

## GUIDA ALL'INSTALLAZIONE

INSTALLATION GUIDE

INSTALLATIONSANLEITUNG

NOTICE D'INSTALLATION

GUÍA PARA LA INSTALACIÓN

GUIA DE INSTALAÇÃO

# K126MA

## Quadro di comando per un motore 18/24V con encoder per cancelli scorrevoli

18/24V Control panel for one Sliding gate motor with encoder  
Steuerplatine für einen 18/24V Motor mit Encode für Schiebetore

Logique de commande pour un moteur 18/24V  
avec encodeur pour portails coulissants

Panel de mandos para un motor 18/24V con encoder para cancelas correderas

Quadro de comando para um motor de 18/24V  
com encoder para ortões de correr

D-MNLOK126MA 19-09-2016 - Rev.13



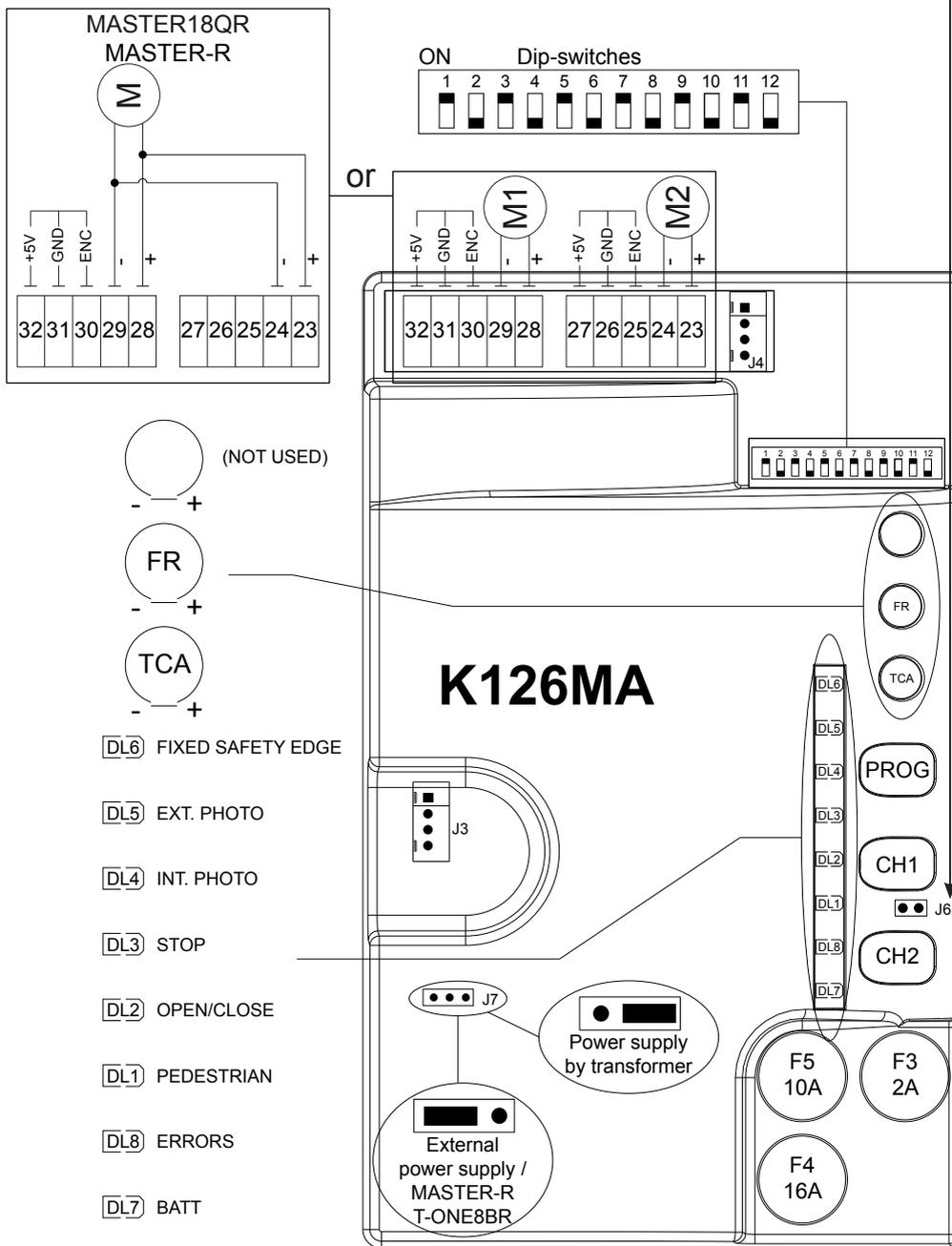
IT - Istruzioni originali



MADE IN  
ITALY



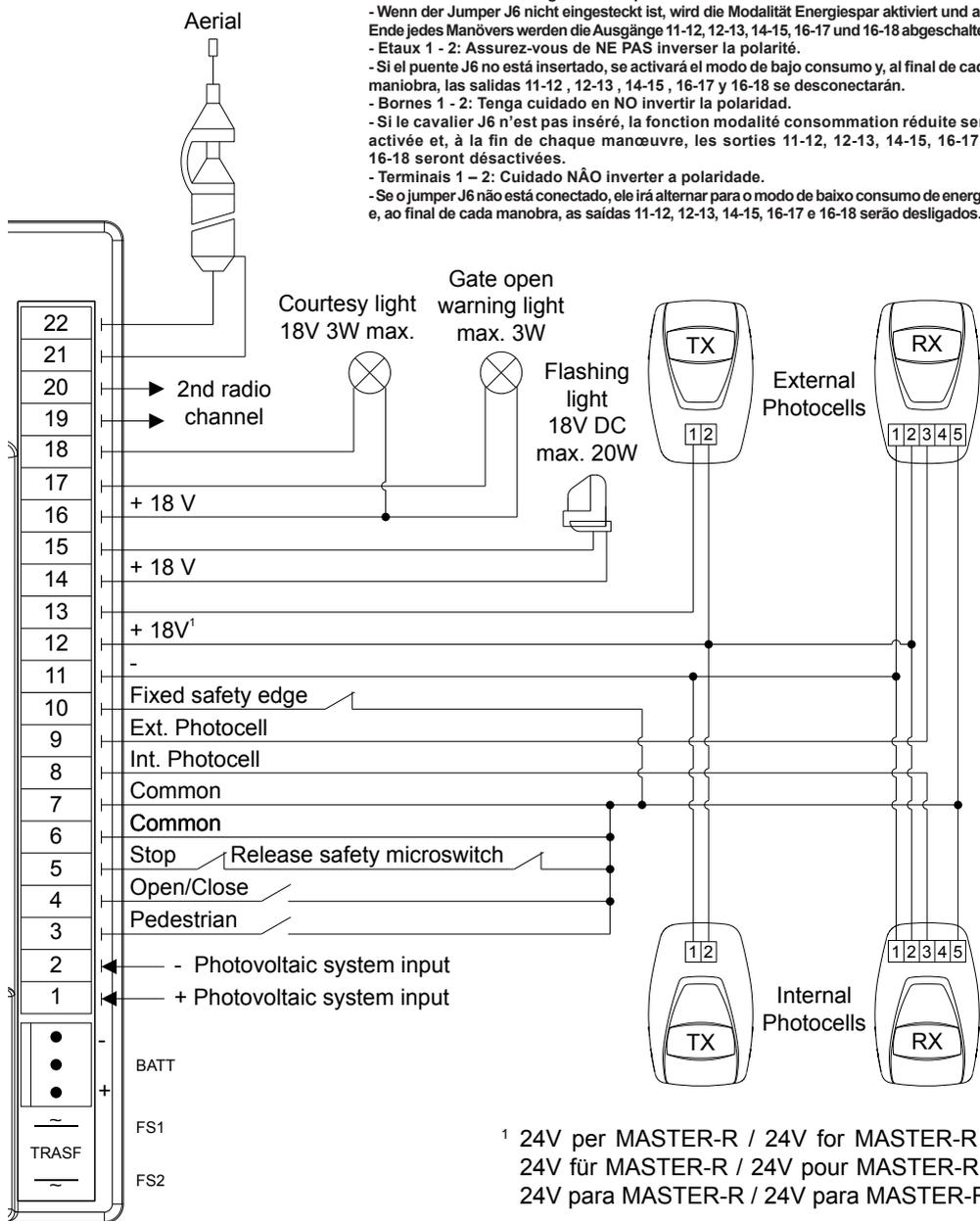
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# SCHÉMA CÂBLAGE K126MA / ESQUEMA DEL CABLEADO K126MA / ESQUEMA DE LIGAÇÕES K126MA



- Morsetti 1 - 2: Attenzione a NON invertire la polarità.
- Se il jumper J6 non è inserito, verrà attivata la modalità basso consumo e, al termine di ogni manovra, le uscite 11-12, 12-13, 14-15, 16-17 e 16-18 verranno spente.
- Terminals 1 - 2: Careful NOT to invert polarity.
- If Jumper J6 is not plugged in, energy saving mode will be activated and, at the end of each manoeuvre, outputs 11-12, 12-13, 14-15, 16-17 and 16-18 will be switched off.
- Klemmen 1 - 2: Achtung: Nicht verpolen.
- Wenn der Jumper J6 nicht eingesteckt ist, wird die Modalität Energiespar aktiviert und am Ende jedes Manövers werden die Ausgänge 11-12, 12-13, 14-15, 16-17 und 16-18 abgeschaltet.
- Eaux 1 - 2: Assurez-vous de NE PAS inverser la polarité.
- Si el puente J6 no está insertado, se activará el modo de bajo consumo y, al final de cada maniobra, las salidas 11-12, 12-13, 14-15, 16-17 y 16-18 se desconectarán.
- Bornes 1 - 2: Tenga cuidado en NO invertir la polaridad.
- Si le cavalier J6 n'est pas inséré, la fonction modalité consommation réduite sera activée et, à la fin de chaque manœuvre, les sorties 11-12, 12-13, 14-15, 16-17 e 16-18 seront désactivées.
- Terminais 1 - 2: Cuidado NÃO inverter a polaridade.
- Se o jumper J6 não está conectado, ele irá alternar para o modo de baixo consumo de energia e, ao final de cada manobra, as saídas 11-12, 12-13, 14-15, 16-17 e 16-18 serão desligados.



<sup>1</sup> 24V per MASTER-R / 24V for MASTER-R /  
24V für MASTER-R / 24V pour MASTER-R /  
24V para MASTER-R / 24V para MASTER-R

**MANUFACTURER'S DECLARATION OF INCORPORATION**  
**(in accordance with European Directive 2006/42/EC App. II.B)**

Manufacturer: TAU S.r.l.  
Address: Via E. Fermi, 43  
36066 Sandrigo (Vi)  
ITALY

ENGLISH

**Declares** under its sole responsibility, that the product:  
designed for automatic movement of: *Electronic control unit*  
for use in a: *Sliding gates*  
complete with: *Residential / Communities / Industrial*  
*Radioreceiver and battery charger board*

Model: *K126MA*  
Type: *K126MA*  
Serial number: *see silver label*  
Commercial name: *Control panel for one 12/24V motor with encoder*

Has been produced for incorporation on an access point (*sliding gate*) or for assembly with other devices used to move such an access point, to constitute a machine in accordance with the Machinery Directive 2006/42/EC.

**Also declares** that this product complies with the essential safety requirements of the following EEC directives:

- **2006/95/EC Low Voltage Directive**
- **2004/108/EC Electromagnetic Compatibility Directive**

and, where required, with the Directive:

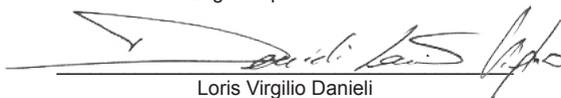
- **1999/5/CE Radio equipment and telecommunications terminal equipment**

Also declares that ***it is not permitted to start up the machine*** until the machine in which it is incorporated or of which it will be a component has been identified with the relative declaration of conformity with the provisions of Directive 2006/42/EC.

The manufacturer undertakes to provide, on sufficiently motivated request by national authorities, all information pertinent to the quasi-machinery.

Sandrigo, 27/11/2014

Legal Representative

  
Loris Virgilio Danieli

Name and address of person authorised to draw up all pertinent technical documentation:

*Loris Virgilio Danieli - via E. Fermi, 43 - 36066 Sandrigo (Vi) Italy*

## WARNINGS

This manual is designed to assist qualified installation personnel only. It contains no information that may be of interest to final users. This manual is enclosed with control unit K126MA and may therefore not be used for different products!

### Important warnings:

**Disconnect the mains power supply to the board before accessing it.**

The K126MA control unit has been designed to control an electromechanical gear motor for automating gates and doors of all kinds.

Any other use is considered improper and is consequently forbidden by current laws.

Please note that the automation system you are going to install is classified as "machine construction" and therefore is included in the application of European directive 2006/42/EC (Machinery Directive).

This directive includes the following prescriptions:

- Only trained and qualified personnel should install the equipment;
- the installer must first make a "risk analysis" of the machine;
- the equipment must be installed in a correct and workmanlike manner in compliance with all the standards concerned;
- after installation, the machine owner must be given the "declaration of conformity".

This product may only be installed and serviced by qualified personnel in compliance with current laws, regulations and directives.

When designing its products, TAU observes all applicable standards (please see the attached declaration of conformity) but it is of paramount importance that installers strictly observe the same standards when installing the system.

Unqualified personnel or those who are unaware of the standards applicable to the "automatic gates and doors" category may not install systems under any circumstances.

**Whoever ignores such standards shall be held responsible for any damage caused by the system!**

Do not install the unit before you have read all the instructions.

## INSTALLATION

**Before proceeding, make sure the mechanical components work correctly. Make sure the gate runs freely on a flat surface. Then make sure that the power consumption of the gear motor is not greater than 3A (otherwise the control panel may not work properly). Having followed the previous points, now make sure the motor has a proper absorption. The K126 board starting from V5.17 release integrates a function to verify the absorption on the complete gate journey (Check paragraph ABSORPTION CHECK FUNCTION).**

THE EQUIPMENT MUST BE INSTALLED "EXPERTLY" BY QUALIFIED PERSONNEL AS REQUIRED BY LAW.

**Note: it is compulsory to earth the system and to observe the safety regulations that are in force in each country.**

IF THESE ABOVE INSTRUCTIONS ARE NOT FOLLOWED IT COULD PREJUDICE THE PROPER WORKING ORDER OF THE EQUIPMENT AND CREATE HAZARDOUS SITUATIONS FOR PEOPLE. FOR THIS REASON THE "MANUFACTURER" DECLINES ALL RESPONSIBILITY FOR ANY MALFUNCTIONING AND DAMAGES THUS RESULTING.

# CONTROL PANEL FOR ONE 18/24V MOTOR WITH ENCODER

- ABSORPTION CHECK FUNCTION
- STATUS OF INPUTS SIGNALLED BY LEDs
- INCORPORATED FLASHING CIRCUIT
- ENCODER SENSOR FOR SELF-LEARNING OF TRAVEL
- 433.92 MHz 2 CHANNEL BUILT-IN RADIO RECEIVER (CH)
- BATTERY CHARGER BOARD (INTEGRATED)
- DIAGNOSTICS OF MALFUNCTIONS SIGNALLED BY LED
- POSSIBILITY OF ENERGY SAVING OPERATION

## ATTENTION:

- **do not use single cables (with one single wire), ex. telephone cables, in order to avoid breakdowns of the line and false contacts;**
- **do not re-use old pre-existing cables;**
- **we recommend to use the TAU cable code M-03000010C0 to connect the motors to the control board.**

## INTRODUCTION

The K126MA board has two working modes, selectable through the J6 jumper (see wiring diagram).

- J6 Jumped: standard mode, i.e. the control unit is powered all the time;
- J6 Not jumped: low consumption mode, at the end of each maneuver the board automatically switches OFF itself and all the auxiliary devices connected. The board will automatically switch ON again activating the OP/CL contact or pressing the remote (mode where power is supplied by other energy sources, ex. batteries charged by a photovoltaic panel).

Once the connection is achieved, in low-energy mode, press the PROG button briefly:

- All the green LEDs must be on (each of them corresponds to a Normally Closed input). The go off only when the controls to which they are associated are operated.
- All the red LEDs must be off (each of them corresponds to a Normally Open input). The light up only when the controls to which they are associated are operated.

## TECHNICAL CHARACTERISTICS

Board power supply	13,5V <sup>1</sup> AC - 50 Hz
Max motor power DC	300VA - 18V <sup>2</sup> DC
Fast acting fuse for protection of input power supply 13,5V AC (F4 - 5x20)	F 16A
Fast acting fuse for battery charger protection (F5 - 5x20)	F 10A
Fast acting fuse for protection of auxiliary circuits 18V <sup>2</sup> DC (F3 - 5x20)	F 2A
Motor power supply circuits voltage	18V <sup>2</sup> DC
Auxiliary device circuits supply voltage	18V <sup>2</sup> DC
Logic circuits supply voltages	5V DC
Operating temperature	-20 °C ÷ +55 °C

<sup>1</sup> 18V for MASTER-R and T-ONE8BR

<sup>2</sup> 24V for MASTER-R and T-ONE8BR

## CONNECTIONS TO TERMINAL BOARD

Terminals	Function	Description
FS1 - FS2	POWER SUPPLY	13,5V (18V for MASTER-R and T-ONE8BR) AC control unit power supply input – Fed by the toroidal transformer and protected by the fuses on the 230V AC power supply.
1 - 2	AUX INPUT	external power input (ex. Photovoltaic system 12V DC). <b>Note: if this input is used, jump J7 appropriately (see wiring diagram).</b> <b>ATTENTION: POWERING THE CONTROL UNIT WITH AN EXTERNAL SOURCE, ALL THE OTHER 18V (24V for MASTER-R) DC OUTPUTS BECOME THE SAME AS THE OUTSIDE VOLTAGE.</b>

3 - 6	PEDESTRIAN	N.O. input for PEDESTRIAN button - Controls partial opening and closing (1/3 of the complete journey) and it is subject to the setting of DIP SW 2 and 4. (3= PED - 6= COM)
4 - 6	OPEN/CLOSE	OPEN/CLOSE button N.O. input – Controls the opening and closing of the automation and is regulated based on the function of dip-switches 2 and 4. (4= O/C - 6= COM)
5 - 6	STOP	STOP button N.C. input – Stops the automation in any position, temporarily preventing the automatic closure, if programmed. (5= STOP - 6= COM ) <b>NOTE: A safety micro-switch is connected to the STOP push-button. In case the STOP input remains open for more than 5 seconds, the operator will perform a cycle at a slow speed to reset the operating parameters to the values originally saved (see “Restoring automatic operation”). The micro-switch should be connected in series to further STOP push-buttons where present.</b>
7 - 8	INTERNAL PHOTOCELLS	PHOTOCELL OR SAFETY DEVICE input INSIDE the gate (Normally Closed contact). When these devices trigger during the opening phase, they temporarily stop the gate until the obstacle has been removed; during the closing phase they stop the gate and then totally open it again. Bridge the connectors if not used. (7= COM - 8= CLOSE)
7 - 9	EXTERNAL PHOTOCELLS	PHOTOCELL OR SAFETY DEVICE input OUTSIDE the gate (Normally Closed contact). Then these devices trigger during the closing phase, they stop the gate and then totally open it again. Bridge the connectors if not used. (7= COM - 9= FOT) <b>Note: the photocell transmitter must always be supplied by terminals no. 12 and no. 13, since the safety system test (phototest) is carried out on it. Without this connection, the control unit does not work. To override the testing of the safety system, or when the photocells are not used, set dip-switch no. 6 to OFF.</b>
7 - 10	SENSITIVE EDGE	SENSITIVE EDGE input (resistive sensitive edge or fixed safety edge); Works only when the gate is opening; temporarily stops the gate and partially closes it by about 20 cm in order to allow the obstacle to be removed. Bridge the connectors if not used. (7= COMMON - 10= SENSITIVE EDGE)
11 - 12 **	AUX	auxiliary circuits output 18V <sup>1</sup> DC max. 15 W for photocells, receivers, etc... (11= NEGATIVE - 12= POSITIVE) If the jumper J6 is not plugged in, at the end of each maneuver this output (11 and 12) will be switched off (energy saving mode).
12 - 13 **	TX PHOTOCELLS	18V <sup>1</sup> DC output for transmitter photocell – phototest - max. no. 1 photocell transmitters. (12= POSITIVE - 13= NEGATIVE)
14 - 15 **	FLASHING LIGHT	18V <sup>1</sup> DC max. 20W output for flashing light supply, flashing signal supplied by the control unit, rapid for closing, slow for opening. (14= POSITIVE - 15= NEGATIVE)
16 - 17* **	GATE OPEN LIGHT	Output for OPEN GATE LIGHT 18V <sup>1</sup> DC, 3 W max; while the bar opens the light flashes slowly, when the bar is open it stays on and while closing it flashes at twice the speed. (16= POSITIVE - 17= NEGATIVE)
16 - 18* **	COURTESY LIGHT	18V <sup>1</sup> AC, 15 W Output for auxiliary courtesy light. It comes on with the control pulse and stays ON until after the manoeuvre for a time settable through TAUPROG (default = 2 sec.) (16=POSITIVE - 18= NEGATIVE)

19 - 20*	2 <sup>nd</sup> CH RADIO	2 <sup>nd</sup> radio channel output - for control of an additional automation or for switching on lights, etc... (N.O. clean contact) <b>Warning: to connect other devices to the 2nd Radio Channel (area lighting, pumps, etc.), use an additional auxiliary relay (see note at end of paragraph). WARNING: the default outlet is active monostable 2 sec. To switch it to active bistable or to modify the activation time it is necessary to use the TAUPROG hand-held programmer (see relative instructions).</b>
21 - 22	AERIAL	plug-in radio-receiver aerial input , for 433.92 MHz receivers only. (21= GROUND - 22= SIGNAL)
23 - 24	MOTOR (M2)	motor (M2) supply output 18V DC max. 300 VA. (23= POSITIVE - 24= NEGATIVE) <b>See note below.</b>
25 - 26 - 27	ENCODER (M2)	Not in use
28 - 29	MOTOR (M1)	motor (M1) supply output 18V DC max. 300 VA. (28= POSITIVE - 29= NEGATIVE)
30 - 31 - 32	ENCODER (M1)	encoder supply and input (30= WHITE signal - 31= BLUE negative - 32= BROWN positive)

<sup>1</sup> 24V for MASTER-R and T-ONE8BR

\* The outlets can be configured using the TAUPROG (see relative instructions). The standard configuration is shown in the table.

\*\* If Jumper 6 is not plugged in, energy saving mode will be activated and, at the end of each manoeuvre, outputs 11-12, 12-13, 14-15, 16-17 and 16-18 will be switched off.



The terminal board for motor 2 (23-24) is to be used in support of the one for motor 1 (MASTER18QR / MASTER-R), or in case of fault/failure of the one for motor 1 (28-32), see wiring diagram page 2-3.

**IMPORTANT:**

- do not power up auxiliary relays or other devices through the 18V output (24V for MASTER-R) DC output (terminals 11 – 12) to avoid malfunctions of the control unit. Use separated power supply / transformers instead;
- do not connect switching feeders or similar apparatus close to the automation that may be a source of disturbance.

**LOGIC ADJUSTMENTS**

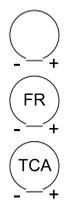
Make the logic adjustments.

**Note: when any adjusting devices (trimmers or dip-switches) on the control panel are operated, a complete manoeuvre must be carried out in order for the new settings to take effect.**

TRIMMER

T.C.A. Automatic Closing time adjustment: from about 1 to 120 seconds (see dip-switch no. 1);

FR. obstacle detection sensitivity adjustment.



**Note: by rotating the TRIMMER FR. clockwise the sensitivity of the gearmotor to obstacles diminishes** and therefore the thrust force increases; **vice-versa, by rotating it counter-clockwise, the sensitivity of the gearmotor to obstacles increases** and therefore the thrust force diminishes.

**Dip switch**

1	AUTOMATIC CLOSING	On	when completely open, closure is automatic after the set time on the T.C.A. trimmer has past.
		Off	the closing manoeuvre requires a manual command.

2	2 / 4 STROKE	On	when the automation is operating, a sequence of opening/closing commands causes the automation to OPEN-CLOSE-OPEN-CLOSE, etc.
		Off	in the same conditions, the same sequence of commands causes the automation to OPEN-STOP-CLOSE-STOP-OPEN-STOP, etc. (step-by-step function) (see also dip switch 4).
3	CLOSES AGAIN AFTER THE PHOTOCCELL	On	after the photocell is activated (input 7 - 9), the automation closes automatically after 5 seconds.
		Off	function off.
4	NO REVERSE	On	the automation ignores the closure command during opening and auto-close time
		Off	the automation responds as established by dip switch No. 2.
5	PRE-FLASHING	On	the pre-flashing function is enabled.
		Off	the pre-flashing function is disabled.
6	FOTOTEST	On	the "photocell test" function is enabled.
		Off	the "photocell test" function is disabled. <b>Note: to be used when the photocells are not used.</b>
7	MASTER/SLAVE	On	enables the MASTER mode in the master/slave configuration (see T-COMM instructions).
		Off	enables the SLAVE mode in the master/slave configuration (see T-COMM instructions), or standard operation (single motor).
8	BACK JUMP	On	once reached the mechanical stop (either while opening or closing) the operator will reverse slightly to avoid jamming between pinion and rack.
		Off	function not activated.

9-10-11 Automation type selection

Dip 9	Dip 10	Dip 11	Automation
Off	Off	Off	TONE-5B
On	Off	Off	TONE-10B
Off	On	Off	TONE-8BR (24v)
On	On	Off	MASTER-R (24V Opening speed = Closing speed)
Off	Off	On	MASTER18QR
On	Off	On	MASTER-R (24V)
Off	On	On	CANTILEVER (light)
On	On	On	CANTILEVER TONE10B (heavy)



**IMPORTANT:** In case the automation type change, a new setting of the dips # 9, 10 and 11 will be required. Before the new setup, however, it is necessary to proceed to a **HARD RESET** (see pag. 25) of the controller.

12	SENSITIVE EDGE	On	RESISTIVE SENSITIVE EDGE (terminal No. 10).
		Off	FIXED EDGE (NC contact – terminal No. 10). <b>Note: if not used, keep the DIP in the OFF position.</b>

**MEMORIZATION PROCEDURE**

**WARNING:** After powering the control panel, wait 2 seconds before you start performing the adjustment operations.

**Note:** the mechanical stops of the automation must be regulated both in opening and in closing [see motor instructions].

When you have completed the installation procedures:



**Check the position of dip-switches 9, 10 and 11. Dip-switches must be set according to the automation model (see table of dip-switches 9-10-11, "Logic adjustments" section).**

It is recommended to start the learning process with the gate at 0,5 m from closing mechanical stop. Press without releasing the PROG button till the DL8 LED starts flashing (yellow):

- the automation starts to open slowly looking for the opening limit stop;



**If the automation closes instead of opening, stop the run of the gate (by cutting the photocells or closing the STOP contact), invert the polarity of the motor, take the gate in the closed position (on the mechanical stop) and restart the procedure from the beginning.**

**Note: if the automation does not work, check the input connections. The DL6, DL5, DL4 and DL3 green LEDs must be on.**

- once the limit stop is reached, the automation starts closing looking for the closing limit stop (in this phase the control unit gathers all the parameters regarding the run);
- the automation carries out one complete opening to optimize the opening power;
- after a short pause, the automation carries out one complete closure to optimize the closing power.

#### WARNING:

- **The procedure can be stopped by pressing the STOP button.**
- **During the various stages of the operation, if the sensor is activated saving is stopped. To restart the procedure from the beginning (with the DL8 yellow LED flashing), use the AP/CH control, the remote control (if programmed) or press the PROG button briefly.**



**Please remember that an obstacle during saving is interpreted as a mechanical limit stop (the system does not start any safety operation, it just stops the motors). Make sure you don't stand near the automation during saving.**

### K126MA CHARACTERISTICS

#### TIMER-OPERATED OPENING AND CLOSING CYCLES

The opening/closing of the automation can be controlled by means of a timer that has a free N.O. output contact (relay). The timer must be connected to terminals 4 - 6 (OPEN/CLOSE button) and can be programmed so that, at the desired opening time, the relay contact closes until the desired closing time (when the timer's relay contact opens, enabling the automatic closing of the gate).

**Note: the automatic closing function must be enabled by setting Dip-switch no. 1 to ON.**

#### BATTERY CHARGER BOARD (INTEGRATED)

If the battery is connected the automation will operate in any case if there is no mains power supply. If the voltage drops below 11.3 Vdc, the automation ceases to operate (the control unit remains fed); whereas, when the voltage drops below 10.2 Vdc, the card completely disconnects the battery (the control panel is no longer fed). During battery operation, LOW CONSUMPTION MODE will be automatically activated. At the end of each maneuver 11-12, 12-13, 14-15, 16-17 and 16-18 will be powered off. In order to connect the battery to the control board, it is required a specific connector supplied along with the battery.

**Note: when the battery-mode is activated the system switches in low-power mode therefore the auxiliary outputs (11-12) are disabled. (For use of external receivers, Gsm, etc. connect these in parallel to the battery).**

#### OBSTACLE DETECTION

If the obstacle detection function (adjustable through FR trimmer) is activated during an opening manoeuvre, the gate closes approx. 20 cm., if it is activated during a closing manoeuvre, the gate opens all the way .



**WARNING: the control panel logics may interpret mechanical friction as an obstacle.**

### DIAGNOSTICS LED

DL1 - Red	PEDESTRIAN button LED signal
DL2 - Red	OPEN/CLOSE button LED signal
DL3 - Green	STOP button LED signal
DL4 - Green	INTERNAL PHOTOCELLS LED signal
DL5 - Green	EXTERNAL PHOTOCELLS LED signal
DL6 - Green	SENSITIVE EDGE LED signal

**LED - DL7**

Apart from highlighting the presence of the battery, LED DL7 displays any mistakes with a series of pre-set flashes in various colours:

Key:

- led always on;
- ◉ led flashing;

● always on (green):	<b>fully-charged battery, main voltage present;</b>
● always on (yellow):	<b>battery charging;</b>
◉ 1 flash every 4 seconds (green):	<b>fully-charged battery, no main voltage;</b> <i>Check the main voltage;</i>
◉ 1 flash every 4 seconds (yellow):	<b>external power, charger disabled;</b>
◉ 1 flash every 2 seconds (red):	<b>low battery;</b> <i>Charge the battery, replace the battery;</i>
◉ fast flashing (red):	<b>faulty battery;</b> <i>Replace the battery;</i>

**LED - DL8**

The DL8 LED indicates mistakes in the board logic with a series of pre-set flashes in different colours:

Key:

- led always on;
- ◉ led flashing;

◉ 1 flash every 4 seconds (green):	<b>normal operation;</b>
◉ / ◉ alternate flashing: (red/green)	<b>saving to be performed;</b>
◉ fast (yellow) flashing:	<b>saving in progress;</b>
◉ 1 (red) flash:	<b>phototest error</b> <i>Disable phototest (dip-switch 6 OFF), check the operation of the photocells and their connection;</i>
◉ 1 (yellow) flash:	<b>unknown status, next operation REALIGNMENT;</b>
◉ 2 (red) flashes:	<b>obstacle for motor 1;</b> <i>Make sure there are no obstacles across the path of the gate and that it slides smoothly;</i>
◉ 2 (yellow) flashes:	<b>obstacle for motor 2 (in case of failure of motor 1 wire terminal and with dip # 10 set in ON);</b> <i>Make sure there are no obstacles across the path of the gate and that it slides smoothly;</i>
◉ 3 (red) flashes:	<b>no motor 1 encoder signal;</b> <i>Check wiring, check encoder by TEST-ENCODER (optional);</i>
◉ 3 (yellow) flashes:	<b>no motor 2 encoder signal (in case of failure of motor 1 wire terminal and with dip # 10 set in ON);</b> <i>Check wiring, check encoder by TEST-ENCODER (optional);</i>
◉ 4 (red) flashes:	<b>no motor 1 signal;</b> <i>Check wiring, check the motor rotates freely and is powered directly by the battery, check fuse F5;</i>
◉ 4 (yellow) flashes:	<b>no motor 2 signal (in case of failure of motor 1 wire terminal and with dip # 10 set in ON);</b> <i>Check wiring, check the motor rotates freely and is powered directly by the battery, check fuse F5;</i>

5 (red) flashes:	<b>max current limit for motor 1 exceeded;</b> <i>Excessive absorption peaks of the gearmotor, check there are no obstacles on the automation path, check the current absorption of the motor when in a no-load condition and when applied to the gate,</i>
5 (yellow) flashes:	<b>max current limit for motor 2 exceeded (in case of failure of motor 1 wire terminal and with dip # 10 set in ON);</b> <i>Excessive absorption peaks of the gearmotor, check there are no obstacles on the automation path, check the current absorption of the motor when in a no-load condition and when applied to the gate</i>
6 flashes (red):	<b>auto-close failed after 5 unsuccessful attempts;</b> <i>A command input is necessary to perform closing operation;</i>
6 flashes (yellow):	<b>master/slave communication error;</b> <i>Check wiring between the controllers, efficiency of slave controller (fuses), efficiency of interface boards;</i>
8 (red) flashes:	<b>Eeprom external memory fault;</b> <i>Replace the external memory module;</i>
8 (yellow) flashes:	<b>Eeprom data error (internal/external);</b> <i>Perform procedure RADIO MEMORY RESET;</i>

Apart from the logic mistakes, the DL8 LED indicates also the status of the control unit during the saving of the radio controls.

always on (green):	<b>channel CH1 waiting to be saved;</b>
fast flashing (green):	<b>CH1 channel memory full;</b>
always on (yellow):	<b>channel CH2 waiting to be saved;</b>
fast flashing (yellow):	<b>CH2 channel memory full;</b>
flashing (green):	<b>CH1 channel waiting to be cancelled;</b>
always on (green):	<b>cancelling of channel CH1 in progress;</b>
flashing (yellow):	<b>CH2 channel waiting to be cancelled;</b>
always on (yellow):	<b>cancelling of channel CH2 in progress;</b>

When LEDs DL7 and DL8 flash at the same time they indicate:

flashing (red + red):	<b>factory reset procedure waiting for confirmation;</b>
flashing (yellow + yellow):	<b>waiting for total cancellation of the radio channels;</b>

Multiple errors are signalled by a 2-second pause between signals.

Should the encoder (obstacle detection) activates while closing, the controller will reverse the direction and slowly open until the leaf reaches its fully opened position. Auto Close function will be deactivated until a further command pulse is given. In case of 5 consecutive safety interventions the controller will progressively increase the Auto Close delay. Once the closing has been successfully achieved, the Auto Close delay will go back to standard setting.

### ABSORPTION CHECK FUNCTION (from 5.17 release onwards)

This function allows to monitor the absorption during a complete cycle in order to value the motor stress. To activate this function press and hold for 2 seconds simultaneously CH1, PROG, CH2 and then start the motor (OP/CL contact, remote, PROG button).



The absorption registered is shown according to the following diagram:

ENGLISH

Level	DL7	DL8
	○ (Off)	○ (Off)
	● (Green)	○ (Off)
	● (Green)	● (Green)
	● (Green)	● (Yellow)
	● (Yellow)	● (Green)
	● (Yellow)	● (Yellow)
	● (Yellow)	● (Red)
	● (Red)	● (Yellow)
	● (Red)	● (Red)

After 5 minutes from the function activation, the board automatically resumes to the standard LED visualization (to resume manually press simultaneously CH1, PROG and CH2).

### RESTORING AUTOMATIC OPERATION

Should the Bar need to be operated manually, use the release system. After the manual operation:

- after a Mains Power Failure, such as a black-out (controller remains disconnected for a certain time) or after a manual release (without power shortage to the controller for more than 5 seconds), the automation will be moving slowly to allow the Controller to establish its Limits (REALIGNMENT procedure).

### 433.92 MHz BUILT-IN RADIO RECEIVER

The radio receiver can learn up to a maximum of 86 rolling codes (BUG2R, BUG4R, K-SLIM-RP, T-4RP) which can be set on the two channels as required.

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 19 - 20, max. 24V AC, 1 A) and the third channel controls directly the pedestrian opening from the controller.

### LEARNING SYSTEM FOR RADIO CONTROL DEVICES

CH1 = 1<sup>st</sup> channel (only OPEN/CLOSE)

CH2 = 2<sup>nd</sup> channel

CH3 = 3<sup>rd</sup> channel (only PEDESTRIAN)

- 1\_ press button CH1 briefly to associate a radio control device with the OPEN/CLOSE function;
- 2\_ the (green) DL8 LED is ON to indicate the code learning mode has been activated (if no code is entered within 10 seconds the board exits the programming function);
- 3\_ press the button of the relative radio control device;
- 4\_ the (green) DL8 LED turns off to indicate saving is complete and then on again immediately waiting for other radio control devices (if this is not the case, try to re-transmit or wait 10 seconds and restart from point 1);
- 5\_ to memorise codes to other radio control devices, press the key to be stored on other devices within 2-3 sec. After this time (DL8 LED turns off) must repeat the procedure from point 1 (up to a maximum of 86 transmitters);
- 6\_ if you wish to save on the 2nd channel, repeat the procedure from point 1 using the CH2 key instead

of CH1 (in this case the DL8 LED is yellow);

7\_ to program transmitters into the third channel, repeat procedure from point 1 using CH1 and CH2 buttons at the same time (DL8 will turn on red);

8\_ to exit the learning mode without memorising a code, press button CH1 or CH2 briefly.



**If the maximum number of radio controls is reached (86), DL8 LED blinks for approx 3 seconds without starting the learning process.**

#### REMOTE PROGRAMMING BY MEANS OF T-4RP and K-SLIM-RP (V 4.X)

With the new version of software V 4.X it is possible to carry out the remote self-learning of the new version of transmitters T-4RP and K-SLIM-RP (V 4.X), that is without pressing the receiver's programming buttons.

It will be sufficient to have an already programmed transmitter in the receiver in order to start the procedure of remote programming of the new transmitters. Follow the procedure written on the instructions of the transmitter T-4RP and K-SLIM-RP (V 4.X).

#### CANCELLING CODES FROM RADIO CONTROL DEVICES

1\_ keep button CH1 pressed for 3 seconds in order to cancel all the associated radio control devices;

2\_ LED DL8 flashes slowly to indicate that the cancellation mode has been activated;

3\_ press button CH1 again for 3 seconds;

4\_ LED DL8 turns off for approx. 3 seconds and then remains steady to indicate that the code has been cancelled;

5\_ repeat the procedure from point 1 using button CH2 to cancel all the associated radio control devices;

6\_ repeat procedure from point 1 using CH1 and CH2 buttons at the same time to erase all transmitters programmed into the third channel;

7\_ to exit the learning mode without memorising a code, press button CH1 or CH2 briefly.

#### MEMORY CAPACITY

The code memory capacity\* of the K126MA can be expanded from 86 to 126, 254 or 1022 codes (transmitters) by replacing the memory cards as follows (plug them onto J3 connector, refer to wiring diagram on page 2-3):

126	codes	Art.	<b>250SM126</b>
254	codes	Art.	<b>250SM254</b>
1022	codes	Art.	<b>250SM1022</b>

\* Control units are supplied with a standard built-in 86-code memory. The memory card for enhancing the code memory capacity must be ordered separately.



**WARNING: Control unit must be turned OFF to insert / remove a memory card.**

**IMPORTANT: when a memory card is used, the control unit's built-in 86 codes memory is disabled.**

#### RADIO MEMORY RESET:

- press without releasing keys CH1 and PROG till LEDs DL7 and DL8 start flashing quickly with a yellow light. At this point release the keys and press them again till the LEDs go off confirming the operation is complete (if they are not pressed the board reverts to normal operation after about 12 seconds).

#### HARD RESET (factory setting):

- press without releasing keys CH2 and PROG till LEDs DL7 and DL8 start flashing quickly with a red light. At this point release the keys and press them again till the LEDs go off (reset in progress), confirming the operation is complete (if they are not pressed the board reverts to normal operation after about 12 seconds); When the unit starts again saving will be required.



**In case of Hard Reset the memory of the radio receiver will not be erased: all existing transmitters remain programmed.**

## **MALFUNCTIONS: POSSIBLE CAUSES AND SOLUTION**

### **The automation does not start**

- a- Check there is 230V AC power supply with the multimeter.
- b- Check, in the standard mode, that the NC contacts on the board are really normally closed (4 green LEDs on).
- c- Set dip-switch 6 (phototest) OFF.
- d- Increase the FR trimmer to the limit.
- e- Check that the fuses are intact with the multimeter.

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### **The radio control has very 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 radio control batteries.

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### **The gate opens the wrong way**

Invert the motor connections on the terminal block, terminals 28 - 29 and terminals 23 - 24 (if used).

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## **GUARANTEE: GENERAL CONDITIONS**

TAU guarantees this product for a period of 24 months from the date of purchase (as proved by the sales document, receipt or invoice).

This guarantee covers the repair or replacement at TAU's expense (ex-works TAU: packing and transport at the customer's expense) of parts that TAU recognises as being faulty as regards workmanship or materials.

For visits to the customer's facilities, also during the guarantee period, a "Call-out fee" will be charged for travelling expenses and labour costs.

### **The guarantee does not cover the following cases:**

- If the fault was caused by an installation that was not performed according to the instructions provided by the company inside the product pack.
- If original TAU spare parts were not used to install the product.
- If the damage was caused by an Act of God, tampering, overvoltage, incorrect power supply, improper repairs, incorrect installation, or other reasons that do not depend on TAU.
- If a specialised maintenance man does not carry out routine maintenance operations according to the instructions provided by the company inside the product pack.
- Wear of components.

The repair or replacement of pieces under guarantee does not extend the guarantee period.

In case of industrial, professional or similar use, this warranty is valid for 12 months.