blockade on/off, printout of errors, status of the system, status of the circuits, status of fittings.

LIST OF CABINETS

Technical data	CEBLV -12Ah	CEBLV -24Ah	CEBLV -33Ah	CEBLV -52Ah
Protection class: I				
Ingress protection: IP 20				
DC voltage: 24V +/- 30%				
Operating temperature: - 5°C to 30°C				
Power supply voltage	AC: 1-phase 230V +/- 10%, 50-60Hz or DC: 216V +/- 20%	AC: 1-phase 230V +/- 10%, 50-60Hz or DC: 216V +/- 20%	AC: 1-phase 230V +/- 10%, 50-60Hz or DC: 216V +/- 20%	AC: 1-phase 230V +/- 10%, 50-60Hz or DC: 216V +/- 20%
Battery capacity	12 Ah	24 Ah	33 Ah	52 Ah
Maximum power load				
1h	123W	219W	263W	288W
2h	70W	142W	154W	288W
3h	49W	102W	110W	219W
8h	21W	47W	51W	106W
Number of circuits	4	4	4	4
Maximum circuit load	72 W	72 W	72 W	72 W
Terminal connectors [mm ²]				
Power supply	2.5	2.5	2.5	2.5
Circuit connector	2.5	2.5	2.5	2.5
CAN bus	2.5	2.5	2.5	2.5
24V out power connector	2.5	2.5	2.5	2.5
Potential inputs	2.5	2.5	2.5	2.5
Phase loss sensor connector	2.5	2.5	2.5	2.5
Blockade connector	2.5	2.5	2.5	2.5
Potential-free inputs	2.5	2.5	2.5	2.5
Potential-free outputs	2.5	2.5	2.5	2.5
Cable culverts				
	9 x M20	9 x M20	1 x M25	1 x M25
	6 x M16	6 x M16	9 x M20	9 x M20
			6 x M16	6 x M16
Weight	15.5 kg	24.3 kg	31.1kg	48.3 kg
Dimensions [mm]	472x266x140	639x266x140	800x400x170	800x400x170

Maximum power of the circuit	Cross-section [mm ²]	Length [m]
24 W	1.5	142
	2.5	236
48 W	1.5	71
	2.5	118
72 W	1.5	48
	2.5	79