Q56 CCONTROL PANEL 12/24V FOR SWING GATE AUTOMATION
Installation manual

1. WARNINGS

This manual contains important information regarding personal safety.
An incorrect installation or an improper use may cause serious damages to persons or objects.

Read carefully this manual; pay attention to the sections marked by the symbol ⚠:
such sections are particularly important for safety.
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.

2. WIRING DIAGRAM and COMPONENTS
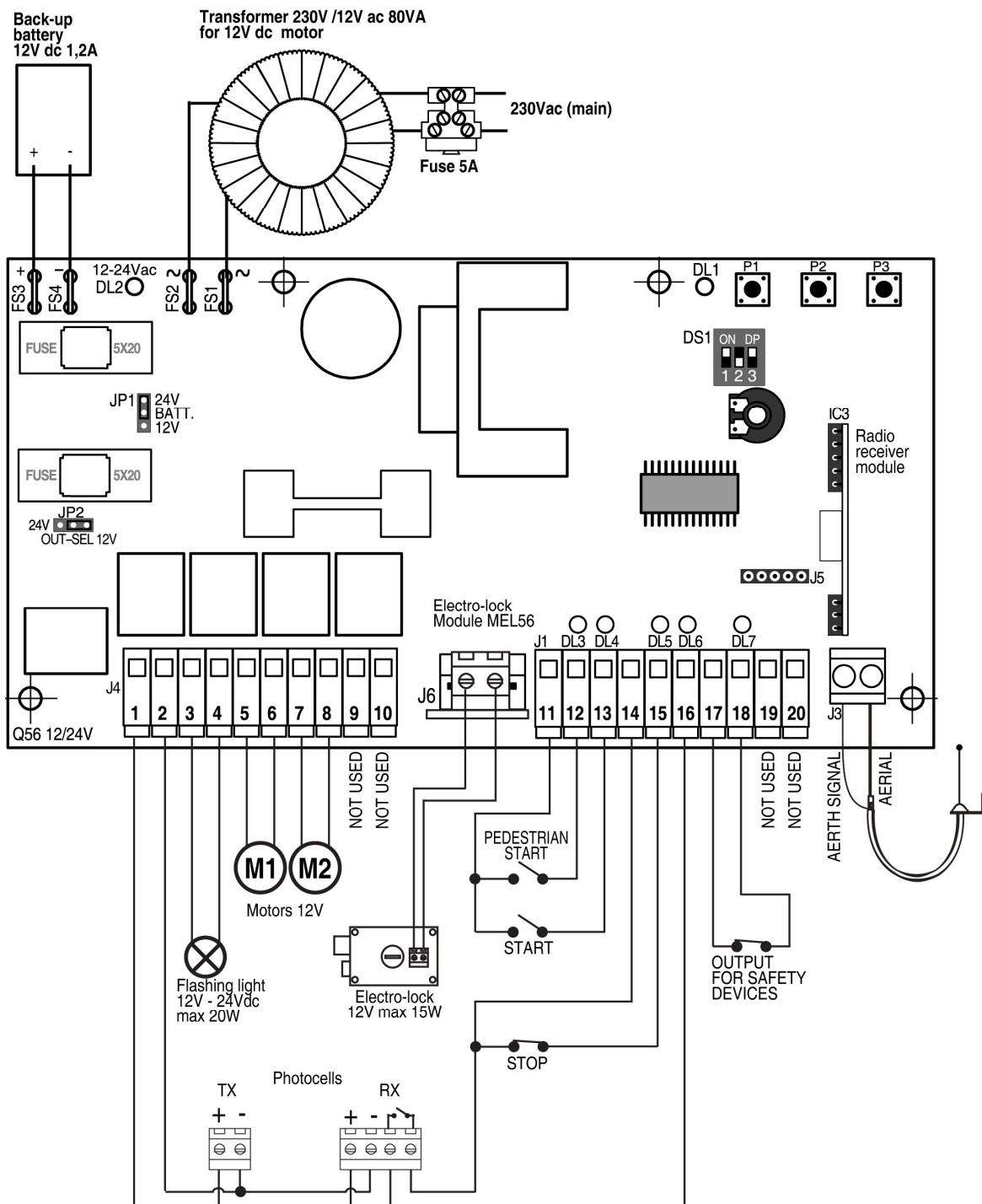
DL1	signalling light	FS1/2	secondary input for 12/20V transformer
DL2	signalling light		
DL3	signalling light	FS3/4	input for back-up battery
DL4	signalling light		
DL5	signalling light		
DL6	signalling light	F1	fuse for battery 10A
DL7	signalling light	F2	fuse for service devices 0.8A
P1	radio coding button	JP1	battery-charger switch 12/24V
P2	working time setting button	JP2	output power switch 12/24V for accessories
P3	pause time setting button		
RV1	deceleration speed adjustment	DS1	program selecting switch
J1	input for CONTROLS and SAFETY DEVICES (see below)	IC3	radio receiver circuit
J3	input for 433Mhz aerial (see below)	J6	molex type plug for electro-lock
J4	output for MOTORS and ACCESSORIES (see below)		

J1	Connectors **"Input for CONTROLS and SAFETY DEVICES"**
11	COMMON inputs
12	input for **PEDESTRIAN START** push-button (NO contact)
13	input for **START** push-button (NO contact)
14	COMMON inputs
15	input for **STOP** push-button (NC contact)
16	input for **Closing PHOTOCELLS** (NC contact)
17	COMMON inputs
18	input for **Opening PHOTOCELLS** (NC contact)
19	not to be used
20	not to be used

J3	Connectors **"Input for external AERIAL"**
1	aerial cable (EARTH)
2	aerial cable (SIGNAL)

J4	Connectors **"Output for MOTORS and ACCESSORIES"**
1	POSITIVE (+) 12/24Vdc for ACCESSORIES power
2	NEGATIVE (-) 12/24Vdc for ACCESSORIES power
3	output power flashing lamp
4	output power flashing lamp
5	output power **motor 1**
6	output power **motor 1**
7	output power **motor 2**
8	output power **motor 2**
9	not to be used
10	not to be used

3. ELECTRIC WIRINGS
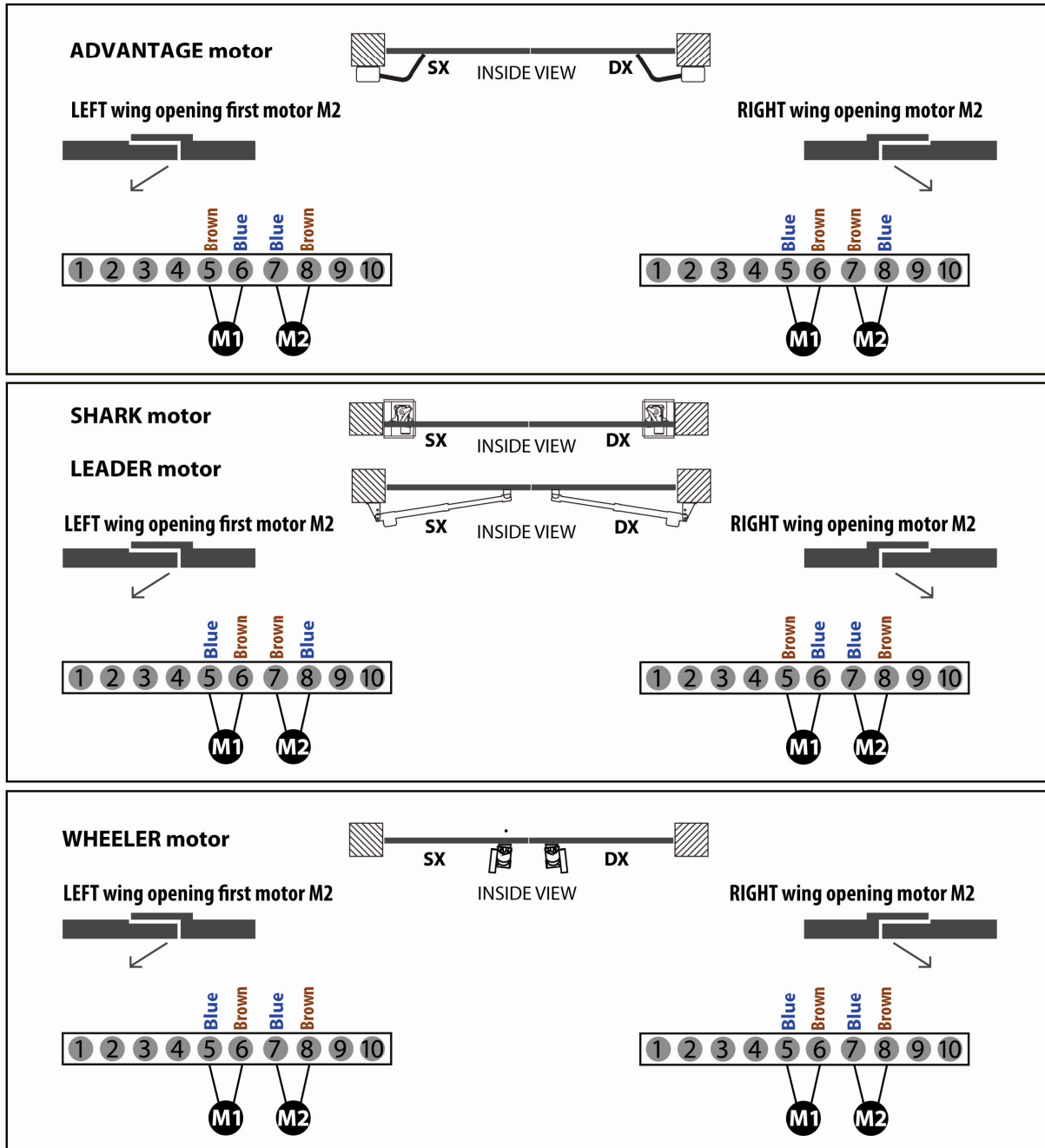Follow the diagram in chapter 2 for a correct wiring.

3.1 MOTORS connection
Wire the motors to J4 plugs as follows:
Motor 1 "M1" to plugs n°5 and 6
Motor 2 "M2" to plugs n°7 and 8

Please refer to the following scheme according to the gate automation model you have

Note 1: If the gate has <u>only one leaf</u> , please wire just "M2" motor

Note 2: In case of use with <u>24V motors</u>, please see chapter 10.

3.2 FLASHING LAMP connection
You can wire a flashing lamp to plugs n° **3** and **4** on **J4** connector.
Than flashing lamp will behave as follows:
– Quick blinking to signal the opening phase
– Slow blinking to signal the closing phase
– No blinking to signal the pause time

3.3 PHOTOCELLS connection
3.3.1 CLOSING photocells
Power the photocells by outputs n° **1** and **2** on **J4** connector
Wire the contact (NC) of the photocell to plugs n° **4** and **6** on **J1** connector.
Additional sets of photocells can be wired through in series contacts (NC).
If the photocells detect an obstacle during the closing phase the gate stops and reverses in about 1.5 seconds.
An obstacle detected by the photocells during the opening phase does not cause any effect.
3.3.2 OPENING photocells
Power the photocells by outputs n° **1** and **2** on **J4** connector
Wire the contact (NC) of the photocell to plugs n° **7** and **8** on **J1** connector.
Additional sets of photocells can be wired through in series contacts (NC).
If the photocells detect an obstacle during the closing phase the gate temporarily stops and start again the opening.

3.4 START push-button connection
You can wire a START push-button (NO contact) to plugs n° **1** and **3** on **J1** connector.
Additional START push-buttons can be wired through contacts (NO) in parallel.

3.5 PEDESTRIAN OPENING push-button connection
You can wire a PEDESTRIAN START push-button (NO contact) to plugs n° **1** and **2** on **J1** connector.
Additional PEDESTRIAN OPENING push-buttons can be wired through contacts (NO) in parallel.

3.6 STOP push-button connection (Emergency stop)
You must wire an emergency STOP push-button (NC contact) to plugs n° **4** and **5** on **J1** connector.
Additional STOP push-buttons can be wired through in series contacts (NC).

3.7 Power supply
3.7.1 Main power supply
Once all wirings have been completed, plug the 230V main power to the connections with fuse of the transformer and plug the 12V output of transformer to **FS1/FS2** connections on the control panel.
Note: in case of use with 24V motors plug the 20V output of transformer to **FS1/FS2** connections on the control panel.

3.7.2 Solar power supply
This control panel can also be powered by a solar panel.
In this case you should wire the solar panel's battery to **FS1/2** connections on the control panel.

3.8 Back-up battery connection
You can wire to the system a 12V 1.2A battery to allow the gate opening even in case of power failure.
Wire the back-up battery to the control panel paying attention to the correct polarity: **FS3** ("+" POSITIVE) **FS4** ("-" NEGATIVE)
The control panel is already equipped with a battery-charger.
In case of use with 24V motors please see also chapter 10.

3.9 Use with an ELECTRO-LOCK
Plug the MEL56 module (optional) into the molex type connector **J6**.
Wire the electro-lock to the two connectors on the module.

4. RADIO CODING

4.1 Codes deleting

For security reasons, we recommend you to delete all codes that might have been previously saved by factory for quality test, before starting the radio coding procedure. Keep **P1** button on the control panel pressed until DL1 switches off (about 10 seconds). All codes have now been deleted.

4.2 Memorization of a radio code in Start mode (Standard Opening)

Press **P1** button on the control panel: DL1 flashes once and then stays lighted-on still. Now press on the radio transmitter the button you want to use to give a Start command.
The code has been memorized and all radio transmitters with the same code will be automatically recognized by the control panel.
Should you have radio transmitters with different codes (i.e. random code generating transmitters), repeat the procedure for each radio transmitter.
The control panel can memorize up to 50 different radio codes.

4.3 Memorization of a radio code in Pedestrian Opening mode

Should you need to occasionally use only one leaf of the gate (i.e. to walk out or with a bicycle), you can memorize a code for pedestrian use that causes the opening of motor 2 only.
Press twice **P1** button on the control panel: each pressing is confirmed by a flash of the DL1 light. After the two flashes DL1 stays lighted-on: now you can press on the radio transmitter the button you want to use to give a pedestrian opening command.

5. MODE setting

You can choose among 3 different modes.

a. **STEP by STEP mode**

When this mode is selected, the first start command makes the gate open. When the opening time has run the gate stops. The gate stays open until the next command is given causing it to close.
If a start command is given during the closing or opening phase, the gate stops still. A further start command makes the gate reverse.

To select **STEP by STEP** mode please set the **DS1** dip-switches as follows:
§ Double-leaf gate   1=OFF   2=OFF   3=OFF
§ Single-leaf gate   1=OFF   2=OFF   3=ON

b. **AUTOMATIC Mode**

When this mode is selected, the first start command makes the gate open. When the opening time has run the gate stops. Pause time counting starts (blinker is off during the pause time). After the pause time the gate automatically closes. The cycle is completed when the gate is fully closed.
If a start command is given during the opening phase, the gate stops still. A further start command makes the gate reverse.
If a start command is given during the closing phase, the gate stops and reverses the direction in 1.5 seconds.
If a start command is given during the pause time, the counting resets.

To select the **AUTOMATIC** mode please set the **DS1** dip-switches as follows:
§ Double-leaf gate   1=OFF   2=ON   3=OFF
§ Single-leaf gate   1=OFF   2=ON   3=ON

c. MULTI-USERS
    When this mode is selected, the first start command makes the gate open. When the opening time has run the gate stops. Pause time counting starts (blinker is off during the pause time). After the pause time the gate automatically closes. The cycle is completed when the gate is fully closed.
    A start command given during the opening phase does not cause the gate any effect.
    If start command is given while the gate is closing the gate stops and then it reverse in about 1.5 seconds.
    If a start command is given during the pause time, the counting resets.

    To select the **MULTI-USERS** mode please set the **DS1** dip-switches as follows:
    §   Double-leaf gate   1=ON   2=ON   3=OFF
    §   Single-leaf gate   1=ON   2=ON   3=ON

6. PAUSE TIME setting
Hold **P3** pressed until DL1 lights on and stays still, then release then button and wait for the pause time you want to set; now press again **P3** button.
DL1 lights off: the pause time has been set.

7. WORKING TIMES setting
Note: the control panel has a preset working time. Should you need to modify the pre-set working times please follow the procedure below.

§   Make sure that the gate is completely closed, if not release the gate to close it manually and then block it again.

§   Press **P2** button: DL1 lights on. Keep **P2** button pressed for few seconds until DL1 lights off. The gate automatically keeps on closing and then starts opening

§   During the first 10 seconds of opening, adjust the deceleration speed using the RV1 trimmer. Then the gate will complete the opening at a standard speed.

§   After a short time the gate will close again.

§   Now the working times have been set.

8. DECELERATION time
The control panel automatically set the deceleration time to 20% of the total working time.

9. OBSTACLE DETECTION
The control panel automatically adjusts the obstacle detection sensibility according to the force required by the motors to move the gate.

10. USE OF THE CONTROL PANEL WITH 24V POWERED MOTORS
Power the control panel by a 230-20V transformer 80VA on **FS1/FS2** plugs.
Make sure that the transformer you are using meets these requirements.

⚠️ **Make sure that jumper JP1 is correctly placed on the 24V, if not please switch it accordingly.**

Make sure that jumper J2 is correctly placed on the 24V, if not please switch it accordingly.