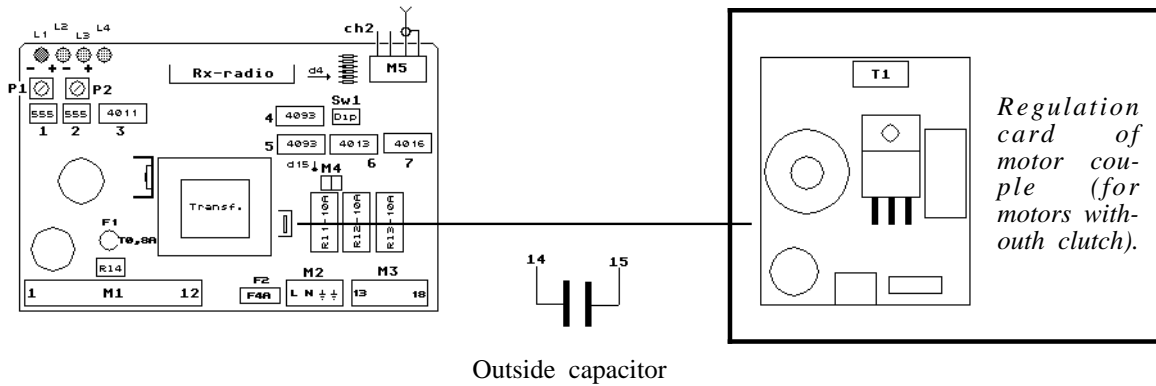
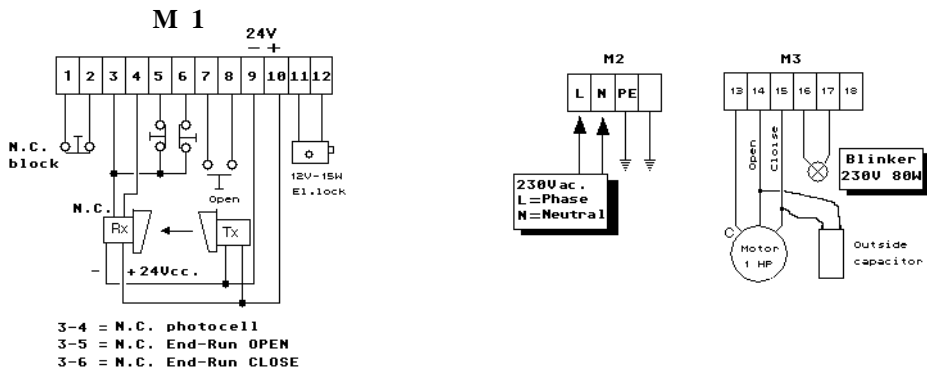


# Gate Opener type CN91C Single-phase with or without end-run



Regulation card of motor couple (for motors without clutch).

Outside capacitor



3-4 = N.C. photocell  
3-5 = N.C. End-Run OPEN  
3-6 = N.C. End-Run CLOSE

## ELECTRICAL CONNECTIONS

### 12-POLE LEFT TERMINAL BLOCK (M 1) :

- 1 - 2 = N.C. contact input to block (reset with opening)
- 3 - 4 = N.C. contact input photocell/safety profile
- 3 - 5 = N.C. End-run input to OPEN
- 3 - 6 = N.C. End-run input to CLOSE
- 7 - 8 = N.O. button input to OPEN - CLOSE
- 9 -10 = Output at 24V dc. 300mA max. (10 = +24V)
- 11 -12 = Output for electrical lock at 12V - 15W (with capacitor discharge)

### 4-POLE RIGHT TERMINAL BLOCK (M 2) :

- L = LINE input at 230Vac.
- N = Neutral input
- Earth = Input and output earth wire

### 6-POLE RIGHT TERMINAL BLOCK (M 3) :

- 13 - 14 - 15 = Motor output (terminal 13 = common)
- 16 - 17 = Blinker output at 230V 80W max.

### 2-POLE TERMINAL BLOCK (M 4) :

- 14 - 15 = Safety N.C. contact

**WARNING: The motor CAPACITOR is OUTSIDE the control "Regolatore" card = Regulation card of motor couple (on request)**

- F1 = Fuse on 24V (max. T800mA)
- F2 = Fuse on 230V (max. F4A)
- P1 = WORKING time trimmer
- P2 = PAUSE time trimmer
- L1 = Led for pressed opening button (red)
- L2 = Led for supplied control (green)
- L3 = Led for open block (yellow)
- L4 = Led for obstructed photocell (yellow)
- R11 = Safety relay
- R12 = Relay to open
- R13 = Relay to close
- R14 = Relay for electrical lock

### DIP-SWITCH SELECTION :

- 1 = ON : with obstructed photocell the gate does not open
- 2 = ON : step-by-step system -OFF : automatic system
- 3 = ON : open-block-close-open -OFF : open-pause-close
- 4 = ON : short closing impulse of one door to release the electrical lock - OFF : normal
- D15 = "Condominiale" system (by cutting the diode)
- D4 = "Accordion-type Gate" system (by connecting 1N4148 diode)

### 4-POLE HIGH TERMINAL BLOCK (M 5) :

- 1 - 2 = Output 2<sup>nd</sup> Channel Radio Rx (max.30Vdc. - 0,1A)
- 3 - 4 = Aerial input (4 = screen)

# WORKING

## - AUTOMATIC SYSTEM :

By pressing for 1 sec. the N.O. button to open/close, the motor will begin to move, for the time determined by the combination "End-run/ Working time".

The control works only with N.C. End-Run.

With the gate open, the pause timer (which can also be bypassed by pressing the open/close button once again) will reclose as determined by the special trimmer.

- The photocell contact (N.C.) is activated only during the reclosing phase, but if during the pause time an object or a person cross its range of action, it automatically resets the timing which will start again from the beginning.

- By request it is possible to deliver the "Accordion-type gate" version (D4): an opening block of the motor when something is crossing the range of action of the photocell, and continuation of the movement with photocell free.

- A contingent temporary block of the control can be obtained by acting on the special contact (N.C.); in this case the motor stops until the open/close button is not pressed, giving movement to the gate in the opposite direction of that memorized when blocking.

- Remember that if some tension is taken off from the control, the first movement after reset will be an opening.

- By selecting on special Dip-switches, you could obtain the following kinds of working:

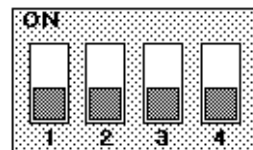
### Dp 1 :

ON = with obstructed photocell the gate does not open

### Dp 2 :

ON = step-by-step (semiautomatic) system

OFF = automatic system



### Dp 3 :

ON = gate block by giving an impulse when opening (open, block, close, open etc.)

### Dp 4 :

ON = short closing impulse of one door to release the electrical lock

OFF = normal

## - STEP-BY-STEP SYSTEM :

The functions are the same except the pause time which is off. Therefore, to reclose you should press the special button (N.O. open/close) once again.

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## WARNING !

- Check that the RED led is out during the normal working of the unit; it will light up when pressing the OPEN/CLOSE button, and come out when released. In case the RED LED REMAINS ALWAYS ON, the control cannot operate because of a short-circuit of the open/close button.

- When connecting the photocell contact (N.C.) with Dp 1 to ON, you should check the correct working, otherwise the control does not give any movement of opening or closing.

- For best connections, align the photocells, than make the other connections.

- When using the control with "Condominiale" working (by cutting off the D15 diode), remember to put the Dip-switch on AUTOMATIC, otherwise the control doesn't close!

**NOTE:** Before opening the control for maintenance service, you should connect an omnipower switch, with a minimum contact opening distance of 3 mm, on the control to switch it off (CEI 64-8).

## "Logica" card adjustments

- P1 = "Working time" trimmer (from 6 to 75 sec.)  
 P2 = "Pause time" trimmer (from 3 to 75 sec.)  
 L1 = Led signalling pressed opening button (red)  
 L2 = Led signalling supplied unit (green)  
 L3 = Led signalling open block (yellow)  
 L4 = Led signalling obstructed photocell (yellow)  
 Sw1= Dip-switch to preselect functions (see directions on the previous page)  
 D15= By taking off this diode, you could have the "Condominiale" working (the button is only to open; the closing is automatic).  
 D4 = By connecting the 1N4148 diode you can have the "Accordion-type gate" working (with obstructed photocell the gate stops when opening, while reverses when closing).

## First intervention to solve problems of the gate openers

PROBLEM:	LIKELY CAUSE:	SOLUTION:
- The control doesn't move, leds out.	- Wrong connection of the 230V line, check F2 (F4A).	- Connect the line as shown on the diagram.
- The control doesn't move, leds out.	- Short-circuit on the output at 24Vdc., check F1 (T800mA).	- Disconnect units supplied in the control.
- The control doesn't move, leds on.	- Open block contact.	- Check that the BLOCK is N.C.
- The control opens at once, then closes without 'pause and doesn't move any more.	- Input of open/close in short-circuit (lit L1 red led).	- Check the inputs (Rx buttons, key selector).
- The control opens a little and then stops.	- Safety profiles, block buttons.	- Check that there aren't any wrong contact.
- The control opens but doesn't close.	- Disconnected dip-switch Dp2 for automatic.	- Correctly select the autom./step-by-step dip-switch.
- The control gives opening movement, but the motor closes.	- Wrong connection of the motor (reverse the wires).	- Connect in a proper way.
- The control doesn't feel end-run to open and close.	- Wrong connection of the end-runs.	- Connect in a proper way.
- The control gives movement only to one sense.	- Wrong connection of end-run (common wire).	- Connect in a proper way.
- The control reverses when the motor opens.	- Wrong connection of the motor (reverse the wires).	- Connect in a proper way.
- The motor opens the gate, but not completely.	- "Working Time" too short.	- Increase "Working Time" trimmer (P1).
- The control closes at once.	- "Pause Time" too short.	- Increase "Pause Time" trimmer (P2).

**The ALLTRONIC s.n.c. will not be responsible for wrong connections and/or mishandlings of the controls which will not be considered under guarantee.**

## INSTALLATION ADVICES :

- 1) The control should be installed as near the gate as possible.
- 2) If this is not possible, you should:
  - Use cables with proper sizes.
  - NEVER use a multiwire cable to connect either the motor or all the services (open, photocell, block, end-run), but ALWAYS SEPARATE THE POWER FROM THE LOW TENSION (controls and securities) by using more cables.
  - In case of 400V three-phase controls it is necessary to place them near the gate in order to have the shortest way of the power wires with those of the end-runs, always by using separated cables. If this is not possible, you should use screened cables for the low tension, by remembering to earth the screen of the cable at the two ends.
- 3) After all installations, check (with tester Vac.) that there isn't any induction tension on the inputs, by measuring between the earth and one end of the "Opening button" terminal. If there is an ALTERNATING tension below 20- 30V (induced tension for cable passage at 230V), the system is ready to be tested, otherwise it is necessary to overhaul the cable arrangement as described above.

**NOTE: To completely remove the induced tension earth on the spot the 0 V of the supply (terminal no. 9 of the left terminal block).**

## MAX. LOADS OF RELAY CONTACTS AND THEIR MAINTENANCE:

The relays mounted on our controls (CN90P1 - CN91 - CN93 - CN94 - CN95 - CN96 - CN98 - CN99 - CN80) have a load of 16 Amp on resistive load and should be periodically checked according to their load.

It is advisable to overhaul the relay contacts every 4 years, but always according to the following conditions :

- Single-phase controls type CN90P1 - CN91 - CN93 - CN94 - CN96 - CN80

Max. permissible load : 1 HP

Single-phase motor  $\cos\phi = 0.7$

No. of possible manoeuvres: 200.000

- Three-phase controls type CN95 - CN98 - CN99

Max. permissible load : 1.5 HP at 400V

Three-phase motor  $\cos\phi = 0.7$

No. of possible manoeuvres: 100.000

NOTE: Reducing the motor  $\cos\phi$ , the no. of possible openings (manoeuvres) decreases (e.g. with  $\cos\phi = 0.3$  they are halved).

- Check the values of the installed motors -

**WARNING : The above specifications are addressed to technicians and/or qualified staff; all checks and works should be made OUTSIDE the electrical and electronic details of the controls.**

*Remember that all installations have to be carried out according to law requirements and the rules of good installation.*

**Warning : Remember that it is advisable to protect the control, at least on the upper side, if it could be subject to inclement weather.**

Alltronic snc states that the model CN91 has been registered.

This control will be protected in all its parts by the law.

It is forbidden to reproduce any part of this manual without written authorisation of the Alltronic snc.

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