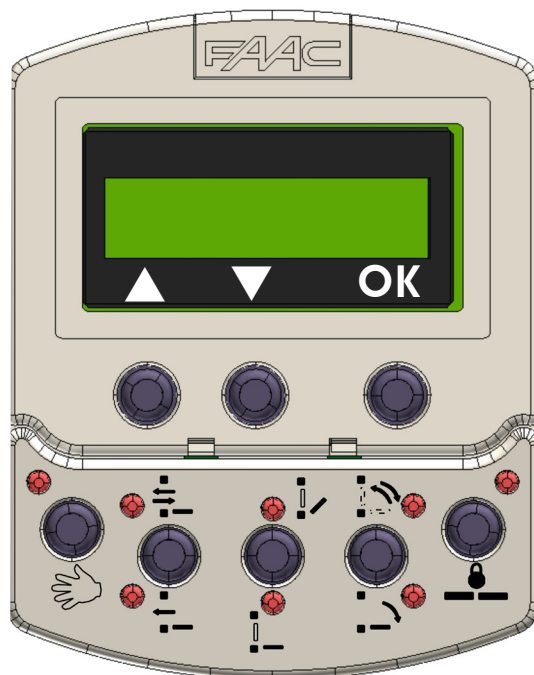


KP CONTROLLER



FAAC

KP CONTROLLER

CE DECLARATION OF CONFORMITY

Manufacturer: FAAC S.p.A.

Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

Declares that: The KP CONTROLLER device

complies with the essential safety requirements of the following EU Directive

2004/108/EC Electromagnetic Compatibility Directive

And also declares that it is prohibited to put into service the machinery until the machine in which it will be integrated or of which it will become a component has been identified and declared as conforming to the conditions of Directive 2006/42/EEC and subsequent amendments.

Bologna, 10-01-2013

The Managing Director
A. Marcellan



1 DESCRIPTION



Fig.1

The KP-CONTROLLER is used to select the operating modes, adjust and program the Series 950 automatic doors. It is divided into two parts: a fixed part for selecting the operating mode using buttons and corresponding LEDs (Fig. 2 ref. ①), and a removable part with LCD and selection keys for accessing complete programming (Fig.2 ref. ③). The KP-CONTROLLER display can be used as a temporary programming unit by setting ON the parameter "Maintain settings" in the ADVANCED MENU: once all programming and adjustments have been made, the KP-CONTROLLER can be removed completely as all the settings are stored on the 950 MPS board.

If the KP-CONTROLLER is installed without a display, a cover is installed in its place (Fig. 2 ref. ②).

The KP-CONTROLLER can be inhibited using a key combination (see the special LOCK function) or a switch to create an internal jumper (Fig. 2 ref. LOCK).

2 INSTALLATION

Refer to Fig. 2 for the installation exploded view. There are two openings for running the connection cable.

3 CONNECTIONS

The KP-CONTROLLER must be connected to the 950 I/O board using a 2 x 0.5 mm² max 50 m cable (Fig. 2). If the two LOCK terminals are connected to each other, as shown in Fig. 2, all programmer keys are inhibited.

4 DIAGNOSTICS

The KP-CONTROLLER (even without display) features a diagnostic function which, in case of fault, interrupts every 2 sec. normal visualisation of the operating mode and signals for 1 sec. the fault condition through a combination of flashing LEDs. Refer to the table in figure 3 for the LED combinations and consequently the type of fault. Should more than one fault occur simultaneously, the code of the first one detected will be visualised.

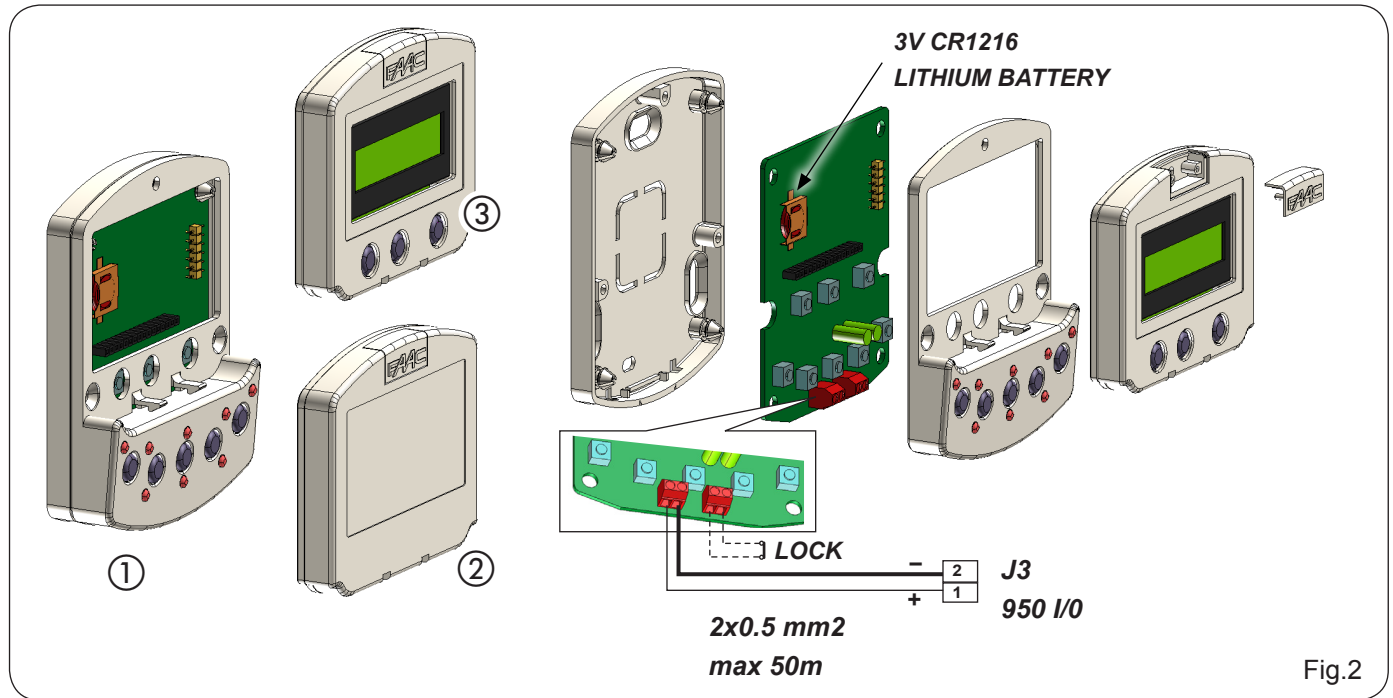


Fig.2

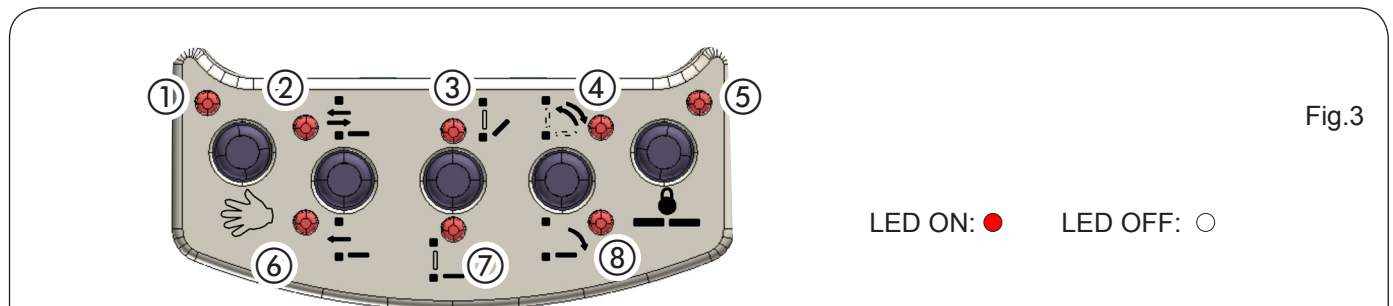


Fig.3

FAULT NUMBER	MEANING	LED STATUS:							
		①	②	③	④	⑤	⑥	⑦	⑧
3	Attempt to force door open in progress	○	○	●	○	○	○	●	○
7	Emergency input active	○	○	●	●	○	○	●	○
8	Obstacle when opening detected three consecutive times. Reset required	○	○	○	○	○	○	○	●
9	Obstacle when closing detected three consecutive times. Reset required	○	○	○	○	○	○	●	●
10	Electric lock locked closed	○	○	●	○	○	○	○	●
12	No 24V= accessories power	○	○	○	●	○	○	○	●
13	failsafe test failed on closing	○	○	○	●	○	○	●	●
14	failsafe test failed on opening	○	○	●	●	○	○	○	●
15	Set-up prevented	○	○	●	●	○	○	●	●
18	Leaf stroke too long	○	●	●	○	○	○	○	○
20	Leaf stroke insufficient	○	●	○	●	○	○	○	○
22	Leaf too heavy	○	●	●	●	○	○	○	○
24	Motor failure	○	●	○	○	○	○	○	●
26	950 MPS board failure	○	●	●	○	○	○	○	●
28	Set-up cycle requested	○	●	○	●	○	○	○	●
29	Encoder failure	○	●	○	●	○	○	●	●
30	Motor drive on 950 MPS board failure	○	●	●	●	○	○	○	●
31	EEPROM failure	○	●	●	●	○	○	●	●
32	Master and slave communication error	○	○	○	○	○	●	○	○
	KP controller and 950 I/O board communication error	●	●	●	●	●	●	●	●

5 OPERATING MODES

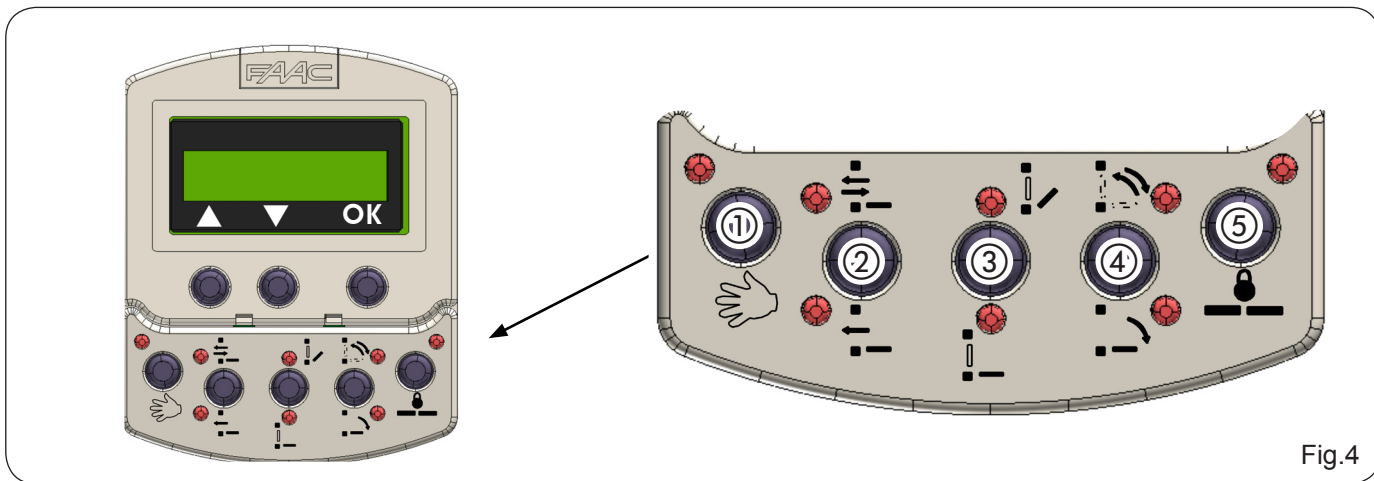










Fig.4

ENGLISH

BUTTON NUMBER	MODE	LOGO	FUNCTION
①	MANUAL		The door is free and can be operated manually
②	TWO-WAY		Pedestrian passage is permitted in both directions; the internal and external radars are enabled.
	ONE-WAY		Pedestrian passage is permitted in only one direction; the external radar is disabled.
③	PARTIAL OPENING		The door opens at reduced capacity (standard 80%). 60% - 90% adjustment of the total stroke.
	TOTAL OPENING		The door opens completely.
④	AUTOMATIC		The door opens (partially or completely) then closes after a set pause time.
	DOOR OPEN		The door opens and stays open, with the motor powered.
⑤	NIGHT		The door closes. The internal and external radars are disabled. The key control (Key) causes opening and closing after the night pause time (standard 7 sec.). For partial opening in this mode, before selecting "Night" mode, activate "Partial opening" mode.

6 SPECIAL FUNCTIONS

6.1 SET UP

Set-up is the door initialisation function during which parameter self-learning is performed. It is activated by simultaneously pressing ① and ⑤ for 5 sec., until all the LEDs go on.

6.2 RESET

Reset restores normal operating conditions following some types of faults. It is activated by simultaneously by pressing ② and ③, until the KP controller goes off.

6.3 KP CONTROLLER LOCK (LOCK)

When activated, the Lock function inhibits operation of the KP-CONTROLLER. It is activated by simultaneously by pressing ③ and ④ for 5 sec.

7 PROGRAMMING

To enter programming mode, when the monitor is displaying the day-date-time, press either ▲ or ▼ . Programming is divided into main menus (see Diagram 1) arranged by subject.

Once the menu has been selected using ▲ or ▼ , press **OK** to access it. Each menu is divided into various level sub-menus for setting parameters.

Use the ▲ or ▼ keys to select the submenu or parameter and **OK** to confirm. An asterisk on the display indicates the currently active setting.

To exit programming, select "exit" at each level; as an alternative, after approximately 2 minutes the display will automatically return to standard visualisation.

Following are the flow charts and notes describing the various menus and programming options.

Diagram 1: Main programming menu

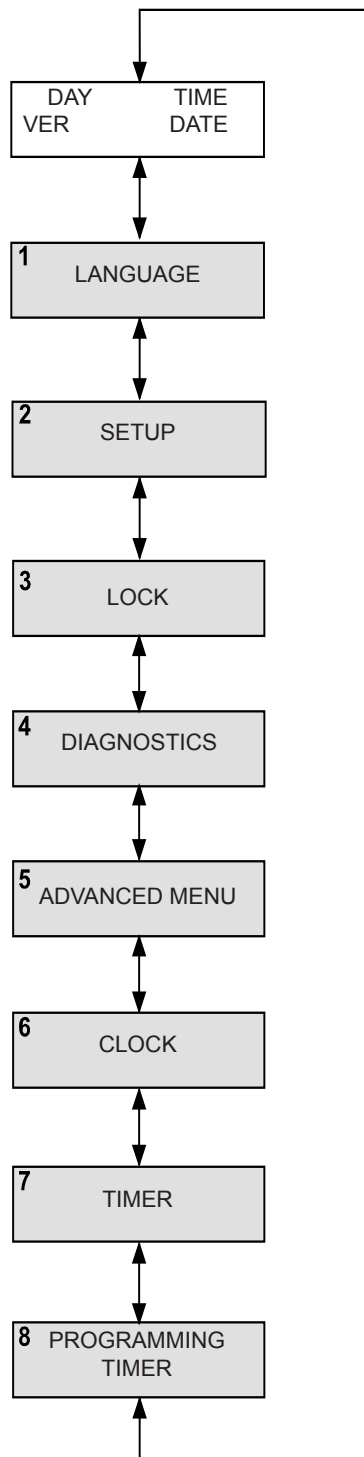
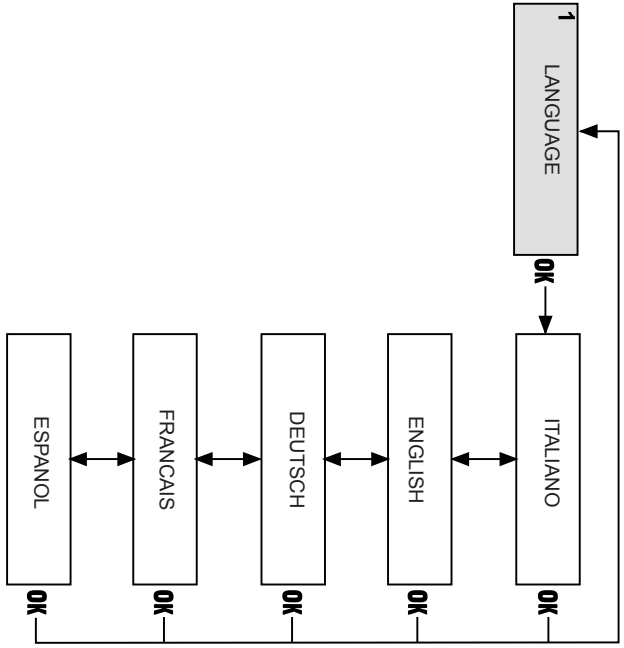


Diagram 2: Language selection



 The language choice can vary depending on the programming country.

Diagram 3: Setup

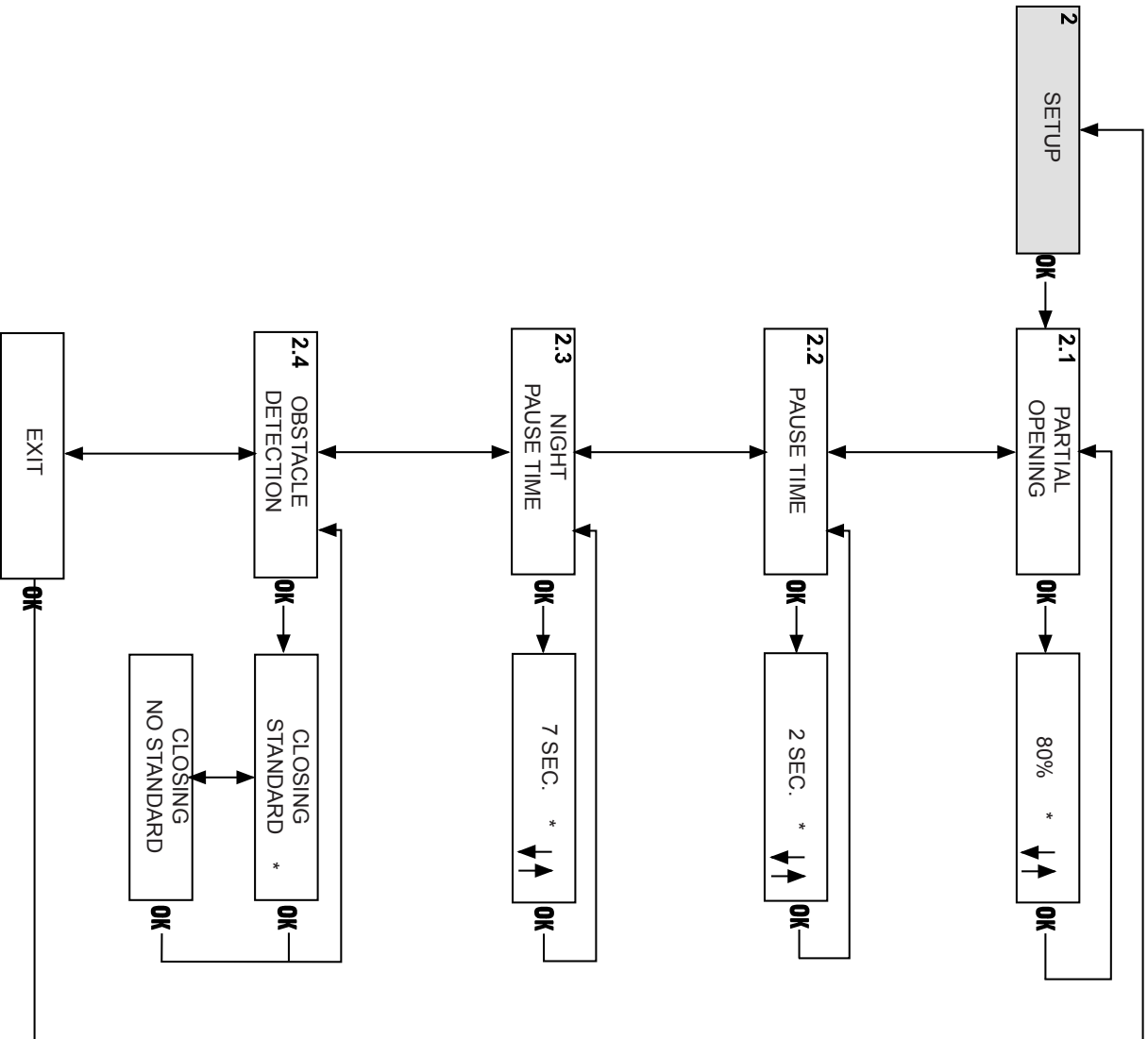


Diagram 4: Lock

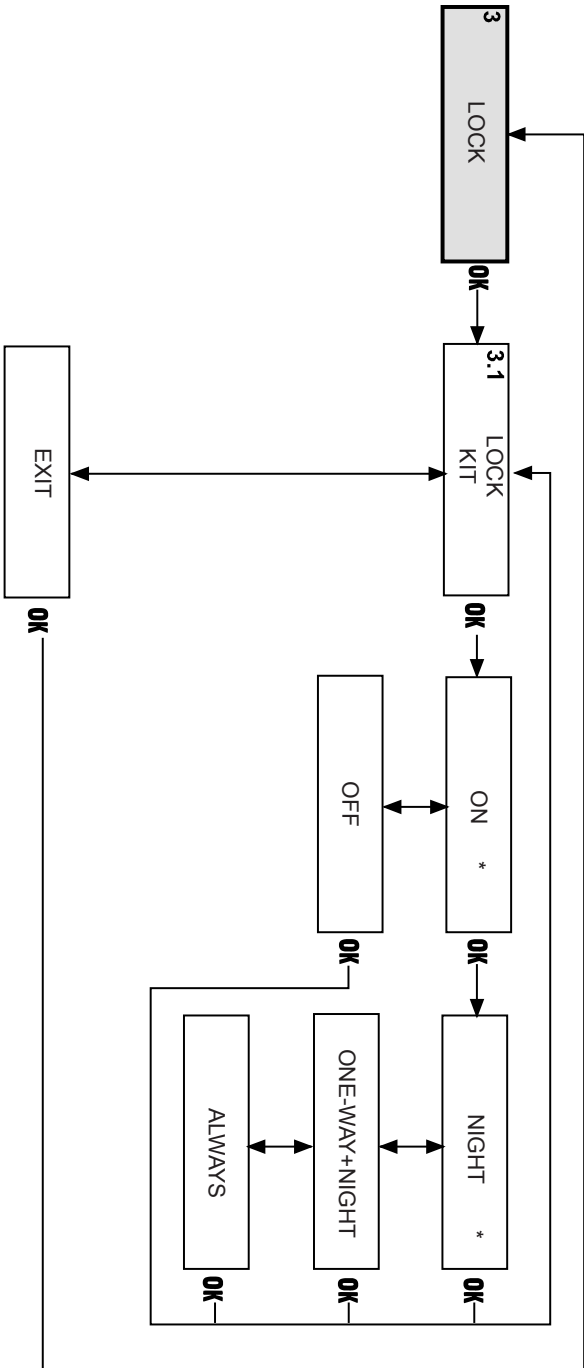


Diagram 5: Diagnostics

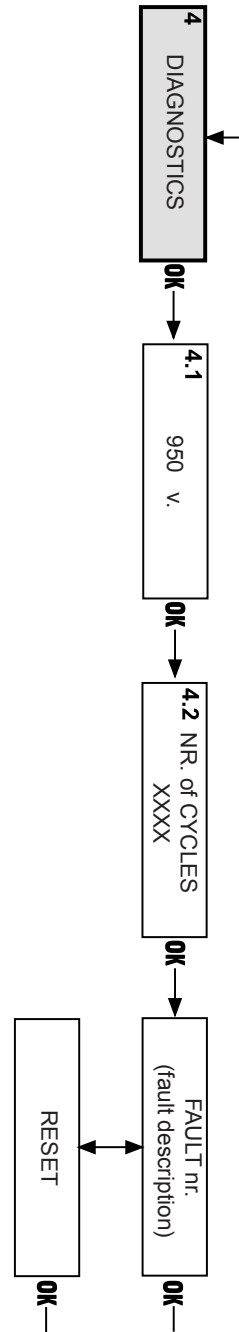


Diagram 6: Motion parameters

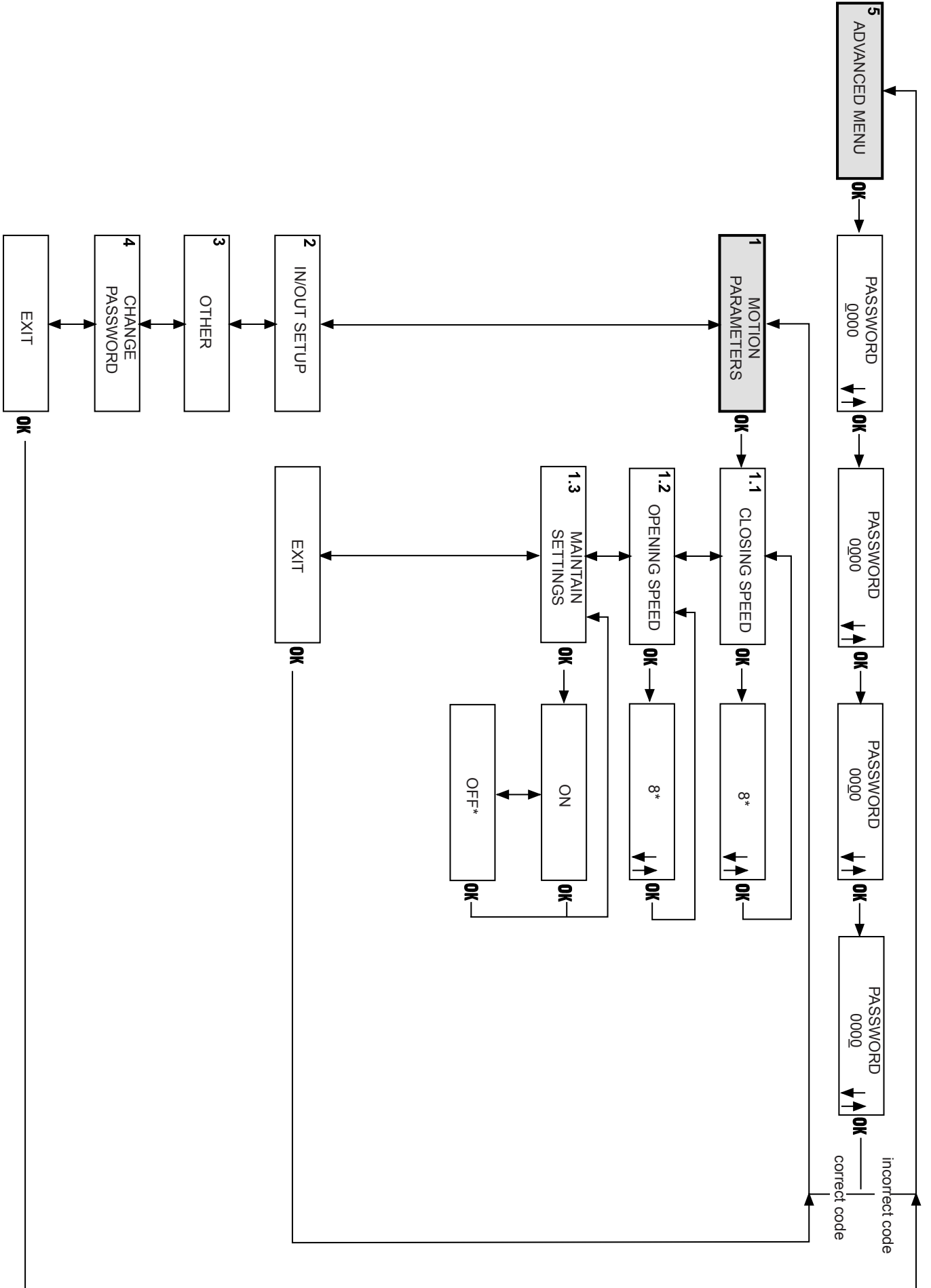


Diagram 7: In/Out Setup

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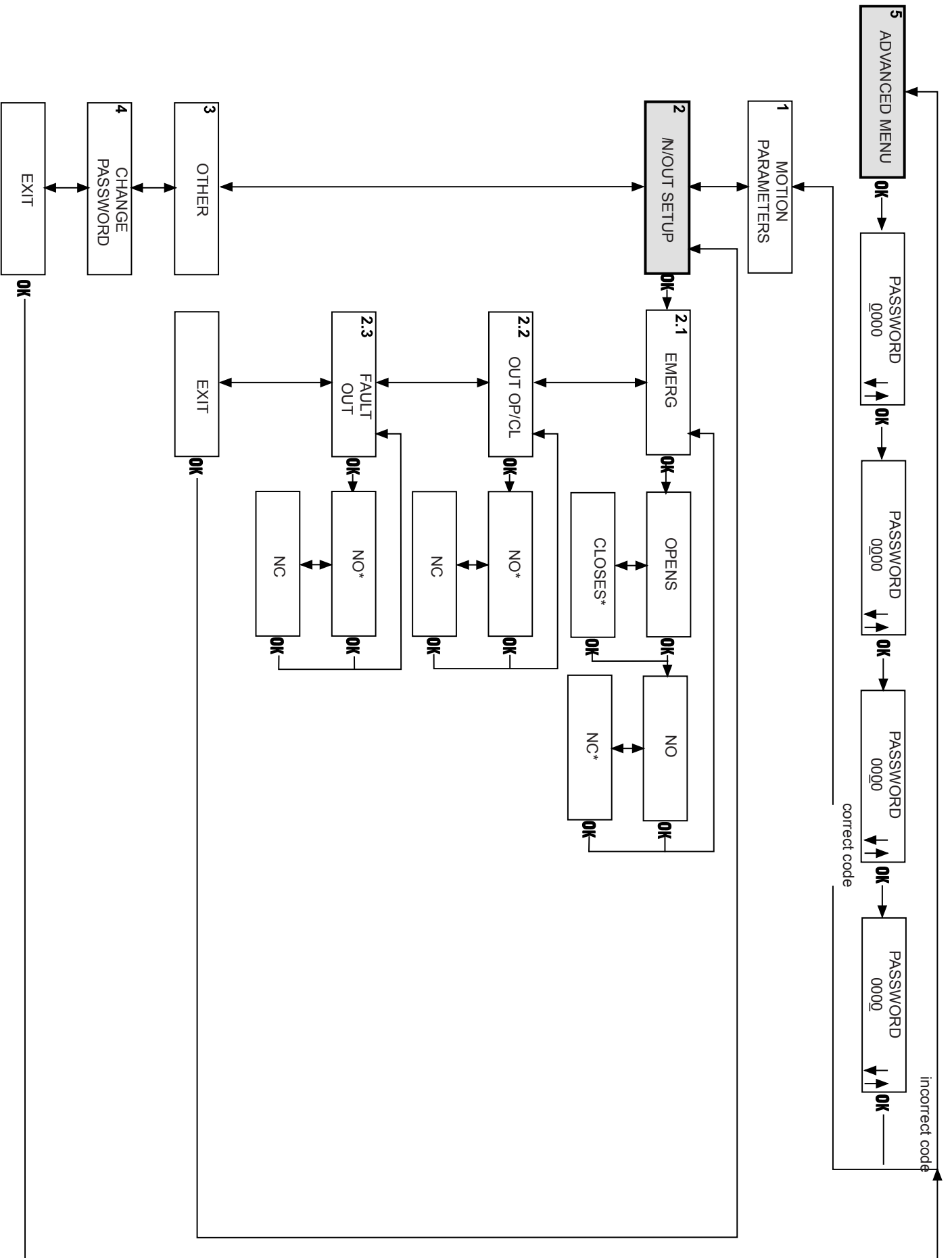


Diagram 8: Other, Change password, Prog test

ENGLISH

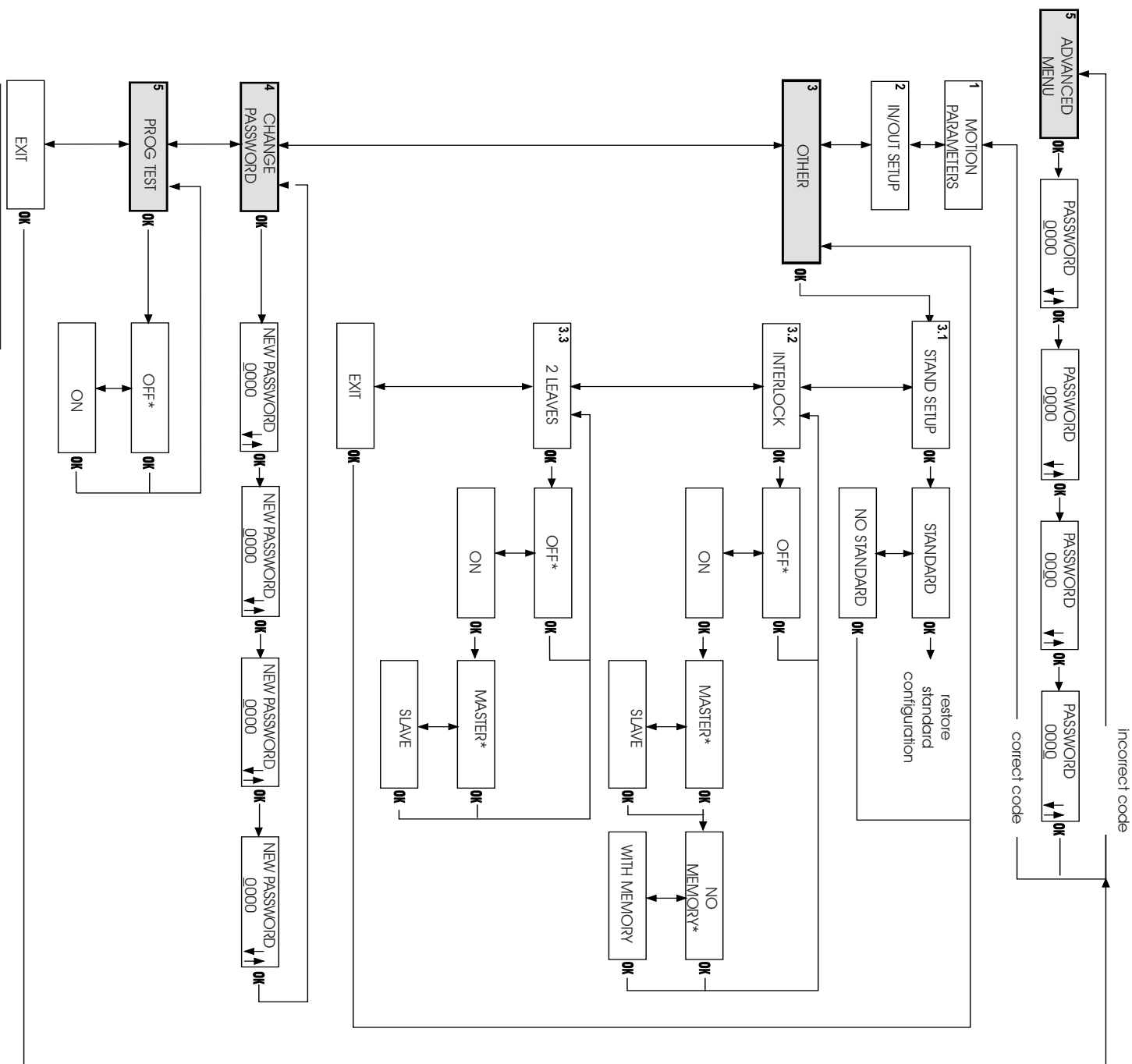


Diagram 9: Clock

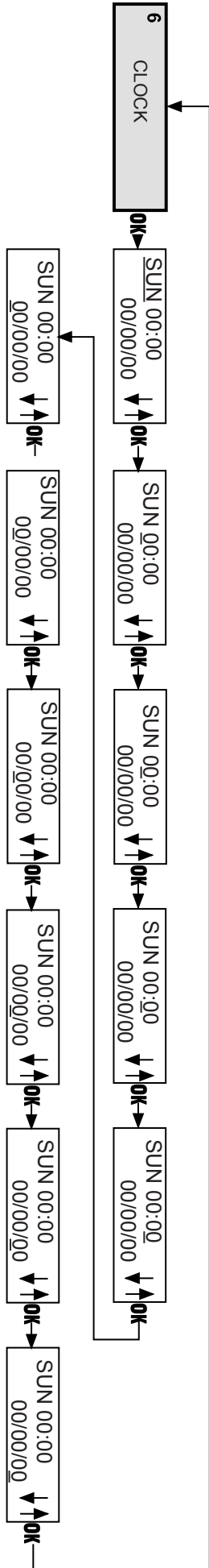


Diagram 10: Timer

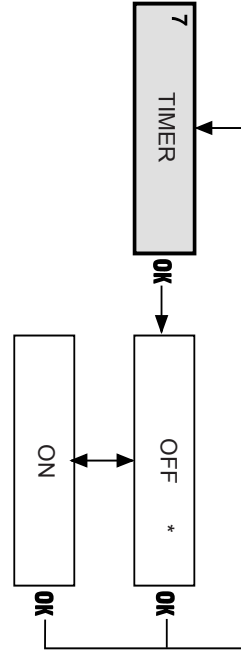
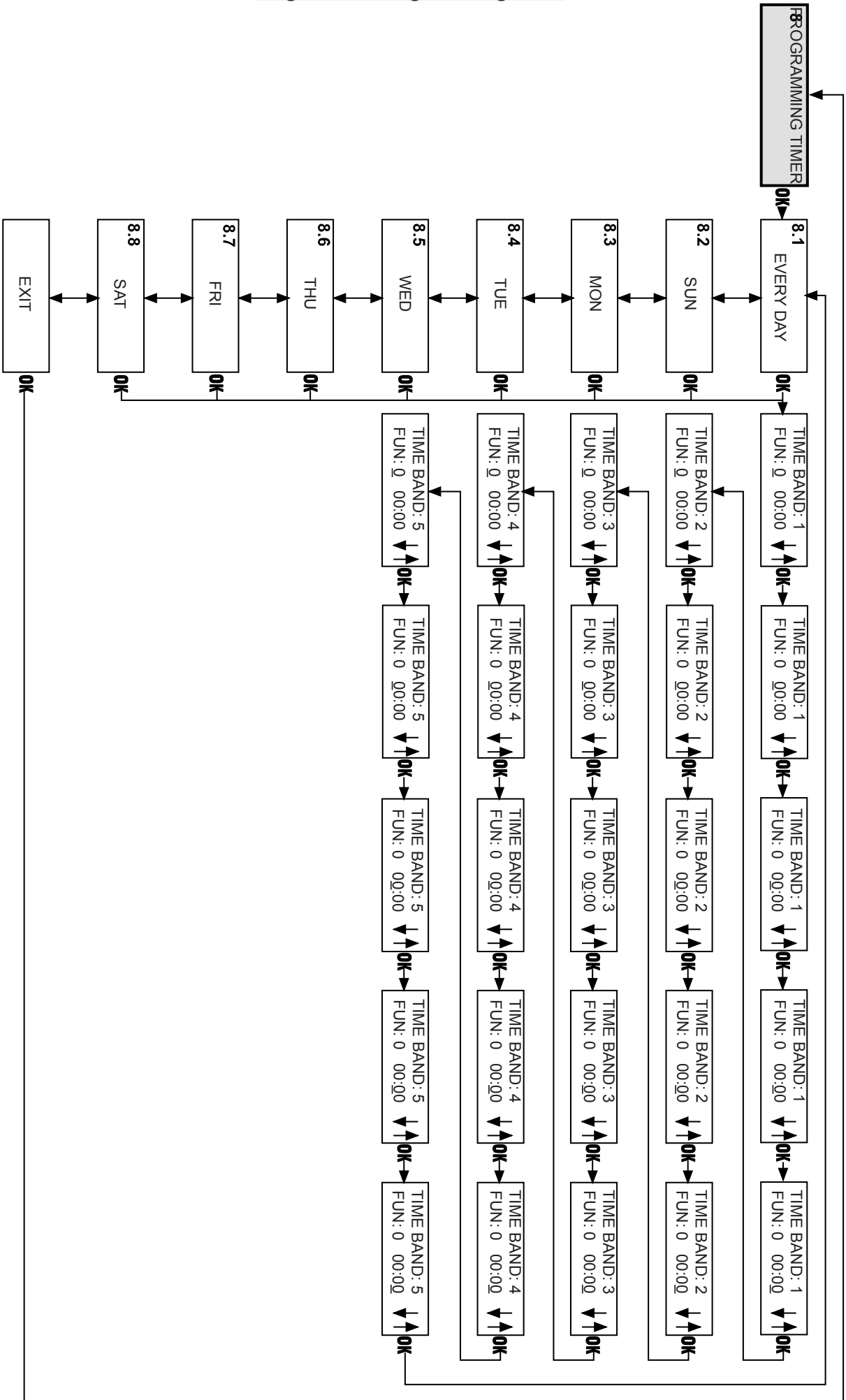


Diagram 11: Programming timer



7.1 DIAGRAM DESCRIPTION

- **1 LANGUAGE (Diagram 2)**

Selects the language in which the messages are displayed.

- **2 SETUP (Diagram 3) -**

- **2.1 PARTIAL OPENING**

Partial opening percentage

Selects the opening percentage (with reference to total opening) obtained when in "Partial Opening" mode.
Standard value: 80%

Adjustment: from 60% to 100%

- **2.2 PAUSE TIME**

Pause time value

Sets the pause time in automatic operating modes.
Standard value: 2 sec.

Adjustment: from 0 to 30 sec.

- **2.3 NIGHT PAUSE TIME**

Night pause time value

Sets the pause time in "night" operating mode.
Standard value: 7 sec.

Adjustment: from 0 to 30 sec.

- **2.4 OBSTACLE DETECTION**

Determines the behaviour of the automated system in case of repeated obstacle detection during the same operation.
Standard: The automated system attempts to complete the operation.

No Standard: Following the detection of an obstacle for three consecutive times, the automated system stops. Once the obstacle has been removed, the door must be closed manually to restore normal operation

- **3 LOCK (Diagram 4)**

- **3.1 LOCK KIT**

On: Lock installed

Night: The electric lock locks the door only in "Night" mode.

One-Way+Night: The electric lock locks the door in "Night" and "One-way" mode.

Always: The electric lock locks the door every time it closes, regardless of the set operating mode.

Off: Lock not installed.

- **4 DIAGNOSTICS (Diagram 5)**

- **4.1 950**

Shows the port hardware model and the software version of the 950 MPS and 950 I/O boards to which the KP-CONTROLLER is connected.

- **4.2 Nr. of CYCLES**

Shows the count (not resettable) of the cycles performed by the automated system.

- **4.3 FAULT Nr.**

Shows the number and description of the fault in progress. Refer to figure 3 for fault codes and descriptions.

- **RESET**

Performs the reset procedure and, if the cause of the previously signalled fault has been eliminated, it restores normal operation.

- **5 ADVANCED MENU**

- **PASSWORD**

To access the advanced menu, the 4-digit password is required (default 0000).

- **1 MOTION PARAMETERS (Diagram 6)**

- **1.1 CLOSING SPEED**

Sets the door speed during closing.

Standard value: level 8

Adjustment: from 0 to 10

- **1.2 OPENING SPEED**

Sets the door speed during opening.

Standard value: level 8

Adjustment: from 0 to 10

- **1.3 MAINTAIN SETTINGS**

On: The automated system maintains the operating parameters set using the KP-CONTROLLER even if the latter is disconnected

Off: If the KP-CONTROLLER is disconnected, the opening and closing speed and the pause time must be set using the trimmers.

- **2 IN/OUT SETUP (Diagram 7)**

- **2.1 EMERG**

Sets the effect of the emergency command (Emerg input on the 950 I/O board).

Standard setting: Opens/NC

Opens: Activating the command opens the door.

Closes: Activating the command closes the door.

No: Normally open input.

Nc: Normally closed input.

- **2.2 OUT OP/CL**

Sets operation of the **Open** and **Closed** status outputs of the 950 I/O board.

Standard setting: N.O.

Nc: Normally closed output.

No: Normally open output

- **2.3 FAULT OUT**

Sets operation of the **Fault** status outputs of the 950 I/O board.

Standard setting: N.O.

No: Normally open output.

Nc: Normally closed output.

- **3 OTHER (Diagram 8)**

- **3.1 STANDARD SET UP**

Makes it possible to verify if any non-standard programming has been performed.

Standard: If no standard programming function has been modified, an asterisk will be displayed. If the asterisk is not displayed, press "OK" to restore all the standard programming settings.

No Standard: If at least one standard programming function has been modified, an asterisk will be displayed.

- **3.2 INTERLOCK**

The interlock function makes it possible to manage two doors (master and slave) so that opening of one depends on the closing of the other and vice versa.

Off: Interlock not active

On: Interlock active.

Master: Determines the master door (usually the inside one).

Slave: Determines the slave door.

No Memory: Using interlock, it is necessary to wait for one door to close before commanding opening of the other: open pulses sent during the operating cycle of the first door will have no effect.

With Memory: Using interlock, it is not necessary to wait for one door to close before commanding opening of the other: open pulses sent during the operating cycle of the first door will be memorised and the second door will open automatically as soon as the first is closed again.

• **3.3 2-LEAF**

The "2-LEAF" function makes it possible to manage doors consisting of two leaves. The two automated systems (master and slave) manage movement of the door in a synchronous way. The **Master** function must be associated to the door that is the first to begin opening movement.

Off: "2-LEAF" function not active.

On: Activates the "2-LEAF" function.

Master: Determines the master door (should the leaves feature an overlap, that must always be the door that begins moving first).

Slave: Determines the slave door.

• **4 CHANGE PASSWORD**

Sets the new password (4 digits) for accessing the advanced menu. Default 0000.

• **5 PROG TEST**

Performs a functional test of the automated system. If a fault is detected, the automated system will stop and the KP-CONTROLLER signals the detected fault status.

Off: Test not active.

On: Activates test.

• **6 CLOCK (Diagram 9)**

Set the current day, time and date.

• **7 TIMER (Diagram 10)**

Off: Timer not activated.

On: Timer activated: the operation time bands set in "8 - Programming Timer" are enabled. When the timer is active, a "T" appears beside the time displayed and the KP-CONTROLLER will not allow operation selection.

The internal battery of the KP-CONTROLLER keeps the clock running even if there is no power. If the time is lost (e.g. black-out or discharged battery) a flashing asterisk is displayed in place of the "T", the timer is disabled and the automated system switches automatically to NIGHT mode.

• **8 PROGRAMMING TIMER (Diagram 11)**

Makes it possible to create up to 5 different time bands for each day of the week (setting the band start time) and give each time band an operative function. When the KP-CONTROLLER internal clock reaches the start of a time band, the associated operative function is automatically set and the door stays in that condition until the following time band is triggered. To correctly manage the time bands, a permanent KP-CONTROLLER+Display connection is required.

Selecting the day. Select the day of the week to create the time bands.

By selecting "All", the time bands

chosen afterward will be copied to all the days of the week.

Function Set the operative function to associate with the time band, using the following table as a reference:

FUNCTION	MEANING
0	No function
1	Automatic total two-way
2	Automatic total one-way
3	Automatic partial two-way
4	Automatic partial one-way
5	Door open completely
6	Door open partially
7	Manual
8	Night

Time band start

Set the time band activation time. The time frames do not need to be in chronological order.

- Example of Programming -

You want to program a door to open

• MONDAY to FRIDAY:

- from 08:00 in AUTOMATIC TWO-WAY TOTAL mode

- from 18:00 in AUTOMATIC ONE-WAY TOTAL mode:

- from 19:00 in NIGHT mode

• SATURDAY and SUNDAY: NIGHT mode all day

Proceed as follows:

1) Select ALL and set:

TIME BAND1 : FUNC. 1 08:00

TIME BAND2 : FUNC. 2 18:00

TIME BAND3 : FUNC. 8 19:00

TIME BAND4 : FUNC. 0

TIME BAND5 : FUNC. 0

2) Select SATURDAY and set:

TIME BAND1 : FUNC. 0

TIME BAND2 : FUNC. 0

TIME BAND3 : FUNC. 0

TIME BAND4 : FUNC. 0

TIME BAND5 : FUNC. 0

3) Select SUNDAY and set:

TIME BAND1 : FUNC. 0

TIME BAND2 : FUNC. 0

TIME BAND3 : FUNC. 0

TIME BAND4 : FUNC. 0

TIME BAND5 : FUNC. 0

Note: to correctly use the TIMER function, the KP-CONTROLLER battery must be efficient. In case of electrical power failure, the battery will keep the clock running. Should the battery discharge, the clock will reset and, once electrical power is restored, the KP-CONTROLLER will automatically switch to NIGHT.

On automated systems that remain without electrical power for long periods of time (e.g.: 12 hours out of 24 for 365 days a year) it is advisable to replace the battery at most every 3 years.

8 SPECIAL APPLICATIONS

8.1 APPLICATION WITH TWO INTERLOCKED LEAVES

The interlock function makes it possible to manage two doors (master and slave) so that opening of one depends on the closing of the other and vice versa.

8.1.1 INTERLOCK WITH INTERNAL SENSORS

This application is recommended when the distance between the two doors is enough to prevent interference in the detection fields of the two internal sensors

- Connect the 950I/O equipment of the two automated systems and sensors as shown in fig.5.
- Programme the following functions (see advanced prog.):
- "interlock" active on both doors - select "MASTER" on the inner door and "SLAVE" on the outer one
- for both doors select "interlock no memory" or "interlock with memory".

Important:

- The sensors must be connected only to the board Key input;
- The interlock works only if both doors are set to NIGHT or ONE-WAY mode.

The interlock operating phases are as follows:

- 1) The person standing outside activates sensor S1 of door 1;
- 2) Door 1 opens;
- 3) The person enters the space between the two doors;
- 4) Door 1 closes after the night pause time;
- 5) The person activates sensor S3 of door 2 (If "interlock with memory" is selected, it is not necessary to wait for the door to be closed completely to activate the sensor on the second one);
- 6) Door 2 opens;
- 7) The person exits;
- 8) Door 2 closes after the night pause time.

Operation is similar when coming from the opposite direction.

8.1.2 INTERLOCK WITHOUT INTERNAL SENSORS (buttons)

This application is recommended when the reduced distance between the two doors does not allow the use of two internal sensors; outside activation of the doors requires the installation of two buttons; not designed for use with presence sensors.

•Connect the 950I/O boards of the two automated systems, buttons and additional electronic components, as shown in fig. 6.

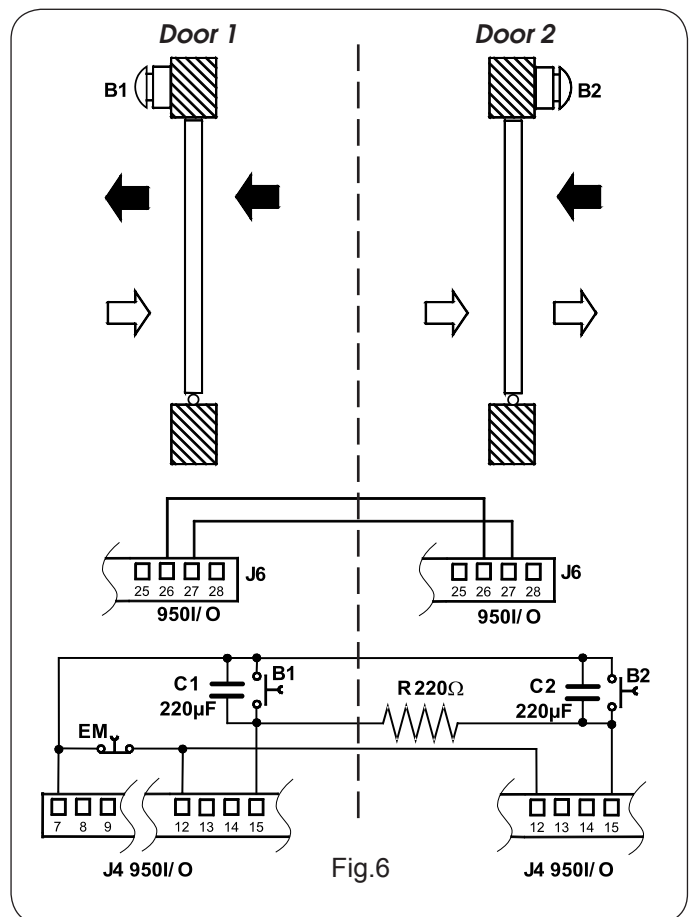
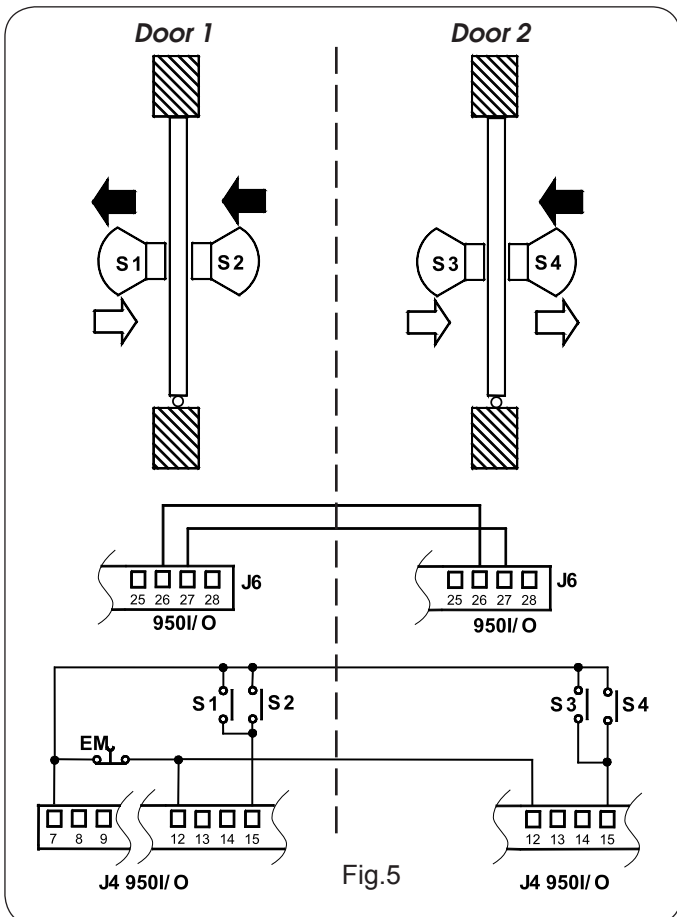
- Programme the following functions (see advanced prog.):
- "interlock" active on both doors,
- select "MASTER" for the inner door and "SLAVE" for the outer door and for both doors select "interlock with memory".

Important:

- The buttons must be connected only to the board Key input;
- The interlock works only if both doors are set to NIGHT or ONE-WAY mode.

- 1) The person standing outside activates button B1 of door A;
- 2) Door A opens;
- 3) The person enters the space between the two doors;
- 4) Door A closes after the night pause time;
- 5) Door B opens automatically;
- 7) The person exits;
- 8) Door B closes after the night pause time.

Operation is similar when coming from the opposite direction.



8.2 APPLICATION WITH 2-LEAF DOOR (MASTER AND SLAVE)

The 2-LEAF function makes it possible to manage two opposing doors with synchronised movements and set (not modifiable) delay angles.

The leaf controlled by the master automated system (see fig. 7) is the first to start opening and, when it has reached the opening angle set for the leaf delay, the slave will also begin its movement. In the same way, when closing, the master will start moving only when the slave has reached the closing angle set for the leaf delay.

Detection of an obstacle by one of the two automated systems causes immediate reversal of both.

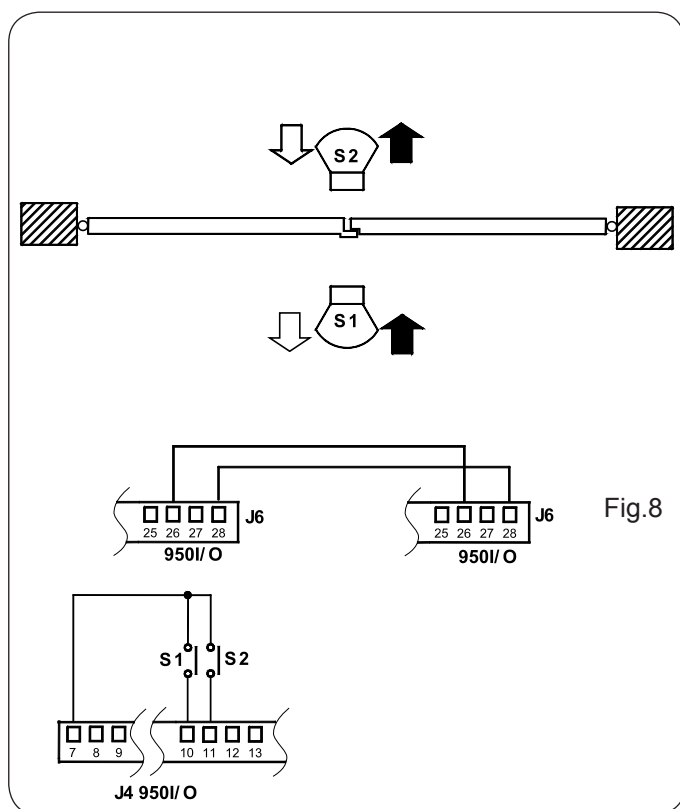
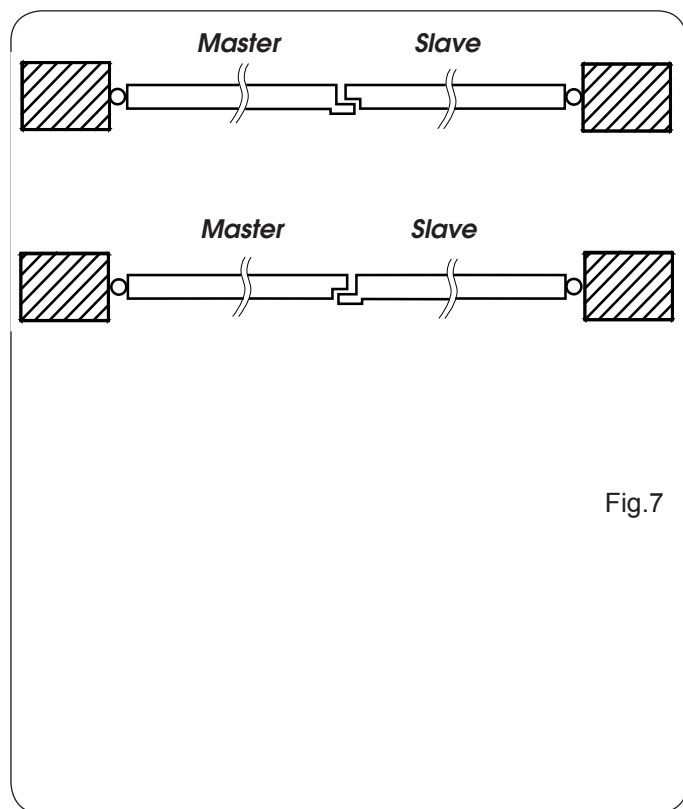
The partial opening function makes it possible to control total opening only of the master.

The operating functions must be set only on the master automated system (or on the KP-Controller connected to it).

1. Connect the 950I/O board of the two automated systems as shown in fig. 8 .
2. Connect all the sensors and pulse transmitters only to the master.
3. Programme the following functions (see advanced prog.):
 - “2-Leaf” active on both doors;
 - select “MASTER” for the door that must start the opening movement first and “SLAVE” for the other;
 - set the same motion parameters on both automated systems;
 - if you wish to disconnect the KP-Controller from the slave door, the function “MAINTAIN SETTINGS” must be set to ON;

NOTE: the set-up must be carried out independently

ENGLISH



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