

Elmes Electronic STM-2K VER 4 controller is designed for remote control of two devices powered with 230VAC such as domestic hot water circulating pump, etc. Miniature size of the controller allows its installation in electric cable installation boxes (wall plaster type – 60mm deep). The receiver includes the *KEELOQ®* hopping code system of Microchip Technology Inc., USA allowing high level of security. STM-2K VER 4 receiver is compatible with all Elmes Electronic hand transmitters operating at 433,92 MHz. Each of transmitter's two buttons control one of two controller's outputs. In case of 4 buttons transmitter, active button pairs are 1-2 or 3-4. Unused pair may control other equipment.

The controller may be wired operated by two single mono-stable wall switches or one double. Wired switches control the unit the same way as the hand transmitters.

Each output of the receiver is independent and may be programmed to operate in one of the following 2 modes:

Mode 1: Pressing the remote control button activates the output to be in permanent ON position. The output will turn OFF only when power is turned off (point 2 programming procedures).

Mode 2: Pressing the remote control button activates the output for a preset time. Pressing the button while the output is switched ON extends this time. The default activation time is a few seconds and should be changed according to requirements (paragraph 3 programming procedures).

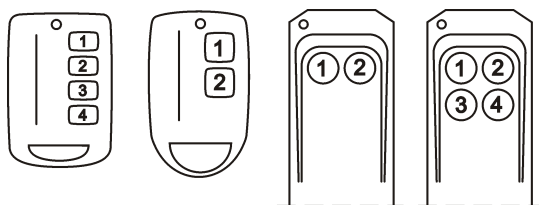


Fig.1. Control buttons layout in Elmes Electronic hand transmitters.

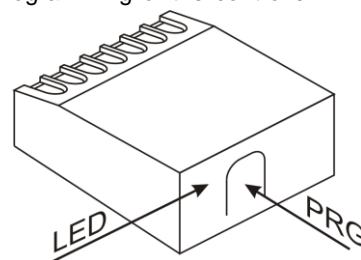
SPECIFICATION

- power supply 230VAC (0,3VA standby, 0,5VA on any relay on),
- output relays rating: 250VAC~ 5A max.,
- superheterodyne receiver to 433,92MHz band,
- controller's memory for up to 112 transmitters,
- control voltage at inputs no 6 and 7: 250VAC~ max.,
- programmed timing: 0,5s up to 4h,
- operating temperature range -20 up to +55°C,
- external dimensions (l/w/h) 42/35/21mm.

Manufacturer: ELMES ELECTRONIC,
ul. Avicenny 2, 54-611 Wrocław, Poland,
tel. (+48)717845961, fax (+48)717845963

PROGRAMMING PROCEDURES

The PRG button is used for programming of the controller. The LED diode indicates the status of the programming sequence. LED slow flashing (one per second) indicates correctly performed procedure. Fast flashing (four per second) indicates procedures made incorrectly or procedure error. Programming procedures, except for procedure point 2b and 3c,d, are allowed 16 seconds to be completed. After that time the controller automatically exits programming mode and indicates programming error.



- 1. LEARNING TRANSMITTER/S** to controller memory (up to 112 maximum):
 - a) press PRG switch for less than 2 seconds (LED lights on). Releasing the switch LED continues to light indicating entering programming mode,
 - b) press appropriate transmitter's button once (button number 1 or 2 for control pair 1-2, button number 3 or 4 for control pair 3-4) - LED switches off.
 - c) press the same transmitter's button second time - end of procedure
- 2. MODE 1 PROGRAMMING PROCEDURE** (see above):
 - d) press **and hold** PRG switch for longer than 2 and shorter than 8 seconds. Releasing the switch sets the LED off,
 - e) press shortly three times programmed transmitter's button or wall switch.
- 3. MODE 2 PROGRAMMING PROCEDURE** (see above):
 - f) press **and hold** PRG switch for longer than 2 and shorter than 8 seconds. Releasing the switch sets the LED off
 - g) press hand transmitter button or wall switch once – the LED lights ON and the output sets ON,
 - h) when the desired time has elapsed (from 0,5 second up to 4,5 hours) press the transmitter's button or wall switch again
 - i) after 2 seconds the LED starts blinking slowly confirming end of procedure
- 4. DELETING ALL TRANSMITTERS** in controller's memory. Procedure suitable in case one of transmitters is stolen or lost: Press **and hold** PRG switch over 8 seconds until LED starts flashing and then release it. The controller's memory is now cleared of all transmitters, however programmed modes and timing remain unchanged. To operate the controller by new hand transmitter/s, perform point 1.
- 5. DELETING ONE TRANSMITTER** in controller's memory. This operation is possible under condition that the transmitter to be deleted is in our possession. Start the procedure as in point 1a) and follow steps by pressing **two different buttons** of the transmitter. LED indicating error in this case means the transmitter is now deleted and will no longer operate the controller. Status of all other transmitters learned to the controller remains unchanged.

NOTE: procedure point 2 and 3 is possible with the wall switch or programmed hand transmitter.

INSTALLATION (see connection schematic diagram below):

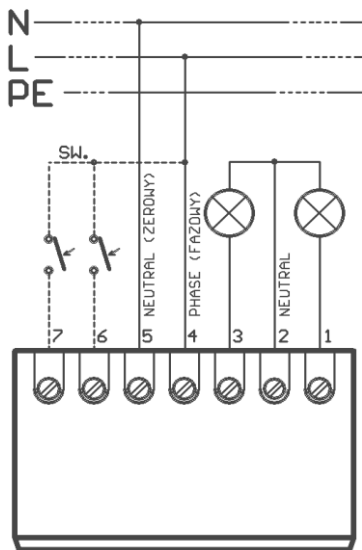
WARNING! Control unit and electric connection to 230VAC mains voltage require personal safety precautions to be taken and mains voltage line be in OFF state at installation.

The controller is not water sealed and should be installed in dry place. Antenna wire should be let loose downwards (not glued or fitted to ground), if possible. Care should be taken not to expose the control unit to harsh environmental conditions such as very low/high temperatures or high humidity. The unit includes radio receiver thus any metal screening or interference with other electric/radio equipment operating in close distance should be avoided as may seriously shorten practical operating range in wireless operating mode. When installing the controller in electric junction box (in wall) care should be taken to properly lay connecting wires avoiding crossing with antenna wire. The antenna wire should be laid in circular way and tested for obtaining maximum operating range with the use of hand transmitter/s.

Description of connection terminals:

- 1 – 230VAC mains **LIVE** output for channel number 1,
- 2 – common **NEUTRAL** output for channels 1 and 2,
- 3 – 230VAC mains **LIVE** output for channel number 2,
- 4 - **230VAC mains LIVE supply input (!)**,
- 5 - **230VAC mains NEUTRAL supply input (!)**,
- 6 – wired wall switch input for channel 1 (**LIVE!**),
- 7 – wired wall switch input for channel 2 (**LIVE!**),

(!!!) WARNING: It is important to connect mains supply LIVE wire to terminal 4 and NEUTRAL wire to terminal 5 of the controller.



Manufacturer's Limited Warranty:

Elmes Electronic products carry two year manufacturer's warranty as from date of purchase. The warranty is limited to the replacement of faulty original parts or repair defects of improper manufacture. Damage, faulty use or improper handling by the user or installer as well as any changes in product's hardware or software caused by the user voids the warranty and all due repair costs will be charged. Elmes Electronic shall not be responsible for any damage human or material caused by its products failure to operate correctly.

Elmes Electronic reserves the right to change product specification without prior notice.

KEELOQ® is a registered trademark of Microchip Technology Inc.

WARNING! Do not open the product plastic case. Warranty void if seal broken.



**DEKLARACJA ZGODNOŚCI
DECLARATION OF CONFORMITY**

Manufacturer: Elmes Elektronik
declare under sole responsibility that its products:

RADIO CONTROL 230VAC RECEIVER

type: **STM-2K ver 4**

comply with essential requirements of the following directives:

- 1999/5/EC (R&TTE),
- 2004/108/EC (EMC),
- 2006/95/EC (LVD),

and applied harmonized standards, in particular:

- EN 60950-1:2006 – (electric safety),
- EN 61000-6-1:2007 EMC, (immunity),
- EN 61000-6-3:2007 EMC, (emission),
- EN 301 489-1 V1.8.1 (2008-04) EMC, (radio devices),
- EN 301 489-3 V1.4.1 (2002-08) EMC, (SRD),
- EN 300 220-1 V2.3.1 (2010-02), EMC, (ERM)

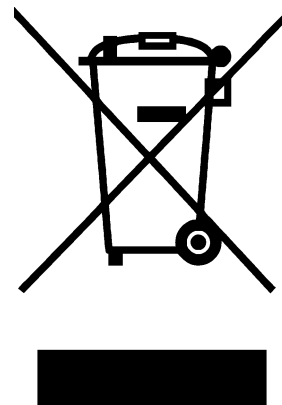
Manufacturer:

ELMES ELEKTRONIK, ul. Avicenny 2, 54-611 Wrocław, Poland



Podpis / Signature:
Dyrektor - Mirosław Bińkowski

Data/Date: 2014-12-04



The use of WEEE symbol indicates that this product cannot be treated as house hold waste. By ensuring this product is disposed of correctly you will protect the environment. For more detailed information about the recycling of this product, please contact your local authority, your household waste disposal service provider or the shop where you purchased the product.