



ENGLISH



KS100E / KS200E

**Automation kit
for sliding gate**

USER MANUAL

For PCB circuits 425ama-2.00

Important Safeguards

- Please read this manual carefully before the installation and keep it for future reference.
- Installation, electrical connections and adjustments must comply with technical and safety standards in force. (UNI 8612).
- HILTRON Srl cannot be held responsible for failure to observe technical standards in the construction of gates, or for any deformation of gates which may occur during the use.
- This product has been designed and manufactured only for the use stated in this manual. Any other use not expressly set forth will affect the reliability of the product and/or could be source of hazard.
- HILTRON Srl cannot be held responsible for any damage caused by improper use or different from the use for which the automation system is destined to.
- Do not use this device in areas subject to explosion: the presence of flammable gas or fumes is a serious hazard.
- Before carrying out any operations, turn off the system's main switch.
- An omnipower switch shall be provided for the installation with an opening distance of the contacts of 3 mm or more. Alternatively, use a 6A thermomagnetic breaker with a multi-pole switching.
- Ensure that there is a differential switch up-line of the electrical system, with a trip threshold of 0.03A.
- Check that the earthing plant is in perfect condition and connect it to the metallic parts. Also earth the Yellow/Green wire of the operator.
- The end-user must avoid any attempt to repair or adjust the automation personally. These operations must be carried out only by qualified personnel.
- For maintenance operations, use only CIA original spare parts produced by HILTRON Srl. Do not carry out any modifications to automation components. Packaging materials (plastic, cardboard, etc.) are a potential hazard and must be out of reach of children.
- The installer must supply all informations regarding manual operation of the system in the event of an emergency and provide the end-user with this manual attached to the product.
- The automation is fitted with an anti-crush safety system that is a torque control device.
- In any case, HILTRON Srl suggests the installation of others safety devices, in accordance with standards in force, system operating logic and weight and dimension of the gate.
- The safety devices (i.e.: photocells, pneumatic edges, etc...) protect areas where there is a mechanical movement hazard (i.e.: crushing, entrapment and cutting). Each installation must be fitted with at least one flashing light (i.e.: item LAMP12FG) or with a signalling plate (i.e.: item TRG CIA) fixed to the gate.
- HILTRON Srl cannot be held responsible regarding safety and correct operation of the automation in the event that parts other than CIA original parts (produced by HILTRON Srl).




DICHIARAZIONE DI CONFORMITA'

SECONDO LE NORME ISO/IEC GUIDA 22 EN 45014

COSTRUTTORE: **HILTRON S.r.l.**

INDIRIZZO: **Via Caserta al Bravo, 218 Napoli**

MARCHIO UTILIZZATO: 

CODICE PRODOTTO: **PCM100**

DESCRIZIONE DEL PRODOTTO: **CENTRALE DI AUTOMAZIONE PER CANCELLO SCORREVOLE**

Il prodotto sopra descritto risulta conforme ai requisiti prescritti nelle seguenti norme:

NORMA APPLICATA	TITOLO
EN50081-1 (1992)	NORMA GENERICA DI EMISSIONE Classe della norma generica: domestico, commerciale ed industriale leggero.
EN50082-1 (1992)	NORMA GENERICA DI IMMUNITA' Classe della norma generica: domestico, commerciale ed industriale leggero.
EN60335-1 (1996)	NORMA PER LA SICUREZZA DEGLI APPARECCHI ELETTRICI D'USO DOMESTICO E SIMILARE

La conformità e' stata valutata sulla base di prove eseguite su campione e con allestimento che rispecchia la configurazione funzionale prevista per la sua utilizzazione allestita interamente con prodotti CIA di produzione HILTRON S.r.l.
Pertanto il prodotto soddisfa i requisiti della direttiva EMC 89/336/CEE e BT 73/23/CEE.

Napoli, 17 Marzo 1999

L'AMMINISTRATORE DELEGATO

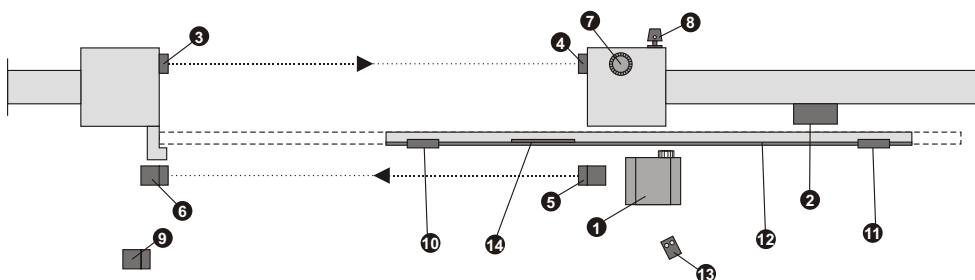


Index

Chapter 1	Introduction	4
1.1	Example of installation	4
Chapter 2	Geared-motor installation	5
2.1	Technical features	5
2.2	Prearrangement of the gate	6
2.3	Anchorage plate	6
2.4	Assembly	7
2.5	Assembly of rack (solution A)	8
2.6	Assembly of rack (solution B)	9
2.7	Installation of magnetic limit-stop FCMM	10
2.8	Emergency operation	12
2.9	Mechanical clutch adjustment (MS200 only)	12
Chapter 3	Central unit installation	13
3.1	Technical features	13
3.2	Board description	14
3.3	Connections	15
3.3.1	Power supply, flasher, geared-motor, controls	16
3.3.2	Relay photocells connection	17
3.3.3	Photocells with autodiagnosis connection	17
Chapter 4	Setup	18
4.1	Operating mode	18
4.1.1	AUTOMATIC FOR PARK operating	19
4.1.2	AUTOMATIC operating	19
4.1.3	STEP-BY-STEP WITH AUTOMATIC RECLOSING operating	20
4.1.4	MANUAL STEP-BY-STEP WITH STOP operating	20
4.2	Electronic clutch adjustment (trimmer A)	21
4.3	Time of pause adjustment (trimmer B)	21
4.4	Electronic brake / Slowing down (trimmer C)	21
4.5	Control LEDs	21
4.6	Remote-control receiver setup	22
4.7	Remote-control setup	23
Chapter 5	Maintenance	24
5.1	Gate	24
5.2	Fuses	24

1 Introduction

1.1 Kit content and example of installation



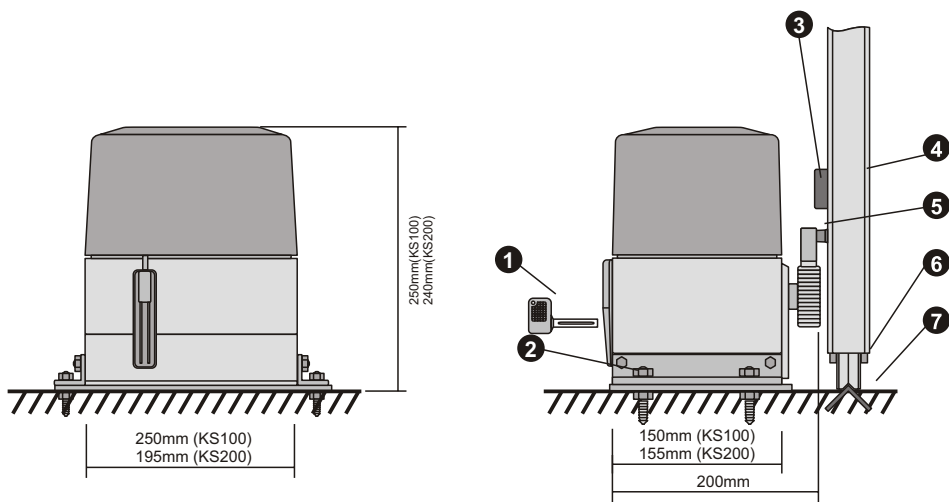
- | | |
|----------------------------------|--|
| ① MS100 + PCM100 + FCMS | (KS100E) Geared-motor MS100 with PCM100 central unit and magnetic limit stop sensor FCMS |
| ① MS200 + FCMS | (KS200E) Geared-motor MS200 and magnetic limit stop sensor FCMS |
| ② PCM100 | (KS200E) PCM100 central unit |
| ③ FX30 / FX40 / FX55 (TX) | Transmitting photocell 1 |
| ④ FX30 / FX40 / FX55 (RX) | Receiving photocell 1 |
| ⑤ FX30 / FX40 / FX55 (TX) | (not in KS100PSE) Transmitting photocell 2 |
| ⑥ FX30 / FX40 / FX55 (RX) | (not in KS100PSE) Receiving photocell 2 |
| ⑦ LAMP230G | (KS100E) 230Vac electronic flasher |
| ⑦ PULSAR230G | (KS100PSE) 230Vac stroboscopic flasher |
| ⑧ BIRD | VHF receiver with antenna |
| ⑨ SC1 | Key selector |
| ⑩ FCMM | Magnetic opening limit stop |
| ⑪ FCMM | Magnetic closing limit stop |
| ⑫ CRP | Plastic rack (optional) |
| ⑬ TWIN | VHF twin channel radio-control |
| ⑭ TRG/EN | "AUTOMATIC GATE" signalling plate |

NOTA: Nel caso del kit KS100 è possibile installare la centrale direttamente all'interno del motore MS100. Per il kit KS200 è necessario invece fissare la centrale a muro.

2 Geared-motor installation

2.1 Technical features

- Mechanical unblocking with key during power supply absence.
- Mechanics clutch regulable by setscrew wrench (not included) (only MS200)
- Power supply voltage: 230Vca $\pm 10\%$ 50Hz
- Normal current absorption: 160W (MS100); 320W (MS200)
- Geared-motor speed: 42rpm
- Max torque (daN): 500
- Operating temperature: $-20^{\circ}\text{C} + 55^{\circ}\text{C}$
- Gate max weight: 1000Kg (MS100); 1200Kg (MS200)
- Grado di protezione: IP44
- Geared-motors dimensions (WxHxD): 250x250x150mm (MS100)
195x240x155mm (MS200)
- Geared-motors weight: 11Kg (MS100); 18Kg (MS200)



- 1 Un-locking key
- 2 Anchorage plate
- 3 Gate
- 4 FCMM (magnetic limit-stop)
- 5 Rack
- 6 Gate sliding wheels
- 7 Gate sliding lower guide

2.2 Prearrangement of the gate

- The gate must have a strong and as far possible indeformable structure.
- The lower guide, that can be made with 50x50x5mm. Angular or other suitable structurals, must be perfectly rectilinear and horizontal.
- The lower sliding wheels, that will preferably have a diameter of 160mm or 200mm according to the gate's weight and dimensions, must have lubricable or tin ball bearings.
- The upper guide, that can be made following either the solution A or B must be located so that gate is perfectly vertical.

2.3 Anchorage plate

Introduce the bolts M8x100 the U profile pieces with leg functions, by fastening through the relevant screw nut. Munt the screws with the legs on the fastening plate; the projection of 25mm must be kept as reported in the fig.3a

Anchor to the bottm plate by keeping the size of 58.5mm reported inthe fig.3a

Notes:

- It is suggested to set the plate at least 2cm above ground level.
- Arrange plate so that cable through-hole's position is as shown in the fig.3b
- Provide fot a plastic flexible sheath with a diameter of at least 20mm to be introduced into the plate itself is perfectly horizontal.
- Act so that the anchoring concrete casting of the plate results compact with the anchorage concrete casting of the plate results compact withthe anchorage one of the lower guide

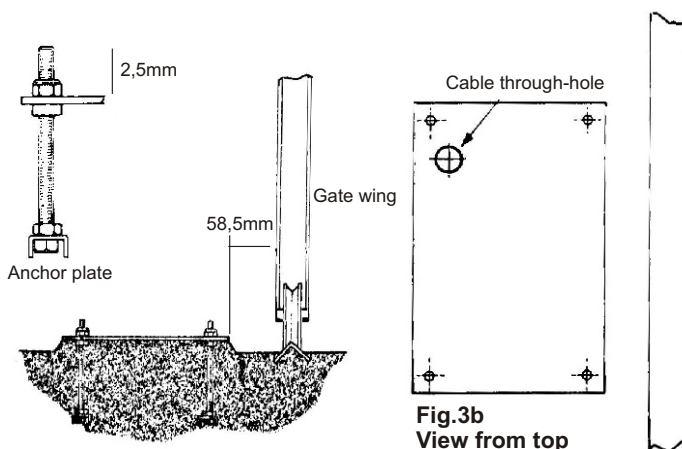


Fig.3b
View from top

2.4 Assembly

- Remove the 4 screw nuts of the fastening bolts.
- Fix the gate actuator to the anchor by means of 4 screw nuts without blocking them. Pay attention to set the adjustment covers P between the gate actuator and the plate.
- Slide below the various rack elements positioning them in contact with the gear (Fig. 11b).
- Withdraw four adjustment covers in order to obtain a good black-lash between rack and gear.
- Weld once for all the rack support pegs and fix the screw nuts, after having controlled, sliding manually the gate, that the backlash gear-rack is always the same.

Remarks: In order to slide manually the gate is necessary to release by means of the key the pinion support shaft (refert to instructins Emergency Operation).

Important: After assembling screw the plug of oil (Fig. 13) remove the gasket and screw it on (do not tighten).

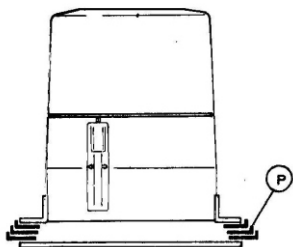


Fig. 11a

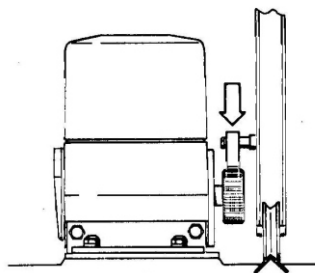


Fig. 11b

2.5 Assembly of rack (solution A)

- Fix the support pegs to each rack element in correspondence of the three slotted holes by means of the relative blocking screws. Pay attention that the position of the support pegs is below the hole (fig. 4a and 4b)
- Anchor by means of electrowelding the rack support pegs to the gate's structure following the distance between the head of the rack the teeth and the anchor plate (see fig. 5a and 5b).

Remarks: in order to facilitate the correct alignment of the following rack elements, it is suggested to set a third rack element against two following elements, as shown in fig.6.

- Control that the various rack elements are perfectly aligned. Control that the alignment right line is parallel to the rail in order to do this slide manually the gate and make sure that the distance between the various rack elements and a fix landmark is always the same. If not set suitable shims between pegs and rack.

Fig. 6

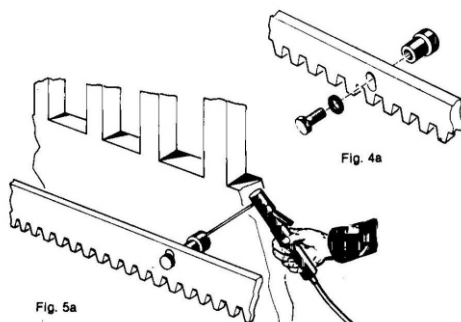
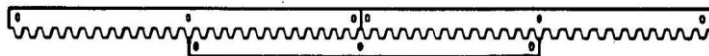


Fig. 4a

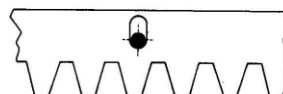
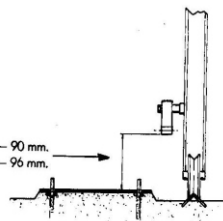


Fig. 4b

mod. 16 D — 90 mm.
mod. 19 D — 96 mm.

Fig. 5b



2.6 Assembly of rack (solution B)

It's possible, if you have o a gear motor of your disposal, to perform as follows

- To fix the gear motor to the anchor plate, position it so that the distance between sprocket and gate is approximately 18mm. (Fig. 7)
- Fix to each rack element the support pegs in correspondence of the slotted holes paying attention to position them in the mid-area of the slot (Fig. 8).
- Lean rack element to the sprocket of the gear motor R positioning it as shown in fig.9a. Then weld then central to the gate's structure, adequately strenghtened. Slide manually the gate until the pag.x is in correspondence of the gear (Fig. 9b) and then weld the pag.x. Perform the same operation with the pag.x, after having moved it in correspondence of the wheel R.

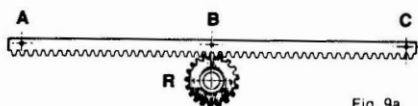


Fig. 9a

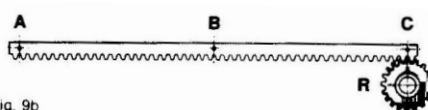


Fig. 9b

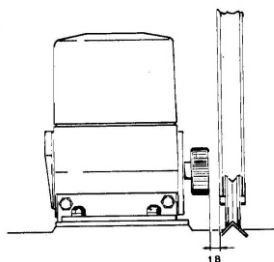


Fig. 7

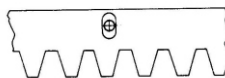


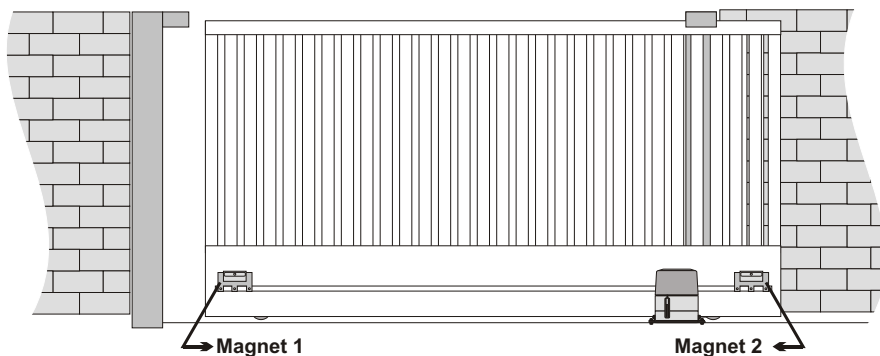
Fig. 8

2.7 Installation of magnetic limit-stop FCMM

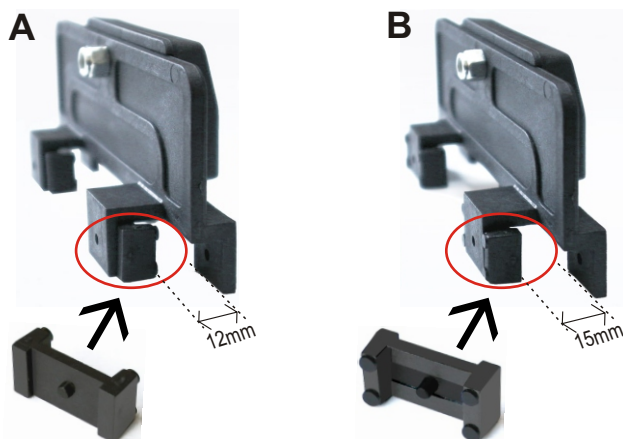
- Fix the two magnets 1 and 2 on the included brackets by the screw; by unscrewing this screw it will be possible to move the magnet for a final adjustment of the limit-stop. The magnets are polarized in different way and distinguished by the numbers **1** and **2** as in the picture:



- Lock the already assembled brackets (bracket+magnet) on the rack by the provided screws.



- Mounting the provided plastic blocks as shown in picture “A” it will be available an internal space of 12mm for mounting on a steel rack.
- For mounting on a plastic rack of 15mm, mount the plastic block inverted as shown in picture “B”.

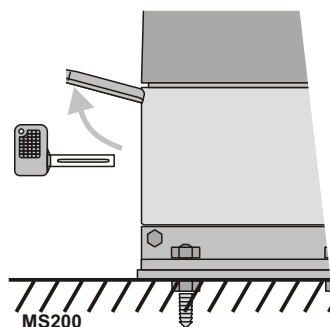
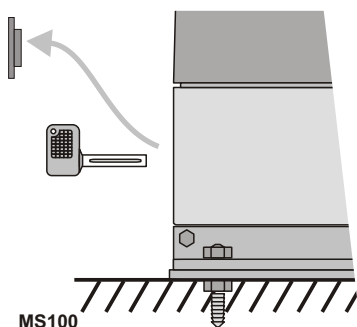


- The FCMS sensor inside of the motor has 3 wires, where the BLUE is common, while the two others (WHITE and BLACK), operates as opening/closing relatively to the magnets 1 and 2.

2.8 Emergency operation

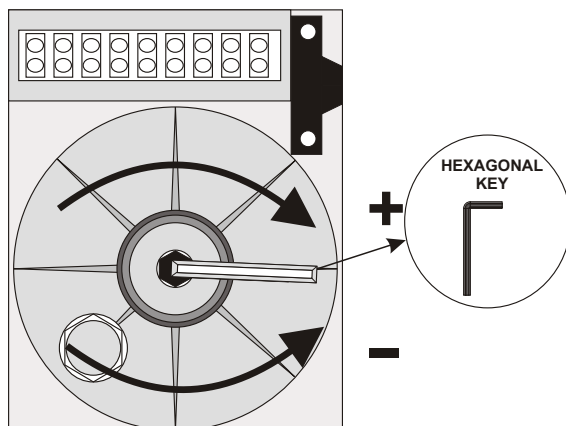
In case of troubles or lack of current, release gate actuator using the appropriate key and acting on the ENGAGEMENT/RELEASE device as follows:

- Open the line switch.
- Lift the cover and let it rotate, so as to reach the key-hole.
- Introduce release key C.
- Turn apposite clockwise, several times until the gate
When emergency situation has ceased, to restore op
few times, counterclockwise, until it stops turning. Sli
teeth of the frontal clutch, if they are in the particular
return to the right position of clutch. Then strongly clc
- Close the line switch.



2.9 Mechanical clutch adjustment (MS200 only)

It's possible to steady the clutch by means of a hexagonal key.



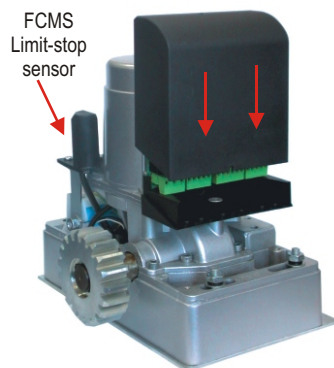
3 Central unit installation

PCM100 Central Unit for sliding gates operates a geared-motor 230Vac 700VA max, as MS100 or MS200 produced by CIA, by an electrical clutch, realized with a microprocessor of last generation. PCM100 Central Unit is furnished with a sophisticated circuit of auto-diagnosis that controls constantly the operation of the system and connected devices; in case of troubles, the circuit stops all central unit operation. The monitoring of peripheral operating connected to the central unit is displayed by LEDs placed on the circuit. Moreover, PCM100 Central Unit is furnished also with a electrical brake to guard the stop of geared-motor. In place of the brake, the slowing down function is activated 3 seconds before the limit stop to avoid unnecessary impacts during the opening and closing operating.

PCM100Central Unit is in accordance with EMC 89/336 directives and 73/23 EEC directives.

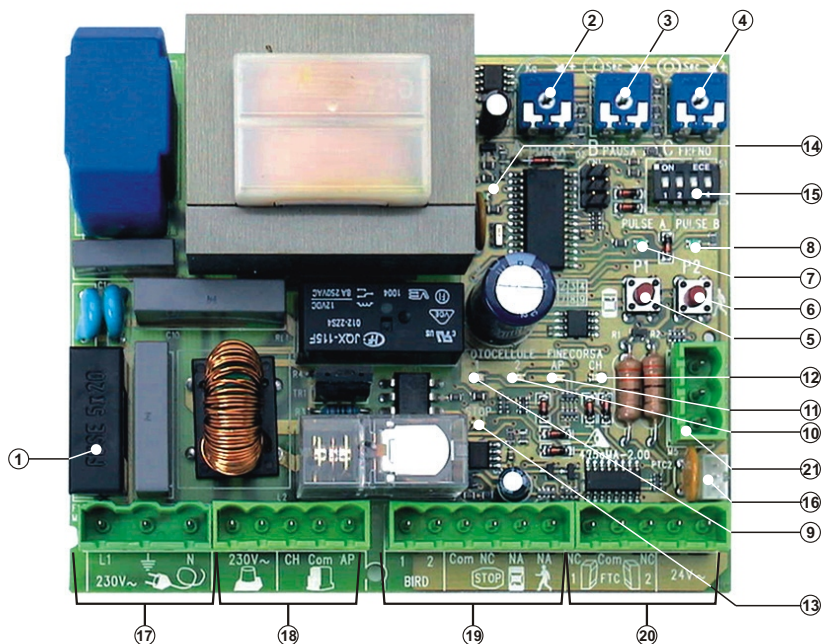
3.1 Technical Features

- SLOWING DOWN function withBRAKE trimmer at minimum.
- BRAKE function adjustable by trimmer with exclusion at minimum.
- Programmable operating modes: Automatic, Semiautomatic, step-by-step with automatic reclosing, step-by-step with STOP.
- Built-in interface for BIRD receiver.
- TORQUE adjustment by trimmer.
- Operation Autodiagnosis.
- Peripheral monitoring by LEDs.
- Regulation trimmer: BREAK, PAUSE, CROWD FORCE.
- Total Opening control input.
- Partial Opening control input.
- STOP control input.
- 2 configurable inputs for photocells as IR-SYSTEM withAUTODIAGNOSIS type.
- External Box in ABS - IP44.
- Power supply voltage: 230V~ $\pm 10\%$ 50Hz
- Normal Current Absorption: 6W
- Service output voltage: 24V~ $\pm 5\%$ max 0,1A
- Opening/closing time: max 90 sec.
- Time of Pause: 4 ÷ 60 sec.
- Operating Temperatures: -25°C + 55°C
- External box dimensions (WxHxD): 127x138x57mm
- Board dimensions (WxH): 98x118mm



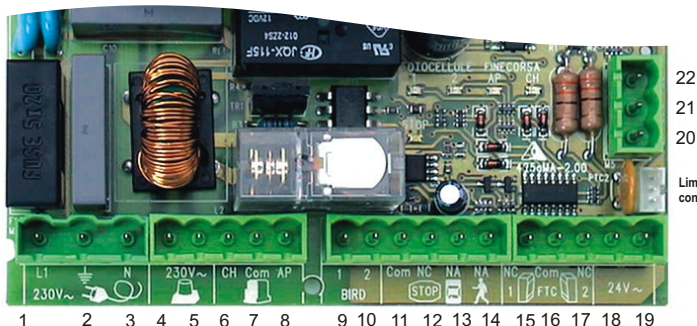
PCM100 central unit installed inside of MS100 motor

3.2 Board Description



- | | |
|---|--|
| ① Voltage fuse (250Vac 3,15A) | ⑫ LED closing limit stop status |
| ② Trimmer A: electronic clutch | ⑬ LED STOP Status |
| ③ Trimmer B: time of pause | ⑭ LED microprocessor diagnosis |
| ④ Trimmer C: electr. brake / slowing down | ⑮ Setup Dip-Switch |
| ⑤ P1: total opening | } autoapprendimento
codice radiocomando |
| ⑥ P2: partial opening | |
| ⑦ LED Button P1 | ⑯ Opening/closing limit stop connector, to use
when central unit is installed inside motor. |
| ⑧ LED Button P2 | ⑰ 230Vac power supply clamps |
| ⑨ LED photocell 1 status | ⑱ Flasher and motor clamps |
| ⑩ LED photocell 2 status | ⑲ BIRD and commands clamps |
| ⑪ LED opening limit stop status | ⑳ Photocells and 24 Vac clamps |
| | ㉑ Opening/closing limit stop clamps, to use
when central unit is installed outside motor. |

3.3 Connections

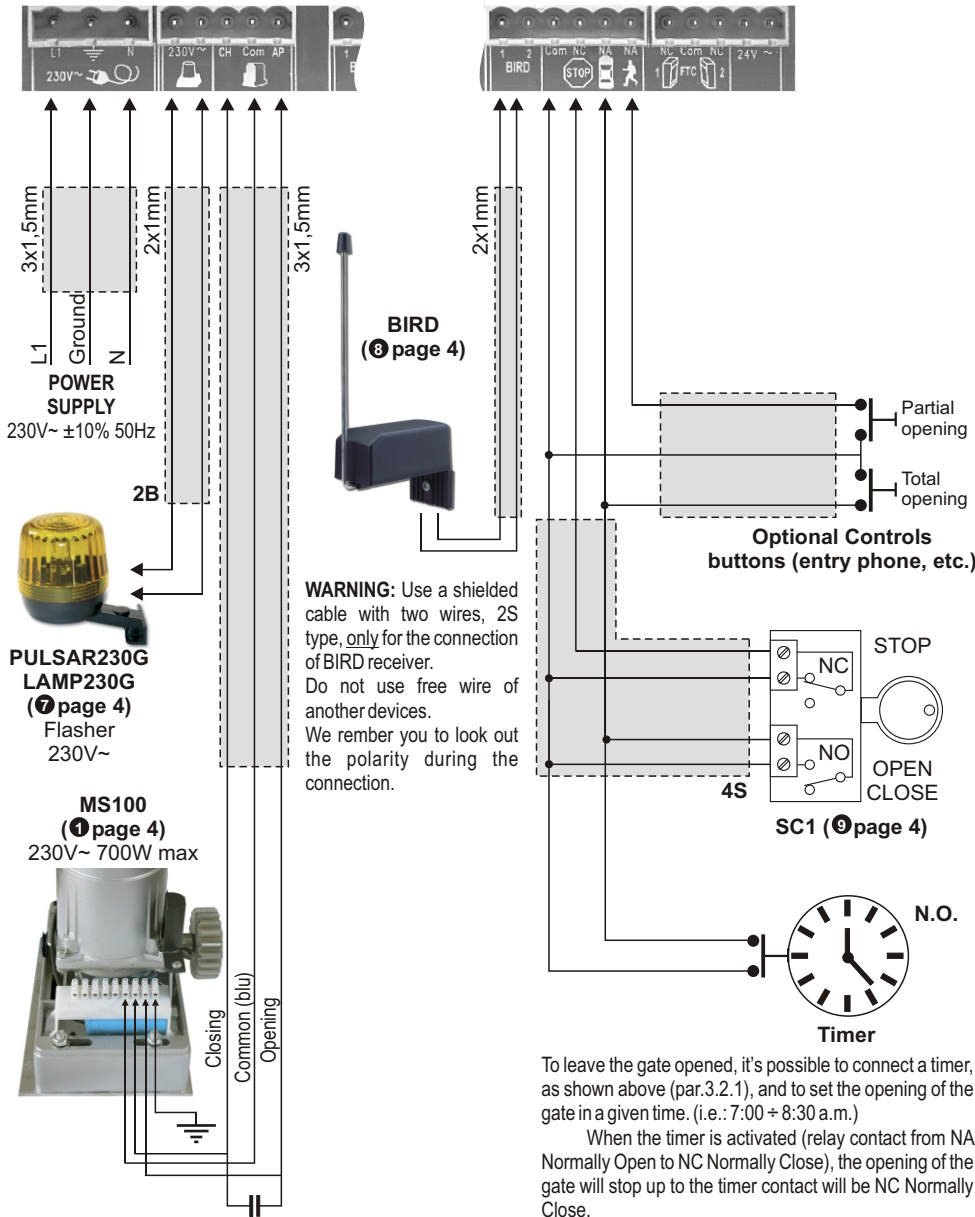


Limit-stop connector Use this connector only if central unit board is installed inside of the geared-motor.

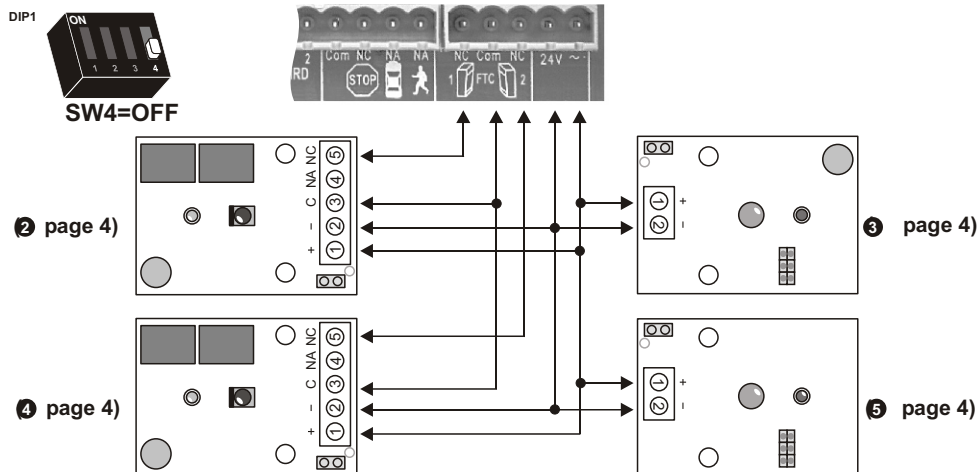
NOTE: If it should be necessary to invert the limit-stop wires, invert the ⑨ and ⑩ magnets at page 6.

1 - L1 2 - Ground 3 - N	POWER SUPPLY 230V~ ±10% 50Hz
4 - Pole 1 5 - Pole 2	ELECTRONIC FLASHER 230V~
6 - Closing 7 - Common (blu wire) 8 - Opening	GEARED MOTOR 230V~ 700W max
9 - Pole 1 (clamp 1 BIRD) 10 - Pole 2 (clamp 2 BIRD)	BIRD ANTENNA
11 - Common 12 - Pulse STOP (NC) 13 - Pulse A (NO) 14 - Pulse B (NO)	COMMANDS
15 - NC 16 - Common 17 - NC 18 - 24V~ max 100mA 19 - 24V~ max 100mA	PHOTOCELLS (FX30 - FX40 - FX55)
20 - Opening limit-stop 21 - Limit-stop common 22 - Closing limit-stop	LIMIT-STOP Use this clamps only if central unit board is installed <u>outside</u> of the geared-motor.

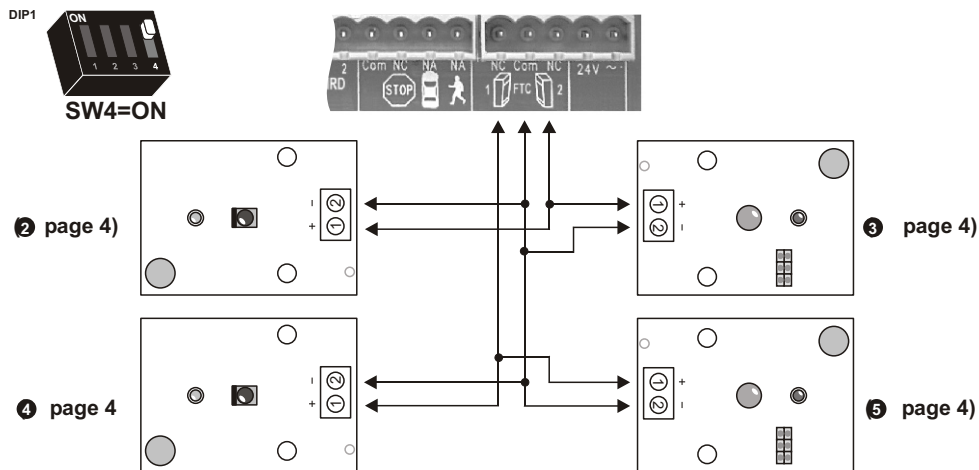
3.3.1 Power supply, flasher, geared-motor, commands



2.3.2 Relay photocells FX40, FX55



2.3.4 Photocells with autodiagnosis FX30



NOTE: If you work with photocell type FX30, you must connect both photocell 1 and photocell 2 .

4 Setup

4.1 Operating mode

The operating mode and the various options are settable by the switches 1, 2 and 3 of the dip-switch present on the board (Ⓓ at page 14). The switch 4 can set the installed photocell model (see previous page). Here's a summary of all options:

Switch 1 and 2: Operating	Automatic for Park operating	OFF	OFF
	Automatic operating	ON	OFF
	Step by step with automatic closing	OFF	ON
	Step by step with STOP	ON	ON
Switch 3: Opening locking on photocells interruption	Locking enabled	ON	
	Locking disabled	OFF	
SWITCH 4: Tipo di fotocellula installata	FX30 (autodiagnosis)	ON	
	FX40 - FX55	OFF	



To learn about operating logics see next paragraph.

ATTENTION: The DIP- SWITCH setting up has to be made with central unit switched off.

4.1.1 AUTOMATIC FOR PARKS operating (SW1=OFF - SW2=OFF)

One pulse allows : opening , pause , automatic closing .

During the opening operation, other pulses will be ignored. During the closing operation, possible pulses stop and reverse the movement of gate immediately.

A contact closed on PULSE A (Clock function) allows to open the gate up to the setted pause and it be open up to the opening of the contact.



GATE STATUS	PULSE A	PULSE B	STOP	PHOTOCELL 1	PHOTOCELL 2
CLOSE	Total Opening and reclosing after the time of pause	Partial Opening and closing operation after the time of pause	Disables A and B pulses and disable opening	See SWITCH 3 pages 9 and 10	
OPENING	No effect if the opening is started by the PULSE A Total Opening if the opening is started by the PULSE B	No Effect	Stops operation and switches to STOP mode	No Effect	
PARTIAL OPEN IN PAUSE	Total Opening	The reclosing is stopped and at the end of the pause it restores other 5 sec. up to the reset		The reclosing is stopped and at the end of the pause, it restores other 5 sec. up to the reset A total opening is possible.	
TOTAL OPEN IN PAUSE	The reclosing is stopped and at the end of the pause, it restores other 5 sec. up to the reset			The reclosing is stopped and at the end of the pause, it restores other 5 sec. up to the reset	
CLOSING	The closing is stopped and the gate opens again immediately			Stops operation and the gate opens immediately	
IN STOP	Restarts the operating procedure before the STOP (closing or opening)		The pulses A and B will be ignored. The opening or closing operation are locked		

4.1.2 AUTOMATIC operating (SW1=ON - SW2=OFF)

One pulse allows :opening , pause ,automatic closing.

During opening and closing procedures, every pulse stops and reverse the movement of the gate immediately.

During the pause, a pulse recloses the gate immediately.



GATE STATUS	PULSE A	PULSE B	STOP	PHOTOCELL 1	PHOTOCELL 2
CLOSE	Total Opening and reclosing after the time of pause	Partial Opening and reclosing after the time of pause	Disables A and B pulses and disable opening	See SWITCH 3 pages 9 and 10	
OPENING	The gate stops and it recloses immediately.		Stops operation and switches to STOP mode	No effect	
OPEN IN PAUSE	The gate recloses immediately			The reclosing is stopped and at the end of the pause, it restores other 5 sec. up to the reset	
CLOSING	The gate stops and it opens immediately.			Stops operation and the gate opens immediately	
IN STOP	Restarts the operating procedure before the STOP (closing or opening)		The pulses A and B will be ignored. The opening or closing operation are locked		

4.1.3 STEP-BY-STEP WITH AUTOMATIC RECLOSING (SW1=OFF - SW2=ON)



One pulse allows : opening, pause, automatic closing
 During opening and closing procedures, every pulse stops and reverse the movement of the gate immediately.
 During the pause, a pulse recloses the gate immediately.

GATE STATUS	PULSE A	PULSE B	STOP	PHOTOCELL 1	PHOTOCELL 2
CLOSE	Total Opening and reclosing after the time of pause	Partial Opening and closing operation after the time of pause	Disables A and B pulses and disable opening	See SWITCH 3 pages 9 and 10	
OPENING	The opening is stopped and the next pulse recloses the gate		Stops operation and switches to STOP mode	No Effect	
OPEN IN PAUSE	Recloses the gate immediately			The reclosing is stopped and at the end of the pause, it restores other 5 sec. up to the reset	
CLOSING	It is locked and only a new pulse recloses the gate			Stops operation and the gate opens immediately	
IN STOP	Restarts the operating procedure before the STOP (closing or opening)		The pulses A and B will be ignored. The opening or closing operation are locked		

4.1.4 MANUAL STEP-BY-STEP WITH STOP operating (SW1=ON - SW2=ON)

One pulses opens; the next pulse stops; the next pulse closes ; the next pulse stops; the next pulse opens, etc .



GATE STATUS	PULSE A	PULSE B	STOP	PHOTOCELL 1	PHOTOCELL 2
CLOSE	Total Opening	Partial Opening	Disables A and B pulses and disable opening	See SWITCH 3 pages 9 and 10	
OPENING	The opening is stopped and the next pulse recloses the gate		Stops operation and switches to STOP mode	No Effect	
STOP	Reverses the movement of the motor			Pulses A and B are ignored and all movement are locked	
CLOSING	The closing is stopped and the next pulse opens the gate			Stops operation and the gate opens immediately	
IN STOP	Restarts the operating procedure before the STOP (closing or opening)		The pulses A and B will be ignored. The opening or closing operation are locked		

4.2 Electronic clutch adjustment (trimmer A)

This adjustment works on the thrust force of geared-motor: this force must cause the moving of the gate, and it's closely dependent on the weight of its structure.

During the movement, also the gate acquires a thrust force.

Under provisions of the law, the adjustment must be made so that the thrust force of the gate is equal to 15Kg; it means that a force equal to 15Kg, in opposition to the movement of the gate, **must stop the gate** during its movement.

To set this adjustment, we suggest you to use an instrument called *linear dynamometer*.

4.3 Time of pause adjustment (trimmer B)

If the central unit is setted on *Automatic operating* or *Automatic operating for Parks*, you must adjust the time of pause that must elapse between the end of the opening and the start of the closing of the gate.

4.4 Electronic Brake / Slowing Down (trimmer C)

Turned in anticlockwise direction:

Electronic brake: *disabled*
Slowing down: *enabled at the end of opening / closing*

Turned in clockwise direction:

Electronic brake: *enabled, reduces the movement after the limit/stop is activated.*
Slowing down: *disabled*

4.5 Control LEDs

Here's a summary of the signalings LEDs present on the board (see page 14):

LED	COLOR	ON	BLINKING	OFF
⑦	green	<i>Pulse on input A (total opening)</i>	/	<i>st/by</i>
⑧	green	<i>Pulse on input B (partial opening)</i>	/	<i>st/by</i>
⑨	red	<i>st/by</i>	/	<i>Photocell 1 engaged</i>
⑩	red	<i>st/by</i>	/	<i>Photocell 2 engaged</i>
⑪	red	<i>st/by</i>	/	<i>Opening limit-stop engaged</i>
⑫	red	<i>st/by</i>	/	<i>Closing limit-stop engaged</i>
⑬	yellow	<i>st/by</i>	/	<i>STOP command active</i>
⑭	green	<i>Anomaly</i>	<i>Normal operating</i>	<i>Anomaly</i>

4.6 Remote-control receiver setup

Visualization of the programmed code

- Keep pressed **P1** and **P2** buttons (⑤ and ⑥ at page 11) for at least 2 seconds and not more than 5 seconds, up to the two LEDs (⑦ and ⑧ at page 11) light on.
- Pressing the **P1** button it will be displayed the 12-bit code of "A" channel by a sequence of blinkings of the LEDs:
 - one blink of LED ⑦ indicates dip switch **ON**
 - one blink of LED ⑧ indicates dip switch **OFF**
- At the end of the sequence, it will exit automatically the setup mode.

NOTE: *If no buttons is pressed in 5 seconds, the produre is stopped and no code will be displayed.*

NOTE: To visualize the code of the "B" channel, repeat the same procedure using the **P2** button.

Auto-learning of the remote-control code

- Keep pressed **P1** and **P2** buttons (⑤ and ⑥ at page 11) for at least 5 seconds up to the two LEDs start to blink (⑦ and ⑧ at page 11).
- Press **P1** button, only LED ⑦ starts to blink.
- During the blinking, within 5 seconds press the "A" button of the remote-control to let acquire the code.
- The LED ⑦ starts a sequence of blinkings to indicate that the code has been acquired and it will exit automatically the setup mode.

NOTE: *If no remote-control is activated in 10 seconds, the setup is stopped and no code will be programmed.*

NOTE: For the acquisition of the code of the channel "B" of the remote-control, repeat the procedure using **P2** buttons and LED ⑧.

Summary of setup accessing times

Time of simultaneous pressure of P1 e P2 buttons:			
	0 sec.	2 sec.	5 sec.
LED Status	LED "1" and "2" turn off	LED "1" and "2" light	LED "1" and "2" blink
Function	No action	Release P1 and P2 buttons to enter in Code Display Mode.	Release P1 and P2 buttons to enter in Auto-acquisition Code Mode

4.7 Remote-control setup

The TWIN allows the independent set-up for each of 2 channels; It's possible to memorize a different code on each button, and a channel to select (A, B, C, or D) also if they are not on the same code. The set-up operation has to be repeated for each of the 2 buttons of the radio-control.

In order to start the set-up phase you have to push both the buttons for some seconds, until the LED remains on, then you have to leave them:

- For **insert** a new code you have to access with the following sequence: "1" - "1" - "0" - "0"
 - Insert the **10 digit of the code** using:
 - "0" (right button): It means dip-switch "OFF" for the previous TWIN versions*
 - "1" (left button): It means dip-switch "ON" for the previous TWIN versions*
 - During the insert of each code the LED will switch off for some seconds.
 - Insert the **2 digit of the channel** using:
 - Channel A "1" - "0": It means the left button for the previous TWIN versions
 - Channel B "1" - "1": It means the right button for the previous TWIN versions
 - Channel C "0" - "0": to use together with quadri-channels receivers
 - Channel D "0" - "1": to use together with quadri-channels receivers
 - Push the button that you want to assign at the code.
 - The LED switch off at the end of the set-up.

* For example, to duplicate the left button (channel A) of a previous TWIN version that has the dip-switch set as following:

	1	2	3	4	5	6	7	8	9	10
ON										
OFF										

You have to digit the following buttons sequence:

1 1 0 0
1 0 0 1 1 0 1 0 0 1
1 0 (fast flash of the LED)
1
 Access code channel A assigned to left button

- For **read** the code you have to digit the following sequence: "1" - "0" - "1" - "0"
 - Push on the button that you want to know the code
 - The LED switch off and it start one series of 12 flashes:
 - A brief flash means "0"
 - A long flash means "1"

During the set-up, if you don't push on any button for at least 5 seconds the LED switch off and the setting phase finish automatically.

Unscrew the screw on the bottom of the radio-control to open the plastic cover, take off the old battery and insert a new one according with the polarities indicated on the plastic cover.

Check the correct operation of the two buttons after to close the plastic cover.

5 Maintenance

5.1 Gate

It's suggested to carry out periodic checks on the structure of the gate and in particular it's suggested to verify the perfect condition of gears, ruck and all mechanical elements.

- Grease periodically the spocket wheel rackwork kinematic system.
- Chek periodically (at least once every 6 months) the sensibility of the clutch. To perform this operation, act by means of the key on the specific adjustament pawl, so that the operating force, estimated manually on the gate wing, does not exceed a thrust of 7/8kg.

5.2 Fuses

F1 3,15A250V VOLTAGE Fuse

This fuse allows the protection from overloads of the central unit transformer, from voltage drops of the flasher and of the geared-motor.