

General features

This microprocessor controlled 8-channel receiver is designed to operate with up to 40 code hopping transmitters in alarms and access control systems. It works with all 433,92 MHz band Elmes made *KEELOQ*® coded hand transmitters, wireless PIR motion detectors PTX and wireless magnet contacts CTX offering highest level of security and transmitter's low battery identification. It features 8 galvanic separated NO/NC relay outputs with front panel LED channel indication for each channel, sound control output S and tamper switch. Most of the receiver features are user set and programmable offering flexibility in application. Below listed, are standard Elmes Electronic transmitters specified for operation with the CH8H receiver:

- code hopping hand transmitters UMB100H, DWM50H, DWB100H, AN200H, DW200H, CH4H, CH4H200;
- code hopping wireless PIR motion detector PTX50 and wireless contact magnets CTX3H and CTX4H;
- fixed code four channel RP501 transmitter (except when set to operate with radio link testing).

Each receiver channel may have pre-programmed any number of Elmes transmitters while total number operating with one CH8H receiver may not exceed 40. Programming 41st would erase 1st, etc. The whole memory must be erased in case of need to eliminate one transmitter from the receiver's memory. Multi channel hand transmitters and RP501 transmitter programmed to the receiver would occupy and control adjacent receiver channels respective to the number of channels used in the transmitter. The PTX50 detector and the CTX4H wireless magnet contact may be programmed to any user selected channel 1...8 while its tamper signal is automatically set to dedicated tamper channel 8.

Application examples:

1. Dedicated wireless alarm control panel monitoring alarm signals from Elmes wireless transmitters such as CTX, PTX and RP501 and armed on/off by UMB100H hand transmitter programmed to channel 1.
2. The CH8H receiver used as call-in and wireless panic button control panel in a system where many users have AN200H hand transmitters as personal wireless panic button. Any AN200H transmitter activated generates alarm state in the receiver lasting for earlier programmed period of time. Two channel hand transmitters used as wireless panic buttons may have one button used for quiet call-in function while other used for a loud panic alarm function.
3. The CH8H used as universal wireless alarm system receiver monitoring alarms, tamper and low battery signals from all Elmes code hopping wireless equipment and switching on/off respective alarm zones in the main system control panel.

Operation features:

Activating transmitter programmed to the receiver results in switching its channel relay output and illuminating its channel LED indicator. Depending on user programming, as described in sub-close 2 of the programming procedures, the following two modes of the receiver's relay outputs operation are possible:

1. Temporary output switching lasting from 0.5 sec. up to 4 h on each signal received from transmitter.
2. Bistable outputs switching in on-off mode and activated by consecutive signals from the transmitter.

Signal output S (OC type). Depending on user-selected jumper JP1 state operates as described below:

JP1 closed - on each relay output set two pulses (shorting to ground) are generated while on any relay output reset generated is one pulse. This function applies to all 8 channels if jumper JP1 remains closed or to channel no 1 only if the JP1 is left opened.

JP2 opened – if one of the transmitters signals low battery state the S output is permanently shorted to ground.

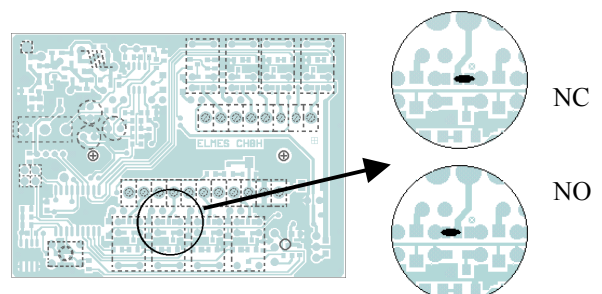
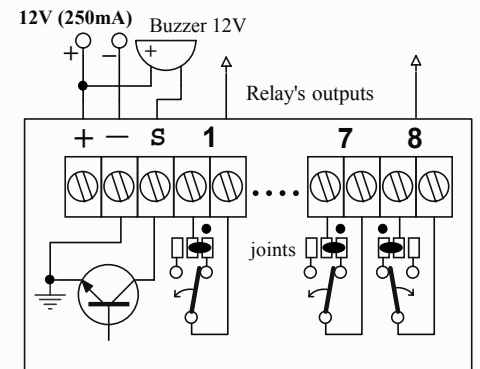
Low battery state monitoring. This function is supported for Elmes transmitters type PTX50, CTX and RP501. Blinking of the receiver's large bicolour LED indicates detected low battery state in one of the transmitters. Number of blinks in a series corresponds to number of channel with detected low battery transmitter. Additionally, signal output S is shorted to ground if jumper JP1 remains closed. When battery is replaced with good one and the transmitter is activated the low battery indication sets off automatically.

Tamper alarm Opening of the receiver's housing or opening housing of the PTX50 and CTX4H transmitters used in the system, or cutting off the receiver's power supply will result in relay output switching and tamper signalling in channel 8.

Installation (as shown on fig. 1):

The CH8H receiver is designed to operate indoors with ambient temperature range from 0 to +40°C. Place of installation should be dry and far from any electromagnetic power lines, radio transmitters, metal screening and other devices that may cause interference and reduce operation range. The receiver should be installed 2 to 3 metres above floor lever and minimum spacing of two metres is required if more than one receiver is installed at the same place. Placing receiver close to ground or under the ground level may result in great reduction of operating range. Practical test should be taken prior to firm installation to determine exact operation range. Receiver's wire antenna should be let loose downwards.

Setting relay outputs to NO type is user made by changing solder joints made for each relay on printed circuit board soldering side (see fig. 2). Factory setting channel outputs are NC type (normally closed). On power supply cut off the 8th relay output switches to open indicating tamper alarm.



CH8H PROGRAMMING PROCEDURES

Programming is made with front panel taken off and the use of programming PRG switch on the receiver's board.

1. Learning transmitter(s) to receiver's memory (maximum 40):

- a) press receiver's PRG switch for less than 2 seconds. The receiver's LED switches to red and channel no 1 LED will illuminate,
- b) shortly pressing the PRG switch (less than 2 seconds) select the required channel for the transmitter,
- c) press the PRG switch for more than 2 seconds, so as the main receiver's LED changes to green,
- d) depending on type of programmed transmitter proceed as follows:
 - for hand transmitter – double press the transmitter's switch. In multi channel transmitters press switch number respectively to number of channels to program, example: double pressing the 3rd switch in four ch. transmitter CH4H will program first three channels to the receiver. The fourth channel will not be active in this receiver.
 - for the PTX50 detector – first set the detector's internal transmission channel selector to channel no 1 and close housing to deactivate tamper switch and then activate two transmissions by moving hand in front of the detector,
 - for the CTX3H and CTX4H wireless contacts – activate two transmissions by moving magnet in and out of the CTX housing,
 - for the RP501 transmitter – set the transmitter's required mode of operation and activate transmission by opening any of its four inputs respectively to number of channels required, example: activating input 2 will program input 1 and 2 to the receiver while inputs 3 and 4 will not be programmed. **NOTE: the RP501 operation mode with radio link testing is not allowed.**
- e) the receiver's LED blinking green will indicate end of the procedure.

2. Setting the receiver's relay outputs set time:

- a) press receiver's PRG switch for more than 2 and less than 8 seconds, LED switches to red and again to green indicating entering this programming mode. The channel no 1 LED is lit on and the channel is ready for programming set time,
- b) shortly pressing the PRG switch (for less than 2 seconds) select the required channel,
- c) press PRG switch for more than 2 seconds until the receiver's LED switches to red,
- d) press PRG switch and the receiver's LED switches to green indicating start of the channel output set time measure. When required set time has lapsed (maximum 4 hours) press the PRG switch again ending the procedure – LED switches to red.
- e) After two seconds the receiver's LED blinking in green will confirm end of the procedure.

NOTE! To program selected channel output to bistable set time (on/off mode) press the PRG switch three consecutive times at point 2d above with less than 2 second intervals.

3. Deleting all transmitters from the receiver's memory:

hold pressed the receiver's PRG switch - the receiver's LED switches to red and after two seconds to green. After next six seconds the receiver LED starts blinking. Release the switch. Transmitter memory of the receiver is now cleared but the channels programmed modes of operation remain unchanged. To learn new transmitter(s) to the receiver's memory follow procedure 1 above.

NOTE! Programming errors are indicated by fast blinking receiver's LED in red. If no programming steps are made for more than 30 seconds the receiver automatically sets off the programming mode.

SPECIFICATION:

- 8 channels with NO/NC user set galvanic isolated relay outputs and LED front panel indication,
- multi mode relay output operation programmed by the user,
- up to 40 Elmes code hopping 434 MHz band transmitters programmable to the receiver,
- transmitters low battery monitoring and channel identification,
- user set mode of operation of external siren output S,
- receiver's TAMPER switch signalling tamper alarm in dedicated channel 8,
- power supply: 12VDC with 250 mA maximal current on all channels set,
- relay output rating is 1A/24VDC or 0,5A/125VAC.