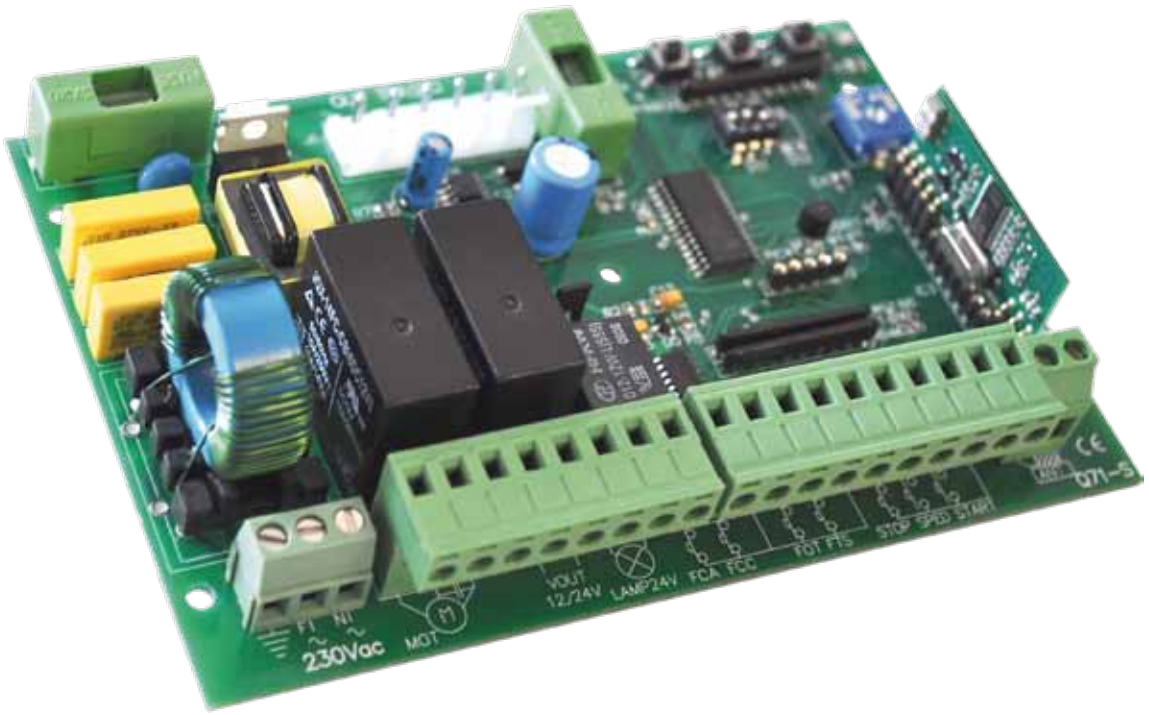
Q71S CONTROL PANEL FOR SLIDING GATES

230V ac

Instructions Manual

Q71S



Control panel for sliding gate automation 230Vac

- Streamlined programming procedure
- Automatic setting of the obstacle detection level
- Automatic setting of the deceleration time
- Deceleration speed adjustment
- Pause-time adjustment
- Electric limit-switch in opening and closing
- Outputs for safety photocells in opening and in closing
- Outputs for START, PARTIAL OPENING and STOP push-buttons
- Output for safety flashing light (Blinker)

TECHNICAL FEATURES

Control Panel Dimensions	140 x 95 x 38 mm
Control Panel Weight	0,186 Kg
Transformer	30VA 230/0 - 12 - 24Vac
Transformer Weight	0,60 Kg
Blinker Power Supply	24Vdc max 20W
Accessories Power Supply	12Vdc – 24Vdc, max 3W
Working time	ADJUSTABLE
Pause-time	ADJUSTABLE
Obstacle Detection Level	AUTOMATIC

1. WARNINGS

This manual contains important information regarding personal safety.
An incorrect installation or an improper use may cause serious damages to person(s) or object(s).
Read carefully and pay particular attention to the safety sections marked by the symbol :
Store this manual safely for future use.

All wirings or operations on the control panel must be performed with the control panel disconnected from the power supply.

Connect the control panel only to a power supply line equipped with safety grounding system.

Wiring, settings and commissioning of this control board must be carried out by qualified and experienced personnel only.
The installation has to comply to laws and regulations in force, with particular reference to **EN 12445** provisions.

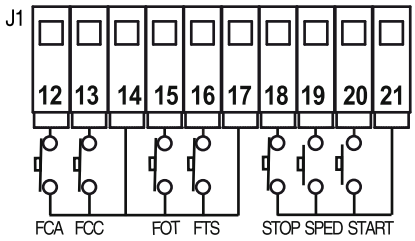
2. WIRING DIAGRAM and COMPONENTS

DL1 = Programming LED
DL2-3-4-5-6-7-8 = Signalling LEDs
P1 = Radio transmitter MEMORY button
P2 = WORKING TIME setting button
P3 = PAUSE-TIME setting button
RV1 = DECELERATION SPEED/MOTOR FORCE adjuster

F1 = Fuse for battery 5A
F2 = Fuse for service devices 2A
JP1 = Jumper for accessories output 12/24V
DS1 = Switches for the operating mode selection
DS2 = switches for obstacle detection during deceleration
IC3 = Radio-receiver modul

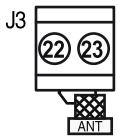
J1 = plugs for CONTROLS and SAFETY DEVICES

12	input for OPENING LIMIT-SWITCH (N.C. contact)
13	input for OPENING LIMIT-SWITCH (N.C. contact)
14	COMMON inputs
15	CLOSING PHOTOCELLS input (N.C. contact)
16	OPENING PHOTOCELLS input (N.C. contact)
17	COMMON inputs
18	STOP push-button input (N.C. contact)
19	PARTIAL OPENING push-button (N.O. contact)
20	START push-button (N.O. contact)
21	COMMON inputs



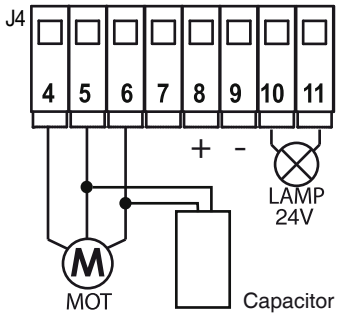
J3 = plugs for external AERIAL

22	aerial cable (EARTH)
23	aerial cable (SIGNAL)



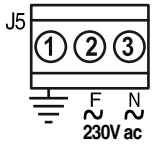
J4 = plugs for POWER devices

4	COMMON }
5	OPENING } output for motor
6	CLOSING }
7	NOT USED
8	POSITIVE (+) 12/24Vdc for accessories power supply
9	NEGATIVE (-) 12/24Vdc for accessories power supply
10	output for flashing light (Blinker) power supply
11	output for flashing light (Blinker) power supply

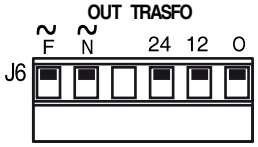


J5 = plugs for Electrical Mains 230Vac

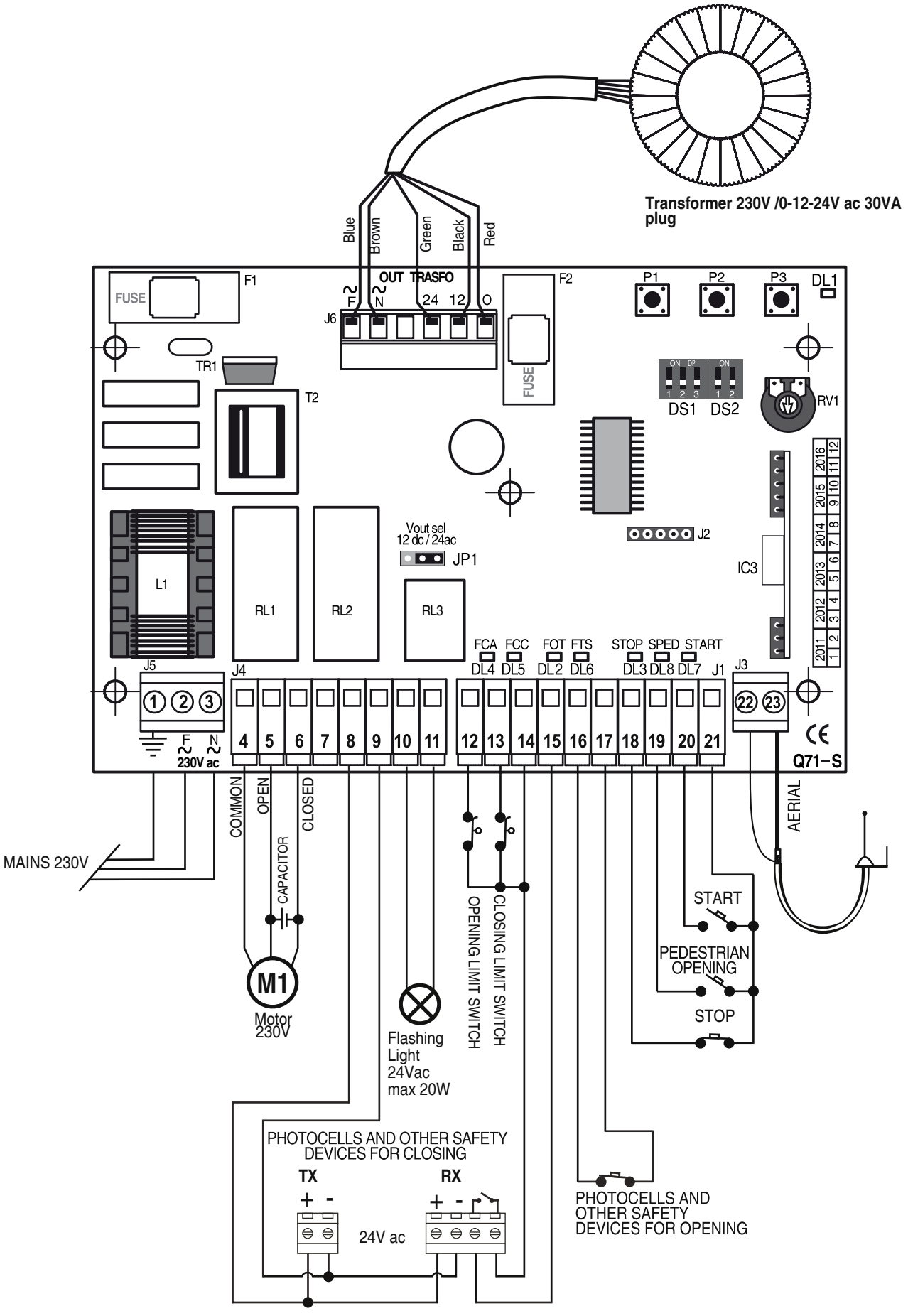
1	EARTH connection
2	LINE
3	NEUTRAL



J6 = plug for transformer



WIRING Diagram for 230V ac motor



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3. ELECTRIC WIRINGS

Please refer to the diagram in chapter **2** for a correct wiring.

3.1 MOTOR wiring

Wire the motor to plugs nr **4-5-6** on **J4**.

3.2 FLASHING LIGHT wiring

You can wire a flashing light (max 20W) to plugs nr **10-11** on **J4**.

- **QUICK** flashing → gate **OPENING**
- **SLOW** flashing → gate **CLOSING**
- **Flashing** light OFF → gate in **PAUSE** time

3.3 PHOTOCELLS wiring

3.3.1 Safety Photocells When Gate is CLOSING

Power the photocells by outputs nr **8-9** on **J4**.
Wire the contact (N.C.) of the photocells to plugs nr **14-15** on **J1**.
Additional sets of photocells, or other safety devices to protect the CLOSING area (i.e. safety rubber edge on the gate), can be wired through contacts (N.C.) in **series**.

- if an obstacle interrupts the photocell beam when the gate is closing, the automation **STOPS** and **REVERSES** in about 1,5 seconds.
- An obstacle detected by the photocells when the gates is OPENING does not cause any effect.

For safety reasons al least one set of photocells must be installed to protect the CLOSING area of the gate.

Note: Should you need to temporarily bypass the contact for the closing photocells, i.e. during the installation procedure, you can make a jumper between plugs nr **14-15** on **J1**.

3.3.2 Safety Photocells When gate is OPENING

Power the photocells by outputs nr **8-9** on **J4**.
Wire the contact (NC) of the photocells to plugs nr **16-17** on **J1.**
Additional sets of photocells or other safety devices to protect the opening area (i.e. safety rubber edge on the pillar), can be wired through contacts (NC) in **series.**

- if an obstacle interrupts the photocell beam when the gate is OPENING, the automation **STOPS**. Once the obstacle has been removed, gates will **START/CONTINE** to open.

For safety reasons al least one set of photocells must be installed to protect the OPENING area of the gate.

Note: Should you need to temporarily exclude the contact for the opening photocells, i.e. during the installation procedure, you can make a jumper between plugs nr **16-17** on **J1**.

3.4 START Push-Button Wiring (standard opening)

You can wire a START push-button (NO contact) to plugs nr **20-21** on **J1**.
Additional START push-buttons can be wired through contacts (NO) in **parallel**.

3.5 PEDESTRIAN Push-Button Wiring (partial opening)

You can wire a PEDESTRIAN START push-button (NO.contact) to plugs nr **19-21** on **J1**.
Additional PEDESTRIAN OPENING push-buttons can be wired through contacts (NO) in **parallel**.

3.6 STOP Push-Button (emergency stop)

Wire the emergency STOP push-button (NC contact) to plugs n° **18-21** on **J1**.
Additional STOP push-buttons can be wired through in **series** contacts (NC).

The installation of an emergency stop push-button is highly recommended for the safety of people and objects.

Note: Should you need to temporarily exclude the contact for the STOP push-button, i.e. during the installation procedure, you can make a jumper between plugs nr **18-21** on **J1**.

3.7 ELECTRICAL MAINS wiring

Once all other wirings have been carried out, plug **2** (line) and plug **3** (neutral) on **J5** of the control panel can be wired to the electrical mains.

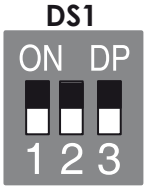
4. Selecting the OPERATING MODE

Three different operating modes can be selected trough **DS1** dip-switches as follows:

STEP by STEP Mode
A first START command makes the **gate OPEN**.
A second START command while the gate is opening will **STOP** the gate.
A further START command makes the gate **CLOSE**.

To select this operating mode place the **DS1** dip-switches as shown: **1=OFF 2=OFF 3=OFF**

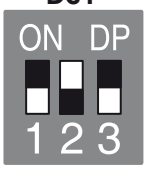
DS1



In case of MAGNETIC LIMIT SWITCH system set DS1 dip-switches:
1=OFF 2=OFF 3=ON

AUTOMATIC CLOSING Mode
A first START command makes the gate **OPEN**, once the gate has reached the complete opening it stops and the PAUSE-TIME starts.
When the pause-time elapses the gate automatically **CLOSES**.
If a START command is given while the gate is opening, the gate **STOPS** still.
A further START command makes the gate CLOSE.
If a START command is given while the gate is closing, the gate STOPS and REVERSES in about 1.5 seconds.

DS1



To select this operating mode place the DS1 dip switches as shown: **1=OFF 2=ON 3=OFF**

In case of MAGNETIC LIMIT SWITCH system set DS1 dip-switches:
1=OFF 2=ON 3=ON

AUTOMATIC CLOSING mode with MULTI-OCCUPATION Function
A first START command makes the gate **OPEN**, once the gate has reached the complete opening it stops and the PAUSE-TIME starts.
When the pause-time elapses the gate automatically **CLOSES**.
A START command given while the gate is opening has no effects.
A START command given while the gate is closing, makes the gate STOP and REVERSE direction in about 1.5 seconds.

DS1

To select this operating mode place the DS1 dip switches as shown: **1=ON 2=ON 3=OFF**

In case of MAGNETIC LIMIT SWITCH system set DS1 dip-switches:
1=ON 2=ON 3=ON

Once the operating mode has been selected you can power the control panel.

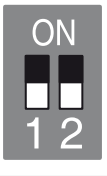
5. OBSTACLE Detection

The control panel automatically adjusts the obstacle detection sensibility according to the force required to the motor to move the gate.
The obstacle detection I working also during the deceleration of the gate.
It is possible to switch off the obstacle detection during deceleration (in case of slight friction when the gate starts/ends its movement) with DS2 switches:

OBSTACLE DETECTION function during DECELERATION On

1= OFF 2= OFF

DS2



OBSTACLE DETECTION function during DECELERATION Off

1= ON 2= OFF

DS2

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6. Programming of RADIO TRANSMITTERS

6.1 DELETING all Radio Transmitters

For your security we recommend you to delete all factory radio code memorized on the control panel:
Keep **P1** button on the control panel pressed until **DL1** goes off (about 10 seconds).
All radio codes have been deleted.
Now you can proceed with the PROGRAMMING of your radio transmitters.

6.2 PROGRAMMING a Radio Transmitter

Warning → before starting the memorization procedure, check the model of radio transmitter you want to program on the control panel:

- Radio transmitters with random generated code → repeat the programming procedure for each radio transmitter.
- Radio transmitter with fix code → set the same combination of dip-switches (see the radio transmitter's instructions manual) on all the radio transmitters. The programming procedure is needed for one transmitter only.

Press **P1** button on the control panel: **DL1** flashes once and then stays on.
Now press on the radio transmitter the button you want to use to give a Start command.
The code has been stored in the memory and **DL1** goes off.
The control panel can store up to 50 different radio codes.

6.3 Programming the Radio Transmitter with PEDESTRIAN FUNCTION

Should you need to occasionally open the gate partially (i.e. to walk out or with a bicycle), you can memorize a code for pedestrian use that opens the gate for about 1.5 meters.
Press twice **P1** button on the control panel: each pressing is confirmed by a flash of the **DL1** light.
After the two flashes **DL1** light stays on: now you can press on the radio transmitter the button you want to use to give a pedestrian opening command.
The code has been stored un the memory and **DL1** goes off.

7. WORKING TIME Setting

Warning→ **BEFORE STARTING ANY PROGRAMMING PLEASE MAKE SURE THAT THE GATE IS EQUIPPED WITH OPENING AND CLOSING MECHANICAL STOPS.**

Warning→ The control panel has a pre-set working time that allows a standard cycle of the gate (opening-pause-closing) .Should you need to modify the pre-set working time please follow the QUICK SETTING PROCEDURE here below:

- Make sure that the gate is fully closed.
  If it is not, release the gate motor, close the gate manually and then lock it again.
- Press **P2** button: the **DL1** light illuminates.
  Hold button **P2** pressed for few seconds until **DL1** light goes off. The gate starts opening.
- During the first 10 seconds of opening, use **RV1** adjuster to set the DECELERATION SPEED.
- After deceleration, before the gate completes the opening, use again the **RV1** adjuster to set the motor FORCE.
  Set **RV1** adjuster so that the motor force is enough to move the gate, but do not overset the force in order not to affect the safety level of the installation.
- After a while the gate closes and automatically detects the closing MECHANICAL STOP point.
- Then the gate automatically opens for few seconds and closes to detect the ELECTRICAL LIMIT SWITCH also.
- Now the working time setting procedure is completed.

8. PAUSE-TIME setting

- Keep **P3** button on the control panel pressed until LED **DL1** lit and stays on, then release the button.
- Wait for the time you want to set as pause-time and then press again **P3**.
- **DL1** light goes off: the pause-time has been saved in the control board's memory.
- .If you need to change the pause-time setting, please repeat the above procedure step by step.

9. DECELERATION Time

The control panel automatically set the DECELARATION time to 20% of the total working time.

10. DISPOSAL

Do not pollute the environment

Some electronic components may contain polluting substances.
ensure materials are passed to authorised collection centres, according to the laws and the regulations in force, for safe disposal.