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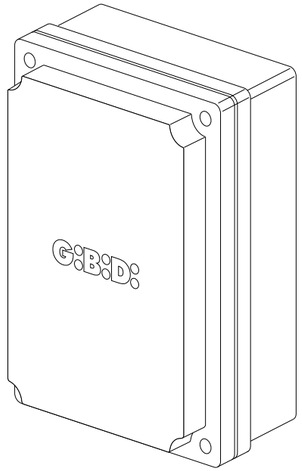

:BA230

BA230 - (AS05040)

Electronic control unit

INSTRUCTIONS FOR INSTALLATIONS

UK

a **BANDINI INDUSTRIE** company

ISO 9001 Cert. N. 0079

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- This product has been tested in Gi.Bi.Di. verifying the perfect correspondence of the characteristics to the current directive.
- Gi.Bi.Di. S.r.l. reserves the right to modify the technical data without prior notice depending on the product development.

PLEASE READ CAREFULLY THIS MANUAL BEFORE PROCEEDING WITH THE INSTALLATION.

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Control unit	**BA230/AS05040**
Type	**230 VAC electronic control unit for automation of one or two motors for swing gates, sliding gates, overhead doors and barriers**
Power supply	230VAC, single-phase, 50/60 Hz
No. of motors	1 or 2
Motor power supply	230 Vac
Flashlight	230Vac 40W max
Warning light	24Vdc 3W max
Accessory power supply	24VDC 8W max including safety device power supply
Safety device power supply	24VDC max including accessory power supply
Radio receiver	Plug-in
Operating temperature	-20°C +60°C
Run time	250s max

TECHNICAL SPECIFICATIONS / FUNCTIONS

- Time self-learning.
- Red warning LEDs of N.C. contacts
- Green warning LEDs of N.O. contacts.
- Control of 2 independent electric locks.
- Safety switch test run before the opening and closing movements.
- Stop and motion inversion for 2 seconds after intervention of the safety devices. At the next Start pulse the motion restarts in the obstacle freeing direction.
- SEPARATE SAFETY DEVICE POWER SUPPLY Connection to this power supply allows TESTING the devices before motion. The safety devices must be connected to this terminal and will be powered only during the operating cycle.
- Digital programming of all the functions.
- Run time independently adjustable during opening and closing for each single motor.
- Deceleration time independently adjustable for each single motor in the final motion phase (soft-stop).
- Gate phase shift time independently adjustable.
- Pedestrian run time.
- Pause time differentiated by complete or pedestrian opening.
- Thrust force adjustable to 10 levels for each motor.
- Deceleration selectable and independently adjustable to 10 levels for each motor
- Deceleration enable modes: with limit switch or timed.
- 4 possible operating logics
- Possibility of choosing the system configuration from swing gate (single or double), overhead door/barrier and sliding gate (single or double)
- Programming of: automatic closing, fast closing, pre-flashing, water hammer, hydraulic lock retention, final closing stroke, number of cycles for scheduled maintenance, installer code.

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INSTALLATION

Use glands adequate to ensure proper mechanical connection of cable and maintain the box protection degree IP55. (FIG. 2)

INSTALLATION WARNINGS

- Before proceeding with installation, fit a magnetothermal or differential switch with a maximum capacity of 10A upstream of the system. The switch must guarantee omnipolar separation of the contacts with an opening distance of at least 3 mm.
- To prevent possible interference, differentiate and always keep the power cables (minimum cross-section 1.5 mm²) separate from the signal cables (minimum cross-section 0.5 mm²).
- Make the connections referring to the following tables and to the attached screen-print. Be extremely careful to connect in series all the devices that are connected to the same N.C. (normally closed) input, and in parallel all the devices that share the same N.O. (normally open) input. Incorrect installation or improper use of the product may compromise system safety.
- Keep all the materials contained in the packaging away from children, since they pose a potential risk.
- The manufacturer declines all responsibility for improper functioning of the automated device if the original components and accessories suitable for the specific application are not used.
- After installation, always carefully check proper functioning of the system and the devices used.
- This instruction manual addresses persons qualified for installation of "live equipment". Therefore, good technical knowledge and professional practice in compliance with the regulations in force are required.
- Maintenance must be carried out by qualified personnel.
- Before carrying out any cleaning or maintenance operation, disconnect the control unit from the mains.
- This control unit may only be used for the purpose for which it was designed.
- Check the aim of the final use and make sure that all safety measures are taken.
- Use of the product for purposes different from the intended use has not been tested by the manufacturer, therefore any work is carried out on full responsibility of the installer.
- Mark the automated device with visible warning plates.
- Warn the user that children or animals may not play or stand around near the door.
- Appropriately protect the danger points (for example, using a sensitive frame).

WARNINGS FOR THE USER

In the event of an operating fault or failure, cut the power upstream of the control unit and call Technical Service.
Periodically check functioning of the safety devices. Any repairs must be carried out by specialised personnel using original and certified materials.
The appliance is not to be used by children or people with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
Do not touch the card for adjustments and/or maintenance.

WARNING: IMPORTANT SAFETY INSTRUCTIONS.
It is very important to follow the present instructions for your own safety.
Please keep this manual.

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ELECTRICAL CONNECTIONS: FASTONS

1	CF1 CF3	Primary connection of 230 VAC transformer (black cables)
2	CF2 CF4	Secondary connection of 14 VAC transformer (red cables)
3	CF5 CF6	Secondary connection of 22 VAC transformer (blue cables)
4	CF7 CF8	Motor 2 capacitor connection
5	CF9 CF10	Motor 1 capacitor connection

ELECTRICAL CONNECTIONS: TERMINAL BOARDS

Terminal	Position	Signal	Description	
JP1	1	PHASE	230 VAC power supply.	
	2	NEUTR	230 VAC power supply.	
	3	GND	Ground wire connection.	
JP2	4	LAMP	Flashlight output 230 VAC 40W.	**Operation:** slow flashing during opening, off during pause, fast flashing during closing.
	5	LAMP	Flashlight output 230 VAC 40W.	
	6	CLOSE	Motor 1 connection (closing).	
	7	COM	Motor 1 common.	
	8	OPEN	Motor 1 connection (opening).	
	9	CLOSE	Motor 2 connection (closing).	
	10	COM	Motor 2 common.	
	11	OPEN	Motor 2 connection (opening).	
JP5	12	COM	Electric lock negative.	
	13	EL1	Electric lock +12 Vdc positive - motor 1.	
	14	EL2	Electric lock +12 Vdc positive - motor 2.	
	15	GND	External accessory power supply negative.	
	16	WARNIN G LIGHT	Warning light output - 24 VAC 3W max.	**Operation:** slow flashing during opening, on fixed during pause, fast flashing during closing.
	17	24Vdc	+24 Vdc external accessory power supply (photocells, radio, etc.)	
	18	SEC	+24 Vdc external safety device power supply.	
JP4	19	START	START input (N.O.)	
	20	PED	PEDESTRIAN input (N.O.)	SLIDING GATE CONFIGURATION: opens for the time set in the H10 menu.
				SWING GATE CONFIGURATION: fully opens gate 1.
	21	STOP	STOP input (N.C.) If not used, jumper with terminal 31.	
	22	FCAM1	Opening limit switch input - motor 1 (N.C.). If not used, disable during programming by enabling the C10 menu.	
	23	FCCM1	Closing limit switch input - motor 1 (N.C.). If not used, disable during programming by enabling the C10 menu.	
	24	FCAM2	Opening limit switch input - motor 2 (N.C.). If not used, disable during programming by enabling the C10 menu.	

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JP4	25	FCCM2	Closing limit switch input - motor 2 (N.C.). If not used, disable during programming by enabling the C10 menu.
	26	PH2	PHOTOCELL 2 input (N.C.). If not used, jumper with terminal 31 **Operation**: Input active during both opening and closing. If intercepted, it immediately stops the motion and holds it stopped until the photocell is freed. Upon release, motion always restarts in opening. If intercepted when the gate is closed, following a Start command, it does not allow opening the gate and it will be signalled with 5 fast flashes. Upon release, the gate will start opening without having to give further commands. If intercepted during pause, it reloads the pause time.
	27		Not used
	28	FRAME	SAFETY DEVICE input (N.C.). If not used, jumper with terminal 31 **Operation**: Input active both during opening and closing. Stops the motion and inverts it for 2 seconds. The gate will remain locked until the next Start pulse, which will restart it in the obstacle freeing direction.
	29		Not used
	30	PH1	PHOTOCELL 1 input (N.C.). If not used, jumper with terminal 31 **Operation**: Input active only during closing. Stops the motion and inverts it, fully opening the gate. When the gate is closed, it is uninfluential. If intercepted during pause, it reloads the pause time.
	31	COM	COMMON INPUTS/OUTPUTS.

JP6	32	GND	ANTENNA GROUND input.
	33	ANT	ANTENNA SIGNAL input.

JP7			Connector for plug-in radio receiver.

PROTECTION FUSES

Position	Value	Type	Description
F1	6 A	FAST	Motor protection and primary transformer.
F2	315 mA	FAST	Low-voltage protection and accessories.

PROGRAMMING PROCEDURE AND SYSTEM CONFIGURATION

The system adjustments can be accessed via the display. There are 4 different menus marked with the letters A, C, F and H.

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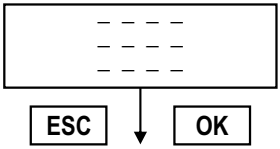
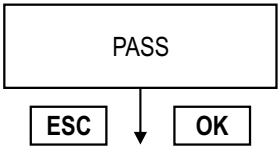
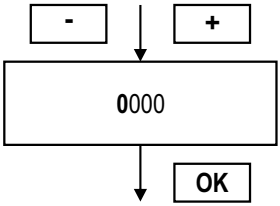
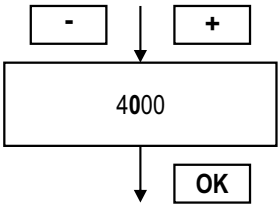
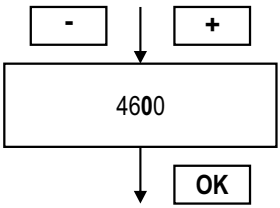
INSTALLER CODE INSERTION

	1
	To access programming, simultaneously press the OK and ESC buttons for 3 seconds.

	2
	The letters P A S S appear on the display. Press the OK button to go to step 3. Press the ESC button to exit and return to step 1.

	3
	4 digits (0 0 0 0) appear on the display of which the first blinks. Use the + or - buttons to select the first digit of the installer code. Once you have arrived at the desired digit, confirm with the OK button and go to step 4.

	4
	The second digit blinks. Use the + or - buttons to select the second digit of the installer code. Once you have arrived at the desired digit, confirm with the OK button and go to step 5.

	5
	The third digit blinks. Use the + or - buttons to select the third digit of the installer code. Once you have arrived at the desired digit, confirm with the OK button and go to step 6.

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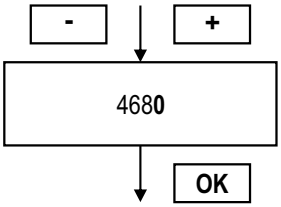
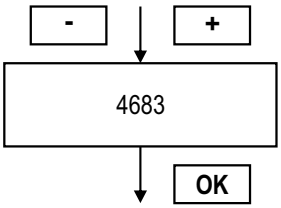
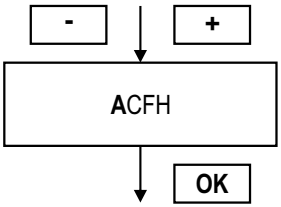
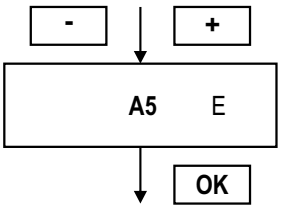
	6
	The last digit blinks. Use the + or - buttons to select the fourth digit of the installer code. Once you have arrived at the desired digit, confirm with the OK button and go to step 7.

	7
	The installer code is now complete: if it is correct, go to step 8. If the installer code is not correct, return to step 2.

PROGRAMMING EXAMPLE

	8
	The 4 main menus appear on the display (letters A C F H) with the letter A blinking. Use the + or - buttons to select the other menus; the relative letter will blink. Press the OK button to access the menu selected (in the example A).

	9
	Use the + or - buttons to select the various submenus. Press the OK button to confirm the menu selected; the letter "E" appears next to the menu name to indicate that it is enabled.

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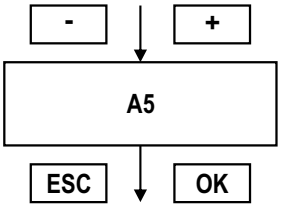
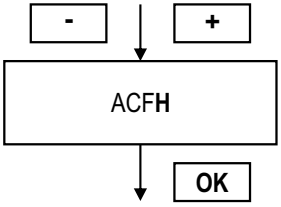
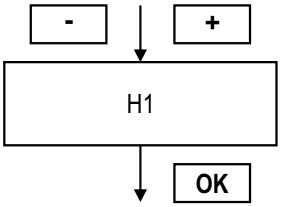
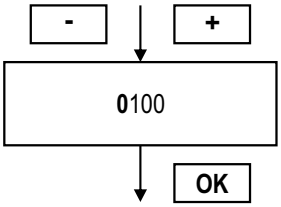
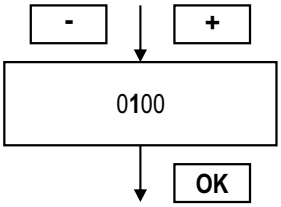
	10
	At this point, use the + and - buttons to display the other submenus of the menu A and follow the same procedure as before. Use the ESC button to return to the higher level (menu A, C, F, H).

	11
	Access the submenu H1 to view the settings of a numerical value. Use the + or - buttons to select the menu H which starts blinking. Press the OK button to access the menu.

	12
	Use the + or - buttons to select the various submenus. Press the OK button to access the submenu selected.

	13
	The stored value appears with the first digit blinking. Use the + or - buttons to modify the value of this digit. Confirm with the OK button and go to step 14.

	14
	The second digit blinks. Use the + or - buttons to modify the value of this digit. Confirm with the OK button and go to step 15.

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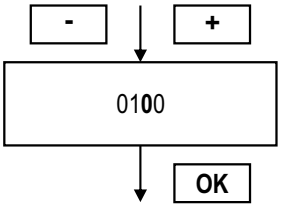
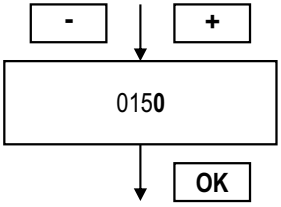
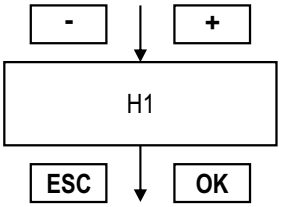
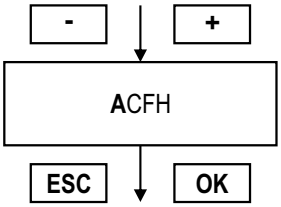
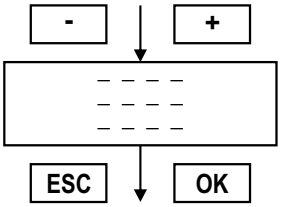
	15
	The third digit blinks. Use the + or - buttons to modify the value of this digit. Confirm with the OK button and go to step 16.

	16
	The fourth digit blinks. Use the + or - buttons to modify the value of this digit. Confirm with the OK button and go to step 17.

	17
	The H1 menu indication reappears. Now press the ESC button to return to the higher level.

	18
	Press the ESC button again to store the settings made and exit the programming phase by accessing normal operation.

	19
	The symbols shown at the beginning reappear. In this case, the +, - and OK buttons assume the following meanings: + → START – → PEDESTRIAN OK → STOP

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MENU A: SYSTEM CONFIGURATION AND OPERATING LOGIC SELECTION

Menu	Function	Status	Description
A1	SWING GATE	E	Configures the system for a swing gate.
A2	OVERHEAD DOOR/ BARRIER	E	Configures the system for an overhead door or barrier.
A3	SLIDING GATE	E	Configures the system for a sliding gate.
A4	1-MOTOR CONFIGURATION	E	Configures the system for 1 motor. In this mode, the outputs of motor 2 can be used as courtesy light timed to 3 minutes. WARNING: If using the outputs of motor 2 as courtesy light, be careful NOT to connect the motor capacitor.
A5	2-MOTOR CONFIGURATION	E	Configures the system for 2 motors.
A6	STEP-BY-STEP WITH STOP LOGIC	E	Enables STEP-BY-STEP WITH STOP LOGIC **Operation**: Start → open Next start → stop Next start → close Next start → open If automatic closing has been activated (menu C1) and the opening phase has arrived at end of cycle, when the pause time has elapsed (menu H9), the control unit automatically closes the gate.
A7	STEP-BY-STEP LOGIC	E	Enables STEP-BY-STEP LOGIC **Operation**: Start → open Next start → close Next start → open If automatic closing has been activated (menu C1) and the opening phase has arrived at end of cycle, when the pause time has elapsed (menu H9), the control unit automatically closes the gate.
A8	AUTOMATIC/CONDOMINIUM LOGIC	E	Enables AUTOMATIC/CONDOMINIUM LOGIC **Operation**: Start → open Subsequent Start commands → are uninfluential if the control unit is opening the gate or if the commands reset the pause time (if the gate is in pause). When the pause time has elapsed, the control unit automatically closes the gate regardless of the C1 menu.
A9	DEAD MAN'S LOGIC	E	Enables DEAD MAN'S LOGIC **Operation**: Start → opens only if the Start button is held down. In Dead Man's mode the buttons on the control unit assume the following meanings: Start (+ button) → open Pedestrian (- button) → close

NB: E = function enabled. An enabled logic consequently disables the other ones of the same group

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MENU C: FUNCTION SELECTION

Menu	Function	Status	Description
C1	AUTOMATIC CLOSING	E	Enables automatic closing. Also see menu H9.
C2		E	Disables automatic closing.
C3	FAST CLOSING	E	Enables the fast closing function. **Operation**: Active only on photocell 1. Reduces the pause time to 3 seconds following interception and subsequent freeing of the photocells.
C4		E	Disables the fast closing function.
C5	PRE-FLASHING	E	Enables 3-second pre-flashing for motor start.
C6		E	Disables pre-flashing The flashlight and the motors start at the same instant.
C7	SAFETY DEVICE TEST	E	Enables the safety device test. **Operation**: When the Start or Pedestrian command is given, the flashlight starts and at the same time the power to the safety devices is cut for 0.5 seconds and then restored: if the inputs of the safety devices go back to N.C., the motors start, otherwise a fault is signalled with 3 long flashes.
C8		E	Disables the safety device test.
C9	LIMIT SWITCH	E	Enables limit switch reading. When the limit switches are activated, deceleration (if activated) starts upon reaching the limit switches and continues for the time H3 and H6. When the limit switches are activated and deceleration is deactivated, the limit switches stop the motion.
C10		E	Disables limit switch reading.
C11	DECELERATIONS	E	Enables the deceleration function.
C12		E	Disables the deceleration function.
C13	WATER HAMMER	E	Enables the water hammer function. **Operation**: When the Start command is given, before starting the opening phase a 3-second closing pulse is given to aid release of the electric lock.
C14		E	Disables the water hammer function.
C15	FINAL CLOSING STROKE	E	Enables the final closing stroke function **Operation**: At the end of the run time during closing without deceleration, a 1-second pulse is given at full power, irrespective of the force adjustment When deceleration is active, the pulse is given at the end of the deceleration period.
C16		E	Disables the final closing stroke function.
C17	HYDRAULIC LOCK RETENTION	E	Enables the hydraulic lock retention function. **Operation:** Only for hydraulic operators. If the gate has not performed any manoeuvres in the last 4 hours, a 5-second closing pulse is given.
C18		E	Disables the hydraulic lock retention function.
C19		-	Not implemented.
C20		-	Not implemented.
C21	AUTOMATIC PROGRAMMING	E	Enables time programming in self-learning **Operation**: See "Time self-learning procedure".
C22	HYDRAULIC MOTOR	E	The operator is hydraulic.*
C23		E	The operator is not hydraulic and it is advisable to program the decelarations.*
C24	FIXED FLASHING LIGHT	E	Enables the flashing light with fixed output. WARNING: for the blinking function, it is necessary to connect a flashing light board with blinking circuit.
C25		E	Disables the flashing light with fixed output.

* **NOTE**: If motion is inverted from opening to closing and vice versa, the opening and closing times will be the same in the case of an electromechanical configuration, but different in the case of a hydraulic configuration in order to take into account the different speed at which the operator runs in the two phases. In some hydraulic applications where the operators run at the same speed during opening and closing (e.g. FLOOR 810), it is advisable to enable electromechanical configuration.

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MENU F: FORCE AND SPEED ADJUSTMENTS

Menu	Function	Description
F1	MOTOR 1 FORCE	Adjusts the thrust of motor 1. 0001 = minimum force 0010 = maximum force NB. HYDRAULIC OPERATORS, SET MAXIMUM VALUE
F2	DECELERATION FORCE MOTOR 1	Adjusts the thrust of motor 1 during deceleration 0001 = minimum force 0010 = maximum force
F3	MOTOR 2 FORCE	Adjusts the thrust of motor 2. 0001 = minimum force 0010 = maximum force NB. HYDRAULIC OPERATORS, SET MAXIMUM VALUE
F4	DECELERATION FORCE MOTOR 2	Adjusts the thrust of motor 2 during deceleration 0001 = minimum force 0010 = maximum force

MENU H: TIME ADJUSTMENT

All the times can be set in steps of 1 second.

Menu	Function	Description
H1	MOTOR 1 OPENING TIME	Gate 1 opening time.
H2	MOTOR 1 CLOSING TIME	Gate 1 closing time.
H3	MOTOR 1 DECELERATION TIME	Gate 1 operating time in deceleration mode.
H4	MOTOR 2 OPENING TIME	Gate 2 opening time.
H5	MOTOR 2 CLOSING TIME	Gate 2 closing time .
H6	MOTOR 2 DECELERATION TIME	Gate 1 2 operating time in deceleration mode.
H7	GATE 2 PHASE SHIFT TIME DURING OPENING	Delays the start of opening of gate 2 with respect to gate 1. In the case of a configuration with double sliding gate, the time H7 is automatically cancelled.
H8	GATE 1 PHASE SHIFT TIME DURING CLOSING	Delays the start of closing of gate 1 with respect to gate 2. In the case of a configuration with double sliding gate, the time H8 is automatically cancelled.
H9	AUTOMATIC CLOSING PAUSE TIME	Determines the pause time during opening before automatic closing.
H10	PARTIAL OPENING TIME	Determines the pedestrian opening time for the sliding gate only.
H11	PEDESTRIAN AUTOMATIC CLOSING TIME	Determines the pause time during pedestrian opening before automatic closing.
H12	NUMBER OF CYCLES	Allows setting a number of cycles (opening + closing) before the maintenance request Signalled by the light flashing for 5 minutes after the end of each manoeuvre. The value set will always be multiplied by 10.
H13	INSTALLER CODE	Allows entering the installer code to customise the settings during programming. **CAUTION**: An already stored code can be cancelled by typing in the factory code '0000' when requested to access programming. In this way, however, all the existing settings are cancelled and the default settings automatically loaded.
H14	SOFTWARE VERSION	Shows the version of the firmware installed on the board.

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TIME LEARNING PROCEDURE

To access this procedure, select the menu C21.
CAUTION: Always start with the gate fully closed.
The times are programmed by means of successive start pulses. During the time self-learning phase, C21 blinks continuously on the display.
During the time self-learning phase, motion always occurs at a non-decelerated speed.
If you want deceleration, remember to activate the option (menu C11) before starting the self-learning procedure: in this case, the microprocessor will automatically calculate the deceleration time (approximately 20% of the total time), which will be added at the end of the run time.
The thus defined times can subsequently be modified manually by accessing the dedicated menus and changing the numerical data.

1-motor configuration

- START → the gate starts opening.
- When the gate arrives at the desired opening position → START → the gate stops.
- Counting of the pause time during opening starts.
- When the desired pause time has elapsed → START → the gate starts closing.
- When the gate arrives at the closing position → START → the gate stops.

2-motor configuration

- START → the gate 1 starts opening.
- Gate 2 automatically starts after 3 seconds.
- When the gate 1 arrives at the desired opening position → START → the gate 1 stops.
- When the gate 2 arrives at the desired opening position → START → the gate 2 stops.
- Counting of the pause time during opening starts.
- When the desired pause time has elapsed → START → the gate 2 starts closing.
- Gate 1 automatically starts after 5 seconds.
- When the gate 2 arrives at the closing position → START → the gate 2 stops.
- When the gate 1 arrives at the closing position → START → the gate 1 stops.

NB: In case of deceleration, the deceleration time must be subtracted from the run time
Example: Run time shown on the display **H1=15 H2=20 H3=3** becomes **H1= 12 H2=17 H3=3**
- To exit the procedure once the above described steps have been carried out, press the ESC button until the horizontal lines appear on the display.until the horizontal lines appear on the display.

USING THE LIMIT SWITCHES

If the deceleration function is enabled, the limit switches mark the start of the deceleration period. The gate continues the decelerated motion for the time set in the menus H3 and H6.
Make sure that you set the run times longer than the time necessary to reach the limit switch.
If deceleration is not enabled, the limit switches stop the motion.

UK

DEFAULT SETTINGS

• Parameters type A active:

A1	→	E	SWING GATE TYPE
A5	→	E	2 MOTORS
A8	→	E	AUTOMATIC LOGIC

• Parameters type C active:

C1	→	E	AUTOMATIC CLOSING ENABLED
C4	→	E	FAST CLOSING DISABLED
C5	→	E	PRE-FLASHING ENABLED
C8	→	E	SAFETY DEVICE TEST DISABLED
C10	→	E	LIMIT SWITCHES DISABLED
C12	→	E	DECELERATION DISABLED
C14	→	E	WATER HAMMER DISABLED
C16	→	E	FINAL CLOSING STROKE DISABLED
C18	→	E	HYDRAULIC LOCK RETENTION DISABLED
C20	→	E	ANTI-CRUSHING DISABLED (NOT IMPLEMENTED)
C21	→		AUTOMATIC PROGRAMMING DISABLED
C23	→	E	ELECTROMECHANICAL OPERATOR

• Parameters type F:

F1	→	10	MOTOR 1 FORCE
F2	→	10	MOTOR 1 DECELERATION
F3	→	10	MOTOR 2 FORCE
F4	→	10	MOTOR 2 DECELERATION

• Parameters type H:

H1	→	25	MOTOR 1 OPENING TIME
H2	→	25	MOTOR 1 CLOSING TIME
H3	→	0	MOTOR 1 DECELERATION TIME
H4	→	25	MOTOR 2 OPENING TIME
H5	→	25	MOTOR 2 CLOSING TIME
H6	→	0	MOTOR 2 DECELERATION TIME
H7	→	5	GATE 2 PHASE SHIFT TIME DURING OPENING
H8	→	5	GATE 1 PHASE SHIFT TIME DURING CLOSING
H9	→	5	PAUSE TIME
H10	→	5	PEDESTRIAN OPENING TIME
H11	→	5	PEDESTRIAN PAUSE TIME
H12	→	0	NUMBER OF CYCLES
H13	→	0000	INSTALLER CODE
H14	→		SOFTWARE VERSION

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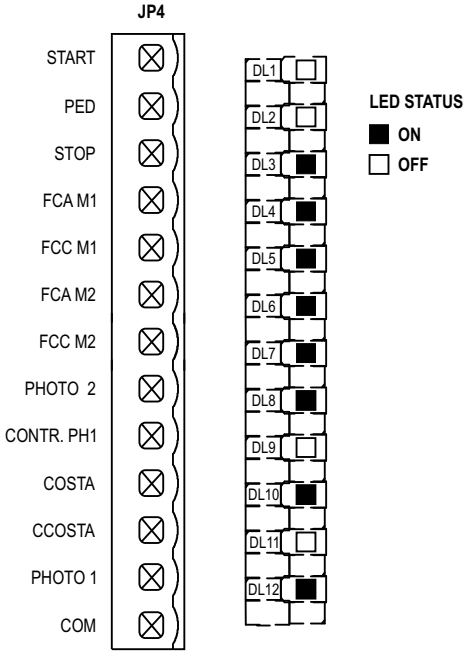
FINAL CHECKS AND TESTING

Before powering the control unit, run the following tests:
1 - Check the electrical connections: improper connection may be harmful to both the control unit and the operator.
2 - Check proper positioning of the limit switches.
3 - Check that the red LEDs of the normally closed contacts are on and that the green LEDs of the normally open contacts are off.
4 - Check by tripping the limit switches that the corresponding LEDs go off.
5 - Check by passing across the range of the photocells that the corresponding LED goes off.
6 - Check by tripping the safety devices that the corresponding LED goes off.
7 - Check that the motors are locked and ready for operation with the GATE AT HALFWAY TRAVEL.
8 - Remove any obstacles in the range of action of the gate and then give a START command.
Upon the first command, the control unit starts an opening phase; check that the gate moves in the correct direction. If not, invert the wires in the OPEN - CLOSE terminals.
9 - The LEDs indicate the status of the corresponding input



DISPOSAL BA230

Gi.Bi.Di. advises recycling the plastic components and to dispose of them at special authorised centres for electronic components thus protecting the environment from polluting substances.

UK

CE Declaration of conformity

The manufacturer:

GI.BI.DI. S.r.l.

Via Abetone Brennero, 177/B,
46025 Poggio Rusco (MN) ITALY

Declares that the products:

ELECTRONIC CONTROL UNIT BA230

are in conformity with the following CEE Directives:

- **LVD Directive 2006/95/CE and subsequent amendments;**
- **EMC Directive 2004/108/CE and subsequent amendments;**

and that the following harmonised standards have been applied:

- **EN60335-1,**
- **EN61000-6-2, EN61000-6-3**

Date 10/01/08

Managing Director
Oliviero Arosio

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