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RECEIVER WITH 224 TRANSMITTER MEMORY AND NUMERIC IDENTIFICATION FOR MULTI USER ACCESS CONTROL APPLICATIONS
RD101H – single output type,   RD102H – double outputs type

This microprocessor-controlled receiver is designed for application in multi user access control systems as for example large housing estate garage or gate entry. It operates with all 433,92 MHz Elmes made *KEELOQ®* code hopping hand transmitters offering highest level of security. With up to 224-transmitter memory capacity and numeric display identification of transmitters the receiver provides easy to handle procedures for memorising and deleting of single hand transmitter or group of transmitters in multi user environment. The receiver features three-digit numerical led display seen on board with top cover removed. Access to memory cells and programming is made with the use of two onboard programming switches marked PRG (-) and (+). After selecting required memory cell (either in upwards or downwards cell numbers scroll) its contents can be deleted or/and a new hand transmitter can be memorized to. In case of any hand transmitter in the system is lost or stolen it is not necessary to delete all hand transmitters from the receiver's memory to eliminate the lost one. To delete lost transmitter/s from memory the operator is required to select the known cell number/s and delete its contents. The cell/s may be left free or alternatively, used to memorise new hand transmitter/s. Scrolling memory of the receiver shows that all taken cells (with transmitter memorised) are marked by a dot mark switched on at the bottom of each numeric segment of the display. Dot marks switched off indicate that the memory cell is free.

Operation. By the use of a hand transmitter programmed to one of the receiver's 224 mem cells the receiver's output relay can be set on for an earlier pre-programmed period of time (monostable mode of output operation) or for a time period as long as the next use of any memorised hand transmitter (bistable on/off mode of output operation). While the relay output is in the set on position, the memory cell number to which the transmitter is programmed is displayed for a while and the external indication LED changes colour with signal output S generating two pulses on relay's set and one pulse on relay's reset. Pressing PRG (-) at any time displays the cell number of the last used hand transmitter.

The receiver is designed for indoor operation only and should be installed possibly high on dry, free from metal screening obstacles and far from any other radio waves emitting equipment that may cause interference.

PROGRAMMING PROCEDURES
Prior to programming make sure the receiver's LED lights red, otherwise shortly disconnect the power supply.
1. Programming - learning transmitter(s) to receiver's memory (maximum 12):
   a) Press receiver's PRG "+" switch for less than 2 seconds - the LED display will show "PPP" sign. Releasing the switch will display the first free memory cell number ready for hand transmitter memorizing.
   b) By the use of "+" and "-" switches other free memory cell may be selected. Cell numbers with dots switch on indicate that these cells are not free. Leaving this procedure is done automatically after 30 seconds of no operation or immediately after the two switches are pressed simultaneously for longer than 2 seconds.
   c) After selecting the memory cell the operator is required to press shortly (for less than 2 seconds) both PRG switches. Depending on whether the selected mem cell was free or taken the following programming steps are activated:
   Free cell (dots off): the cell number is flashing and memorizing of hand transmitter is started. Within 15 seconds press hand transmitter switch once – the display stops flashing, within next 15 seconds press the hand transmitter switch again – the display will flash again indicating end of the procedure. The hand transmitter is memorized.
   Cell taken (dots on): the memorized hand transmitter this cell is permanently deleted and the cell is free.
2. Programming - setting the receiver's output to time-lapse or on/off operation mode:
   a) Press receiver's PRG "+" switch for as long as the LED displays "CCC" sign and immediately release the switch.
   b) Within next 15 seconds press once hand transmitter switch (the one of the programmed channel in two channel system). The appropriate relay in the receiver will set on and the display will show number of the mem cell.
   d) **To program the receiver's output to time lapse mode of operation** press the same hand transmitter switch again after the desired set time has lapsed (from 0,25s up to 2 hours) press the same transmitter switch shortly again. The relay switches off and the set time is programmed. After 2s the display flashes several times confirming end of the procedure.
   e) **To program the receiver's output to on/off mode of operation** press the hand transmitter switch twice with less than 2s interval. The relay sets to off an after 2s the display flashes several times confirming end of the procedure.
3. Programming - deleting all hand transmitters from the receiver's memory:
   Press receiver's PRG "+" switch for as long as the receiver's display shows "rrr" sign (more than 8 seconds) and then release the switch. The receiver's memory is cleared of hand transmitters but the programmed modes of operation of the relay output/s remain unchanged. To learn new transmitter(s) to the receiver's memory follow procedure 1 above.

Specification:
   - up to 224 hopping code Elmes 433,92 MHz hand transmitters may be used with single receiver,
   - identification and displaying hand transmitter number programmed to the receiver,
   - last used transmitter number display function,
   - deleting all memory cell contents in one simple programming operation,
   - upwards and downwards memory cell numbers scrolling and selection,
   - fast scrolling function when pressing (-) or (+) PRG switch for more than 2 seconds,
   - Requires 12VDC or 24VAC/DC power supply with current consumption of 110mA max,
   - ABS housing and external dimensions same as standard Elmes receiver.

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