Q 36 S CONTROL UNIT FOR SLIDING GATES

Q36S_10(fr36)_GB_utility

Utility

PROTECO CANCELLI AUTOMATICI

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CONTROL UNIT COMPONENTS

A	SELECTION BUTTON A
B	SELECTION BUTTON B
C	BUTTON CONFIRMATION (YES) / INCREASE
D	BUTTON NEGATION (NO) / DECREASE
F1	FUSE 24 VAC 800 MA
F2	POWER CURRENT FUSE 230 VAC 5A
DISPLAY	7 SEGMENTS DISPLAY
M1	TERMINAL BOARD FOR RADIO OR ANTENNA
M2	TERMINAL BOARD FOR CONTROLS AND SECURITY
M3	TERMINAL BOARD FOR MOTORS
M4	TERMINAL BOARD FOR POWER SUPPLY
A B C	EARTH TERMINAL BOARDS
SC	RADIO BOARD
JI	PROGRAMMING JUMPER
CN	EXPANSION SERIAL CONNECTOR
Z2	FILTER
KI/K2	RELAY
VI	PRIMARY VARISTOR
V2	SECONDARY VARISTOR

BUTTON A →
BUTTON B →
BUTTON C →
BUTTON D →

DISPLAY

TERMINAL BOARD 1

RED — TRASFORMATORE 230V / 24V — NERO
RED — NERO

24V AC AC   V2   F1   VI L N 230V

SC   A   DISPLAY   CN

B

C SI +

D NO

JI

K1   K2   F2   Z2

MONTH 1 2 / 3 4 / 5 6 / 7 8 / 9 / 10 / 11 / 12 YEAR 02 03 04

1 2 3 4 5 6 7 8 9 10 11 12

13 14 15   A B C   19 20

TERMINAL BOARD 2   TERMINAL BOARD 3   TERMINAL BOARD 4

PARAMETERS

PARAMETERS VARIATIONS

Each time you press the button **A**, you enter in the menu;
with the button **B** you can choose the suitable parameter.
In order to change the pre - set parameters, use buttons **C** and **D** in the following way:

A) The button **C** confirms or puts the selected parameter; it increases at each impulse the value of the selected parameter;

B) The button **D** erases or puts out the selected parameter; it decreases at each impulse the value of the selected parameter.

When you change one or more parameters with the buttons **C** and **D**, you have to store the variations in the following way: enter in the function **"store parameters"** *SU* (the last of the menu *PA*) and confirm pressing the button **C**.

BUTTON A menu

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PA = PARAMETERS

rA = RADIO

dE = DEFAULT

CODE	FUNCTIONS	
rP	RESET OF THE INITIAL FUNCTIONS	BUTTON C = RESET

CODE	FUNCTIONS
r-	SOW CODES
tc	NEW REMOTE CONTROL ACQUISITION
CP	REMOTE CONTROL ACQUISITION WITH STOP FUNCTION
Pd	REMOTE CONTROL ACQUISITION WITH PEDESTRIAN FUNCTION
rC	DELETE AT THE SAME TIME ALL CODES

Parameters table

CODE	FUNCTIONS	VALUES VARIATIONS	VARIATIONS
M1	MOTOR WORKING TIME 0 - 99	20	BUTTON C= INCREASE BUTTON D= DECREASE
F1	MOTOR POWER 6 - 19	10	BUTTON C= INCREASE BUTTON D= DECREASE
r1	MOTOR DECELERATION TIME 0 - 99	3	BUTTON C= INCREASE BUTTON D= DECREASE
tP	AUTOMATIC CLOSING TIME 0 - 99	3	BUTTON C= INCREASE BUTTON D= DECREASE
Lc	NOT USED PARAMETER		BUTTON C= INCREASE BUTTON D= DECREASE
Pd	PEDESTRIAN OPENING TIME 0 - 99	7	BUTTON C= INCREASE BUTTON D= DECREASE
Fr	MOTOR POWER DURING DECELERATION 6 - 19	10	BUTTON C= INCREASE BUTTON D= DECREASE
tC	NOT USED PARAMETER		

CODE	FUNCTIONS	PRE-SET FUNCTIONS
SU	YES = TO SAVE VARIATIONS No = TO CANCEL ANY OPERATION NOTHING= KEEPS IN TEMPORARY STORAGE	NO
P8	YES = PHOTOCELLS TEST	YES
P7	YES = MOTORS TEST	YES
P6	YES = DECELERATION	YES
P4	YES = PRE BLINKING	NO
P3	YES = AUTOMATIC CLOSINGS STEP BY STEP	YES
P2	YES = CONDOMINIAL	NO
P1	NOT USED PARAMETER	
P0	NOT USED PARAMETER	

SELF DIAGNOSIS
ANOMALIES SIGNALLING

The display shows possible damages of each component of the control board.
Ex. Disconnect or obscure the photocell and verify that the display shows the code *tC*

tA	SAFETY RUBBER EDGE IN OPENING PHASE
tC	PHOTOCELL IN CLOSING PHASE
St	STOP
FA	LIMIT SWITCH IN OPENING PHASE
F-	LIMIT SWITCH COMMON
FC	LIMIT SWITCH IN CLOSING PHASE
PE	PEDESTRIAN START
Go	START
-.-	RADIO CODE IN CONTINUOUS TRANSMISSION
M1	MOTOR TEST

MC = *tC* + *FC*

M7 = *FA* + *tC*

RADIO RECEIVER PROGRAMMING

DELETE ALL THE RECORDED TEST CODES, BEFORE TO PROGRAMME THE RADIO-RECEIVER

r =   **SHOW CODES**
Display the stored code scanning from 1 to 50
ERASURE OF EACH SINGLE RADIO CODE
During the scanning press the button **D** when the display shows the number of the code you want to erase.

t c   **NEW REMOTE CONTROL**

PROCESS **1 = STANDARD** acquisition
PROCESS **2 = SEQUENTIAL** acquisition

PROCESS 1
- Press the button **A** several time until when the display shows the symbol **r A**
- Press the button **B** until when the display shows the symbol **t c**
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **C** to confirm the program storage

PROCESS 2
Connect Jumper **J1**
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **A** for the code acquisition.
- Give an impulse with the transmitter and keep it pressed.
- Remove the jumper **J1** (without switching off the power supply).
- The double click of the relay confirms the code storage.

C P   **REMOTE CONTROL ACQUISITION WITH STOP FUNCTION**
Press the button **A** until when the display shows the symbol **r A**
- Press the button **B** until when the display shows the symbol **C P**
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **C** to confirm the program storage

Pd   **REMOTE CONTROL ACQUISITION WITH PEDESTRIAM FUNCTION**
Press the button **A** until when the display shows the symbol **r A**
- Press the button **B** until when the display shows the symbol **Pd**
- Give an impulse with the transmitter and keep it pressed
- At the same time press the button **C** to confirm the program storage

r C   **DELETE AT THE SAME TIME ALL CODES**
Press the button **A** until when the display shows the symbol **r A**
- Press the button **B** until when the display shows the symbol **r C**
- Keep the button D pressed until when the display shows the symbol **r =**
(Now all the codes have been erased)

CONTROL UNIT PARAMETERS PROGRAMMING

Process **1 = STANDARD**
Process **2 = SEQUENTIAl**

Warning:
1. Check that the connection to the **motors** follows the diagram
2. Check that the connection of the **security** devices follows the diagram
   Note: *In case of you do not install the photocells in closing phase , please jump terminal 3 and 9.*
   In case of you do not install the rubber edge in opening phase , please jump terminal 4 and 9.
3. Check that the connections of the Controls follow the diagram
   Note: *If the Stop function is not in use for the time being Jump terminal 2 and 8.*
4. The gate has to reach the **closing** position
5. Switch on the control unit.

STANDARD PROGRAMMING (Process 1)
a) Give a **START** impulse *(terminal 1 and 8)*

b) During the opening phase, after 240 cm of running, the deceleration will **start**. (Because the control unit is pre-programmed for an opening range of 2,50mt)

c) It will stop for 3 sec.

d) And then will proceed to close.

e) Give a further **START** impulse to see which are the non suitable times and functions of the device and note them in the boxes : values and changes.

f) Step in the programming phase using the buttons **A** and **B** to join the wished parameter. Use the buttons **C** and **D** to change or confirm every single parameter.

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*EXAMPLE 1 : **Addition the working time of the motor within 5 sec.***
*EXAMPLE 2 : **Reduce the deceleration time of the motor within 2 sec.***
*EXAMPLE 3 : **Delete the break time***

EXAMPLE 1
While the control board is switched on check that display shows :

		– –
Press the button **A**	the display shows the symbols	n1
Press several times the button **B**	when display shows the symbols	20
Wait a little	when the display shows the symbols	20
Press 5 times the button **C**	the display shows the symbols	25
Press several time the button **B**	when display shows the symbols	SU
Press the button **C**	the display shows the symbols	– –

The working time of the motor is boosted within 20-25 seconds.

EXAMPLES 2
While the control board is switched on check that the display shows

		– –
Press the button **A**	the display shows the symbols	PR
Press moreover the button **B**	when the display shows the symbols	r1
Wait a minute	when the display shows the symbols	03
Press twice the button **D**	the display shows the symbols	01
Press several times the button **B**	when display shows the symbols	SU
Press the button **C**	the display shows the symbols	– –

The deceleration time of the motor has been reduced within 2 seconds

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EXAMPLE 3
When the control board is switch on check that the display shows:

		– –
Press the button **A**	the display shows the symbol	P R
Press several times the button **B**	when the display shows the symbol	P 3
Wait 1-2 seconds	the display will shows the symbol	S1
Press once button **D**	the display will shows the symbol	nO
Press several times button **B**	the display will shows the symbol	SU
Press button **C**	the display will shows the symbol	– –

It has been removed the automatic closing and it has been inserted the step by step function.

SEQUENTIAL PROGRAMMING *(Process 2)*
a) Insert Jumper **J1**

b) Press button **B** to select **In = MOTOR 1**
When the display shows the required position you should wait a moment without pressing any button.

c) When the display will show the symbol **00** you can **START** the *Sequential programming.*
You can go on using the **START** button or the radio transmitter button if it has been already programmed.

d) 1° Impulse: **OPENING the gate start the opening phase**

e) 2° Impulse: the deceleration begins, when the gate presses the stroke end It starts automatically to calculate the **Break Time**. (the display will show it)

f) 3° Impulse: **STOP** to the **Break Time** and start the **CLOSING** phase

g) Wait for the complete end of the cycle until when the blinker is off

h) Remove the jumper (without switching off the power supply)the double click of the relay shows that the stated values have been stored.

i) Give a **START impulse and control that times are responding to the needs.**

l) If the times of **Working, Deceleration** and **Pause** do not respond to your needs you can:
   1. Repeat the sequence from step **a)** or
   2. Set up in the programming with the buttons and modify the time which you want to change**.**

P 3 = **YES = AUTOMATIC CLOSING INSERTED**
- A **START** Impulse during the opening phase stops the leaves (they stay unmoved until a new impulse)
- A **START** impulse during the closing phase changes the working. If you do not want that the Start impulse during the opening phase stops the gate you have to insert the condominial function (function **P 2** = yes)
= **NO = STEP BY STEP INSERTED**
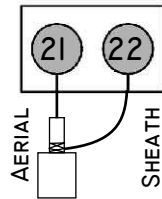- An impulse opens An impulse blocks An impulse closes

P 2 = **YES = CONDOMINIAL FUNCTION INSERTED**
The control board does not accept any command during the opening phase.

TERMINAL BOARDS CONNECTIONS
All the connections must be done without power supply.
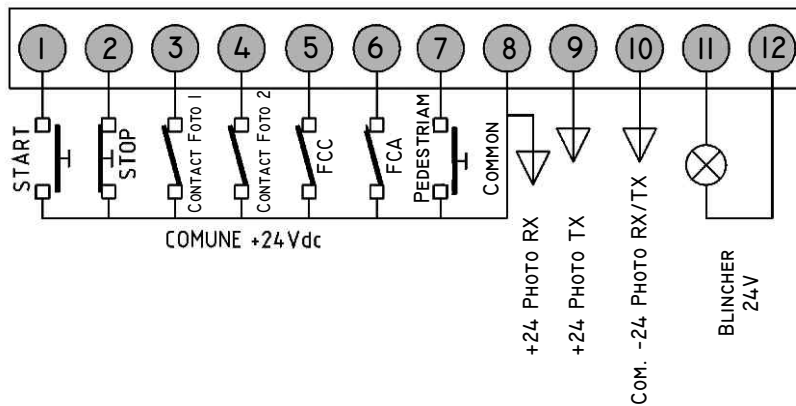
TERMINAL BOARD 1

TERMINAL BOARD 2

COMUNE +24 Vdc

TERMINAL BOARD 3

TERMINAL BOARD 4

N NEUTRAL   L PHASE

EARTH TERMINAL BOARD CONNECTIONS

Connect the yellow/green motors cable to earth terminals **A** / **B**.
Connect the yellow/green network cable to earth terminal **C**.

TERMINAL BOARD 1 CONNECTIONS

21	**Antenna or radio receiver signal**
22	**Sheath or negative for radio receiver**

TERMINAL BOARD 2 CONNECTIONS

|	
1-8	**Start control** normally open (NA) for button, key selector and radio connection. The Start control starts the programmed running cycle.
2-8	**Stop control** normally closed (NC). Emergency button. When pressed the gate stops immediately. In Opening phase and Break-time: at the first impulse the gate closes. In Closing phase: at the first impulse the gate opens. **If, temporarily, the Stop contact is not used, jump terminal 2 with terminal 8.**
3-8	**Input of one safety photocell in closing phase.** **Input of safety rubber edges and of safety photocell in closing phase.** **Input of several safety photocells in closing phase.** The receiver contacts must be connected in series. Normally closed (NC). In opening phase: does not work In closing phase: Stop, break-time for 2 seconds, opening phase again. **If, temporarily, the photocell contacts are not used, jump terminal 3 with terminal 9.**
3-9	**Input only for safety rubber edges in closing phase.** The contacts must be connected in series if there is more than one safety rubber edge. Normally closed (NC). In opening phase: does not work. In closing phase: Stop, break-time for 2 seconds, opening phase again.
4-8	**Input for safety photocells in opening phase (for sliding gate).** Normally closed (NC). In opening phase: Stops and changes direction for 3 seconds In closing phase: does not work If you also want to connect the safety rubber edges, you must connect in series their contacts with the photocell ones. **If, temporarily, the photocell contacts are not used, jump terminal 4 with terminal 9.**
4-9	**Input safety rubber edges in opening phase (for sliding gate).** Normally closed (NC). In opening phase: Stops and changes direction for 3 seconds In closing phase: does not work Using more than one safety rubber edges, the contacts must be connected in series.
5-8	**Limit switch input in closing phase.**
6-8	**Limit switch input in opening phase.**
7-8	**Pedestrian start input**. Normally open (NA).Only one leaf start to open
8-10	**Output for photocell receiver power supply.** **Output for extra 24V dc accessories power supply.** With all Standard accessories included 100 m A are still available for extra accessories.
9-10	**Output for photocell transmitter power supply.**
11-12	**Blinker intermittent output.** 24V dc 10W max**.**
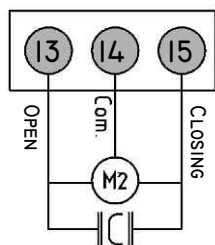
TERMINAL BOARD 3 CONNECTIONS

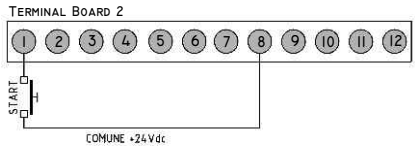|	
13	**Motor 1 M1- output** (13 Brown; 14= Blue; 15= Black)
14	The motor is preset to be fixed on the right side of the gate (looking from the interior side). If you fix the motor on the left side,
15	you have to exchange the wire 13 with the 15 (motor) and the wire 5 with the 6 (limit switch) in the control board. Capacitor between connector 13 and 15.
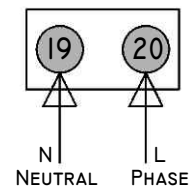
TERMINAL BOARD 4 CONNECTIONS
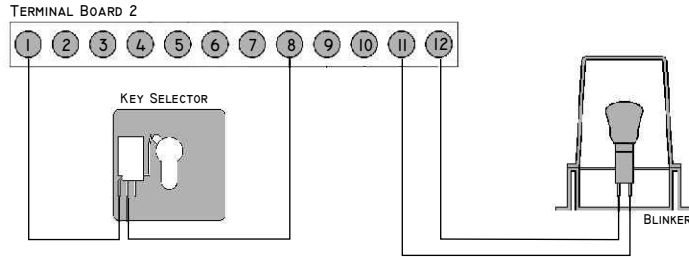
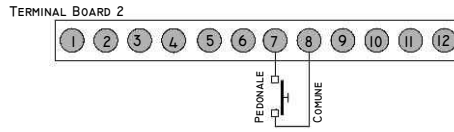|	
19-20	Power input 230-240 Vac - 50/60 Hz. (19=Neutral - 20=phase)

MEMORANDUM FOR WIRING AND PROGRAMMING THE CONTROL UNIT Q36S

1 START

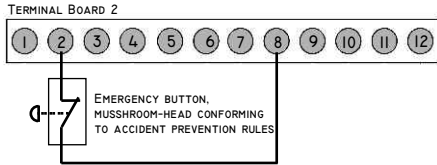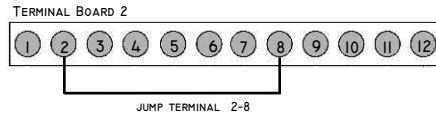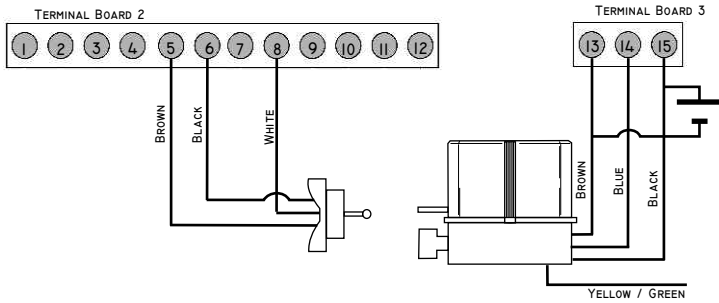Terminal Board 2

START
COMUNE +24Vdc

2 PEDESTRIAM START

Terminal Board 2

PEDONALE
COMUNE

Terminal Board 2

KEY SELECTOR

BLINKER

3 EMERGENCY PUSH BUTTON
STOP CONTACT

Terminal Board 2

EMERGENCY BUTTON, MUSSHROOM-HEAD CONFORMING TO ACCIDENT PREVENTION RULES

N.B.: Jump terminals 2 and 8 if, temporarily, the STOP contacts is not used

Terminal Board 2

JUMP TERMINAL 2-8

4 MOTOR AND LIMIT SWITCH

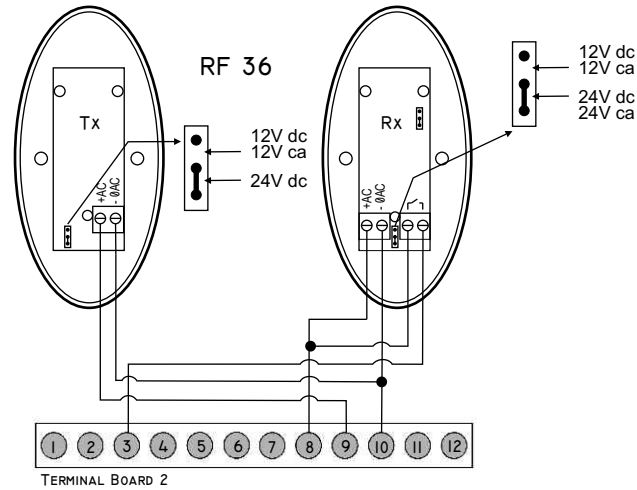Terminal Board 2

Terminal Board 3

BROWN
BLACK
WHITE

BROWN
BLUE
BLACK

YELLOW / GREEN

IF IT IS MOUNTED ON THE LEFT-HAND SIDE (looking the inside)
TO INVERT WIRE 13 WITH WIRE 15 END WIRE 5 WITH WIRE 6
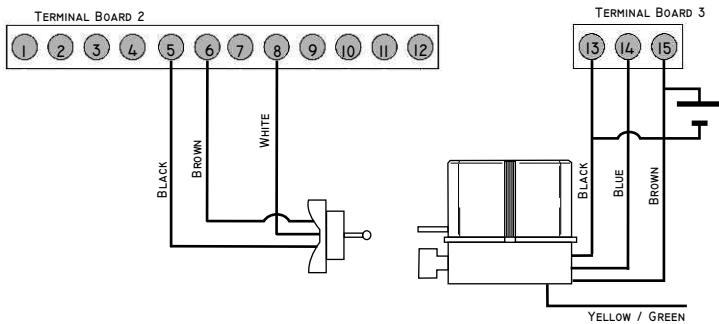
Terminal Board 2

Terminal Board 3

BLACK
BROWN
WHITE

BLACK
BLUE
BROWN

YELLOW / GREEN

5 CONECTION PHOTOCELL IN CLOSING PHASE

RF 36

Tx

Rx

+AC
-0AC

12V dc
12V ca
24V dc

12V dc
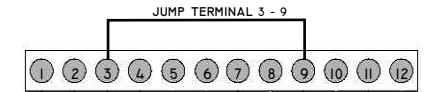12V ca
24V dc
24V ca

Terminal Board 2

CONECTION PHOTOCELL

8 = Power supply + PHOTO RX
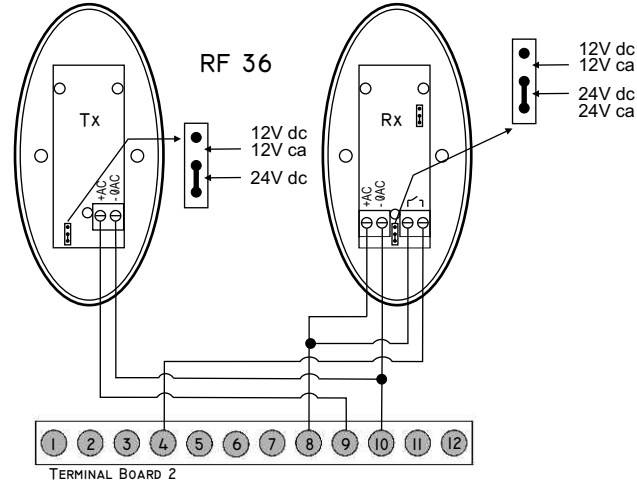**9** = Power supply + PHOTO TX
10= Power supply - COM. PHOTO TX/RX

3 - 8 = Conection photocell

Terminal Board 2

3 - 9 : Jump terminals 3 and 9 if the photocell in closing has not been installed.

JUMP TERMINAL 3 - 9

5 CONECTION PHOTOCELL IN OPENING PHASE

RF 36

Tx

Rx

+AC
-0AC

12V dc
12V ca
24V dc

12V dc
12V ca
24V dc
24V ca

Terminal Board 2

CONECTION PHOTOCELL

8 = Power supply + PHOTO RX
9 = Power supply + PHOTO TX
10= Power supply - COM. PHOTO TX/RX

4 - 8 = Conection photocell

4 - 9: Jump terminals 4 and 9 if the photocell in opening has not been installed.

JUMP TERMINAL 4 - 9

Terminal Board 2