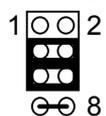


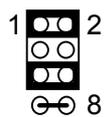
A set consists of four-channel radio transmitter and dedicated receiver designed for use in radio remote control and anti-burglar alarm systems. Both the transmitter (encoder) and the receiver (decoder) use microprocessor controlled input/output logic and 64-bit coding technology. The system operates on SAW controlled 433,92 MHz frequency and features up to 500 metres operating range in open field (with standard 20cm transmitter wire aerial). Range up to 1000 metres in open field can be obtained with simple dipole TV UHF band (ch 21-60) directional aerial and coaxial cable fixed to the receiver's pcb in place of the standard wire aerial. One receiver may operate with many transmitters in a system.

The units are in same look like ABS plastic enclosures with different colour led indicators. The transmitter (red led indicator) may be powered either from line 12VDC supply or, due to extremely low power requirements, from internal 9V battery. The receiver's bicolour led indicator operates from line 12VDC supply and has four independent relay outputs. The receiver has four fully programmable NO/NC relay outputs connecting to the receiver's ground. The relay action is time-lapse mode depending on user's programming. The S output (open collector type) is for external beeper device and delivers pulses on alarm state. The S output might also be user set to indicate the radio link between transmitter and receiver failure. This is done by disconnecting jumper J5 on receiver's board. The receiver features built in bicolour led that provides necessary programming and output status indication. The transmitter's tamper switch, which is connected in series with D4 input, is user activated by cutting jumper ZT and closing input D4 to the receiver's ground. It generates alarm transmission in channel 4 on opening of RP501 box.

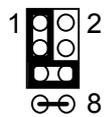
Modes of operation of the RP501:



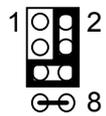
Mode 1. Continuous operation. Opening any of the transmitter's D1..D4 inputs generates lasting 15 seconds transmission that switches to 1 second transmissions every 1 minute interval if any of the inputs remain still opened. Transmission ends when all inputs of the transmitter are closed. Receiver resets outputs after passing user-programmed time.



Mode 2. Prolonged transmission operation. Transmission is prolonged of up to 15 or 40 seconds*, even if any of D1..D4 inputs are opened for a very short while. If the opened any D input lasts over the set prolonged transmission period, the transmitter auto-switches to battery saving mode of 1 second transmission every 1 minute stop time.

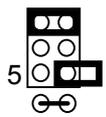


Mode 3. Radio relay operation. Any change on the D1..D4 inputs generates transmission lasting 15 or 40* seconds with the receiver outputs status corresponding to the status of the D inputs of the transmitter.



Mode 4. Radio relay operation with cyclic update. Same as mode 3 above with the addition of 1 second lasting update transmission every 80 seconds.

In all the above modes of operation the transmitter's battery voltage is tested. It's drop to 7V is indicated by the receiver's green led blinking.



radio link testing. Every 35 seconds transmitter sends a test signal. In case the receiver does not get any test signal within 90 second time span it indicates that condition by blinking red

LED and delivering pulses (or continuous state if J5 is opened in receiver) to ground on S output. This function is user set by disconnecting jumper (5-6). Only one transmitter may operate with radio link testing in a system.

* 40 seconds with jumper 7-8 shorted, 15 seconds with jumper 7-8 opened.

Important! To ensure proper operation of the set in above selected modes it is necessary to perform instruction 3 of the programming procedures below.

RP501 PROGRAMMING PROCEDURES

Prior to programming make sure the receiver's LED lights green, otherwise shortly disconnect the power supply.

1. Programming - learning transmitter(s) to receiver's memory:

- a) press receiver's **PRG** switch (LED lights red) for less than 3 seconds. Releasing the switch LED continues to light red indicating entering the programming mode of the decoder,
- b) disconnect one of D inputs of the transmitter once, blinking receiver's LED confirm end of the procedure and the transmitter is receiver's memory.

2. Programming - setting the receiver to time-lapse output mode and reset time:

- a) press receiver's **PRG** switch (LED lights red) for more than 3 and less than 8 seconds. Releasing the switch LED light changes to green indicating entering this programming mode,
- b) press shortly PRG switch again to start time-lapse count. Receiver's LED lights red.
- c) when desired time has lapsed (up to 6 hours) press the PRG switch shortly again. The receiver's LED changes to green and after 2 seconds starts blinking confirming end of the procedure.

By pressing PRG switch triple in shorter than 2 seconds intervals in point 2.b above, the receiver's outputs are set to latched (on/off) mode of operation so their reset can only be made by disconnecting power supply from receiver.

3. Programming - setting the receiver to the transmitter's selected mode of operation:

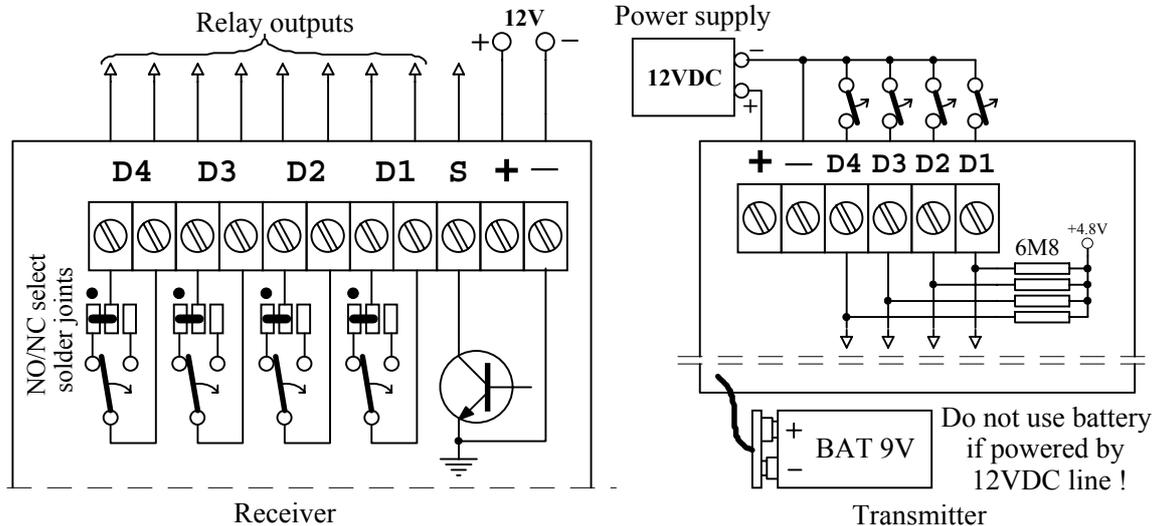
- set the required mode of operation in first transmitter* in the system,
- perform learning the transmitter to the receiver's memory as described in point 1 above.

* the transmitter first entered to the receiver's memory.

4. Programming - erasing all transmitters from the receiver's memory:

press receiver's PRG switch (LED lights red) for more than 8 seconds, until the receiver LED starts blinking confirming end of the procedure. Memory of the receiver is cleared.

Wiring diagram of RP501:



Unused transmitter inputs must be connected to receiver's ground (-V). When receiver is powered by 12VDC line remove battery otherwise the battery may be damaged.

SPECIFICATIONS:

- * ASK radio high security code (64 bit) receiver/transmitter set,
- * EC standard 433,92 MHz, four channel transmitter,
- * up to 500 metres operation range in open field and up to 1000 metres range with TV (UHF band - channel 21-60) simple dipole aerial installed to the receiver,
- * four channel, four relay output (NO or NC) receiver,
- * maximum number of transmitters: 60,
- * relays output handling up to 125VAC/0,5A or 30VDC/1A,
- * in-built bicolour LED for programming and status indication,
- * S terminal (OC type, 1A/60V) delivering pulses to external sounder on alarm state,
- * transmitter supply: 9-12 VDC / 17uA standby, 10mA active,
- * receiver supply: 12 VDC \pm 15%, 10mA standby or 80mA with four relay action,
- * operating temperature range: 0 to 40 ° Celsius.

CE - This product complies with the following European Community Directives:

- The Electromagnetic Compatibility Directive 89/336/EEC
- The Low Voltage Directive 73/23/EEC.

The RP501 set is certified by Z.R.T.O.M. "TECHOM" (No 93/00) for security systems class "B" application.

GUARANTEE: All Elmes products carry manufacturer's standard 12 month guarantee as from date of delivery. The guarantee is limited to replacement of faulty original parts and/or repair defects of improper manufacture. Damage, faulty use or improper handling vitiates the guarantee and repair costs will be charged. In all cases, costs of delivery to and from the manufacturer of the products to be serviced are to be paid by the customer.