

Rubic Monitoring System

Description of the RUBIC system:

In buildings where there is a need for installing a large number of independent emergency lighting fittings, there is always a problem connected to the process of controlling the condition of the fittings. Manual controlling of the condition of the fittings requires a lot of time and may sometimes disturb the regular use of the premises. RUBIC system, designed to monitor the operation of emergency fittings with independent power sources, was created to solve this problem. Modern solutions of the Rubic system allow for the configuration and control of the condition of the fittings from one place. Components of the system: C-Rubic control unit, LIDER RS addressing emergency module, P-Rubic programmer. The heart of the system is Rubic central unit, which supervises the whole system operation. In its interior an advanced technology is applied, which gives plenty of possibilities in configuration, programming of work parameters and its checking, data storage and system's enlargement. Awex wanted to make attractive its perfect product by putting Rubic SD central unit on market which is natural development of Rubic central unit.

RUBIC_SD central unit gives almost all possibilities of RUBIC central unit and offers many new options:

- SD card. Card (capacity up to 16GB) enables easy and fast reports transfer from central unit to other devices, e.g. PC. Files are saved on SD card as text files.
- USB Devie port. USB replaced RS232, which makes an additional devices of your computer unnecessary.
- Group programming. Free defining of fitting groups was not available in previous version. System of fittings could be divided into groups but a division was determined by physical topology of network, and not by actual needs of user. Now, logical groups can be defined and modified freely with no influence of the topology, which enables specifying of many various testing options, e.g. test of fittings in one particular room.
- Night operation. In some premises switching on the lighting is necessary in some situations, e.g. during security check rounds. Option of night operation lets to minimize the number of active fittings and to save energy in this way. Controlling the lighting system from 1 place gives comfort and prevent from accidental leaving the lighting turned on. Additionally, group programming creates a possibility of specifying numerous variations of night operation, which may be scheduled or activated manually.
- Authorization. To disable an unauthorized access to the system, any change of configuration demands taping a password.

New version of service application provides a few innovations:

- Graphic visualization of the system. After uploading of a building plan into the system, it is possible to mark a particular fitting on it, and then to find the fitting's actual position. A state of each fitting is indicated with a specified color. It is also possible to switch intuitively into the previous version of application.
- Client/Server. Application was created as a pair Client/Server. It enables an installation of server application on a computer, which is physically connected with central unit and remote connection with client's application with the use of LAN as well as WAN network.
- Offline operation. Application allows to create a whole system configuration at an user's desk and without a connection with Rubic system. Prepared configuration may be uploaded to the system, with simultaneous recording of configuration errors.

C-RUBIC control unit

- Standard monitoring of 250 fittings
- Expansion within the standard unit up to 1000 fittings
- Expansion of the system with one control unit up to 10 000 fittings
- Control and communication with other C-RUBIC control units
- Record of all made tests on SD card
- 3 LED diodes signalling the condition of the system
- LCD monitor
- 230V 50Hz power supply
- Charge time - 24h
- Communication through a screened cable 2 x 0,8 mm
- Distance between the control unit and the furthest fitting - 1200 m
- Possibility of extending the communication cable's distance by another 1200 m. by using the RPT signal amplifier(quantity of amplifiers in 1 network is unlimited
- Power supply through 3 x 1,5 mm² cable
- USB connection port for communication with central unit
- Night operation
- Independent power supply (battery)
- Possibility of group programming
- Cooperation with LED's fitting

Programmer P-RUBIC

- Serial programming of LIDER RS modules
- Individual programming of LIDER RS modules
- Programming without the necessity of power supply to the LIDER RS module
- Independent power supply

SD memory card

- Memory up to 16GB
- Small dimension

Lider RS addressing emergency module

- Unique address
- Fluorescent lamp power 6W ÷ 58W
- Emergency operation time 1, 2 or 3 hours
- Fluorescent lamp type T5
- Compatibility with magnetic (VVG, KVG) and electronic (EVG) ballasts
- Green diode - signals correct battery charge
- Red diode - signals abnormal functioning of the fitting

code	power	work	battery
RS/36/1	6W-36W	1 h	Ni-Cd 3,6V 2,5Ah
RS/36/2	6W-36W	2 h	Ni-Cd 3,6V 2,5Ah
RS/36/3	6W-36W	3 h	Ni-Cd 3,6V 4,0Ah
RS/58/1	6W-58W	1 h	Ni-Cd 4,8V 2,5Ah
RS/58/2	6W-58W	2 h	Ni-Cd 4,8V 2,5Ah
RS/58/3	6W-58W	3 h	Ni-Cd 4,8V 4,0Ah

Linex addressing emergency module

- Unique address
- Fluorescent lamp power 6W ÷ 80W
- Emergency operation time 1, 2 or 3 hours
- Fluorescent lamp type T5 compact 4 pin
- Compatibility with magnetic (VVG, KVG) electronic (EVG) ballasts
- Green diode - signals correct battery charge
- Red diode - signals abnormal functioning of the fitting
- Additional outlet for night operation module

code	power	work	battery
LX/21/1	8W,14W,21W	1 h	NiMH 3,6V 1,5Ah
LX/21/2	8W,14W,21W	2 h	NiMH 3,6V 2,5Ah
LX/21/3	8W,14W,21W	3 h	NiMH 3,6V 4,0Ah
LX/39/1	24W,39W	1 h	NiMH 4,8V 1,5Ah
LX/39/2	24W,39W	2 h	NiMH 4,8V 2,5Ah
LX/39/3	24W,39W	3 h	NiMH 4,8V 4,0Ah
LX/49/1	28W,35W,49W	1 h	NiMH 6,0V 1,5Ah
LX/49/2	29W,35W,49W	2 h	NiMH 6,0V 2,5Ah
LX/49/3	28W,35W,49W	3 h	NiMH 6,0V 4,0Ah
LX/80/1	54W,80W	1 h	NiMH 6,0V 1,5Ah
LX/80/2	54W,80W	2 h	NiMH 6,0V 2,5Ah
LX/80/3	54W,80W	3 h*	NiMH 6,0V 4,0Ah



C-RUBIC central unit



SD memory card



P-RUBIK programmer



Lider RS addressing emergency module

Functions of the system:

- Constant communication between the central unit and the lighting fittings
- Running auto tests
- Running manual tests
- Registering test results (memory of central unit - minimum 3 years)
- Record of test results on SD memory card
- Emergency mode lock
- Dividing the monitored fittings into groups
- Reporting any abnormalities
- Connecting with a PC through an interface an interface and creating visual presentations with the help of a special software
- Control of the system from any place through internet links
- Test calendar configured to suit individual needs

Lighting fittings working under the RUBIC system have unique addresses and are connected to C-Rubic control unit with a communication cable. The fittings communicate with the central unit reporting any abnormalities which are signaled on the central unit display with LED diodes placed on the central unit panel. Each fitting connected to the system may have an individual description in the control unit, which enables to locate it in easy & fast way. When abnormalities occur connected to the operation of a fitting, information about the type of abnormality and the location of the fitting appears on the display of the control unit. The system allows for manual testing of a single fitting. C-Rubic central unit's software allows to divide the fittings into groups which enables one to run tests only on chosen groups

of fittings. Apart from manual tests, the following auto-tests are carried out:

Test A - a short test, recommended every 30 days (PN-EN 50172) - checks the following parameters:

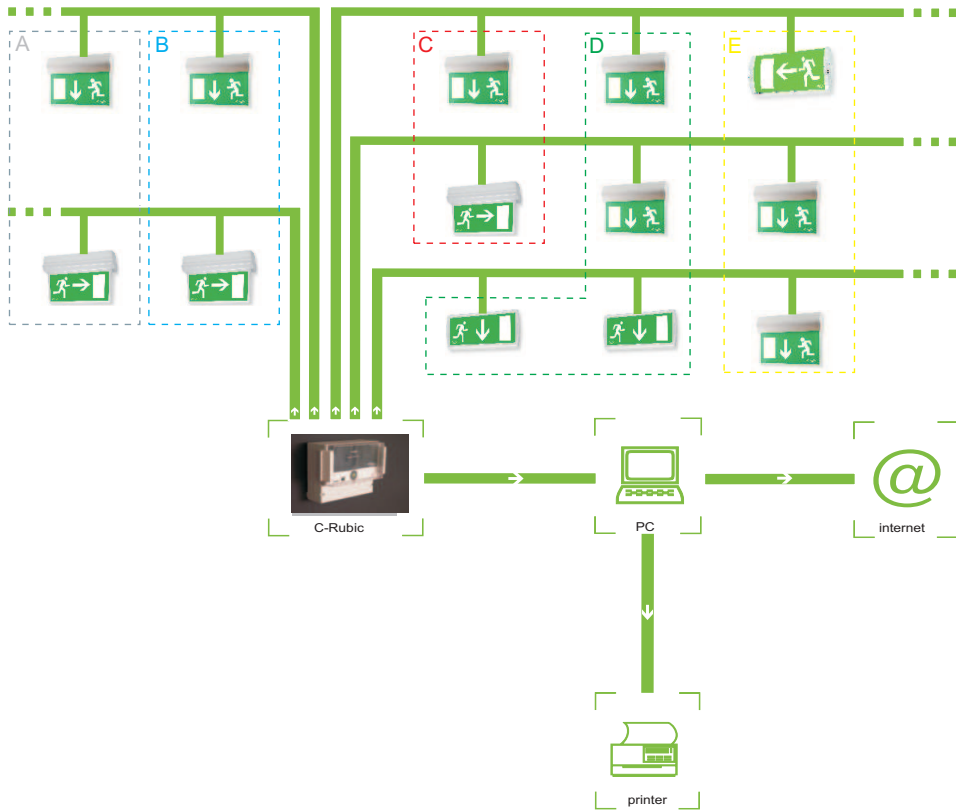
- enforcing emergency operation of the fitting for 5 minutes
- control of battery power discharge
- control of minimum voltage of battery

Test B - a long test recommended every 360 days (PN-EN 50172) - checks the following parameters:

- enforcing emergency operation of the fitting for the time programmed for each fitting (1, 2, 3 h)
- control of battery power discharge
- control of minimum voltage of battery
- control of the condition of battery

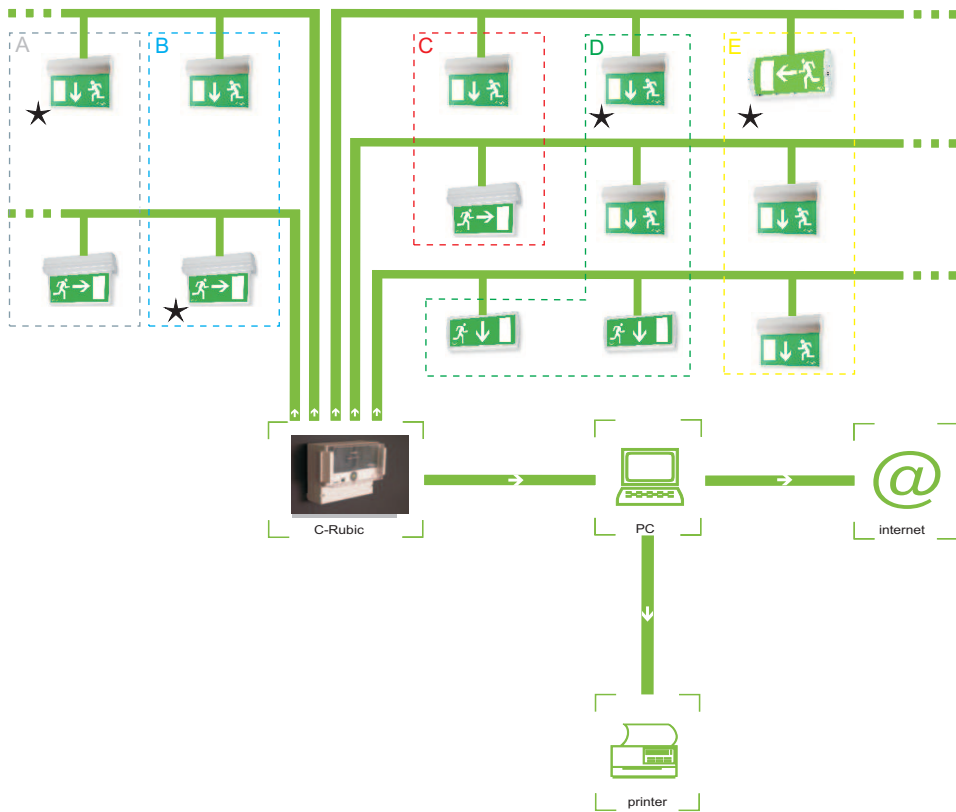
The frequency of running tests A and B may be programmed according to the needs of the user. There is a possibility of programming the tests with exact dates of when they should be carried out. Long tests B should be run when the premises are not to be used within 24 hours after finishing the test. This time is needed for the recharging of the batteries discharged during the long test.

Test results are stored in the memory of the central unit and may be viewed on the central unit's display. Test reports may be recorded on SD memory card and may be printed on any PC.



Group operation:

There is a possibility to divide the fittings into groups (A,B,.....). In whole system up to 15 groups can be defined. To each group unlimited fittings quantity can be assigned to.



Night operation:

There is a possibility to define the fittings to night operation. The night operation can be defined in range of whole system, one group or one card only. To each group unlimited fittings quantity, defined to night operation, can be assigned to.