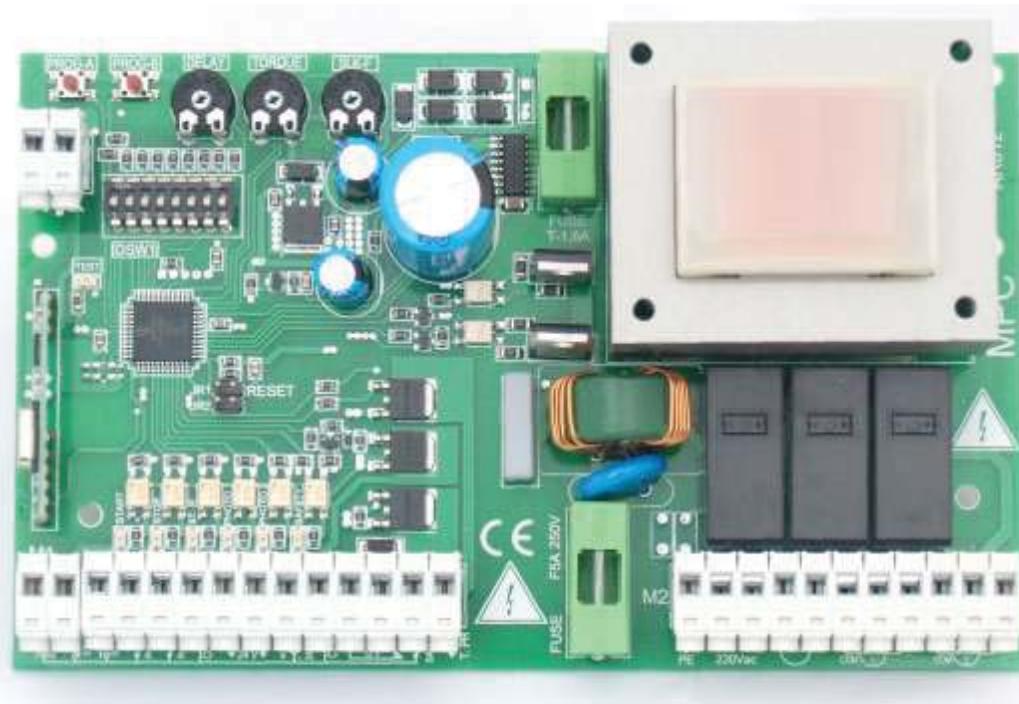# INSTALLATION AND PROGRAMMING MANUAL FOR AR812 CONTROL BOARD FOR 230 Vac SWINGING GATES MOTOR

AR812 Control Board for swinging gates

DESCRIPTION

TR1, TR2, TR3 = Adjustable trimmers
DSW1 = Micro Switches
DL1 – DL6 = Input LEDs
DL7 = Programming LED
F1 = 230Vac Fuse
F2 = Low Voltage Fuse
M1 = Low Voltage Input Terminal
M2 = 230Vac Input Terminal
CN1 = Receiver
K1 – K3 = Relay
TF1 = Transformer
U1 = Micro Control Unit
JR1 = Reset jumper
P1A = Operating time programming button
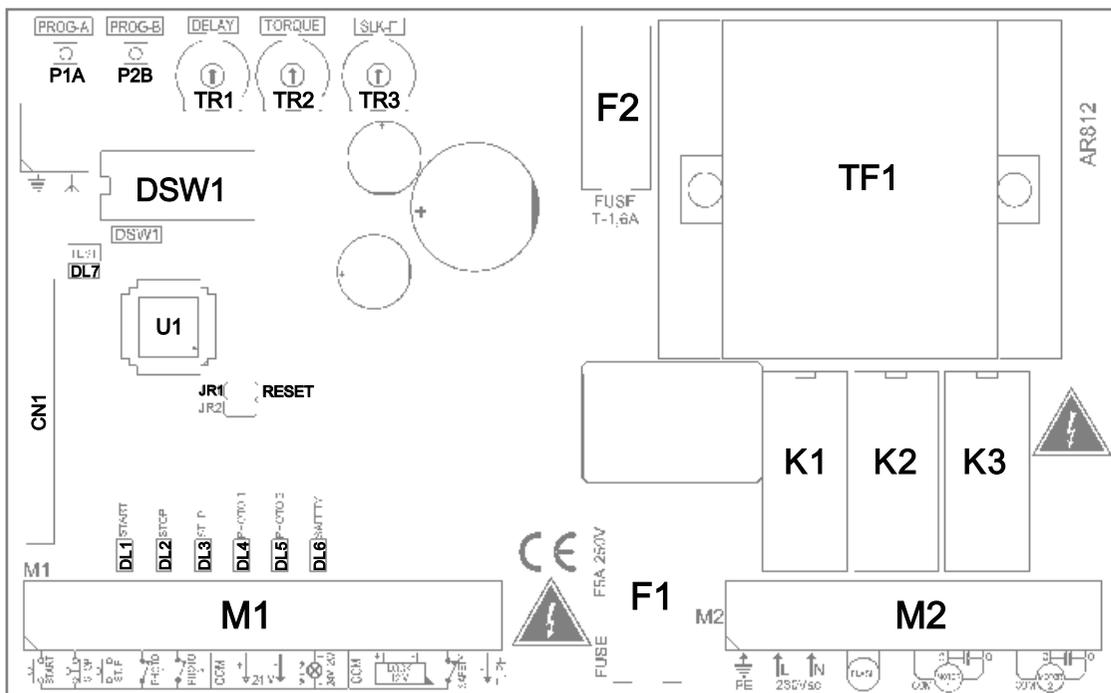P2B = Remote control programming button

INSTALLATION

Prior to the electric connection shut down the 230V 50Hz power supply and adjust motor torch to minimun.
Use **0,5mm²** to connect the buttons, photocells and 24V power supply. For connections with electric bolt and lights use at least **1,5mm²** cables. For 230V 50Hz connections and motor connections use at least **2.5mm²** cables.

Termina M1

START	=	Input Button N.O. (Open / Close)
STOP	=	Input Button N.C. (STOP)
ST.P	=	Input Button N.O. (Pedestrian Open)
PHOTO1	=	External Photocell Command Input N.C.
PHOTO2	=	Internal Photocell Command Input N.C.
COM	=	Input and Flashing light Common
+24V	=	+24Vdc Power Supply
-24V	=	-24Vdc Power Supply
W. LIGHT 2W 24V	=	Flashing Light 24Vdc 2W max. Output
LOCK	=	12Vac Electric Lock Output
SAFETY	=	Safety Contact Input N.C.
T. PH	=	Photocell Test Input Contact (*).

(*) To use the photocell test connect the negative contact of the transmitter to the T.PH in Terminal M1

Terminal M2

PE	=	Ground Input
L	=	Line Input 230V 50Hz
N	=	Neutral Input 230V 50Hz (Electric Light Common)
FLASH	=	Electric Light 230V 50Hz 15 W max.
Motor 1 COM	=	Motor 1 Common
Motor 1 C	=	Motor 1 Close
Motor 1 O	=	Motor 1 Open
Motor 2 COM	=	Motor 2 Common
Motor 2 C	=	Motor 2 Close
Motor 2 O	=	Motor 2 Open

- It is very important to firmly tight the signal cables of terminal **M2** and power cables on terminal **M1** separately to avoid errors. Use Jumpers to all N.C. inputs when not in use.

- **Do not connect any kind of device in the terminal inputs other than the one they are designed for.**

- If one of the N.O. (START and S.TP) is closed, or one of the N.C.inputs is openthe TEST_LED blinks fast. In this case track programming is not available.

OPERATION MODES

CONDOMINIUM AUTOMATIC:
If the door is closed or closing and you press **START** button the door **opens**. If the door is **opening, START** command is ignored, while during **auto close, START** command resets time. If you press **START** after **STOP** command the door closes.

SUPERAUTOMATIC:
If the door is closed or closing and you press **START** button the door **opens.** if the door is **opening START** command stops the door**.** During **auto close, START** command closes the door. If you press **START** after **STOP** command the door closes.

AUTOMATIC:
If the door is closed or closing and you press **START** button the door **opens. START** command is ignored while the door is **open.**During **auto close, START** command closes the door. If you press **START** after **STOP,** command the door closes.

SEMIAUTOMATIC:
START command controls opening, closing and stoping the door. When the door is open you must press **START** to close the door .**Auto close** is disabled. If the door is opening and you press **START** the door stops and you must give a second START command to close the door. If **START** is pressed during closing function, the door starts to open. If you press **START** after a **STOP** command the door closes.

STEP BY STEP:
When the door is closed and you press **START,** the door opens. During opening if **START** is pressed, the door stops. if you then press **START** the door closes and by pressing **START** again the door stops. if you press **START** after a **STOP** command**,** the door closes.

Choose operation mode with micro Switches 1,2,3 and 6, according to the following board "CHOOSE OPERATION MODE" (after each change of operation mode you must short circuit jumper JR1 for a few seconds to apply change).

CHOOSE OPERATION MODE

Dip 1	Dip 2	Dip 3	Dip 6	OPERATION
OFF	OFF	OFF	OFF	Condominium automatic
OFF	OFF	ON	OFF	Condominium automatic + comfort (1)
OFF	ON	OFF	OFF	Superautomatic
OFF	ON	ON	OFF	Superautomatic + comfort (1)
ON	ON	OFF	OFF	Automatic
ON	ON	ON	OFF	Automatic + comfort (1)
ON	OFF	OFF	OFF	Semiautomatic
ON	OFF	ON	OFF	Step by Step
OFF	OFF	OFF	ON	Condominium automatic + photocell retrigger (2)
OFF	ON	OFF	ON	Superautomatic + photocell retrigger (2)
ON	ON	OFF	ON	Automatic + photocell retrigger (2)

(1) **Comfort operation** allows the door to close **5** seconds after the photocells command, independent of the AUTO CLOSE programmed time.
(2) P**hotocell retrigger** resets AUTO CLOSE time after any command from Photocells.

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SETTINGS

Through micro(DIP) switches 4,5,7 and 8 the following settings may be applied.

Dip switch	OPERATION	ON	OFF
4	Preflashing	Enabled	Disabled
5	Revert movement	Enabled	Disabled
7	Lighting operation	LIGHT	BEACON
8	Max torch at closing ending	Enabled	Disabled

ADJUSTABLE TRIMMER

TR1 adjusts auto close time (the time the door remains open before closes automatically),with range from **1 to 120** seconds.

TR2 adjusts motor torch. For motors with clutch or hydraulic oil pressure you must set **TR2** to maximum (that is one full turn to the right).

TR3 adjusts door speed at slow motion mode, which can be set according to safety parameters. By setting **TR3** to maximum (that is one full turn to the right) slow speed is disabled. (see. Operation time programming without slow speed).

Trimmer	Operation	Range	Special Functions
TR1	Auto Close	1 – 120 seconds	-
TR2	Motor Torch	20 – 100 %	100 % (Hydraulic or clutched motors)
TR3	Slow Speed	10 – 100 %	100 % = Slow Speed Disabled

REMOTE CONTROL PROGRAMMING

AR812 control board has a built in receiver that can store upt o 128 Rolling coded remote controls or one fixed coded remote control.

Remote control programming for total door open

If the door is closed, press PROG.B and hold it until TEST LED starts blinking. Release PROG.B and within 10 seconds, press the remote control you want to program. When the procedure is completed TEST LED and the FLASHING LIGHT must turn ON ant then OFF simultaneously. For rolling coded remote controls repeat procedure for each control. For Fixed coded remote controls just copy the remote controls.

Remote control programmin for pedestrian

When the door is closed press **PROG.B** until **TEST LED** starts blinking. Do not relase **TEST LED** starts blinking faster. Realease PROG.B. Within 10 seconds, press the button of the remote control you want to program.
When the procedure is completed TEST LED and the FLASHING LIGHT must turn ON ant then OFF simultaneously. For rolling coded remote controls repeat procedure for each control. For Fixed coded remote controls just copy the remote controls.

Erase all remote controls

When the door is closed press **PROG.B** and hold it until **TEST LED** starts blinking. Do not relase **TEST LED** until it starts blinking faster. μέχρι το **TEST LED.** When all remote controls are erased from memory TEST LED and the FLASHING LIGHT must turn ON ant then OFF simultaneously.

MAINTENANCE

There are two 5 X 20 fuses for the 230Vac line and the low voltage that is supplied from the transformers secondary coil. The fuses have the following values
F1 Line Fuse 230Vac = 6,3 Slow burning
F2 Low Voltage Fuse = 1,25 A Slow burning

Prior to replacing the fuses the 230Vac power supply must be turned off from the main electrical supply. The value of the fuses must not be altered.
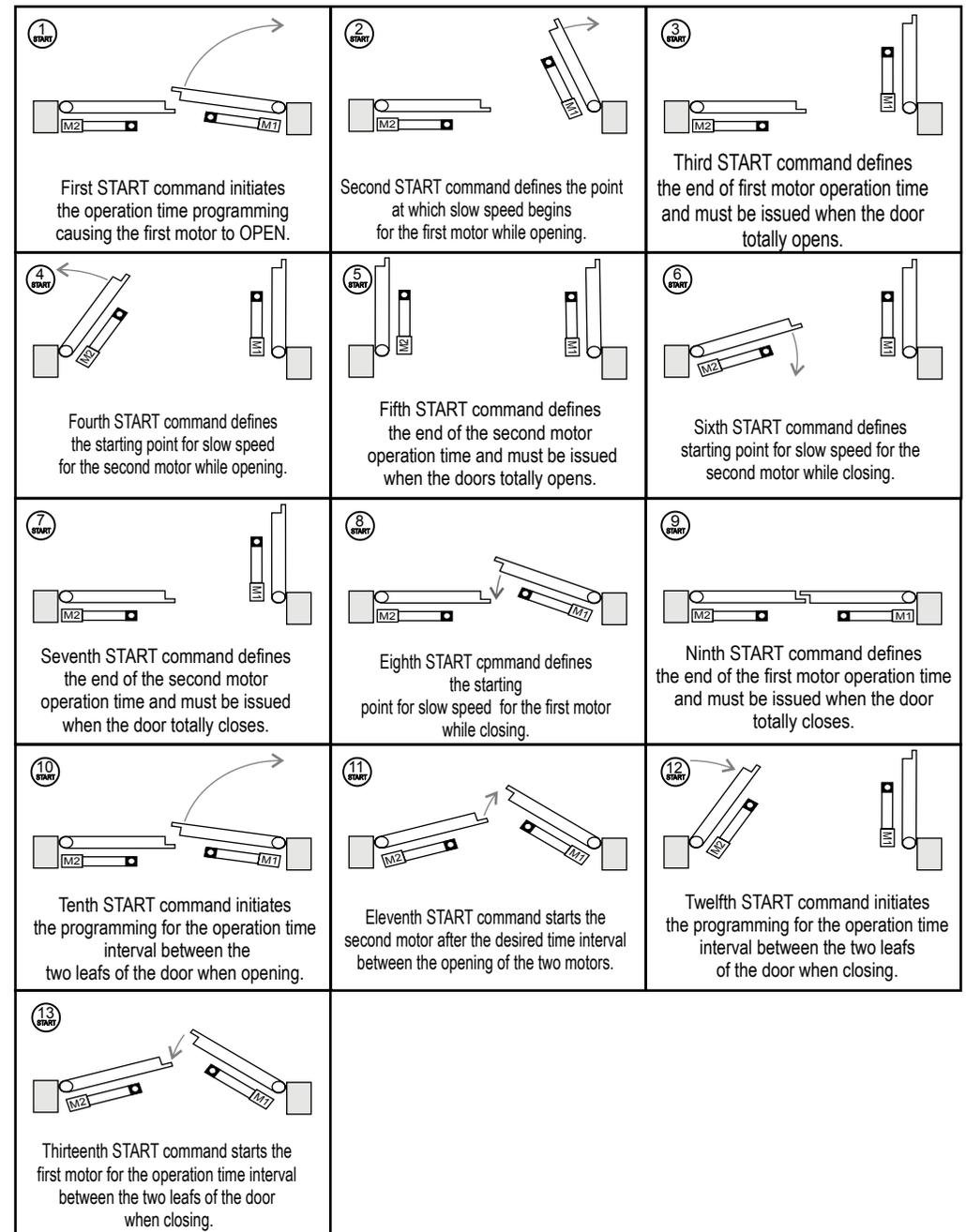*There is no other element on the control board that can be repaired or replaced from installation personnel. For any other issue contact technical support.*

OPERATION TIME PROGRAMMING FOR TWO LEAFED SWINGING GATE WITH SLOW SPEED

- Set trimmer **TORQUE** at minimum needed to move the door leaf correctly and adjust trimmer **SLK-F** for slow speed at minimum needed to move the door leafs correctly .

- Totally close the door.

- Press **PROG.A** for at least 3 seconds.

- **TEST LED** starts blinking.

- Release **PROG.A**

- Press **START:** The first leaf starts moving at normal speed.

- When you want to start slow speed press **START:** Slow speed mode has began.

- When first leaf is totally open press **START:** The second leaf starts opening at normal speed.

- When you want to start slow speed for the second leaf press **START:** Slow speed has began.

- When the second leaf is totally open press **START:** The second leaf starts closing at normal speed.

- When you want to start slow speed for the second leaf press **START:** Slow speed has began.

- When the second leaf is totally closed press **START:** The first leaf starts closing at normal speed.

- When you want to start slow speed for the first leaf press **START:** Slow speed has began.

- When the firtst leaf is totally closed press **START.**

- Press **START:** the first leaf starts opening and when you decide that the time interval between the opening of the two leafes is enough press **START** again**:** The second leaf starts opening.

- Press **START:** The second leaf starts closing and when you decide that the time interval between the closing of the two leafes is enough press **START** again**:** The first leaf starts closing.

- Wait until the **TEST LED** turns off.

- The operation time programming is complete.

- The next time the door will open will be according to the settings just completed.

ATTENTION:

After RESET or power supply failure, at the first closing of the door the operation time will be greater (approximately 12 seconds)

1 START — First START command initiates the operation time programming causing the first motor to OPEN.

2 START — Second START command defines the point at which slow speed begins for the first motor while opening.

3 START — Third START command defines the end of first motor operation time and must be issued when the door totally opens.

4 START — Fourth START command defines the starting point for slow speed for the second motor while opening.

5 START — Fifth START command defines the end of the second motor operation time and must be issued when the doors totally opens.

6 START — Sixth START command defines starting point for slow speed for the second motor while closing.

7 START — Seventh START command defines the end of the second motor operation time and must be issued when the door totally closes.

8 START — Eighth START cpmmand defines the starting point for slow speed for the first motor while closing.

9 START — Ninth START command defines the end of the first motor operation time and must be issued when the door totally closes.

10 START — Tenth START command initiates the programming for the operation time interval between the two leafs of the door when opening.

11 START — Eleventh START command starts the second motor after the desired time interval between the opening of the two motors.

12 START — Twelfth START command initiates the programming for the operation time interval between the two leafs of the door when closing.

13 START — Thirteenth START command starts the first motor for the operation time interval between the two leafs of the door when closing.
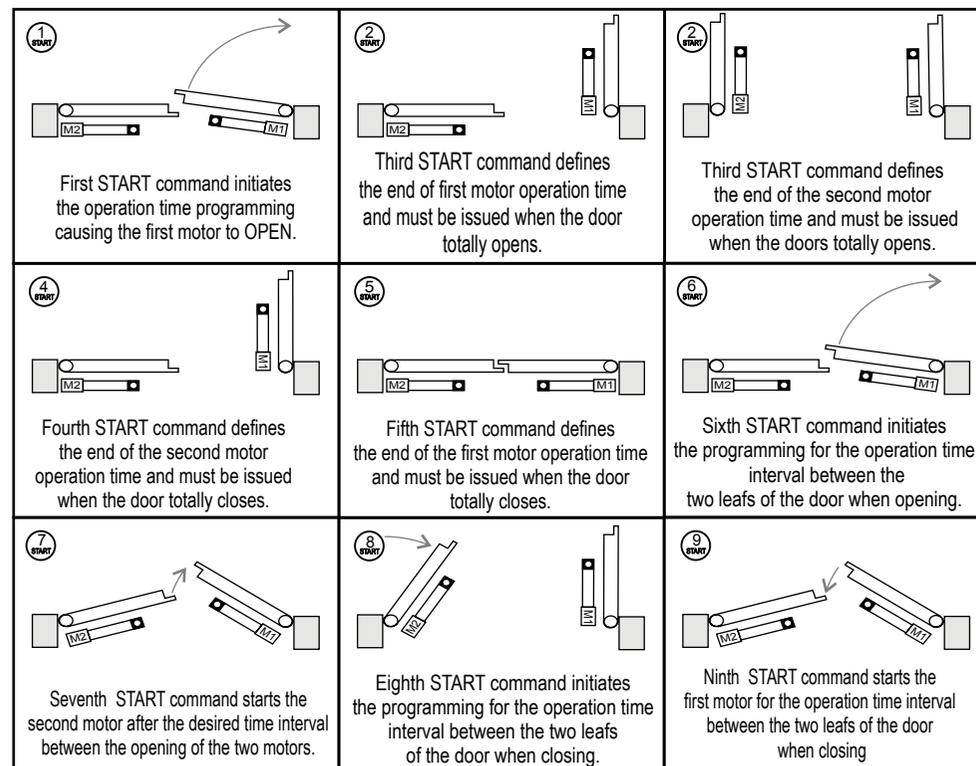
OPERATION TIME PROGRAMMING FOR TWO LEAFED SWINGING GATE WITHOUT SLOW SPEED

- Set trimmer **TORQUE** at minimum needed to move the door leaf correctly and adjust trimmer **SLK-F** for slow speed at maximum needed to move the door leafs correctly.
- Totally close the door.
- Press **PROG.A** for at least 3 seconds.
- **TEST LED** starts blinking.
- Release **PROG.A**
- Press **START:** The first leaf starts moving at normal speed.
- When first leaf is totally open press **START:** The second leaf starts opening at normal speed.
- When the second leaf is totally open press **START:** The second leaf starts closing at normal speed.
- When the second leaf is totally closed press **START:** The first leaf starts closing at normal speed.
- Press **START:** the first leaf starts opening and when you decide that the time interval between the opening of the two leafes is enough press **START** again**:** The second leaf starts opening.
- Press **START:** The second leaf starts closing and when you decide that the time interval between the closing of the two leafes is enough press **START** again**:** The first leaf starts closing.
- Wait until the **TEST LED** turns off.
- The operation time programming is complete.
- The next time the door will open will be according to the settings just completed.

ATTENTION:

After RESET or power supply failure, at the first closing of the door the operation time will be greater (approximately 12 seconds)

① START	② START	② START
First START command initiates the operation time programming causing the first motor to OPEN.	Third START command defines the end of first motor operation time and must be issued when the door totally opens.	Third START command defines the end of the second motor operation time and must be issued when the doors totally opens.
④ START	⑤ START	⑥ START
Fourth START command defines the end of the second motor operation time and must be issued when the door totally closes.	Fifth START command defines the end of the first motor operation time and must be issued when the door totally closes.	Sixth START command initiates the programming for the operation time interval between the two leafs of the door when opening.
⑦ START	⑧ START	⑨ START
Seventh START command starts the second motor after the desired time interval between the opening of the two motors.	Eighth START command initiates the programming for the operation time interval between the two leafs of the door when closing.	Ninth START command starts the first motor for the operation time interval between the two leafs of the door when closing

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OPERATION TIME PROGRAMMING FOR SINGLE LEAFED SWINGING GATE WITH SLOW SPEED

- Set trimmer **TORQUE** at minimum needed to move the door leaf correctly and adjust trimmer **SLK-F** for slow speed at minimum needed to move the door correctly .
- Totally close the door.
- Press **PROG.A until** **TEST LED** starts blinking and do not release **PROG.A** until **TEST LED** starts blinking faster.
- Release **PROG.A**
- Press **START:** The door starts moving at normal speed.
- When you want to start slow speed press **START:** Slow speed mode has began.
- When the door is totally open press **START:** The door closing at normal speed.
- When you want to start slow speed for the door press **START:** Slow speed has began.
- When the door is totally closed press **START.**
- Wait until the **TEST LED** turns off.
- The operation time programming is complete.

- The next time the door will open will be according to the settings just completed.

ATTENTION:
After RESET or power supply failure, at the first closing of the door the operation time will be greater (approximately 12 seconds)
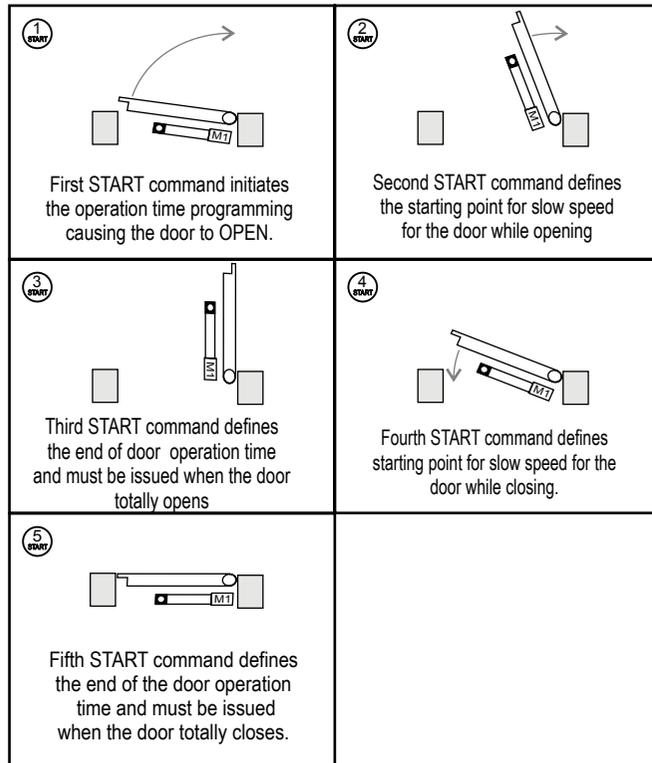

(1) START — First START command initiates the operation time programming causing the door to OPEN.

(2) START — Second START command defines the starting point for slow speed for the door while opening

(3) START — Third START command defines the end of door operation time and must be issued when the door totally opens

(4) START — Fourth START command defines starting point for slow speed for the door while closing.

(5) START — Fifth START command defines the end of the door operation time and must be issued when the door totally closes.

OPERATION TIME PROGRAMMING FOR SINGLE LEAFED SWINGING GATE WITHOUT SLOW SPEED

- Set trimmer **TORQUE** at minimum needed to move the door leaf correctly and adjust trimmer **SLK-F** for slow speed at maximum needed to move the door correctly .
- Totally close the door.
- Press **PROG.A until** **TEST LED** starts blinking and do not release **PROG.A** until **TEST LED** starts blinking faster.
- Release **PROG.A**
- Press **START:** The door starts moving at normal speed.
- When the door is totally open press **START:** The door closing at normal speed..
- When the door is totally closed press **START.**
- Wait until the **TEST LED** turns off.
- The operation time programming is complete.
- The next time the door will open will be according to the settings just completed.

ATTENTION:
After RESET or power supply failure, at the first closing of the door the operation time will be greater (approximately 12 seconds)

(1) START — First START command initiates the operation time programming causing the door to OPEN..

(2) START — Third START command defines the end of the door operation time and must be issued when the door totally opens

(3) START — Third START command defines the end of the door operation time and must be issued when the door totally closes

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INTERNAL PHOTOCELLS
RX   TX

EXTERNAL PHOTOCELLS
RX   TX

M1
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

DL1 START
DL2 STOP
DL3 ST.P
DL4 PHOTO 1
DL5 PHOTO 2
DL6 SAFETY

FUSE F5A 250V

F1

M2
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

PE
230Vac
FLASH

OPERATION COMMANDS

START   STOP   PEDESTRIAN   LIGHT
                 START   24V / 2W

NO   NC   NO   24V
                               2W
                               MAX
1   2   3   9

TOTAL
STOP
NC

ELECTRIC LOCK
12VAC/DC 15W
11
12

FLASHLIGHT
230V / 25W
MAX
19   18

BIPOLAR THERMOMAGNETIC
SWITCH WITH DIFFERENTIAL
6A / 30ma

POWER SUPPLY
230VAC

16
17

BUTTON KEY

NO   1
NC   6,10
        COM

MOTOR-1
M1
COM   20
CLOSE 21
OPEN   22

MOTOR-2
M2
COM   23
CLOSE 24
OPEN   25

5   7   4   8   6,10   1   6,10

8