zero
HOME AUTOMATION

ANTA24R

CONTROL UNIT
SWING GATES ONE OR TWO MOTORS
24V

IT | EN | FR

ZANTA24R VER1.0 01072018_REV1

USER MANUAL AND CONFIGURATION

CE
made in italy


zero
HOME AUTOMATION

CONTENTS

1. SAFETY INSTRUCTIONS

STANDARDS TO FOLLOW

ATTENTION:

• To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product can cause physical injury and material damage.
• Keep these instructions in a safe place for future reference.
• This product was designed and produced strictly for the use indicated in this manual. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
• ZERO SRL is not responsible for the improper use of the product, or other use than that for which it was designed.
• ZERO SRL is not responsible if safety standards were not taken into account when installing the equipment, or for any deformation that may occur to it.
• ZERO SRL is not responsible for the safety and proper operation when using components not sold by them.
• Do not make any modifications to the operator components and / or their accessories.
• Before installation unplug the automation from the source of power.
• The installer must inform the client how to handle the product in case of emergency and provide this manual to user.
• Keep remote controls away from children, to prevent the automated system from being activated involuntarily.
• The customer shall not, under any circumstances, attempt to repair or tune the automation and must always call a qualified technician only.
• Connect the automation to a 230V plug with ground wire.
• Control board for indoor use.

2. THE CONTROL BOARD

TECHNICAL SPECIFICATIONS

Power supply:	24VAC
Lightbulb's output:	24VDC 10W max
Motor's output:	24VDC 2X50W max
Aux. accessories output:	12VDC 8W max
Working temperature:	-20°C a +50°C
Radio Receptor:	Incorporated 433,92 Mhz
OP Transmitters:	12 bits or Rolling Code
Max. memory capacity:	25 codes max

CONNECTOR'S DESCRIPTION

M1 Connector

01 • Input 0V from transforer
02 • Input 12V from transformer
03 • Input 24V from transformer
04 • Battery charger (+) connection
05 • Battery charger (-) connection
06 • Motor's output M1 (open)
07 • Motor's output M1 (-close)
08 • Motor's output M2 (open)
09 • Motor's output M2 (close)
10 • Light bulb connection's output (+) (24VDC)
11 • Light bulb connection's output (-) COMMOM for accessories connection 12VDC max 15W

M2 Connector

12 • Output 12VDC for accessories
13 • COM common output
14 • PHOTOCELL input (NC; if not used, WIRE LINK with common terminals 13 ore USE DIP6)
15 • START transmitter button's input (NO)
16 • PEDESTRIAN START input (drives just motor 1)
17 • SAFETEY EDGE input, (NC or 8K2 learnt during programming)
18 • COM and Antenna cable screen input
19 • ANENNA input

Fixed-light flashlight connection taking the power supply from terminals 10 and 11 (the relay flashes fast during opening and slow during closing).

PROGRAMMING PRE-RECOMENDATIONS

Before proceeding to the control board configuration, note the following points listed in the table below in order to better understand the control board function:

M2 Connector

Safety circuits:

14-17 • This circuit allows the connection of all types of safety devices such as photocells, safety edges etc.

PHOTOCELLS operate only while gate is closing. Reverses the automations movement. when activated the gate/gates eopen completely.

SAETY EDGES operate while closing and opening. . Reverses the automations movement for 2 seconds after which another START signal is required to re start the gates in the oposite direction.
M1 Connector

10 • This is an intermittent output and must be used lightbulbs that do not have electrical circuit because the output itself is programmed to create a flashing effect on the bulb (apply only a lightbulb with socket and bulb). The output flashes quickly when it is opening, it remains off when paused and it flashes slowly during closure.

DIP SWITCH FUNCTION'S BOARD

DIP 1 - ON

PROGRAMMING working function (OPEN - CLOSE learning)

DIP 1 - OFF

Normal operation (DEFAULT position)

DIP 2 - ON

Adjusts the amperometric threshold of motors during the full force motion HIGH for gates up to 350kg/leaf.

DIP 2 - OFF

Adjusts the amperometric threshold of motors during the full force motion STANDARD for small gates up to 150kg/leaf.

DIP 3 - ON

Delay the start in closing for 10 sec of leaf 2 with respect to leaf 1.

DIP 3 - OFF

Delay the start in closing for 3 sec of leaf 2 with respect to leaf 1.

DIP 4 - ON

Deceleration for 4 sec. during both opening and closing.

DIP 4 - OFF

Deceleration for 2sec. during both opening and closing.

DIP 5 - OFF | DIP 6 OFF

STEP BY STEP (open-stop-close) without automatic closing.

During the opening and closing accepts transmitter signals and stop teh gates. (need START command to move the gate).

DIP 5 - ON | DIP 6 OFF

STEP BY STEP (open-stop-close) with automatic closing.
If during the opening the START button is NOT activated (keep the gate opened but with reclosure after pause time elapsed).
If during the opening or PAUSE time the START button is activated will have just STEP BY STEP without automatic closing (need START command to move the gate).

DIP 5 - OFF | DIP 6 ON

RESIDENTIAL STEP BY STEP (open-stop-close) with automatic closing

If START is activated during opening or PAUSE time (keep the gate opened but with reclose after pause time elapsed).
If it receives a transmitter signal during closing, it reverses.

DIP 5- ON | DIP 6 OFF

CONDOMINIUM with automatic closing.

Transmitters aren't accepted during opening and during closing it reverses direction and stops only at the gate's end.
Transmitters START during the pause time INCREASE (reload) pause time.

DIP 7 - ON

Disables the PHOTOCELLS device reading.

DIP 7 - OFF

Enables the PHOTOCELLS device's reading

PHOTOCELLS operate only while gate is closing. Reverses the automations movement. when activated the gate/gates re-open completely

DIP 8 - ON

Disables SAFETY EDGES input

DIP 8 - OFF

Enables SAFETY EDGES (8K2 or NC wire) input.
The control panel can accept wire safety edges and 8.2 Ohm resistive edges, detected automatcly once connected.

SAETY EDGES operate while closing and opening. **. Reverses the automations movement for 2 seconds after which another START signal is required to re start the gates in the oposite direction.**

FACTORY DEFAULT : 8K2 SAFETY EDGE

FINAL CHECKS AND TESTING

1 • Before powering the control unit for programming, check the following:
2 • Check that the dip switches have been set correctly (by default all DIPs are OFF)
3 • Check the electrical connections; improper connection may cause damage to the control unit or the operator.
4 • POWER THE DEVICE bku LED must go ON.
5 • Check that the LEDs of security devices are on (L3 and L4) the LEDs
6 • START and STARTPED are off
7 • Check that when passing across the range of the photocells, the relevant LED switches off.
8 • Check that the gate is closed and that the motors are locked and ready for operation.
9 • Remove any obstacles from the range of action of the gate. Power the device and pass to the programming phase.

CONFIGURATION INSTALATION PROCESS

TOTAL OPENING AND TRANSMITTER PROGRAMMING

STEP 1

Place all the DIP switches in the correct position. In case of not using any safety device at M2 terminal (ex: photocells), put DIP 7 and DIP 8 in ON position.

STEP 2

Unlock the automation and move the gate to the middle position and re-lock.

STEP 3

Make a START using a piece of wire by connecting the 15 and 13 terminals with the wire tips and check if the motor is running in the correct direction (GATE OPENING DIRECTION),otherwise swap the motor wires (06 and 07 or 08 and 09 terminals from M1 connector) to put in the riht direction.

STEP 4

When the gate is synchronized with correct direction, make a START again between 15 and 13 terminals. The gate will begin to move and let it reach the closed position electrically.

TRANSMITTER CODE LEARNING

1 • When the gate comes to a closed position, press the P1 button located on the control board for 1 seconds (QUICK PRESS) until the CODE LED (see connection diagram page) stays lit. Right away, press the transmitter button you want to be the total opening key (choose between 1, 3 buttons TX MANO)

NOTE: When the transmitter button is pressed, the CODE LED must blink twice, indicating it is receiving the code.

2 • PEDESTRIAN BUTTON learning

Press the P1 button located on the control board for 2 seconds until the CODE LED (see connection diagram page) stays lit. Right away, press the transmitter button you want to be the PEDESTRIAN opening key (choose 2nd or 3td button TX MANO) Release it and wait for the CODE LED turns off.

03 • The transmitter is now configured.

NOTE: After setting up a transmitter type, the control board will only accept transmitters from the same type, it means, if the first transmitter is Rolling Code, they must all be Rolling Code for the central to accept them. To program other transmitters, repeat the steps from CODE LEARNING.

ERASE ALL THE TRANSMITTERS FROM THE CONTROL BOARD

01 • With the gate closed, hold the P1 button continuously. The CODE LED lights up and wait for 10 seconds until it turns off. Release the P1 and the LED will flash twice that signals the MEMORY RESET success.

REMOTE CONTROL LEARNING WITHOUT ACCESSING THE CONTROL UNIT

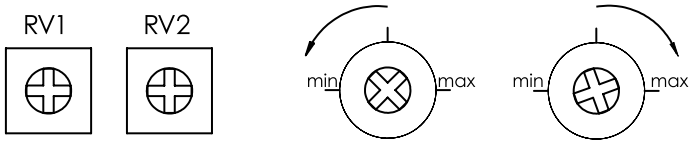
After the system has learned a remote control manually (pressing the key P1), self-learning of other remote controls of the same family can be enabled by simultaneously pressing hiden key (TX MANO back hole) of the transmitter already learned for 4 seconds. Subsequently, when pressing the key of a new remote control it is self-learned.

FORCE AND SENSITIVITY REGULATION (ANTI-CRUSHING)

The control board has 2 trimmers (rotary knobs):

RV1 - Allows the motor 1 sensitivity regulation (increases sensitivity by rotating it in the clockwise direction);
RV2 - Allows the motor 2 sensitivity regulation (increases sensitivity by rotating it in the clockwise direction);

ADJUSTMENT



ANTICRUSHING function If activated the motion of the gate is reversed to free the obstacle impact till the end gate position (CLOSE or OPEN positon)
Moving the trimmer clockwise increases the current force necessary to stop the gate motion in cse of obstacle detection.

If during the closing ANTICRUSHING function comes activated tree times (continuous obstacle presence) the gate will stay opened until the START command by user.

NOTE: CHECK THE IMPACT FORCE LIMITS AFTER SETTING. ANTI-CRUSHING FUNCTION DOES NOT AVOID ANY OBLIGATION TO INSTALL THE SAFETY DEVICES RECOMMENDED BY SAFETY REGULATIONS.

PROGRAMMING SAFETY EDGS FUNCTION (terminal 17)

The control board could accept wire safety edges and 8.2 Ohm resistive edges.During programming working time the panel recognize by itself the type of safety edge installed.
Factory set on wire edge, whit shunt placed on terminal 17 and terminal 18.
if you have to change to 8.2 KOhm firstly make the transmitter programming and then remove the shunt and place the edge's connection.

NOTE: if LED CODE signal flashing once you powered the control panel it means that the safety edge is wrongly configured.

PROGRAMMING THE WORK TIME AND PEDESTRIAN OPENING

STEP 1

CHECK THE GATE, has to be closed and set the DIP's functions (check the page 4)

STEP 2

By setting DIP 1 and DIP 3 to ON PAUSE programm is enabled.

Flashing light during PAUSE programming will stay lit.

STEP 3

Press START button and count the desired time for gate pause, max 250 sec.

Flashing light during counting will FAST blinking.

Once you decided PAUSE time press START again.

If RAPID CLOSING required (3 seconds after the passage and liberation of the photocell): in PROGRAMING mode during pause time, interrupt the photocells infrared beam for 2 seconds, now you will have automatic closing by photocells after 2 seconds once activated, independently if pause time has been set. At the end of the programming procedure, the function is enabled. To disable it, repeat the programming procedure.

STEP 4

Put DIP 3 to OFF

STEP 5

Pressing START or the first channel of a remote control learned, the 1st gate leaf starts opening.

From this moment the micro- processor starts counting SELF LEARNING programm (programming LED switches on).

The gate/leaf with Motor 1 (if just one motor installed the SELF LEARNING will detect it) will start opening until the gate end position (mechanic end stop position), then the gate/leaf with Motor 2 will start and does the same.

Flashing light during opening will stay lit.

Once reached opened positions the motors will PAUSE for 1 second.

Automatic closing of Motor 2 will start, once reached closed position Motor 1 will start and does the same.

Flashing light during closing will FAST blinking.

Once reached closed positions the motors will PAUSE for 1 second.

After pause time will start COMPLETE AUTOMATIC OPENING of both motors.

Once reached opened positions the motors will PAUSE for 1 second.

After pause time will start COMPLETE AUTOMATIC CLOSING of both motors, with start delay time (DIP3)

Once reached closed positions the motors will STOP and learning will be completed.

Flashing light will SLOWLY blinking.

STEP 6

Set DIP 1 in off to quit learning function.

Gates are programmed and ready for normal use.

NOTE
DURING THE LEARNING PAY ATENTION TO SAFETY DEVICES AND TRANSMITTERS ACCIDENTL ACTIVATION, IF USED YOU WILL QUIT FROM SELF LEARNING FUNCTION.

The control unit can also manage partial opening (pedestrian) through the 2nd channel of the remote control, already stored previously. The pedestrian program is allready programmed and works just for Motor 1.

TIMER CLOSING

Connection of a CLOCK with permanent START function. It is possible to connect a CLOCK (TIMER) to the inputs n° 19 and 25 of the terminal M3.

After elapsed START timer, gate re-closes automatically if DIP2 and DIP 3 are in ON after pause time, otherwise IT will wait for the START button signal input (ex. from transmitter).

BATTERY EMERGENCY FUNCTION (BLACK START):

The control board is equipped to operate in emergency with a single 12v battery and with a battery recharging circuit (the microprocessor realizes that it is in emergency and regulates the safety, adapting it to the situation, up to 5 maneuvers with a 1.2AH battery).

NOTE: If black start is activated the gates will move slowly (12V supply) and will not have the flashing light blinking.

DIP SWITCH DEFAULT (FACTORY) SETTINGS

The default settings are highlighted in the boxes with grey background.

DIP 1	ON	PROGRAMMING WORKING TIME
	OFF	**NORMAL OPERATION : READY TO START**
DIP 2	ON	AMPEROMETIC TRESHOLD GATES UP TO 400KG
	OFF	**AMPEROMETIC TRESHOLD GATES UP TO 100KG**
DIP 3	ON	DELAY CLOSING 10 SEC
	OFF	**DELAY CLOSING 3 SEC | PAUSE TIME PROGRAMMING**
DIP 4	ON	DECELERATION 4 SEC WHILE CLOSING AND OPENING
	OFF	**DECELERATION 2 SEC WHILE CLOSING AND OPENING**
DIP 5	ON	LOGIC FUNCTIONS:
	OFF	**STEP BY STEP WITHOUT AUTOMTIC CLOSING**
DIP 6	ON	During the opening and closing accepts transmitter signals and stop teh gates. (need START command to move the gate).
	OFF	
DIP 7	**ON**	**PHOTOCELLS CONNECTIONS DISABLED**
	OFF	PHOTOCELLS CONNECTIONS ENABLED
DIP 8	**ON**	**SAFETY EDGES CONNECTIONS DISABLED**
	OFF	SAFETY EDGES CONNECTIONS ENABLED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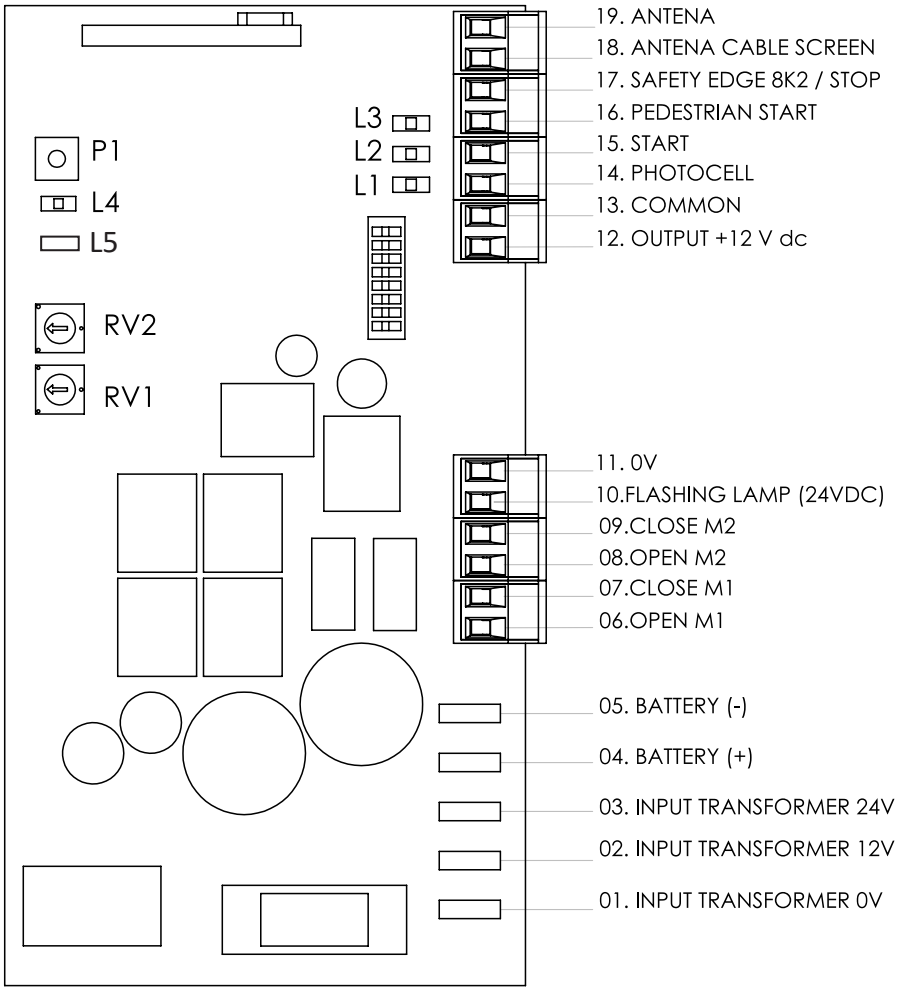
CONNECTIONS & LED FUNCTIONS



LED L- LEGEND

L01 - PHOTOCELLS
L02 - START
L03 - START PED
L04 - SAFETEY EDGE | CODE LED
L05 - POWER STATUS

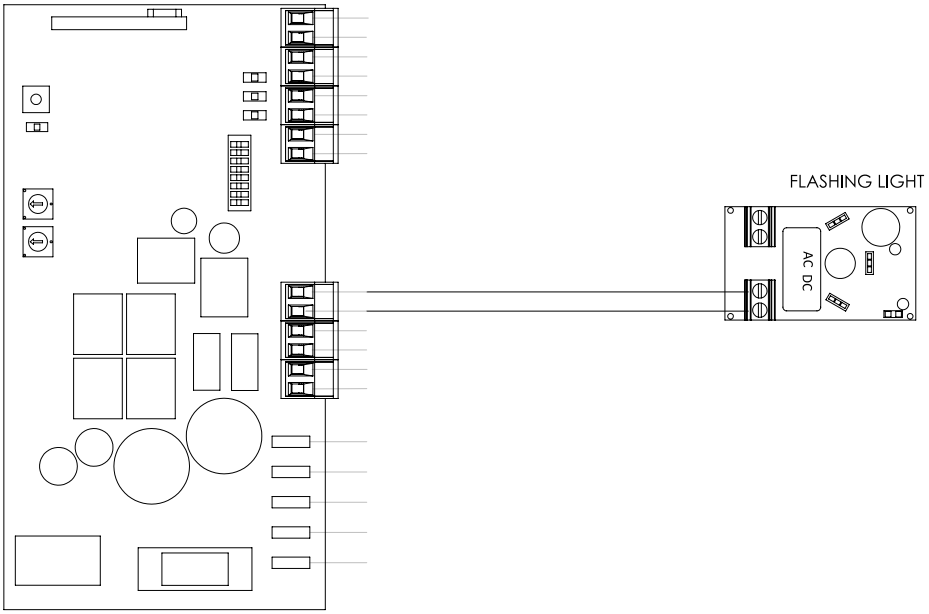
LED L- STATUS

ON

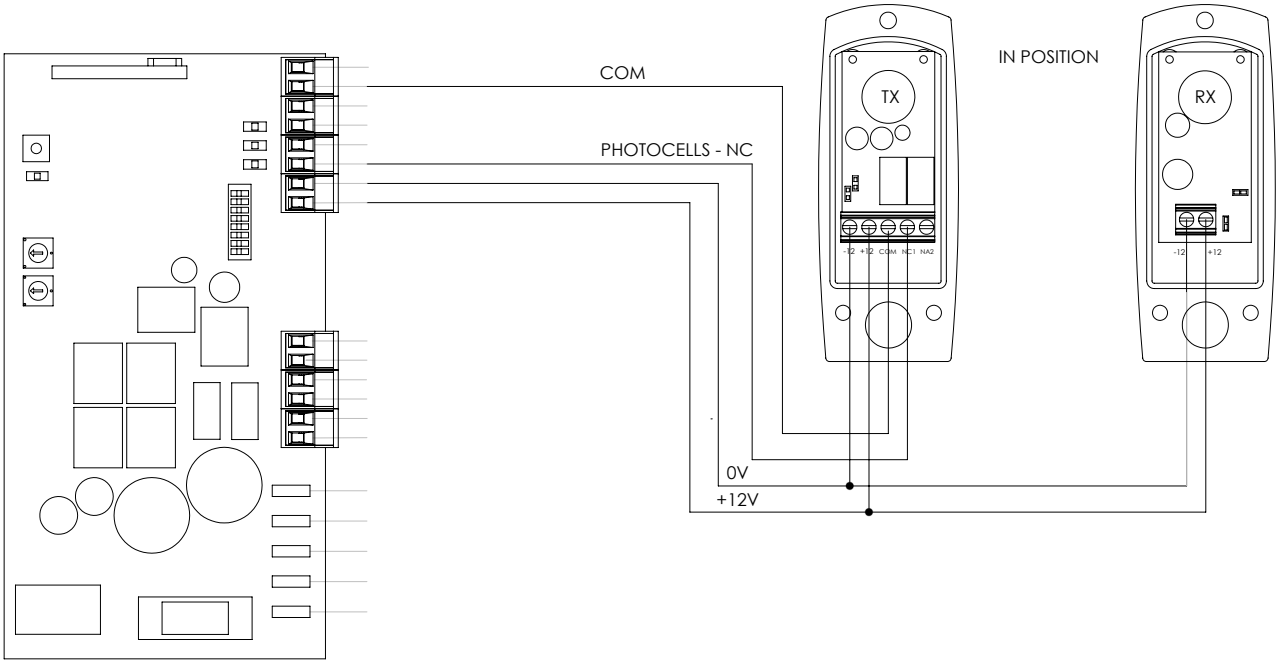
OFF

LED	COLOR	FUNCTION DESCRIPTION
L01	RED	Always on. Goes off when the photocell is intercepted interrupting the PHOTO beam.
L02	GREEN	Comes on when the START command is activated and goes off when released.
L03	GREEN	Comes on when the PEDESTRIAN start command is activated and goes off when released.
L04	RED	Comes on when progrmming, if blinking safety edge wrong configuration
L05	BLU	Indicate the power status control board.

FLASHING LIGHT CONNECTIONS



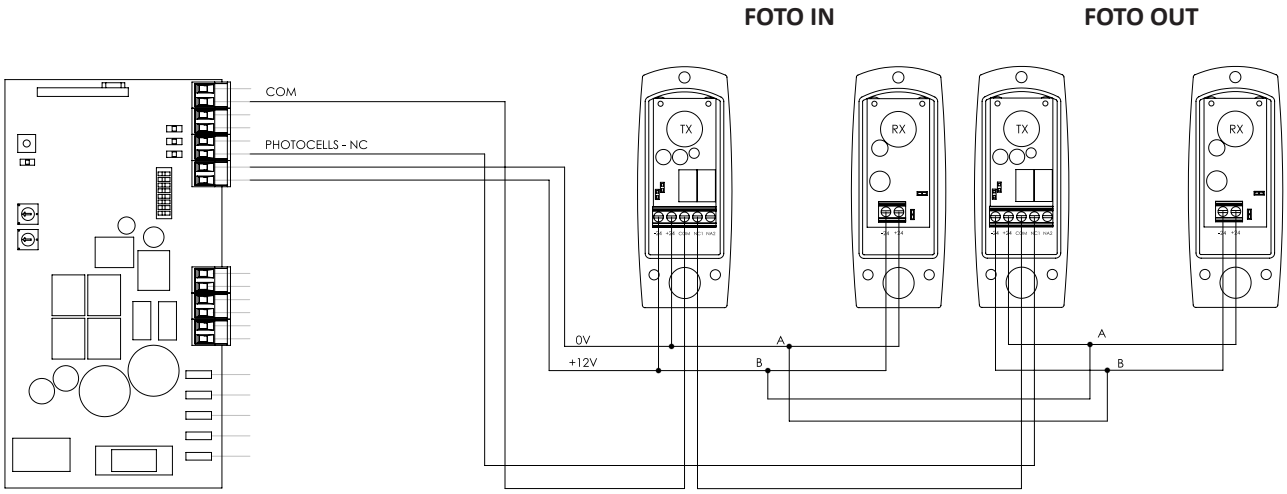
PHOTOCELLS CONNECTION



NOTE :

IN POSITION PHOTOCELLS ONCE DETECTED THE OBSTACOLE (**ONLY WHILE CLOSING**) WILL REVERSE THE GATE MOVING UNTIL COMPLETE OPENING POSITION.

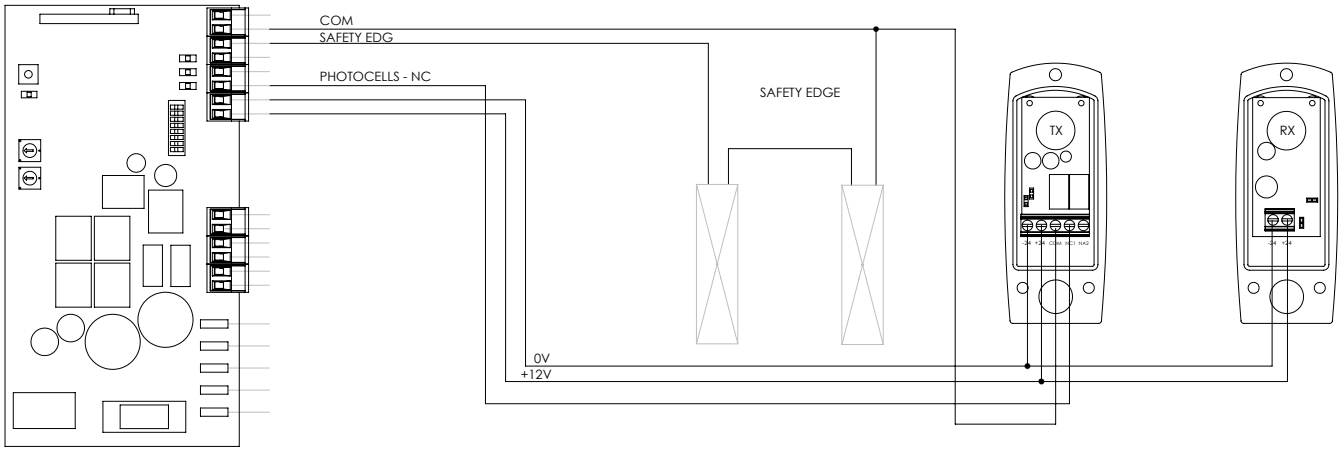
PHOTOCELLS CONNECTION - SYNCHRONIZED



NOTE :

OUT&IN POSITION PHOTOCELLS ONCE DETECTED THE OBSTACOLE (**ONLY WHILE CLOSING**) WILL REVERSE THE GATE MOVING UNTIL COMPLETE OPENING POSITION.

PHOTOCELLS CONNECTION (OUT) AND SAFETY EDGE (IN) OUTPUT



DIP 4 - OFF : Enables SAFETY EDGES (8K2 or NC wire) input. **FACTORY DEFAULT : NC wire SAFTE EDGE**

NOTE :

OUT POSITION PHOTOCELLS ONCE DETECTED THE OBSTACOLE (**ONLY WHILE CLOSING**) WILL REVERSE THE GATE MOVING UNTIL COMPLETE OPENING POSITION.

IN POSITION SAFETY EDGES ONCE DETECTED OBSTACOLE (**WHILE GATE CLOSING OR OPENING**) WILL REVERSE THE MOVEMENT IN OPOSITE OBSTACOLE WAY FOR 2 SECONDS. REQUIRE TO USE A START BUTTON TO MOVE THE GATE AGAIN IN OPOSIT OBSTACOL DIRECTION.

TROUBLESHOOTING

Problem	Procedure	Behavior	Procedure II
Door doesn't work	Make sure you have 24V power supply connected to control board and if it is working properly.	Still not working.	Consult a qualified ZERO technician.
Motor doesn't move but makes noise	Unlock motor and move the gate by hand to check for mechani cal problems on the movement	Encountered problems?	Consult an experienced gate expert.
		The gate moves easily?	Consult a qualified ZERO technician.
Motor opens but doesn't close	Unlock motor and move the gate by hand to closed position. Lock motor again and turn off power supply for 5 seconds. Reconnect it and send start signal using transmitter.	Gate opened but didn't close again.	Check if there is any obstacle in front of the photocells;
			Check if any of the control-devices (key selector, push button, video intercom, etc.) of the gate are jammed and sending permanent signal to control unit;
			Consult a qualified ZERO technician.
Gate doesn't make complete route and revert moving	Unlock motor and move ate by hand to check for mechanical problems on the gate	Encountered problems?	Consult an experienced gate expert.
		The gate moves easily?	Consult a qualified ZERO technician.
LED CODE Blinking	check the safety devices connections and link wire presence if a link is required.		

Discovering the origin of the problem			
1. Open control board and check if it has 24V power supply 2. Check input fuses	3. Disconnect the motor from control board and test it by connecting directly to power supply (battery 12Vdc)in order to find out if they have problems.	4. If the motor works, the problem is on the control board. Pull it out and send it to our ZERO technical services for diagnosis.	5. If the motor doesn't work, remove them from installation site and send to our ZERO technical services for diagnosis.
Check all motion axis and associated motion systems related with the motor and the gate to find out what is the problem.			
1. Check transformer right supply.	2. If transformer are not the problem, disconnect motor from control board and test it by connecting directly to power supply in order to find out if it has problems.	3. If the motor works, the problem is from control board. Pull it out and send it to our ZERO technical services for diagnosis;	4. If the motor doesn't work, remove it from installation site and send to our ZERO technical services for diagnosis
All ZERO control boards have LEDs that indicate the functioning of connections to allow easy diagnosis of faults. All safety devices LEDs (DS) in normal situations remain On. All "START" circuits LEDs in normal situations remain Off. If LEDs devices are not all on, there is some security system malfunction (photocells, safety edges), etc. 1 • Close with a link wire all safety systems on the control board (check manual of the control board in question). If the automated system starts working normally check for the problematic device. 2 • Remove one link wire at a time until you find the malfunction device . 3 • Replace it for a functional device and check if the motor works correctly with all the other devices. If you find another one defective, follow the same steps until you find all the problems.			
If "START" circuits LEDs are turn On, there is a control device sending permanent signal. 1 • Disconnect all wires from START terminal input. 2 • If the LED turned Off, try reconnecting one device at a time until you find the defective device.			
In case described procedures fell, remove control board and send to our technical services for diagnosis.			
Check all motion axis and associated motion systems related with the motor and the gate to find out what is the problem.			
1. Check trimmer R10 and ensure if setted to MINIMUM value; Turn it in clockwise direction and try again.	3. If the motor doesn't work, remove it from installation site and send to our ZERO technical services for diagnosis.	5. If this doesn't work, remove control unit and send it to ZERO technical services services.	
NOTE: Setting force of the controller should be sufficient to make the gate open and close without stopping, but should stop and invert with a little effort from a person. In case of safety systems failure, the gate shall never cause physical damaged to obstacles (vehicles, people, etc.).			

EC DECLARATION OF COMFORMITY:

The undersigned Mr. ANDREA MARAN , representing the following manufacturer,

ZERO SRL Via Roma 25/A 36077 ALTAVILLA VICENTINA (ITALIA)

Declares that the equipment described below:

Description: Electronic control unit
Model: ZANTA24R

Is in compliance with the provisions set down in the following directives:

2014/35/UE , 2014/30/UE,R&TTE

and that all the rules and/or technical specifications shown below have been applied:

2014/35/UE -Low voltage Directive

2014/30/UE- Electromagnetic compatibility Directive

2014/53/EU RED/radio equipment directive EN 301 489-3:V2.1.1 EN 300 220-2:V3.1.1

according to the following harmonized standards: -EN60335-1; EN61000-6-2 and EN61000-6-3

ALTAVILLA VICENTINA (VI) – Italia
01-07-2016

and he also declares that it is not allowed to commission the device until the machinery where it will be incorporated or whose it will become a component will have been identified and will have been declared in compliance with the conditions of the 2006/42 EC Directive and with the national legislation that transpose it.

ANDREA MARAN
ZERO SRLS Representative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HOME AUTOMATION

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