124RR

Control board 24V for gate automation operating
Instructions and warnings

ENGLISH

INDEX

OVERVIEW 12
1 PRODUCT CONFORMITY 12
2 WARNINGS 12
3 MODELS AND CONTENTS OF THE PACKAGE 13
4 PRODUCT DESCRIPTION 13
5 TECHNICAL DATA 14
6 OPERATING CONDITIONS 14
7 ASSEMBLY AND WIRING INSTRUCTIONS 14
8 USE INSTRUCTIONS 15
8.1 Visualization of inputs status 15
8.2 Set-up and memorization of the motor stroke 16
8.3 Built-in radio receiver 16
8.4 Personalization of working parameters 18
8.5 Reset of default parameters (p.007) 18
8.6 Safety devices 18
8.7 Messages shown on the display 19
9 MAINTENANCE 20
10 PRODUCT DISPOSAL 20
11 COMPLETE CLOSING ASSEMBLY 20

OVERVIEW

These instructions were prepared by the manufacturer and are an integral part of the product. The operations described are designed for adequately trained and qualified personnel and must be carefully read and kept for future reference.

1 PRODUCT CONFORMITY

The 124RR programmable control board bears the EC label. DEA SYSTEM guarantees the conformity of the product to European Directives 89/336/CE and subsequent amendments (concerning electromagnetic compatibility), 73/23/CE and subsequent amendments (low voltage electrical equipment)

2 WARNINGS

Read these warnings carefully. Failure to respect the following warnings may cause risk situations.

⚠ WARNING DEA System reminds all users that the selection, positioning and installation of all materials and devices which make up the complete automation system, must comply with the European Directives 98/37/CE (Machinery Directive), 89/336/CE and subsequent amendments (electromagnetic compatibility), 73/23/CE and subsequent amendments (low voltage electrical equipment). In order to ensure a suitable level of safety, besides complying with local regulations, it is advisable to comply also with the above mentioned Directives in all non-European countries. A1

⚠ WARNING Using the product under unusual conditions not foreseen by the manufacturer may cause dangerous situations; this is the reason why all the conditions prescribed in these instructions must be followed. A2

⚠ WARNING Under no circumstance must the product be used in an explosive environment or surroundings that may prove corrosive and damage parts of the product. A3

⚠ WARNING To ensure an appropriate level of electrical safety always keep the 230V cables (power supply) apart from low voltage cables (motors power supply, controls, aerial and auxiliary circuits power supply), and fasten the latter with appropriate clamps near the terminal boards. A4

⚠ WARNING Any installation, maintenance or repair operation on the whole system must be carried out exclusively by qualified personnel. All these operations must be performed only after disconnecting the power supply, and operating in strict compliance with the electrical standards and regulations in force in the nation of installation. A5

⚠ WARNING Install and wire the control board according to the instructions given in the instruction booklet of each gate operator DEA System (such as hole drilling to allow for wires passage, use of wire clamps, etc.) Failure to comply with these instructions may jeopardize the level of electrical safety. A6

⚠ WARNING During motor stroke memorization, the control board detects automatically the presence and type of photocells, safety devices and limit switches which are installed. It is therefore essential that during this phase the latter be properly connected and working. A7

⚠ WARNING Wrong assessment of impact forces may cause serious damage to people, animal and things. DEA System reminds all personnel that the installer must ascertain that these impact forces, measured according to EN 12245 prescriptions, are actually below the limits indicated by EN12453 regulation. A8

⚠ WARNING Any external safety device installed in order to conform to the limits set for impact forces must comply with EN12978. A9

⚠ WARNING Using spare parts not indicated by DEA System and/or incorrect re-assembly may endanger people, animals and property, and may also cause malfunctioning of the product: always use parts provided by DEA System and follow assembly instructions. A10

⚠ WARNING Disposal of packaging materials (such as plastic, card board, etc.) must be done according to regulations in force locally. Do not leave plastic bags and polystyrene within the reach of children A11

3 MODELS AND CONTENTS OF THE PACKAGE

The control board 124RR is available with DEA System gate operators for overhead doors, sliding gates as well as barriers, or individually as spare part for the above mentioned gate operators.

4 PRODUCT DESCRIPTION

124RR control board is designed for the automation of DEA System gates operators in 24 V d.c., and therefore it is fit for overhead doors, sliding gates and barriers. It is extremely versatile, easy to install and fully complies with European regulations concerning electromagnetic compatibility and electric safety
Main features of the product:

1. setting all parameters by 3 keys and a 4-digit display;
2. possibility of fine tuning of motor speed both during its complete stroke and during the last phase of it (slow-down). It keeps motor torque even at very low speed;
3. possibility to set at will the slow-down duration;
4. Internal anti-crash safety device whose sensitivity can be adjusted (according to a 70-level scale) separately in both operating directions;
5. inputs to connect both normal and powered external safety devices (mechanical ribs or photocell barriers), with the possibility to run a self-test before each operation. Controlled photocells;
6. built-in 433,92MHz radio receiver for both HCS and HT12E coding offering the possibility to search and delete each transmitter separately

⚠ WARNING DEA System reminds all users that the selection, positioning and installation of all materials and devices which make up the complete automation system, must comply with the European Directives 98/37/CE (Machinery Directive), 89/336/CE and subsequent amendments (electromagnetic compatibility), 73/23/CE and subsequent amendments (low voltage electrical equipment). In order to ensure a suitable level of safety, besides complying with local regulations, it is advisable to comply also with the above mentioned Directives in all non-European countries. A1

5 TECHNICAL DATA

Power supply .....230 V a.c. +/- 10% 50Hz
Flashing light output .....24 V d.c. max 15W art. Lumy 24S
Auxiliary power supply output (+24VAUX) .....24 V d.c. (max 200mA)
Safety devices power supply output (+24VSIC) ...24 V d.c. (max 200mA)
LC/SCA contact capacity LC/SCA .....max 5A
Max motor capacity .....70W max
Fuse F1 .....T1A 250V (retarded)
Fuse F2 .....T10A 250V (retarded)
Radio receiver frequency .....433,92 MHz rolling code / dipswitch coding
Max. number of transmitter controlled.....100

6 OPERATING CONDITIONS

124RR control board is designed for the automation of DEA System gates operators in 24V a.c., and therefore it is fit for overhead doors, sliding gates and barriers.

This control board is designed and tested for operation under "normal" conditions for both residential and industrial use. The level of protection against dust and water and other data are illustrated in the instructions booklet of each gate operator DEA System, equipped with the 124RR control board.

⚠ WARNING Using the product under unusual conditions not foreseen by the manufacturer may cause dangerous situations; this is the reason why all the conditions prescribed in these instructions must be followed. A2

⚠ WARNING Under no circumstance must the product be used in an explosive environment or surroundings that may prove corrosive and damage parts of the product. A3

7 ASSEMBLY AND WIRING INSTRUCTIONS

⚠ WARNING To ensure an appropriate level of electrical safety always keep the 230V cables (power supply) apart from low voltage cables (motors power supply, controls, aerial and auxiliary circuits power supply), and fasten the latter with appropriate clamps near the terminal boards.

⚠ WARNING Any installation, maintenance or repair operation on the whole system must be carried out exclusively by qualified personnel. All these operations must be performed only after disconnecting the power supply, and operating in strict compliance with the electrical standards and regulations in force in the nation of installation. A5

⚠ WARNING Install and wire the control board according to the instructions given in the instruction booklet of each gate operator DEA System (such as hole drilling to allow for wires passage, use of wire clamps, etc.) Failure to comply with these instructions may jeopardize the level of electrical safety. A6

Connect to the power supply 230 V a.c. ± 10% 50 Hz through a multi pole switch or a different device that can ensure multi pole disconnection from the power supply, with a contact opening of 3 mm. Use a cable with a minimum section of 3 x 1,5 mm² (e.g. a H07RN-F type).

Make all connections to the terminal board and remember to short-circuit, whenever necessary, all unused inputs. (See table 1 terminal board connection and Fig. 1 wiring diagram)

Table 1 Terminal board connection

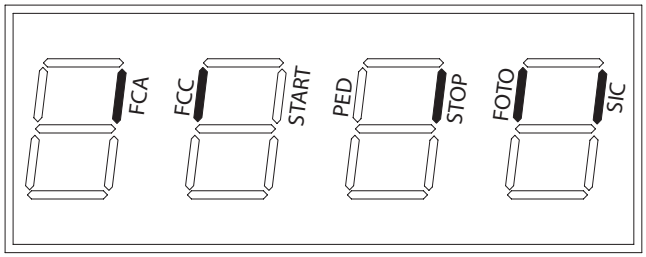
1-2 24 V a.c.	24 V a.c. transformer power supply input
3-4 24 V Batt	24 V d.c. battery power supply input (Follow carefully polarity indications)
5-6 LC/SCA	Free contact max. capacity 5 A : this contact can be used to control an open gate warning light (P27=0) or a courtesy lamp (P27≠0)
7-8 LAMP	Flashing light output 24 V d.c. max 15W art. Lumy 24S The intermittent output does not demand the use of a flashing light card.
9 COM	Common safety devices
9-10 +24VAUX	+24 V d.c. power supply output for controlled safety devices. To be used as power supply of photocell transmitters (in all cases) and of safety devices when testing these latter before each operation
9-11 +24VSIC	+24 V d.c. power supply output for auxiliary circuits and uncontrolled safety devices To be used as power supply of any auxiliary devices, photocell receivers (in all cases), and of safety devices when testing these latter before each operation
12-13 M	Motor output 24 V d.c. max 70W
14 FCA	N.C. input limit switch while opening. If unused, short circuit to terminal n° 21
15 FCC	N.C. input limit switch while closing. If unused, short circuit to terminal n° 21
16 START	N.O. open input. If activated, it opens or closes both motors. It can work in "reversal" mode (P25=0) or "step-by-step" mode (P25=1)
17 PEDON	N.O. pedestrian opening input. If activated, it opens the motor
18 STOP	N.C. stop input. If activated, it stops the movement of both motors during any operation. If unused, short circuit to terminal n° 21
19 FOTOC	N.C. Photocell input. In case of activation it reverses the movement only while closing (P26=0) or it reverses the movement while closing and stops while opening (P26=1). If unused, short circuit to the terminal n°21
20 SIC	N.C. leaf safety device input. In case of activation it reverses the movement (P18=0) or it stops it (P18=1). If unused, short circuit to the terminal n°21
21 COM	Common inputs
22 ⏚	Aerial ground input
23	Aerial signal input

8 USE INSTRUCTIONS

Press on the "OK" key to check if all inputs have been properly connected.

After making all connections to the terminal board, remember to short-circuit, whenever needed, any unused input (see "connection to the control board") and power the card: on the display you will read for a few seconds "rES-" followed by the symbol "----" which stands for gate closed.

8.1 Visualisation of inputs status



By pressing on the "OK" key when the control board awaits further instructions ("----"), the display shows some vertical segments: each one of them is associated to one of the control board inputs (see the picture above). When the segment is lighted it means that the contact associated to it is closed, on the contrary, when it is switched off the contact is open. You can now position the door/gate in its position of max. opening. In order to do this:

8.2 Setup and memorization of motor stroke

⚠ WARNING During motors stroke memorisation, the control board detects automatically the presence and type of photocells, safety devices and limit switches which are installed. It is therefore essential that during this phase the latter be properly connected and working. A7

Instructions	*Function*	*Display*
	The control board is ready to receive instructions	----
	Door/gate positioning	
⊞/⊟	Scroll down the parameters until you visualize procedure P001	P001
OK	Confirm! The control board is ready for the positioning of the door/gate	0P01
⊞/⊟	Position the door/gate in its standstill position while opening [1]	
OK	Confirm! The control board has memorized the door/gate position	P001
	Motors stroke memorization	
⊞/⊟	Scroll down the parameters until you visualize procedure P003	P003
OK	Confirm! The control board awaits a further confirmation	APPr
OK ↓	Confirm by pressing on the OK key for a few seconds! The procedure starts	APPr
↑	Now the door/gate starts to close in the slow down phase until it reaches the stroke end while closing (or the limit switch).	
	On the display you will read "P003". Motor stroke memorization done!	P003
⊞/⊟	Scroll down the parameters until "----". The control board awaits further instructions	----

[1] *By pressing on the ⊞ key the door/gate must open, by pressing on the ⊟ key the door/gate must close. If this does not happen, you must swap the two motor cables (terminals 7 and 9) Only if you use limit switches, first position the door/gate where you want it to stop in closing and then adjust the closing cam so that it presses on the limit switch associated to it in that point. Then position the door/gate in the opening position and adjust the opening cam so that it presses on the limit switch associated to it in that point.*

8.3 Built-in radio receiver

DEA 124RR control board includes a 433,92MHz built-in radio receiver accepting both transmitters with HCS coding (complete rolling code or just fixed part), and HT12E dip-switch coding.

- The type of coding is selected by programming the working parameter n° 8 "type of coding" (see Table 2 Parameters)
- The receiver memory capacity can contain up to 100 different transmitters.
- When receiving a pulse from the transmitter, depending on your channel selection and linking, the start or the pedestrian inputs are activated. In fact, by programming one of the working parameters it is possible to choose, according to one's needs, which key of the memorized transmitters will activate the start input and which one will activate the pedestrian input (see "4. Channel selection and linking on the transmitter").
- While you memorize each transmitter the display shows a progressive number by which you will be able to trace and, if necessary, delete each transmitter individually

Instructions	*Function*	*Display*
	The control board is ready to receive instructions	----
	Deletion of all transmitters	
+ / −	Scroll down the parameters until you visualize P004	P004
OK	Confirm! The control board awaits a further confirmation	CAnC
OK ↓	Confirm by pressing on the OK key for a few seconds! The procedure starts	CAnC
↑	Done! The transmitters memory has been deleted	P004
+ / −	Scroll down the parameters until you visualize "----". The control board awaits further instructions	----
	Memorization of transmitters [1]	
+ / −	Scroll down the parameters until you visualize P005	P005
OK	Confirm! The receiver enters in memorization mode The flashing light turns on	LEAr
CH1 CH2 CH3 CH4	Press on any key of the transmitter.	
	Memorization done! The flashing light goes out for 2 seconds. The display visualizes the number of the transmitter just memorized (es. "r001")	r001
	The receiver reverts automatically to memorization mode The flashing light turns on again	LEAr
	Memorize all necessary transmitters	
	Wait 10 seconds before quitting the memorization mode The receiver will now receive all the memorized transmitters	----
	How to activate the memorization mode without Operating on the control board [1]	
CH1 CH2 CH3 CH4	Press simultaneously on key CH1 and CH2, or on the hidden key of a transmitter already memorized	LEAr
	How to search and delete a transmitter	
+ / −	Scroll down the parameters until you visualize P006	P006
OK	Confirm! You can now select the transmitter	r001
+ / −	Scroll down the transmitter numbers until you reach the transmitter to be deleted (eg. "r003")	r003
OK ↓	Confirm the deletion by pressing the OK key for a few seconds	r003
	OK! The transmitter is deleted	r---
↑	You can now select the parameter	P006
+ / −	Scroll down the parameters until you visualize "----". The control board awaits further instructions	----

[1] *Make sure that the receiver is set to receive the type of coding of the transmitter you wish to memorize: visualize and, if necessary, update parameter n° 8 "type of coding" (see "8.4 Personalization of working parameters ")*

Channel selection and linking on the transmitter

The built-in receiver can control both the start input and the pedestrian one. By setting the correct value of the parameter "P009 Selection and linking of channels" it is possible to decide which key of the transmitter will activate each input.
If you check on the "working parameters" table you will realize that the P009 parameter allows you to choose among 16 different combinations. If, for instance, you attribute value "3" to the parameter P009, all memorized transmitters will activate the start input through the CH1 and the pedestrian input through CH4. Please refer to chapter "8.4 Personalization of working parameters" in order to select your own combination.

8.4 Personalization of working parameters

Instructions	*Function*	*Display*
	The control board is ready to receive instructions	----
+/-	Scroll down the parameters until you visualize the one you wish to set (ex. P010)	P0 10
OK	Confirm! The display shows the set parameter value	d 100
+/-	Increase or decrease the value until you reach the value you wish to define	d080
OK	Confirm! The display shows again the parameter	P0 10
+/-	Scroll down the parameters until you visualise "----". The control board awaits further instructions	----
	The automation is now ready to work according to the new working parameters.	

8.5 Resetting of default parameters (p.007)

DEA 124RR control board software includes a reset procedure to restore default values (the one set by the maker) of all settable parameters. The value originally set for each parameter is shown in the "working parameters table". In case you should reset all values and restore all default values, proceed as follows:

Instructions	*Function*	*Display*
	The control board is ready to receive instructions	----
+/-	Scroll down the parameters until you visualize P007	P007
OK	Confirm! The control board awaits a further confirmation	dEF-
OK ↓	Confirm by pressing on the OK button. The procedure starts	dEF-
↑	All parameters are now set at their original value	P007
+/-	Scroll down the parameters until you visualise "----". The control board awaits further instructions	----

8.6 Safety devices

DEA 124RR control board allows fitters to set up installations that truly comply with European regulations concerning automated garage doors and gates. More specifically, this control board allows you to comply with the limits set by the same regulations as to impact forces in case of collision with obstacles.

DEA 124RR control board is equipped with a built-in anti-crush safety device that, associated to the possibility of tuning up the motors' speed, allows you to comply with the limits imposed by the above mentioned regulations in most installations.

In particular, you can adjust the anti-crush safety device sensitivity by properly setting the value assigned to the following parameters (see also "8.4 Personalization of working parameters "):
- P014 motor 1 force in opening: from 30 (min. force, max sensitivity) to 100 (max force, neutralized sensitivity)
- P015 motor 1 force in closing: from 30 (min. force, max sensitivity) to 100 (max force, neutralized sensitivity)

In case the gate structural features do not allow you to comply with the above force limits, it is possible to use external safety devices inputs (terminal no. 12). SIC inputs can be configured by properly setting parameter no. 18:
- P018 = 0 "rib" mode functioning: when the input is activated the movement direction of the motors is inverted.
- P018 = 1 "photoelectric barriers" mode functioning: when the input is activated, the motor stops.

If SIC input is unused, it is necessary to short circuit it to terminal no. 11.
If you power external safety devices through 24VSIC output (terminal no. 22), their proper working is tested before each manoeuvre.

8.7 Messages shown on the display

124RR control board allows you to visualize on the display several messages concerning its working status and any malfunction:

Message	*Description*	
	MESSAGES CONCERNING WORKING STATUS	
----	Gate is closed	
JL	Gate is open	
OPEn	Opening under way	
CLOS	Closing under way	
StEP	While in step-by-step mode, the control board awaits further instructions after a start command	
bLOC	Stop input activated	
bArr	SIC activated while working in barrier mode	
	ERROR MESSAGES	
Message	*Description*	*Possible solutions*
Err1 Err2	They point out that the gate has exceeded: - (Err1), the max allowed number of reversals (50) without ever reaching the end of stroke (or limit switch) while closing; - (Err2) the max number of uninterrupted operations (10) of the anti-crush safety device; Therefore an "emergency maneuver" is under way: the control board sets automatically the motors in a slow down phase and searches the stops (or limit switches) in order to reset the positioning system. Once the stops (or limit switches) while closing are found again the message disappears and the control board awaits further instructions "----" and then resumes working normally.	In case the gate is not properly closed after the emergency maneuver (maybe because of false stops or obstacles due to mechanical frictions), proceed as follows: - Disconnect the power supply, check manually that no particular frictions and/or obstacles are present during the complete stroke of the door/gate. Leave the door/gate half-open. - Connect the power supply again and subsequently give a start pulse. At this point the door/gate will start to close in slow down phase until reaching the stop (or end of stroke). Make sure that the maneuver is properly completed. Adjust force and motor speed values, if needed. If the gate keeps working inappropriately try to repeat the motor stroke memorization procedure (see paragraph 8.2)
Err3	External photocells and/or safety devices are activated or out of order	Make sure that all safety devices and/or photocells installed are working properly.
Err4	The motor is not connected or it signals control board failure	Make sure that the motor is properly connected. If the message reappears change the control board.
Err5	Control board power supply tension is out of allowed range	Make sure that power supply tension on faston 1-2 is 22 V a.c.+/-10%, and on faston 3-4 is 27 Vd.c.+/-10%.
Err6	Possible motor overheating due to obstacles hindering the door/gate traveling. The control board does not react to instructions.	Remove any obstacle hindering the traveling and wait until the "bLOC" message replaces the "Err6" message for the control board to resume accepting instructions (a few seconds)

9 MAINTENANCE

⚠ WARNING Any installation, maintenance or repair operation on the whole system must be carried out exclusively by qualified personnel. All these operations must be performed only after disconnecting the power supply, and operating in strict compliance with the electrical standards and regulations in force in the nation of installation. A5

⚠ WARNING Using spare parts not indicated by DEA System and/or incorrect re-assembly may endanger people, animals and property, and may also cause malfunctioning of the product: always use parts provided by DEA System and follow assembly instructions. A9

10 PRODUCT DISPOSAL

⚠ WARNING Disposal of packaging materials (such as plastic, card board, etc.) must be done according to regulations in force locally. Do not leave plastic bags and polystyrene within the reach of children A5

Demolition of this product does not cause particular dangers. Whenever the regulations in force in the country of installation demand it, it is always advisable and necessary to dispose suitably and separately of each material that make up the product: plastic, ferrous materials, batteries and electric parts.

11 COMPLETE CLOSING ASSEMBLY

Remember that everyone who sells and/ or motorises doors/gates becomes the manufacturer of the automated door/gate machine, and must therefore prepare and preserve a technical folder containing the following documents (see Machinery Directives Enclosure V).

- Assembly drawing of the automatic door/gate.
- Electrical connection and control circuit diagram.
- Risk analysis including: a list of the essential safety requirements provided in machine Directive Enclosure I; a list of the risks posed by the door/gate and a description of the implemented solutions

The installer must also:

- Keep these operating instructions and the instructions for all other components in a safe place.
- Prepare the operating instructions and general safety warnings (by filling up these operating instructions) and hand a copy to the end user.
- Fill in the maintenance handbook and hand a copy to the end user.
- Draw up the EC declaration of conformity and hand a copy to the end user.
- Fill in the complete EC label or plate and apply it to the automated door/gate.

N.B. The technical folder must be kept for inspection by the competent national authorities for at least ten years starting from the date of the automatic door/gate manufacturing.

⚠ WARNING DEA System reminds all users that the selection, positioning and installation of all materials and devices which make up the complete automation system, must comply with the European Directives 98/37/CE (Machinery Directive), 89/336/CE and subsequent amendments (electromagnetic compatibility), 73/23/CE and subsequent amendments (low voltage electrical equipment). In order to ensure a suitable level of safety, besides complying with local regulations, it is advisable to comply also with the above mentioned Directives in all non-European countries.

⚠ WARNING Wrong assessment of impact forces may cause serious damage to people, animal and things. DEA System reminds all personnel that the installer must ascertain that these impact forces, measured according to EN 12245 prescriptions, are actually below the limits indicated by EN12453 regulation.

⚠ WARNING Any external safety device installed in order to conform to the limits set for impact forces must comply with EN12978.

		PROCEDURE DESCRIPTION
PROCEDURE	P001	Positioning of the door/gate
	P002	Unused parameter
	P003	Memorization of the motors' stroke
	P004	Deletion of the radio receiver memory
	P005	Transmitters memorization
	P006	Search and deletion of a transmitter
	P007	Resetting of default parameters

		PARAMETER DESCRIPTION	SETTABLE VALUES [1]						USER [2]
PARAMETRES	P008	Type of coding of the radio receiver	000	HCS fixed part only					
			001	HCS rolling code					
			002	HT12E dip switch					
	P009	Channel selection and linking to "start" and "pedestrian" inputs		start	Pedest.		start	Pedest.	
			001	CH1	CH2	009	CH3	CH4	
			002	CH1	CH3	010	CH4	CH1	
			003	CH1	CH4	011	CH4	CH2	
			004	CH2	CH1	012	CH4	CH3	
			005	CH2	CH3	013	CH1	~~CH2~~ [3]	
			006	CH2	CH4	014	CH2	~~CH2~~ [3]	
			007	CH3	CH1	015	CH3	~~CH2~~ [3]	
			008	CH3	CH2	016	CH4	~~CH2~~ [3]	
	P010	Motors' speed during normal stroke (calculated as % of max speed)	50 100						
	P011	Motors' speed during slow-down phase (calculated as % of max speed)	30..... 60..... 100						
	P012	Slow-down duration (expressed as % of total stroke)	10....25 50						
	P013	Unused parameter							
	P014	Motor's force while opening (if = 100 --> max force, sensitivity on obstacle excluded)	30.....90..100						
	P015	Motor's force while closing (if = 100 --> max force, sensitivity on obstacle excluded)	30.....90..100						
	P016	Unused parameter							
	P017	Unused parameter							
	P018	Selection of type of external safety device: rib / barrier. If the "rib" modality is selected, the SIC input activation inverts the movement direction; during slow-down phase, while if the "barrier" modality is selected the movement is stopped.	000	"safety rib" mode					
			001	"photoelectric barrier" mode					

	P019	Time of automatic closing (expressed in sec). If = 0 the automatic closing is deactivated	0 **10**..... 255		
	P020	Time of pre-flashing (expressed in sec)	0.....**2**..... 15		
	P021	Unused parameter			
	P022	Unused parameter			
	P023	Collectivity function: if it is activated it deactivates both start and pedestrian inputs for the whole duration of automatic opening and closing	**000**	deactivated	
			001	activated	
	P024	Ram blow function: if it is activated, it pushes the motors closed for one second before each opening movement, so as to ease motor's start	**000**	deactivated	
			001	activated	
	P025	Operating program: reversal (start->open, start->close, start->open ...), step-by-step (start->open, start->stop, start-close...)	**000**	reversal	
			001	step-by-step	
	P026	Photocell function even while opening: if it is activated, the photocell stops the movement while opening until the obstacle is removed. In any case it reverses the direction of movement while closing	**000**	Photocell activated only in closing	
			001	Photocell activated also in opening	
	P027	Clean contact operation : - If = 0, open gate warning light, the contact is always closed when the gate is opened, it opens again only when the closing movement is completed - If different from 0, courtesy light, the contact is closed during every movement, it opens again when the motor stops according to a pre-settable delay (expressed in sec)	**0**..... 255		
	P028	Short reversal at end of stroke: when the door/gate reaches the end of stroke, it reverses shortly the movement so as to "release" the mechanical stress due to the door/gate pressure on the end of stroke itself.	**000**	deactivated	
			001	activated	
	P029	Unused parameter			
	P030	"PED" input functioning -If = 0 it ensures the door/gate closing in any situation. The input opens and works normally -If = 1 the "PED" input starts the closing, the "AP" input starts the opening -If >1 The selected value indicates the duration of the pedestrian stroke (expressed as a % of the total stroke)	000	centralized closing	
			001	separate closing	
			>001	pedestrian	
	P031	Ramp rate duration -If =0 the motor starts immediately at the selected speed -If =1 the motor speeds up progressively until it reaches the selected speed	**000**	fast ramp	
			001	slow ramp	
	P032	Reaction at detection of an obstacle while opening - If=0 the door inverses travelling direction - If different from 0 the door inverses travelling direction **only** for the set time (expressed in sec)	**0**..... 10		
	P033	Reaction at detection of an obstacle while closing -If=0 the door inverses travelling direction -If (0 the door inverses travelling direction **only** for the time set (expressed in sec)	**0**..... 10		
	P034	Unused parameter			

[1] The default value, set by manufacturer at the factory, is written in bold and underlined.

[2] Column reserved to the installer to fill in with the automation personalised parameters

[3] Inactive channel.

Table 2 Parametres