

**SPECIFICATION AND USER'S MANUAL**

type of the device: WLC 201 Digital Line Amplifier receiver

The Digital Line Amplifier is an element which extends the functionality and operating reliability of the radio systems. It allows for extending the radio transmission range of the alarm and control signals. Its role is to receive radio signals and to convert them to electrical signals, which are sent through a conductor to a receiver, for example RSU-KO1/LC or any other in the LC version. Such a solution is useful when the controller has to be installed in places where radio signals reception is difficult or impossible.

Using WLC 201 allows for installing the controller in a place which is convenient because of wire installation (for example, close to an alarm central) and installing WLC 201 in a place of a good radio signals reception, for example on higher floors or outside the building. The cable can be up to 200m long. One amplifier can control the work of up to 20 controllers with the LC modules.

**TECHNICAL PARAMETERS**

- frequency: 433,92 Mhz
- radio transmission: KeeLoq hopping code by Microchip Technology
- type of receiving module: superheterodyne
- sensitivity: -115 dBm
- supply voltage:  
nominal: 12 V DC  
maximal: 10-15V DC
- power consumption: max 30 mA
- type of cable in the circuit: YDTY, diameter min. 0,5mm, for example 1x60,5 or 3x2x0,5
- level of security: IP 67
- operating temperature range: -20 to +40 °C
- antenna socket: BNC 50 Ohm
- dimensions (mm): 99\*58\*33
- cooperation: any GE sender
- operating range (m): 200-1000\*
- colour: grey

\* the range depends on the type of the sender

**TABLE OF RANGE**

200 metres	types of the remote controls: PUK 101, PUK 102, PUK 104, PUK 112-1, PUK 112-2
400 metres	PNH 201 hermetic button
600 metres	PUK 303 remote control
1000 metres	types of the remote controls: RNB 101, RNB 101S, and NRP 100 stationary sender

The above range concerns the open space (without any obstacles, when the receiver and the remote control can "see each other"). If there are any obstacles between the receiver and the sender, one must assume that the range would be reduced: for wood and plaster it would be 5-20% lower, for bricks 20-40% lower, and for reinforced concrete 40-80% lower. If there are many obstacles we advise to use retransmitters or stronger remote controls. If there are metal obstacles, using the radio systems is not recommended.

**The device meets the requirements of the directives EMC 89/ 336/ EEC  
and RTTE 1999/ 5/ EC.**



## USER'S MANUAL

**The receiver installation conditions** - good. Firstly, the hermetic case allows for installing the receiver in difficult conditions such as humidity or low temperatures. It can work outside. Secondly, the superheterodyne receiving module is characterized by high resistance to electromagnetic interferences. In practice it means that the operating range is extended and the influence of interferences on the receiver's work is minimized.

**The transmission code** - the radio transmission, based on the hopping code (KeeLoq by Microchip Technology Inc. USA) ensures the high safety of using. Each transmission is different from the previous one. To make the receiver work, you must enter a remote control into its memory – it is the basic condition. The control can be programmed to unlimited number of receivers. „Loosing“ 15 successive transmissions (using the remote control beyond the receiver's range) requires sending the signal twice (press the remote control button twice).

### Use:

- obstacles on the radio wave's way – in all places where the installation conditions are difficult because of the terrain shape or building construction (thick walls, metal walls, difficult location of the receiver, for example in a safe or basement) – they all cause a significant decrease of the operating range of the radio systems. Using WLC 201 allows for estimating the operating range of these devices with a total omission of the obstacle influence on the devices' work. The possibility of using 200-metre cable (in case of unreeling 400, 600 etc.) makes the installing in huge, difficult building possible.
- better operating range of the radio systems – if the signals are received from senders installed on a large area or in case of using panic remote controls (their huge relocations), the WLC 201 amplifiers (when lifted on a mast or installed on a roof of the highest building) will guarantee the optimal conditions of control and alarm signals.

**Frequency 433,92 MHz** – the devices work on the frequency 433,92 MHz. This bandwidth does not require any special permissions and concessions for using it.

RECEIVERS IN THE LC VERSION (to cooperate with the WLC 200 amplifier):

- • the RSU-KO1/LC type
- • the RSU-KO2/LC type
- • the RSU-KO4/LC type
- • the IDO 04/99/LC type
- • the IDO 500/LC type

### CONDITIONS CONCERNING THE CONNECTION DIAGRAM

- the devices can but do not have to have joint supply or grounding
- in case of using the LC controllers remember that the receiver keeps all the functional parameters except that instead of the receiving module a LC module is installed (whose radio sensitivity is neutral). You do not have to take into consideration the influence of electromagnetic interferences when evaluating the correctness of the LC receiver's operation.
- if the mounting place of the controller is advantageous and the hermetic case is not necessary, you will save some money by using the RSU receivers in the LC version

