



## Emergency Lighting Systems

- ★ ST, AT, CT, DYN - Standard, AutoTest, CentralTest and DYN system
- ★ H-300, PC-4 - central units and Hybryd software
- ★ LVDBS, HVCBS - low and high voltage central battery systems



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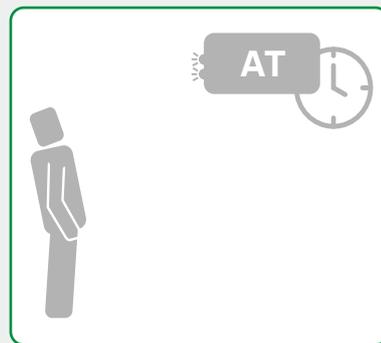
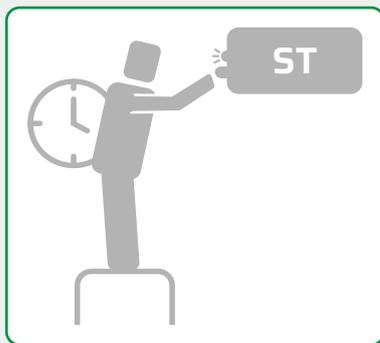
# STANDARD and AUTOTEST system

## Standard

The luminaires are equipped with a green diode signalling the battery status. In addition, they are equipped with a test press button (physical or magnetic) enabling the performance of tests. The test is started manually.

Evacuation luminaires and emergency modules in the **STANDARD** version are dedicated both for companies, institutions and private clients for use in places where the fire regulations require emergency lighting, but testing and controlling does not need excessive workload.

These appliances make use of the microprocessor system and the battery. The system controls battery charging, at the same time taking care of its condition and readiness to work. It also conducts the functionality test started by means of the press button located on the housing or a magnetic switch.



## AutoTest

The luminaires are equipped with diodes indicating its status.

**AUTOTEST** in emergency lighting luminaires enables the maintenance of their full technical operation ability through systematic functional control and the measurement of lighting time in the emergency operation mode.

The dates of subsequent tests are determined by the internal clock in accordance with the micro-processor software.

Auto functions of the test are:

- Performance of a functional test TEST A
- Checking lighting time in the emergency operating mode TEST B
- Supervising the current of batteries charging
- Signalling the damage of the emergency luminaire through the lighting of red LED.

**AUTOTEST** means automatic and autonomous testing of the technical condition of emergency luminaires or modules; therefore, you do not need any additional appliances or service worker's activity in order to conduct testing required by EN 50172 standard.



# CENTRALTEST and DYN system

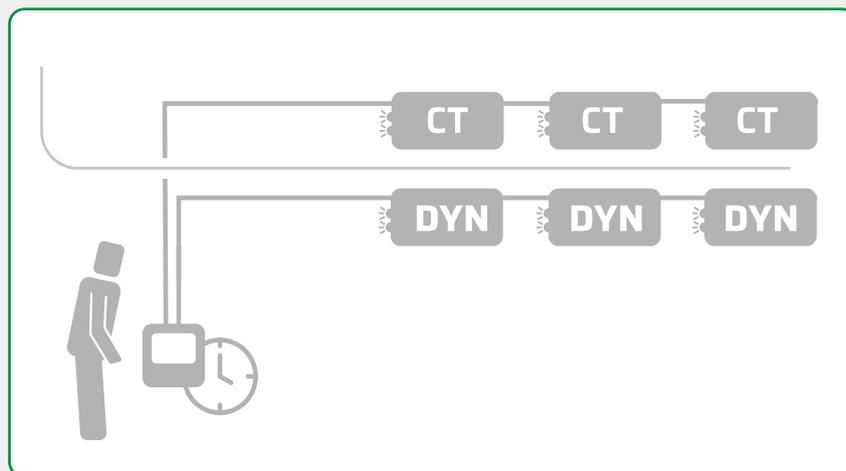
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## CentralTest

The emergency operation of luminaires is activated automatically when the voltage supplying these luminaires is lost. All the devices in the system are supplied with power from 230VAC power grid. The elements of this system are connected with a communication wire, and each device has its own address. The efficiency tests can be carried out at the level of the central control unit on the luminaires and other functions.

**CENTRALTEST** system is popular in medium-sized and large buildings where central monitoring is the only way to supervise effectively so many emergency luminaires, e.g. hotels, schools, hospitals, shopping centres, office buildings, industrial buildings, stadiums, railway stations.

The principle of the system is to use emergency luminaires equipped with individual batteries and the microprocessor system with the possibility of communicating in the **CT** technology. All the information on the system condition may be read from the control units or saved as a report.



**CENTRALTEST** system makes use of 3 different communication technologies **CT**, **CTB** and **CTL** which determine the connection manner, wires types, addressing technique and maximum quantities of appliances. In one installation it is possible to use various communication technologies, combining them by means of a proper expander. All the technologies are based on EIA/TIA-485 and author's communication HELP protocol (Hybrid Emergency Lighting Protocol).

Apart from luminaires and control units for the **CENTRALTEST** system, we also offer expanders, that is appliances enabling the connection of more luminaires and extending maximum distance between the control unit and the luminaire.

## DYN

**DYN** system is the element of **CENTRALTEST** system and it is characteristic for the use of dynamic type luminaires, it indicates an optimal escape route.

## Central control units for CT system

**CENTRALTEST** system functionality depends on the control unit:

	H-302C	PC set, Software PC-4	H-312
CT communication	●	●	●
CT-BUS communication	○	●	●
CT-LOOP communication	○	○	●
PC-4 software, visualization, browser acces	○	●	●
DYNAMIC system	○	○	●
HVCBS/LVDBS connection	○	●	●
BMS connection	●	●	●
Cooperation with SSP system	○	○	●



### H-302C Control Unit

The simplest solution which allows monitoring up to 7936 luminaires, connect BMS and servicing by means of a touch screen.

### Computer set

Solution cheaper than H-312 where we provide the pre-configured PC set, software and special interface for communication with the luminaire network. This option excludes supporting DYNAMIC and SSP luminaire and provides functionality identical to H-312.



### Software PC-4

on your own computer



The most convenient solution, when we have a PC or server, which may be used as a control unit.

In this case, we buy software, communication interface and installation service. This functional solution does not differ from the option with a preconfigured computer set.

### H-312 Control Unit

The most extended solution ensuring practically unlimited possibilities, including: Monitoring of CT luminaires and HVCBS and LVDBS systems supplied with power centrally, visualisation of installations and localisation of devices, servicing of DYNAMIC luminaires and connection to BMS and SSP. Control unit is serviced by means of a large touch screen or remotely through the Internet browser.



# Software PC-4



## Program components:

- Background system service - responsible for communication and implementation of user's demands
- WWW server providing user's interface
- SQL Database.

## Functions:

- Performance and planning efficiency tests
- Detailed reporting on the condition of devices
- Configuration of dynamic luminaires
- Luminaires controlling
- Advanced diagnostics
- Localisation of damage in the plan building
- Supporting all centralised Hybrid systems:
  - \* **DYN** system (Dynamic Lighting)
  - \* **CentralTest** system
  - \* **LVDBS** system
  - \* **HVCBS** system.



# Central battery systems

Hybrid central power supply systems are low-voltage **LVDBS** and high-voltage **HVCBS**.

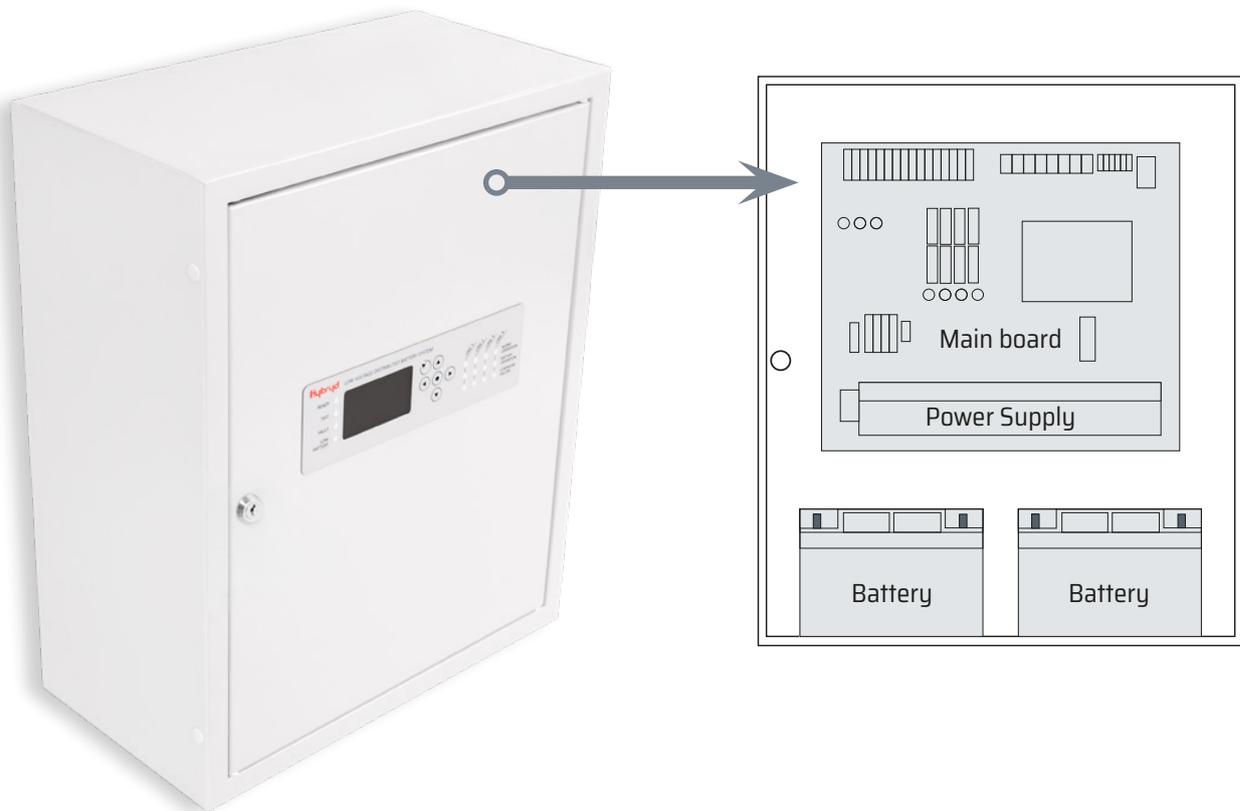
In both cases, the input voltage is 230V AC.

## LVDBS

Low Voltage Distributed Battery System **LVDBS** enables to supply emergency and evacuation lighting luminaires at output voltage of 24V DC.

The system consists of the **LVDBS** unit (which contains control, monitoring and power supply electronic systems with batteries) and luminaires connected to it.

Emergency operation time is one, two or three hours. Hermetic maintenance-free batteries with the lifespan of 10 years are used.



During normal operation, the output voltage is obtained directly from the power supply, powered from the power grid, which additionally charges the batteries.

During a power failure, the system goes into emergency mode and the 24V output voltage is obtained from batteries.

This type of system is intended for small buildings or where the replacement of autonomous luminaire batteries would generate high costs (e.g. due to the mounting height of luminaires), and the use of **HVCBS** system would not be profitable.



## HVCBS

High Voltage Central Battery System enables to supply and control of emergency and evacuation lighting luminaires.

It may include a main station and sub-station or main station only. Owing to the possible extension with sub-stations, this system is proper for use in small, medium-sized and large buildings.

In **HVCBS** the working order of luminaires may be checked through line control (end circuit current measurement) or through the individual control of luminaires with the use of address modules. Communication with luminaires takes place along the power supply line, the system does not require a separate communication line.

The colour TFT LCD touch screen allows for convenient configuration, and the availability of many internal, external or remote modules increases the system's capabilities. **HVCBS** it has also the possibility of cooperation with BMS and backup power supply systems.

### Central unit housing types:

- One-section housing
- Two-sections housing (following photo)
- Fireproof housing (EI30, EI45, EI60)
- Housing with increased tightness (IP45, IP65)
- Mounting plate (for installation in the switchboard)

### Battery housing types:

- Cabinet
- Rack
- Fireproof cabinet (EI30, EI45, EI60)



1986

**Zabrze** – start of the company with the name

Designing and Productions **Hybryd** sp. z o.o.

The Company manufactured thick-layered hybrid systems for medical equipment. The Company manufactured thick-layered hybrid systems for medical equipment.

Afterwards, the offer was extended to signalisation devices in the railway sector and then for the automotive sector.

1996

**Pyskowice** – new and current company headquarters.

The machine park was expanded.

The manufacturing technology was extended with systems assembly on PCB boards.

1997

The range of the products manufactured was extended with electronic systems for supplying light emitting diode fluorescent lamps, i.e. electronic ballasts and emergency modules.

In the course of the on-going improvement of our products, the emergency lighting power supply systems were introduced to manufacturing, equipped with digital interface.

Most production is based on our own designs prepared in the designing department

2010

Handed over a building for the use by the **Research and Development Centre** and rooms for the production of new lighting luminaires with LED light source.

Implemented successfully a few projects co-financed by the Ministry of Regional Development from the EU's funds.

2011

Elaborated and implemented the production of the **family of post-lighting emergency luminaires** with LED light source.

**Hybryd** is a Polish manufacturer. All the production is carried out in Poland.

2018

Implementing the project titled "The elaboration of a new type of energy effective system of **dynamic emergency lighting** luminaires using wireless communication".

A photometric testing laboratory was put at the disposal, constantly developing the quality and durability of luminaires and emergency lighting systems.

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LIGHTING THE WAY TO SAFETY