

Elmes STX programmable transmitter with real time clock timer is designed for manual and automatic wireless control of window rolling shutters, rolling doors, moving gates and other electrically operated equipment. It offers 35 control channels including 8 channels (1...8) with programmable timing of automatic opening and closing commands. Each programmable channel feature independent weekly timing mode and can be user programmed for automatic open/close control of shutters in selected, or all days of week, once or twice daily. Number of rolling shutters or other equipment that can be controlled by the STX transmitter is unlimited and the only limit is practical operating distance ranging from up to 200m in open field to 20m in buildings with concrete walls.

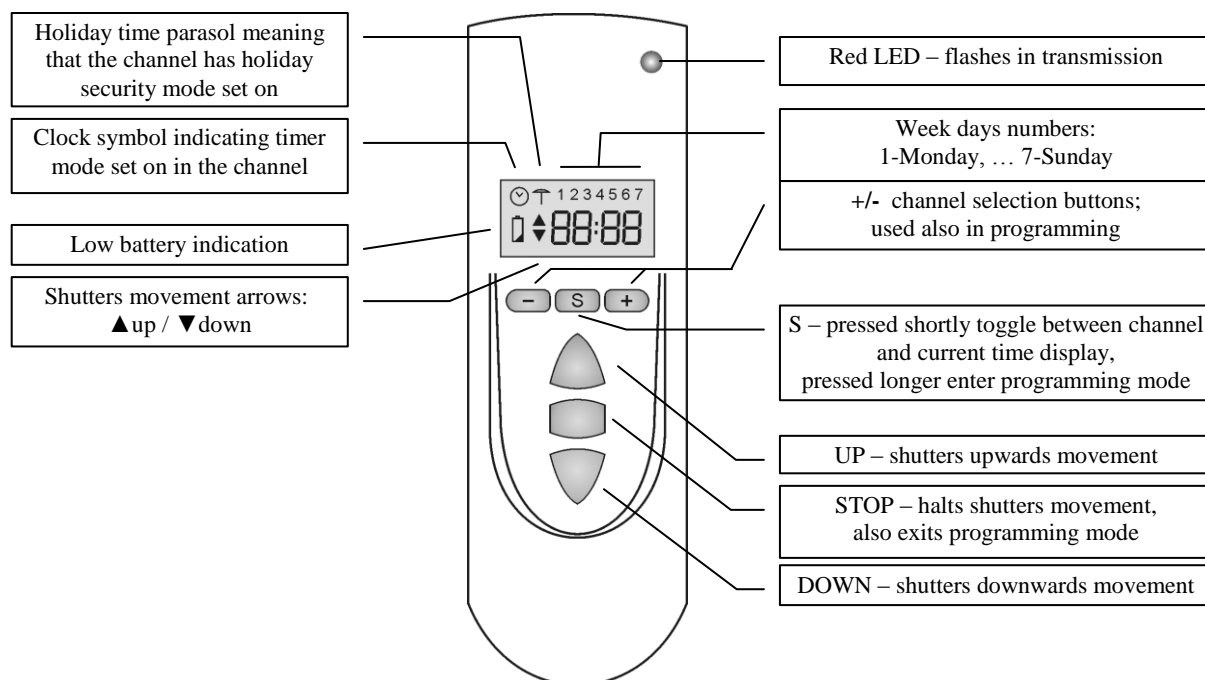
Elmes STX transmitter can control rolling shutters only with installed Elmes made control receivers: STM, ST or ST6H. It also operates with Elmes made universal wireless control receivers: UMB, DWB, CH4H, CH8H and CH20H. Radio control signals sent by the STX transmitter are protected with Keeloq® dynamic encoding system allowing highest security level.

The transmitter is powered with one CR2450 lithium-ion battery. Under normal operating conditions, assuming average use of ten times daily, the battery is estimated to last minimum five years. Prior to first use battery insulating plastic strip should be pull removed from the transmitter.

**DESCRIPTION**

STX transmitter can be hand operated in manual mode, or timer operated automatic mode from stand alone position anywhere in premises of controlled shutters or other equipment. In order to secure best operating range in automatic mode the transmitter should be vertical positioned in its supplied base stand, with signaling LED positioned upwards (best effect for transmitter's antenna).

The transmitter consists of LCD display, transmission signaling red LED and set of buttons including programming and channel check-up button S, channel selection buttons (-) and (+) and manual control buttons UP(▲), STOP(■), DOWN(▼), as shown below:



At standby, LCD screen displays current time with week day number, or selected channel number. Toggle switching between displayed screens is made with S button. Control channel selection is made with the use of (-) and (+) buttons. Control channels (1...8) timer function set on may be LCD screen displayed alternatively with next control command with roller movement arrow. In addition, these channels may have the following set on functions symbols displayed in upper left corner:

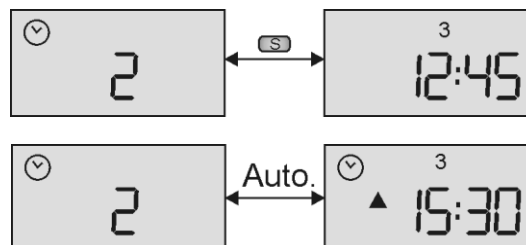
- clock symbol meaning timer mode is set on in the channel,
- parasol symbol meaning holiday security mode is set on in the channel.

*LCD screen display at standby:*

**selected control channel,**  
or **current day and time** (toggled with S button):

*or, if setup parameter P3 is set on:*

**selected control channel**  
auto toggles with **next timer command to execute**



**MANUAL OPERATION**

STX transmitter can be manually operated at any time. Required control channel should be first selected with the use of -/+ buttons and then commanded with UP, STOP, DOWN buttons. All rolling shutters or other equipment to which control channel is programmed operate simultaneously. Control commands executed manually can be repeated, if necessary.

**TIMER MODE** ⌚

Timer mode automatic operation of the STX transmitter can be set in channels 1 to 8. Set on mode is confirmed by clock symbol displayed in LCD meaning that at programmed time rolling shutter, or a group of shutters will be opened or closed. One or two automatic modes can be programmed daily (set parameter P2) individually to every day, or to all days of week. It means that shutters can be automatically opened and closed

in morning and again automatically opened and closed in the afternoon or evening. The same time of opening or closing commands programmed to many control channels will cause commands to be send with time shift sequence.

## HOLIDAY MODE

Selecting this mode allows rolling shutters to be automatically opened/closed at random time to simulate occupied house. Timer operated channels (1..8) only can have this function set on, confirmed by parasol symbol displayed on LCD. Random control commands are time shifted within +/- 15 minutes of programmed automatic times.

NOTE! Holiday security mode can be set on in channels with timer operation mode set on first.

## PREFERENCE PARAMETERS P1, P2, P3

To facilitate STX transmitter handling, a set of three preference setup parameters are provided (see also fig. 3 for programming):

- **Parameter P1** allows user to limit number of displayed channels to that exactly used (range 1 to 35),
- **Parameter P2** allows user to define whether one or two automatic control modes are to be set daily (within 24h),
- **Parameter P3** allows user to define whether next control command should be LCD auto displayed alternately with current control channel (1 sets function on, 0 sets off).

Access to programming parameters **P1**, **P2** and **P3** is made by longer pressing buttons (+) and **S** simultaneously. Selection of parameter is with the use of **S** button while parameter value is set up using -/+ buttons. Accept settings and exit programming mode with **STOP** button.

## OPERATION WITH ELMES MADE CONTROLLERS

STX transmitter operates with Elmes made controllers of rolling shutters, rolling garage doors and moving gates in following manner:

**Controller STM:** active manual control buttons: ▲ ■ ▼. Timer mode operation is available.

**Controllers ST100H, ST6H:** active manual control buttons: ▲ ▼. Button ■ is inactive. Timer mode operation is available.

### STX Transmitter Operation with Elmes Universal Receivers

**NOTE!** Operating STX transmitter with any Elmes made universal receiver certain conditions and limitations described below apply:

**Receiver UMB:** in manual mode active only one of ▲ ■ ▼ buttons used at STX learning to receiver. If STX timer mode is used, corresponding receiver output should have pulse (monostable) mode selected. Learning the transmitter to the receiver button ▲ or ▼ must be used and, while programming automatic mode, only open time (if ▲ button was used at learning), or close time (if ▼ button was used) can be programmed.

**Receivers DWB:** in manual mode active control buttons are ▲ & ▼. Button ■ is inactive. If STX timer mode is used, corresponding receiver outputs should have pulse (monostable) mode selected. Programmed in STX timer mode open time will set on output 1 of the receiver while close time will set on output 2.

**Receivers CH4H, CH8H, CH20H:** in manual mode active ▲ ■ ▼ buttons. Example of STX operation with CH20H receiver: if button ■ is programmed to output 5 of the receiver, then button ▲ will control output 3, button ▼ will control output 4 and button ■ will control output 5. If STX timer mode is used, corresponding receiver outputs should have pulse (monostable) mode selected. Open times programmed in STX timer mode will set on receiver outputs to which button ▲ is learned, while close times will set on outputs to which button ▼ is learned. Receiver output to which button ■ is learned cannot be controlled automatically.

**NOTE!** STX transmitter can be considered as 35 hand transmitters with three control buttons meaning, that in operation with many CH8H or CH20H universal receivers up to 105 outputs can be remotely controlled (35 transmitters x 3 buttons = 105).

## LEARNING STX TRANSMITTER TO CONTROLLERS AND RECEIVERS

To use STX transmitter in wireless remote control (manual or automatic), it must be learned to corresponding receiver or controller it would operate with. Learning is done in few simple steps. First, select required control channel in the transmitter with -/+ buttons (1..35). Next, set on transmitter learning mode in the receiver or controller (for details see manuals). Final, when learning mode is on, send two radio commands from STX transmitter to selected receiver or controller by pressing twice one of the following transmitter buttons:

- If learning to Elmes ST, STM and ST6H controller – double press one of ▲ ▼ buttons.
- If learning to Elmes UMB one output receiver – double press one of ▲ ■ ▼ selected control button.
- If learning to Elmes DWB or DW two outputs receiver – double press any of ▲ ▼ buttons.
- If learning to Elmes CH4H, CH8H or CH20H multi output receiver - double press any of ▲ ■ ▼ buttons.

**Example:** learning STX transmitter to CH4H four output receiver by double pressed ■ button will program all three STX ▲ ■ ▼ buttons in ▲(1) ▼(2) ■(3) sequence.

Receivers and controllers confirm correctly learned STX transmitter by flashing LED.

**NOTE!** Selected control channel in STX transmitter can be learned to many controllers or receivers allowing manual or automatic (timer) control of group of shutters. In addition, a receiver may have many control channels of the same STX transmitter learned in. This option is best described in the following example: STX control channel 4 has been learned to three (1,2,3) Elmes made rolling shutters controllers STM. Control channel 1 of the STX has also been learned to controller 1, channel 2 of the STX learned to controller 2, and channel 3 of the STX learned to controller 3. In effect, one STX transmitter controls all three controllers individually (in channels 1,2 & 3) and all, as group (in channel 4).

## CLOCK SETTING

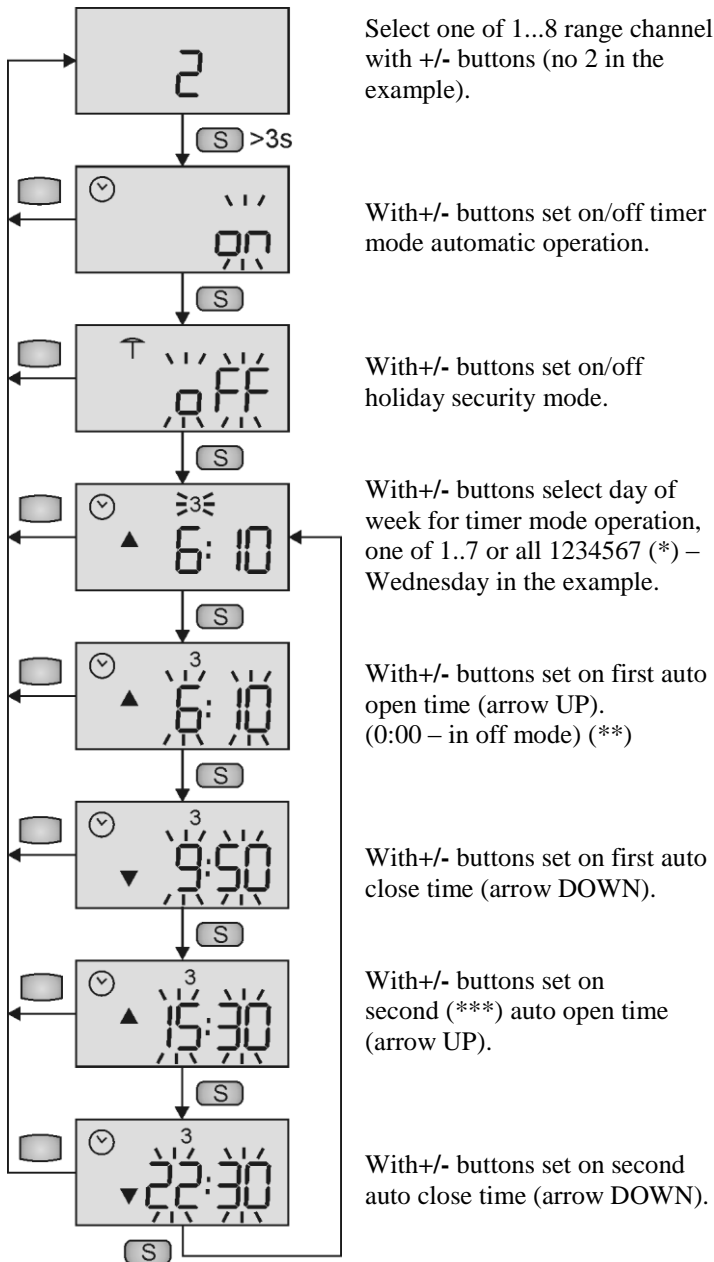
Current time and day of the week setting can be made when LCD displays clock. To enter the procedure longer press (more than 3 seconds) **S** button and made adjustments with -/+ buttons. Exit procedure at any time by pressed **STOP** (■) button. Clock and day programming steps are shown in detail in schematic diagram 2.

## TIMER PROGRAMMING

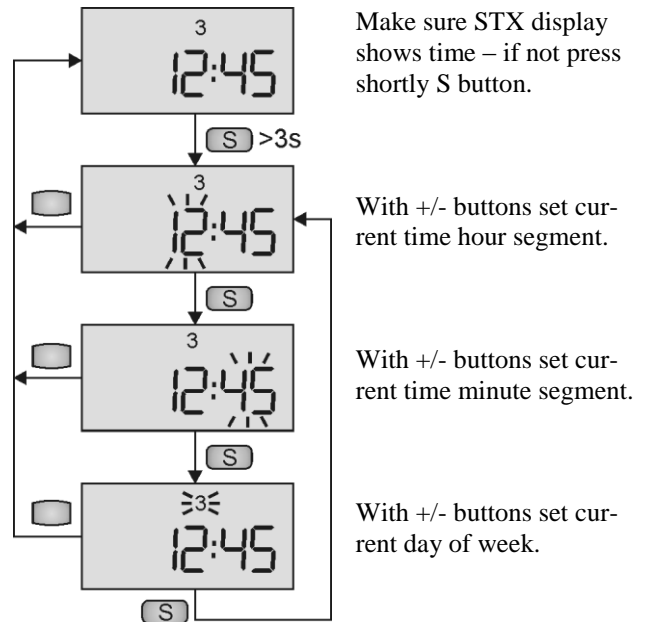
Control channels 1 to 8 of STX transmitter may be timer programmed before or after the transmitter is learned to controller or receiver. To enter procedure longer press **S** button only, if LCD shows one of 1..8 channels. Adjust automatic open/close timing with -/+ buttons and move to next adjustment with **S** button. Accept adjustments and exit procedure at any time by pressed **STOP** (■) button. Detailed timer programming steps are shown in schematic diagram 1.

Shown below are programming steps schematic diagrams for setting timer mode, current time and day and user preference parameters P1, P2 & P3.

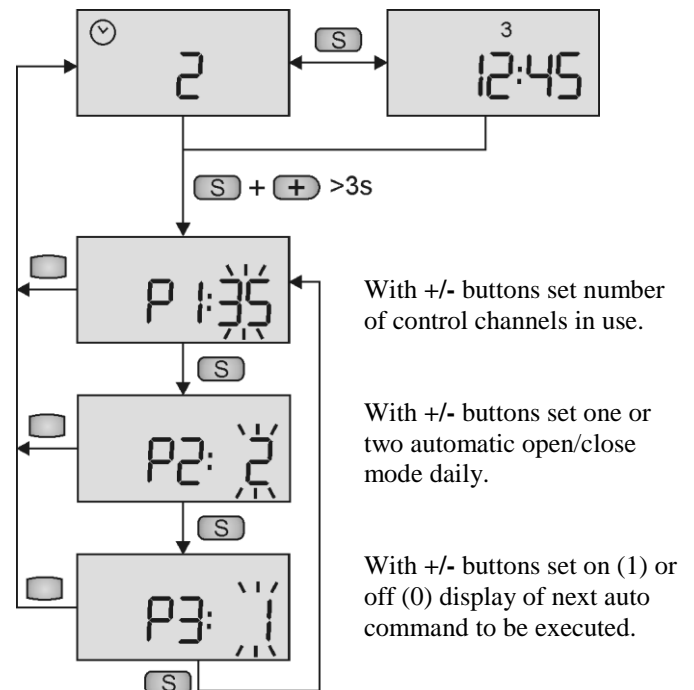
### 1. Programming timer (automatic) operation.



### 2. Setting current time and day.



### 3. Setting preference parameters P1, P2 & P3.



#### IMPORTANT NOTES:

(\*) By selecting all days of week (1234567 on LCD) and making any change in timing settings, all earlier made individual week days settings are permanently cleared.

(\*\*) Setting automatic open/close timing to 0:00 sets this automation step to off mode. Command for this step is not executed.


(\*\*\*) Second auto open/close time of the day is applicable only if preference parameter P2 is set to 2.

**NOTE!** Settings acceptance with exit of programming mode is possible at any step by pressed (STOP) button.

## RECOMMENDATIONS FOR USE

If STX transmitter is used in automatic mode it is recommended to check its distance from rolling shutters or other controlled equipment. The more central to all controlled equipment position of the STX transmitter the better reliability of the automation system. It is also recommended that the transmitter is not positioned close to sources of radiation, metal screening or obstacles that could seriously reduce its operating range. Practical tests, also in manual mode, should be undertaken to determine adequate radio transmission-reception reliability and to find best stand place for automatic operation within premises of the controlled equipment.

## SPECIFICATION

- Radio operation band 433.92MHz, e.r.p.<10mW.
- Battery type CR2450, standby current 5uA. Up to 5 years operation with average transmitter 10 times use daily.
- Total number of control channels: 35. including 8 channels (1..8) timer programmable for automatic control.
- Two daily automatic open/close operation modes.
- Low battery indication by flashing  symbol.
- Temperature operation range: from 0°C to +40°C, indoor use only.
- External dimensions of transmitter (l/w/h) 127/41/17mm.
- Supplied stand support for vertical transmitter position in auto operation.



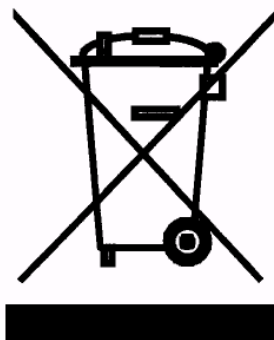
**WARNING! Batteries may contain substances hazardous to human health. Do not place batteries in fire or household waste. Dispose of old batteries properly in accordance with local law regulations. Used batteries can always be disposed of at points of electronic waste collection.**

**Manufacturer:** ELMES ELEKTRONIK, 54-611 Wrocław, Avicenny 2, Poland, tel. +48717845961, fax +48717845963

### Manufacturer's Limited Warranty

This product carries two year manufacturer's warranty as from the date of purchase. The warranty is limited to the replacement of faulty original parts or repair defects of improper manufacture. Damage, misuse or improper handling by the user or installer as well as any alterations in product's hardware or software caused by unauthorized person violate warranty obligations and all due repair costs will be charged.

Elmes Electronic shall not be liable for any personal or material damage or loss resulting from any of its products direct, indirect or partial use or failure to operate properly.



The use of the WEEE symbol indicates that this product may not be treated as household 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.

## DECLARATION OF CONFORMITY

Elmes Elektronik hereby declares that its product:

**“MULTICHANNEL TRANSMITTER WITH TIMER Elmes STX”**

Is manufactured in compliance with R&TTE 1999/5/EC directive of the European Union and applied harmonized standards, in particular:

*ETSI EN 60950-1:2001 electric safety standard,  
ETSI EN 301 489-1 V1.4.1 (2002-08) EMC for radio equipment,  
EN 300 220-3, V1.1.1 (2000-09) Electromagnetic Compatibility and  
Radio Spectrum Matters (ERM)*

Manufacturer:

**ELMES ELEKTRONIK, Avicenny 2, 54-611 Wrocław, Poland**

Signature:

/Miroslaw Binkowski – Director/



Declaration Date: 15-03-2010