

This instruction manual refers to one of the following models of remote control sets:

Model Type	Set content	Max. operating range In open field
ST100HS	controller ST100HR + 2 transmitters DWB100HT	100m
ST200HS	controller ST100HR + 2 transmitters DW200HT	200m
ST100HR	controller ST100HR only	-

The sets are designed for remote control of window rollers/shades, automatic gates or any other equipment that uses single phase powered 230VAC motors. The motor should be equipped with EOL (end of line) rotation adjustable switches. Sets features:

- KEELOQ® code-hopping technology allowing high level of control security,
- operation with one or two button hand held transmitters – user selected by JP1,
- operation with all Elmes Electronic made hand held transmitters designed for 433,92 MHz band,
- wired control by the use of monostable wall switches,
- external warning/courtesy lamp (230VAC) operation modes – user selected by jumper JP2,
- automatic rolling shade/gate closure after pre-programmed PAUSE time (1sec ÷ 4min) – user set by jumper JP3,
- programmable motor operation time in the range from 1 second up to 4 minutes,
- automatic opening while in closing mode rotation on stop made due to IR protective barrier infringement (if fitted),
- prolonging PAUSE time period on reset made by IR barrier infringement.

### Modes of operation

Depending on selection made with jumper JP1 the set may be wireless controlled by the use of one or two buttons of hand transmitter as described below:

- jumper **JP1** shorted – operation control with two buttons of a hand transmitter: one for upwards rotation and stopping and next for downwards rotation and stopping.
- jumper **JP1** opened – operation control with only one button of a hand transmitter: sequential use of the button will start upwards rotation - stop – downwards rotation – stop – upwards rotation – stop ... etc.

Stopping of the tube motor rotation is achieved in one of the following ways:

- a) on any next use of hand transmitter or wall switch,
- b) on switching on of the motor's end of line switch connected in series with the motor,
- c) on passing of the motor rotation time pre-programmed by the user (1s ÷ 4 min),
- d) on reset made by photo beam barrier obstacle detection (only on door/shade closing).

On reset made by photo beam barrier obstacle detection while in closing mode, motor is stopped automatically and after one second pause the motor starts rotation in opening direction.

### Automatic rolling door/shade closure function on/off selection with jumper JP3:

**Warning!** Activation of automatic closing function requires fitting of photo or infrared barrier protection beam securing obstacle free door/shade closing within movement range.

- on jumper **JP3** shorted – automatic close function is set to **OFF**,
- on jumper **JP3** opened – automatic close function is set to **ON**. With door/shade fully opened counting of PAUSE time period is started and after the pause has lapsed the automatic close function is activated. Reset made by photo beam barrier obstacle detection while in PAUSE mode prolongs the PAUSE time. Continued obstacle detection prohibits door closure.

**Lamp (230VAC type)** connected to the control unit can operate in two ways:

- as courtesy lamp (jumper **JP2** shorted) – lights continuously at door/shade movement, and till end of programmed PAUSE time.
- as warning lamp (jumper **JP2** opened) – pulses slowly at door/shade opening and PAUSE time and faster in door/shade closing.

## PROGRAMMING PROCEDURES

### 1. Learning transmitter(s) to receiver's memory - max 12 (up to 112 on option):

- a) press control unit **PRG** switch for less than 2 seconds (PRG LED lights on). Releasing the switch LED continues to light indicating entering programming procedure,
- b) press any transmitter button - PRG LED switches off,
- c) press the same transmitter button again. LED in control unit starts blinking confirming end of the procedure.

NOTE! Number of transmitters in memory is limited to 112, learning 113<sup>th</sup> will remove the first, learning 114<sup>th</sup> will remove second, etc. Deleting one transmitter from control unit memory requires deleting all transmitters and learning back remaining transmitters.

### 2. Programming electric tube motor rotation time and PAUSE time:

- a) press control unit **PRG** switch for more than 2 and less than 8 seconds (PRG LED lights on). Releasing the switch PRG LED sets off.
- b) press on hand transmitter button or wired wall switch to start motor rotation (PRG LED lights on),
- c) when required motor rotation time has lapsed (max. 4 minutes) press the hand transmitter button or wired wall switch again - the electric motor stops and the courtesy/warning **LAMP** is set to light on,
- d) after required **PAUSE** time has lapsed press transmitter button again – the lamp will set off and the PRG LED starts blinking several times confirming end of the procedure.

### 3. Deleting all transmitters from control unit memory:

press receiver's **PRG** switch (PRG LED lights on) and hold for more than 8 seconds, until the receiver LED starts blinking confirming end of the procedure. The control unit memory is cleared.

#### Important!

1. Procedure 2 above can be performed with the use of wired wall switch or transmitter learned to control unit memory.
2. Electric tube motor rotation time is factory set to approx. 25 seconds. Required rotation time should be programmed individually.

## Installation

The control units should be installed with 230VAC wiring terminals in upwards direction and white antenna wire let loose downwards (not glued or fitted to wall). External directional antenna may be screwed to antenna terminals and the white antenna wire removed. Screening of external antenna coaxial cable should be connected to ground terminal while signal wire to A terminal. Care should be taken not to expose the control unit to harsh environmental conditions such as very low/high temperatures or high humidity. Two screws are provided for fitting the control unit to wall.

### Description of ST..H control unit 230VAC wiring terminals:

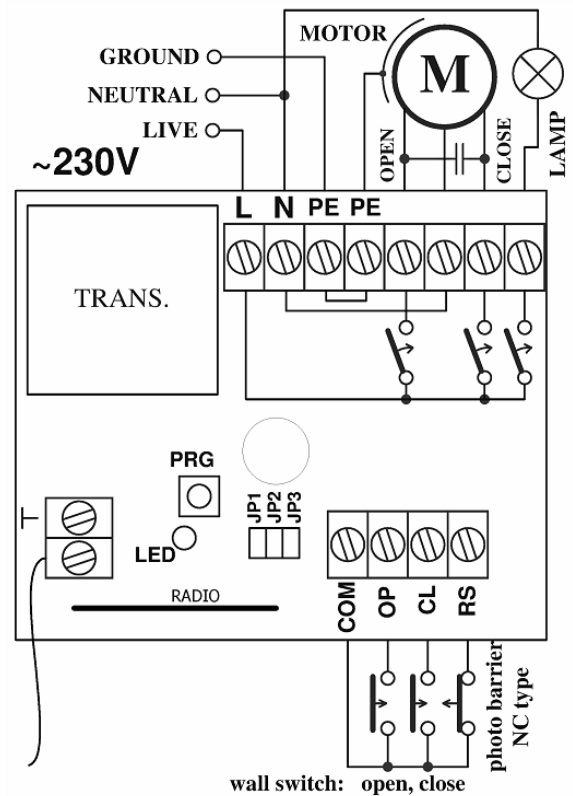
**WARNING! Control unit and electric motor connection to 230VAC mains voltage require personal safety care procedures to be taken and mains voltage line be in off state at installation.**

- L** - 230VAC mains supply **LIVE** wire terminal,  
**N** - 230VAC mains supply **NEUTRAL** wire terminal,  
**PE** - 230VAC mains supply **GROUND** wire terminal,  
**PE** - electric motor **Ground** wire terminal,  
**OPEN** - electric motor **LIVE** wire terminal (**opening** rotation),  
**middle** - electric motor **Neutral** wire terminal,  
**CLOSE** - electric motor **LIVE** wire terminal (**closing** rotation),  
⊗ - courtesy/warning 230VAC lamp **LIVE** terminal.

### ST..H wire control terminals (NO ANY VOLTAGE ALLOWED!)

- COM** - common wiring terminal,  
**OP** - wired wall switch terminal - opening rotation,  
**CL** - wired wall switch terminal – closing rotation,  
**RS** - reset photo/infrared barrier beam terminal. **Must be wire shorted to COM terminal if barrier is not fitted.**

**IMPORTANT! 230VAC supply LIVE wire must be connected to L terminal and NEUTRAL wire must be connected to N terminal.**



## Specification

- mains supply 230VAC (2VA) control panel with superheterodyne receiver for 433,92MHz band,
- relay outputs for motor control, 2 x NO, max 16A/250VAC,
- courtesy/warning control relay output : max 5A/250VAC,
- infrared obstacle detection barrier NC type (normally closed),
- electric motor operation time range (opening and closing) 1s ÷ 4 min,
- programmable PAUSE time: 1s ÷ 4 min,
- control panel external dimensions (l/w/h) 87/87/39mm,
- open field maximal operating range: up to 100m for ST100H set and up to 200m for ST200H set.



## Manufacturer

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### **Manufacturer's Limited Warranty:**

Elmes Electronic remote control sets 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 viods 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.

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