



# K100M

Control panel for T-ONE5E gearmotor  
GB - Translation of original instructions



D\_MNL0K100M 05-06-2012 - Rev.02

## INSTALLATION GUIDE

### WARNING!

English

**Attention:** This product may only be installed from professional installers. Only qualified and trained electricians may connect, programme and service the controls.

No information given in this manual can be considered as being of interest to end users. This manual is enclosed with control unit K100M and may therefore not be used for different products!

#### Important information:

**Disconnect electric power to the system before making maintenance, repairs or removing covers**

The K100M control unit has been designed to control a electromechanical sliding door operator. Any other use is considered improper and is consequently forbidden by current laws. Read all instructions carefully and completely before attempting to install and use this automatic gate operator!

### INSTALLATION

**Make sure the gate has been properly installed and slides freely in both directions. Repair or replace all worn or damaged gate hardware prior to installation. A freely moving gate will require less force to operate and will enhance the performance of the operator and safety devices used with the system.**

**Also check that the gate operator assembly has been installed according to the instructions.**

**WARNING: The automatic gate operator must be grounded - All Federal, State and local safety codes must be observed.**

#### ATTENTION:

- do not use solid wire, use only multi threaded wire
- do not reuse pre-existing electric wire.

IF THE ABOVE INSTRUCTIONS ARE NOT FOLLOWED THE "MANUFACTURER" SHALL IN NO EVENT BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS OF PROFITS WHETHER BASED IN CONTRACT TORT OR ANY OTHER LEGAL THEORY DURING THE COURSE OF THE WARRANTY OR AT ANY TIME THEREAFTER.

### CONTROL PANEL FOR ONE 230 V AC MOTOR

- MICROPROCESSOR-CONTROLLED LOGIC
- STATUS LEDES
- LINE FUSE
- BUILT-IN FLASHING LIGHT CIRCUIT
- BUILT-IN 433.92 MHz RADIO RECEIVER
- MAX. OPERATING TIME 240"
- AUTOMATIC 50 / 60 HZ FREQUENCY DETECTION
- ADJUSTABLE SOFT-STOP
- AMPEROMETRIC OBSTACLE DETECTION

### TESTING

Once the connection has been completed:

- ▶ All the green LEDES must be ON (each of them corresponds to a Normally Closed input). They will turn OFF when the controls to which they are associated are operated.
- ▶ The red opening command LEDES must be OFF (each corresponding to a Normally Open input). They will turn ON when the commands they are associated with are given; red LED DL1 must be ON steadily.

### TECHNICAL CHARACTERISTICS

Power input – control board	230 V AC - 50-60 Hz
Nominal power	400 W
230 V AC Input protection fast blow fuse (F1 - 5x20)	F 3,15 A
Power input – motors	230 V AC
Power input – auxiliary circuits	24 V AC
24 V AC Input (auxiliary circuits) fast blow fuse (F2 - 5x20)	F 500 mA
Working temperature	-20°C + +55°C
Protection degree	IP 44

### DIAGNOSTICS LED

DL1 (RADIO CONTROLS) / RED	ERROR message / PROGRAMMING of transmitters
DL2 (OPEN/CLOSE) / RED	OPEN / CLOSE pushbutton activated
DL3 (PHOTO) / GREEN	PHOTOCELL activated
DL4 (CLOSE LIMIT SWITCH) / GREEN	CLOSING LIMIT SWITCH activated
DL5 (OPEN LIMIT SWITCH) / GREEN	OPENING LIMIT SWITCH activated
DL6 (STOP) / GREEN	STOP pushbutton activated

## TERMINAL BOARD CONNECTIONS

- 1 + 2** (**Power supply**) POWER input 230/115 V AC 50-60 Hz. 1= NEUTRAL 2= PHASE;
- 3 + 4** (**Flashing light**) FLASHING LIGHT output 230/115 V AC, max. 50 W. The signal is already modulated for direct use; fast flashing during closing, slow during opening. 3= 230/115 V AC, 4= 0 V AC;
- 7 + 10** (**Open/Close**) OPEN/CLOSE input (Normally Open contact);
- 8 + 10** (**Stop**) STOP input (Normally Closed contact);
- 9 + 10** (**Photocell**) PHOTOCELLS OR SAFETY DEVICES input; active during closure (Normally Closed contact); the gate will stop during closing and totally reopen it, (10= Common). If there is more than one safety device, connect all the NC contacts **IN SERIES**.
- 11 + 12** (**Photocell - 24 V AC**) 24 V AC 10 W output to Photocells, Receivers etc.; connect a up to 3 pair of photocells. 11= 0 V AC, 12= 24 V AC;
- 13 + 14** (**Antenna**) 433,92 MHz built-in RX aerial input; 13= EARTH, 14= SIGNAL;
- M2** Quick coupling for LIMIT SWITCH connection (Normally Closed contacts).  
ORANGE= Closing Limit Switch (**CLS**), RED= Opening LimitSwitch (**OLS**), GREY= Common (**COM**);
- FS1 + FS2** CAPACITOR Terminals for motor start-up;
- M3** Quick coupling for 230 V AC single-phase MOTOR connection. BLUE= common (**M-COM**);  
BROWN= closing (**M-CL**); BLACK= opening (**M-OP**).

## LOGIC ADJUSTMENTS

### TRIMMER

- FR.** Motor torque adjustment. *Turning the trimmer clockwise (+) the torque will be increased; Turning the trimmer counterclockwise (-) the torque will be decreased.*  
**Note: The trimmer is set to provide sufficient thrust to work the gate within the limits established by current standards (EN 12453).**
- SENS.** Obstacle detection setting. *Turning the trimmer clockwise (+) the sensitivity will be increased; Turning the trimmer counterclockwise (-) the sensitivity will be decreased.*  
**Note: Before setting the obstacle detection, let the gate operator perform a complete opening and closing cycle.**
- T.C.A.** Automatic closing time adjustment. *Turning the trimmer clockwise (+) time will be increased; Turning the trimmer counterclockwise (-) the time will be decreased.*  
**Note: The time values can be set between 1 and 120 seconds.**

### Dip switch

- 1** **on:** automatic closing enabled.  
**off:** automatic closing disabled.
- 2** **on:** (with Automatic closing enabled) Two-Stroke operation mode OPEN-CLOSE, OPEN-CLOSE, etc.  
**off:** (with Automatic closing enabled) Four-Stroke operation mode OPEN-STOP-CLOSE-STOP, OPEN-STOP-CLOSE-STOP, etc.
- 3** **on:** Soft-Stop Learning procedure activated (see next chapter);  
**off:** No Soft-Stop, Working time will be set to 240".
- 4** **on:** Left-hand leaf opening mode;  
**off:** Right-hand leaf opening mode;

### SOFT-STOP SETTING

With the sliding gate open, set DIP 3 in ON. DL1 LED will start flashing fast.

Close the AP/CH contact or press the OP/CL pushbutton: the operator will start closing the gate until the Closing Limit Switch (CLS) is reached.

Once the Closing Limit Switch (CLS) is reached, the operator will reverse the cycle and start opening the gate:

- 1\_ Close the AP/CH contact or press the OP/CL pushbutton when the desired start point of the Soft-stop is reached;
- 2\_ Once the Opening Limit Switch (OLS) is reached, the gate will stop. DL1 LED will turn ON (start point set);
- 3\_ If the STOP contact is opened the procedure is interrupted, the gate will stop and DL1 LED will flash to advise that the procedure is still active (Close the AP/CH contact or press the OP/CL pushbutton to restart the procedure from the beginning).

## K100M FEATURES

### DL1 LED

Other than indicating the programming of a transmitter is going on, DL1 LED advises error messages as follows:

- Steady light: Normal operation;
- Fast flashing: Soft-Stop learning procedure activated;
- Slow flashing: Automatic 50 / 60 HZ Frequency Detection Error;  
*Contact Technical Service;*
- 6 flashes: 5 x failed attempts to close due to the presence of obstacles;  
*Make sure the gate slides smoothly and without obstacles in both directions;*
- 7 flashes: No learning procedure executed;  
*Perform learning procedure.*
- 8 flashes: No motor signal;  
*Check wiring - Make sure the motor can rotate freely;*

Multiple errors are indicated by a 2" pause between error messages. Messages will be shown until a complete opening/closing cycle is performed.

In case amperometric control are activated 5 times in a row during the same closing sequence, the control unit opens completely. To reset, a complete opening/closing cycle is performed (otherwise every time the amperometric control are activated the control unit will search for the closing travel limit).

## ADVANCED FUNCTIONS

**Clock function:** a timer can be connected to the open-close pushbutton in order to keep the gate open at certain times during the day, after which it reverts to automatic closing.

**Note: The gate remains open as long as the OP/CL input continues to be activated.**

## 433.92 MHz BUILT-IN RADIO RECEIVER

The built-in radio receiver can store up to 30 different codes, either from Rolling Code transmitters (BUG2R, BUG4R, K-SLIM-RP, T-4RP) or from Dipswitch transmitters (TXD2, TXD4, BUG2, BUG4, K-SLIM, K-SLIM-C, T-4, T-4C). Unlimited Dipswitch transmitters can be stored as long as they are set with the same Dipswitch code.

The first channel directly commands the control board for opening the automatic device; the second channel commands a relay for a N.O. no-voltage output contact (terminals 5 and 6, max. 24 V AC, 1 A).

The operation mode (either Rolling Code or Dipswitch) is set by the first transmitter stored; it can be changed only after a complete reset has been performed.

### LEARNING PROCEDURE FOR TRANSMITTERS

1CH = 1<sup>st</sup> channel

OP/CL = OPEN/CLOSE

2CH = 2<sup>nd</sup> channel

- 1\_ press and release the 1CH button on the control unit;
- 2\_ DL1 LED turns OFF to indicate that the programming mode has been activated (if no code is entered within 10 seconds, the control unit will exit the programming mode);
- 3\_ press and release the transmitter button;
- 4\_ DL1 LED turns ON again to indicate that the new code is stored (if this does not happen, wait 10 seconds and start again from point 1);
- 5\_ to store other transmitters, repeat the procedure from point 1 up to a maximum of 30 transmitters;
- 6\_ to store transmitters on the 2nd channel, repeat the procedure from point 1 using 2CH instead of 1CH button;
- 7\_ to exit the programming mode without storing a code, press and release 1CH or 2CH button.

**Note: When the maximum number of transmitter (30) is reached, the DL1 LED will start flashing fast for about 3", without performing memorisation.**

### REMOTE PROGRAMMING THROUGH T-4RP, K-SLIM-RP and BUG-R

It is possible to program the new version of transmitters T-4RP, K-SLIM-RP and BUG-R without actually pressing 1CH or 2CH button on the control unit. An already programmed transmitter is capable to activate the programming mode and thus allowing new transmitters to be stored in the receiver memory. The new transmitters must be prepared using the TAUPROG handheld programmer. Please refer to the transmitter's instruction manuals.

### ERASING THE RADIO RECEIVER MEMORY

- 1\_ press and hold the CH1 button on the control unit for approx. 3" to start the erasing procedure;
- 2\_ DL1 LED flashes slowly to indicate that the erasing procedure has been activated;
- 3\_ again, press and hold the CH1 button on the control unit for approx. 3";
- 4\_ DL1 LED turns off for approx. 3", then turns ON To indicate that all stored codes have been cancelled;
- 5\_ repeat the procedure from point 1 using button 2CH;
- 6\_ to exit the erasing mode, press and release 1CH or 2CH button.

**ATTENTION: TO memorise a code on a new type of remote control unit (e.g.: from dip-switch to rolling code or vice-versa) both channels must be cancelled.**

## TROUBLESHOOTING GUIDE

### 1- Operator does not run

- a- Check 230/115 V power supply with a voltmeter;
- b- Check that all 4 green LEDs (Normally Closed contacts, DL3, DL4, DL5 and DL6) are ON, and that all two red LEDs (Normally Open contacts, DL1 and DL2) are OFF;
- c- Check that the red DL1 LED is ON;
- d- Check that the fuses are intact with a voltmeter.

### 2- The radio control has little range

- a- Check that the ground and the aerial signal connections have not been inverted;
- b- Do not make joints to increase the length of the aerial wire;
- c- Do not install the aerial in a low position or behind walls or pillars;
- d- Check the state of the transmitter's batteries.

### 3- The gate opens the wrong way

- a\_ Invert the position of DIP 4 (after having turned off the power to the control unit).

# SELF INSTALL - NEED TECHNICAL ASSISTANCE?

## OPTION 1: DIRECT WITH THE SERVICE DESK – QUICKEST AND MOST EFFECTIVE METHOD

Submit your enquiry direct with the service desk at – [service@automaticsolutions.com.au](mailto:service@automaticsolutions.com.au)

The service desk has the most experienced staff in Australia to help with your problem but they need your help.

- Describe your problem in detail and as clearly as possible. Don't forget to include a telephone number.
- Be certain to detail which model or models of you are working with.
- Send photos of the installation – they love photos. The people at the service desk are good but they are even better when they can see the installation. Send photos of the overall scene so they can see the entire installation. Also send photos of the wiring to the control board and any other part of the installation you think is relevant.
- Send video if appropriate. Smartphone's these days take remarkably good video in small file sizes which can be emailed in a moment. If your problem needs a video to show the issue please feel free to send it.

**NOTE: THIS IS BY FAR THE FASTEST AND MOST SUCCESSFUL WAY TO SOLVE YOUR PROBLEM  
PHOTOS AND VIDEOS ARE THE NEXT BEST THING TO BEING THERE**

## OPTION 2: LODGE YOUR ENQUIRY LOCALLY - SLOWER BUT CAN STILL BE EFFECTIVE

Make contact with the store of purchase. Branch staffs are typically not technicians and dependent on their length of service will have varying degrees of technical knowledge. If they cannot help however they will certainly either source help locally from their technicians or make contact with the service technicians on your behalf.

## OPTION 3: SERVICE CALL WITH AUTOMATIC SOLUTIONS TECHNICIAN – SLOWEST METHOD

If you fall within the local branch service area it may be possible to book a local technician to look at your installation. Wait times will vary dependent on local workloads. The cost is a service fee which includes the first half hour and the hourly rate thereafter. If any Automatic Solutions provided parts are found to be defective and within warranty these will be provided free of charge.

(NOTE: If you suspect that any parts are defective and within warranty you may wish to consider option 4)

*A note on this option: If you decide on this option you will be asked to sign an "authorisation to proceed" which will provide legal authority and payment security. This form has three options available of which only the first two are available to you. The third option is for warranty repairs only for full install customers. Self install customers requiring warranty only service need to refer to option four below.*

**IMPORTANT: IN SHORT THIS OPTION WILL INCUR CHARGES**

## OPTION 4: RETURN THE PRODUCT IF BELIEVED TO BE FAULTY

As a self install customer who has purchased product if you believe the product to be faulty rather than an installation or site problem you have the option of returning the product for evaluation and to exercise your right to a replacement, repair or refund as applicable. All returned product is forwarded immediately to the service technicians for evaluation and response. There are two main methods available to return product –

- Direct to the service centre – this is the quickest method as it cuts out the branch delay
- Via the branch of purchase – slower because of the delay at the branch

When choosing this option you need to complete a product return form. This form gives you all the information on procedure involved and where to send to. These are available at the branch of purchase, can be emailed to you (contact your branch), or available here - <http://automaticsolutions.com.au/page/warranty.php>