

## 10. PREDISPOSITIONS

Prepare the insulated cable ducts for motors and accessories wires (not supplied). Prepare the power plant to the location where you intend to attach the control unit (not necessary in the case of self-powered SOLAR PANEL powered openers) Warning: the power of the high-voltage current must be managed exclusively by a specialized technician. Do not manage yourself the power supply connection 230 / 110V: Danger of Death!

Caution: it is recommended to prepare a disconnection device to be used in case of emergency. Warning: the control unit and activation commands must be installed in a not accessible place and at a height from the ground, not allowing the use by unauthorized persons or children.

## 11. CONTROL BOX INSTALLATION

Fix the bottom of the control unit to the wall or pillar using appropriate screws and plugs (not supplied).

It is advisable to seal any holes to prevent water infiltration, moisture, dust and insects.

It is recommended to provide appropriate compression sleeves (not supplied)

Small control box KONTROL” Small” see pic.39

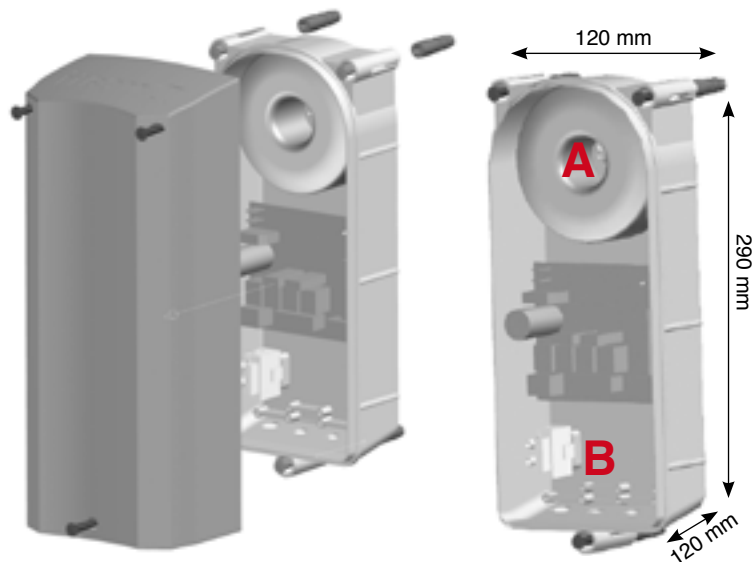
Large control box KONTROL”Large” see pic.40

The control Kontrol “Large” is equipped with a inner protective cover underneath which are inserted the electronic board and the toroidal transformer.

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### DUCATI Kontrol “small”

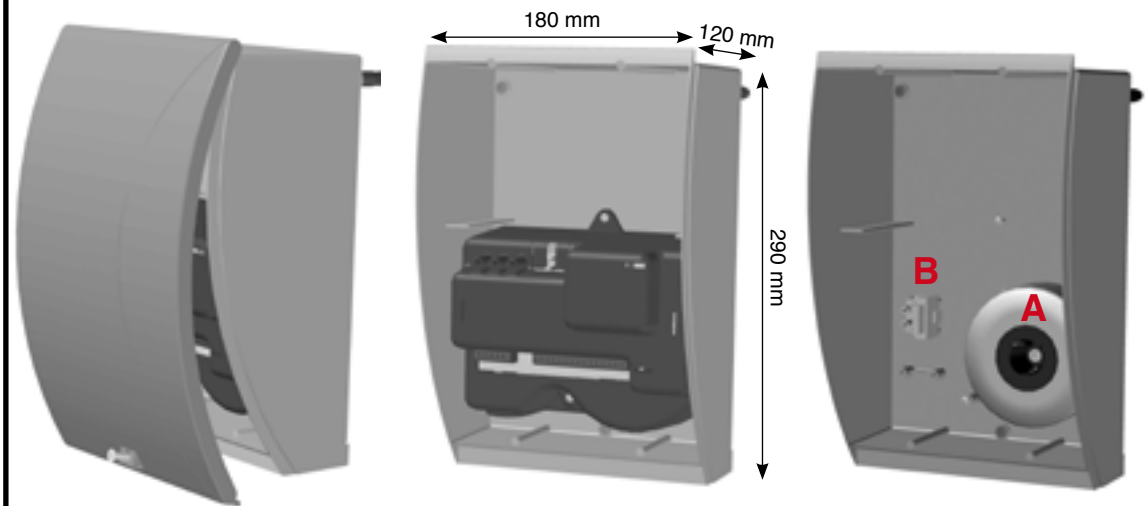
Control Box



40

### DUCATI Kontrol “large”

Control Box



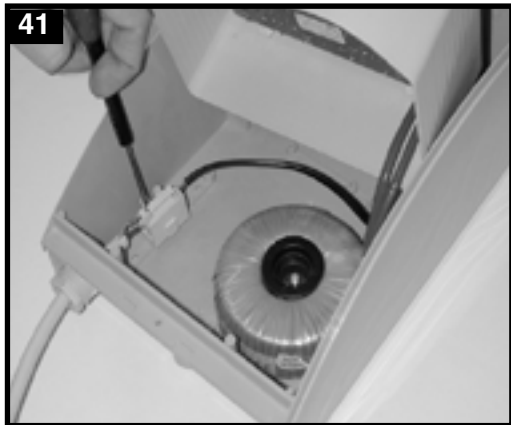
# DUCATI Main AC power supply wiring

## 12. MAIN POWER SUPPLY 230V / 110 V

The main power supply high voltage 230V (110V on request) connection must be performed only by a licensed electrician! Warning: danger of death.  
The power cable is connected to the terminal block / fuse protection upstream of the toroidal transformer (pic.41)  
The transformer is already connected to the PCB. Check for proper connection.  
Connect cables from the transformer to the circuit board.

The toroidal transformer has 3 output cables,  
Black =0 + Yellow= 12V to be used for 12V electronic boards and motors  
Black =0 + Red= 24V to be used for 24V electronic boards and motors

Solar panel powered openers do not require any high voltage connection .Nevertheless, they are always provided with a toroidal transformer and in case of emergency or to recharge the battery the main voltage 230V (110V on demand)can be connected to the terminal block / fuse protection upstream of the toroidal transformer (pic.41)

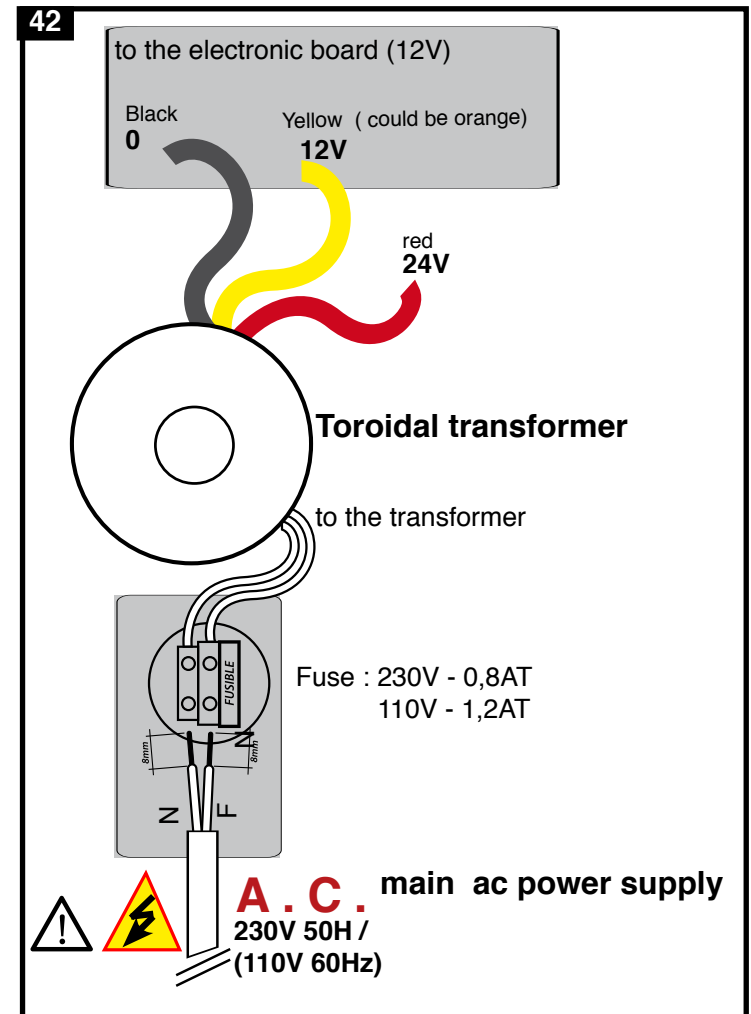


**WARNING!** To prevent damage during shipment, the transformer could be provided not pre-installed in the control panel. it is supplied with a fixing cone and screw to fix it to the bottom of the the control box.

See pic. 39/ 40: Place the transformer in it's correct position (A) and fix it to the bottom of the control box unit using using the special cone support and crew it.

Fix the power supply 230V / 110V connectors terminals with protection fuse in the position (B) of the bottom of the control bozx unit ( see pic. 39-40).

Connect cables from the transformer to the circuit board. Remember:  
The transformer has 3 ouput cables, but for 12V motors only balck and yellow cable must be connected. while red cable (24V must be used in stead of yellow cable only for 24V motor versions)  
Black =0 + Yellow (could be orange)= 12V to be used for 12V motors  
Black =0 + Red= 24V to be used for 24V motors





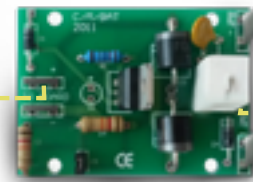
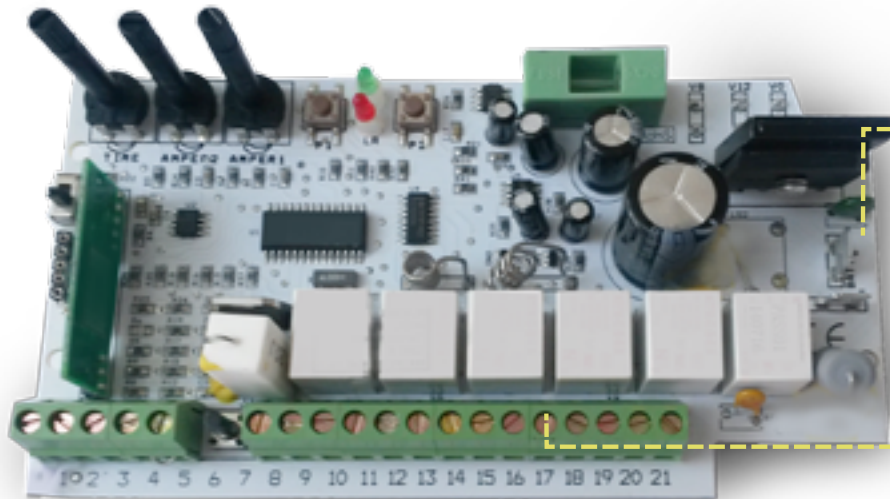
VIDEO -  
MANUAL



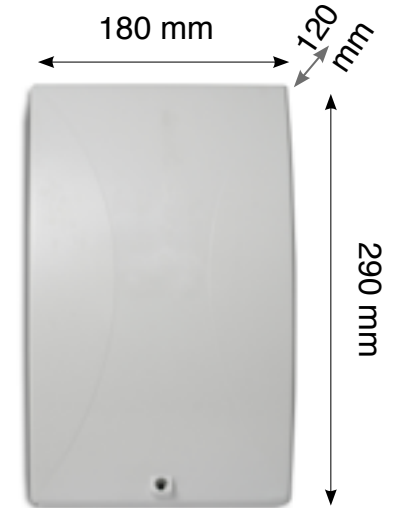
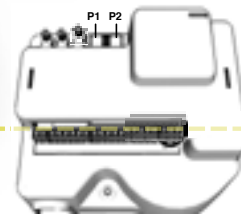
product  
page [www](#)

- **C/M/BAT \* (\*optional)**  
extra Battery Charger Management Module  
(this is a mandatory additional optional to connect an emergency back-upbattery)

- **KONTROL 7855**  
Complete control unit: large control box with inner battery\* storage compartment, CTH42 board and toroidal



C/M/BAT

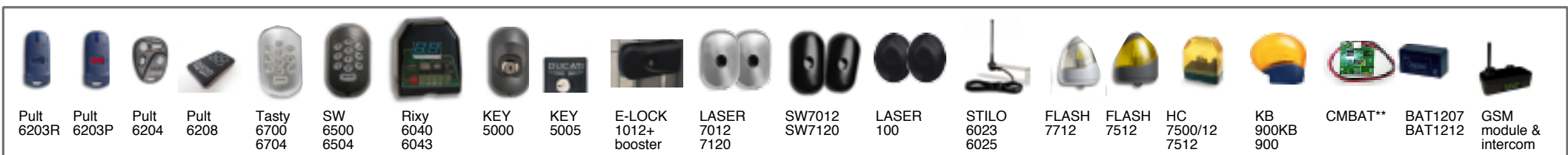


- **CTH42**  
Electronic board

### WARNING:

the electronic board is made to stop the motors by amperometrical obstacle detection: it is required that the gate is featured with mechanical end limits fixed on the floor (where the motors do not include integrated end limits).  
Once the gate reaches the limit end, the ampere absorption increase will be detected by the electronic board that will stop the motors.

- Compatible accessories



Technical data	CTH42
Main AC power supply	230V ( 110V version available on demand) by included toroidal transformer
System operating voltage	12V
Compatible with swing gate	√
Transformer protection fuse	√ 10AF
Protection fuse	0,8A T ( 1,2A T )
Toroidal transformer	105W
Outputs power connectors	12V
Stand-by energy consumption	0,012A
Radio receiver	2 channels: 1 for full opening, 1 for pedestrian opening ( only 1 wing partial opening)
Remote control codes storage capacity	10
Radio transmission protocol	DUCATI rolling code 433MHz
Remote controls automatic learning	√
On board antenna cable	√
Connectors to wire an external aerial antenna	√
Automatic closure working mode	adjustable pause time up to 100 sec.
Step by step working mode	√ push to open-push to close
Anti-crushing safety system in compliance to the EU Norms EN13241 / EN12453	√ Amperometrical obstacle detection safety system
Asadjustable motor power	√ Turning the potentiometer clockwise will increase motor power and reduce obstacle detection sensibility
Output for courtesy light (timerized 60 seconds)	√ 12V max 10W
Output for Electric lock	√ 12V ac Warning: not comaptible if the electronic board is powered by back-up battery
Input connectors for safety infrared sensors	√ ( NC) while gate is closing if the (NC) contact is opened ( breaking the infrared beam) gate will reverse mouvement and re-open)
Input connectors for a full cycle opening wired command	√ ( NO contact)
Input connectors for a fpedestrian cycle wired command	√ (NO contact)
output for blinking warning light	√ 12V max 10W ( blinks slowly while opening, blinks quickly by closing)
compatible with back-up battery power supply	√ only buy adding the optional battery charger module (CMBAT)
LED indication of Power supply	√ Green LED on while the electronic board is powered
Gear anti-pressure system	√

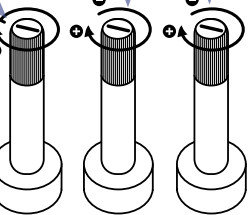


VIDEO -MANUAL

turn fully anti-clockwise to set "step-by-step" working mode = push to open / push to close

Turn clockwise to increase motor power

turn clockwise to set automatic closure working mode and set pause time up to 100 sec.



P1 memorize / delate remote controls for full opening  
 green LED = Board powered  
 red LED = by open gate steady on if step-by-step working mode is set; blinks if automatic closure is set

Toroidal transformer 105W 0-12V output wiring to connectors backside of CTH42 without polarity to be respected.

Protection Fuse 0,8 AT (-1,2AT)

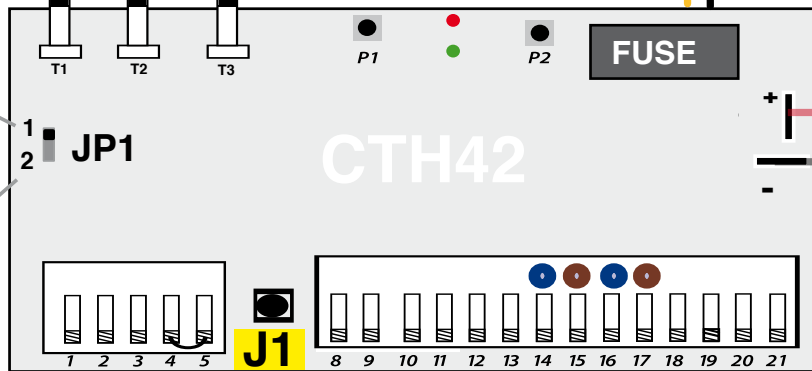
Main AC power supply 230V(110V)

Photocells bridge

**Warning:** If you do not connect any photocell (infrared safety sensor) keep the contact closed with the supplied electric bridge placed on connectors 4 & 5 (NC= Normally closed contact).  
 If the contact gets open and no photocells are wired the gate opener will open but not close.

Use on 1 wing gate

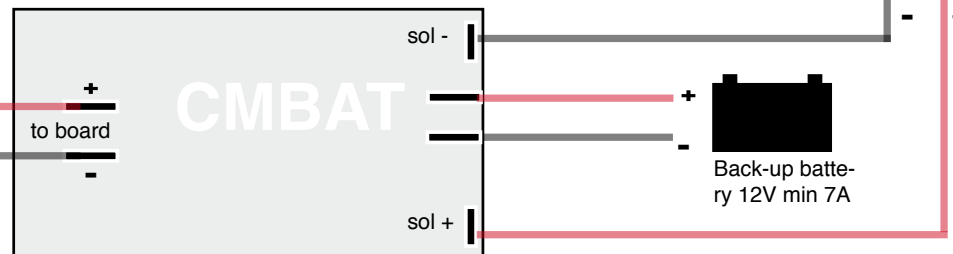
Use on 2 wings gate



12V = (yellow/orange) 0 = (black)

**CMBAT** is an required additional module to manage the back-up battery charge. **Warning: battery cannot be wired to CTH42 without CMBAT**

SOLAR PANEL 12V min. 10W



1=Antenna cable  
 2=ground

FTC (NC)

memorize remote controls for pedestrian opening

START NO contact to command full opening

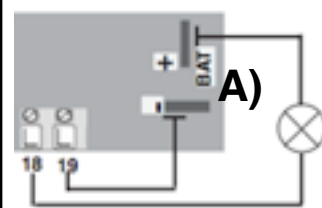
START NO contact to command pedestrian opening

12V 10W max  
 + -  
 12V 12V dc dc

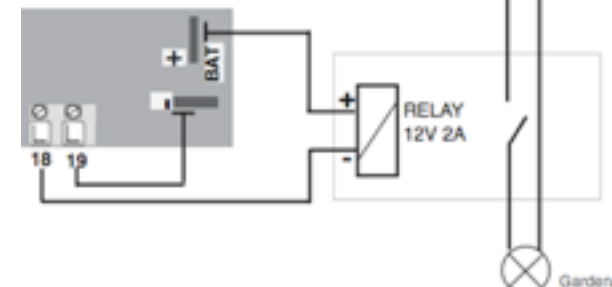
12V ac Electric lock (not compatible if powered by back-up battery)

**Warning**  
 M1 = Motor installed on the wing that opens first  
 M2 = Motor installed on the wing that opens as second

**A) How to wire a 12V max 10W timerized (60 sec.) courtesy light**



**B) How to wire a 230V / 110V timerized (60 sec.) courtesy light**  
 Warning: only by of an additional power relay (not supplied)







**WARNING !**  
all settings have to be made with gate in closed position

**Attention!** Visual warning of the state of the gate:  
By closed gate the RED LED is OFF. By open gate the RED LED is on by step by step working mode, or blinks by automatic closure working mode.

**ADVISE:** the CTH42 could switch to emergency status in case several emergency events happens. In this event you might reset the board by following this procedure: close the contact make a temporary electric bridge between connectors 8-9 for 2 seconds (RESET maneuver).

### CTH42 wiring instructions

- 1 Antenna cable
  - 2 Antenna ground
  - 3/5 **START** NO (normally open) contact for full opening cycle
  - 4 **FTC** safety infrared photocells NC (normally closed) contact
  - 5 Common/ ground (for both Start and Photocells )
  - 8/9 **START** NO (normally open) contact for pedestrian opening cycle
  - 10 + 12V dc positive power output for photocells
  - 11 - 12V dc negative power output for photocells
  - 12/13 Blinking light 12V 10W max.
  - 14 M2 motor (actuator) blue cable
  - 15 M2 motor (actuator) brown cable
  - 16 M1 motor (actuator) blue cable
  - 17 M1 motor (actuator) brown cable
  - 18/19 output for garden/courtesy light (contact NO/NC max 0,5A) use a relay if ac
  - 20/21 12V ac electrolock output (not to be used if powered by battery) protection fuse 10AF
- Connectors (BAT+/-) to battery charger module **CMBAT**



**Warning:** do not connect a back-up battery directly to the CTH42 electronic board. Always to be connected by means of extra module CMBAT to be purchased separately

**Transformer input:** connect 0= black cable + 12V yellow-orange cable to the CTH42 backside connectors. No polarity to be respected.



**Photocells bridge Warning:** If you do not connect any photocell (infrared safety sensor) keep the contact closed with the supplied electric bridge placed on connectors **4 & 5 (NC= Normally closed contact)** If the contact gets open and no photocells are wired the gate opener will open but not close.

**M1** = Motor installed on the wing that opens first  
**M2** = Motor installed on the wing that opens as second  
The phase shift in between gate wings is automatically set.  
M2 follows M1 in opening after about 3 sec. and vice versa during closing.

### JP1 SWITCH

JP1 switched on position 1= 1 wing gate use / JP1 switched on position 2= 2 wing gate use  
**USE ON SINGLE WING GATE:** wire the actuator as M1 and place the switch jumper **JP1** on position 1 (= 1 wing gate use)

### USE ON GATE OPENING TOWARDS OUTSIDE (push-to-open)

You must reverse motor cable polarity ( reverse blue-brown cable for M1 and same for M2)

### Push buttons & Potentiometers

**P1** = **FULL CYCLE** push button to store or cancel the radio transmitters (FOB) codes on the electronic board. This button is used to memorize a remote control button used to command full opening cycles.

**J1** = **PEDESTRIAN ACCESS** push button to store the radio transmitters (FOB) codes on the electronic board. This button is used to memorize a remote control button used to command pedestrian opening cycles only M1 actuator's gate wing will partially open to limit the access to pedestrians only.

**P2** = **deactivate/activate the Gear anti-pressure system.** This function is automatically set in the board and which removes pressure from the gears to preserve the life of the system  
To delate this feature: press P1 for 1 second. the red LED lights. Press P2 for a second. function deactivated. To restore the function, repeat the procedure.

**Trimmer 1 (TIME)** = potentiometer to set the “step by step” mode of use or automatic closure  
**Trimmer 2 (POWER M1)** = actuator M1 power /obstacle detection sensitivity adjustment  
**Trimmer 3 (POWER M2)** = actuator M2 power /obstacle detection sensitivity adjustment

### LED-light warnings:

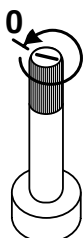
**green LED on**= the electronic board is powered.  
**red LED** is on after pushing P1 button = remote control learning mode.  
**red LED** is on by open gate = The gate is open in “step-by-step” working mode  
**red LED** blinks by open gate = The gate is open in “automatic closure” working mode. the LED will blink until countdown ends and gate automatically close.

### WIRED COMMANDS:

**START:** by wiring a clean monostable NO switch you can command the full opening cycle by a wired command (key switch/ intercom button , or any additional additional button) both wings will open and both wings will close.  
**START PEDESTRIAN:** same as above but to command the pedestrian opening cycle ( only M1 actuator's gate wing will partially open to limit the access to pedestrians only.



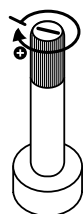
### WORKING MODE



Time

“**STEP-BY-STEP**” working mode = with this setting a command will open the gate and a second command will command the closing of the gate. The gate will open and stop by reaching the mechanical end stop. During opening it is not possible to stop or reverse the gate. No commands are accepted until the gate is stationary open. The gate remains open until a new command will produce the closing of the gate. The command can be given by remote control or wired command (key-switch, or any other N.O. contact bistable switch)

To set this working mode turn potentiometer “**TIME**” fully anti-clockwise (position = 0)



Time

“**AUTOMATI CLOSURE**” working mode = With this setting a command will open the gate. The gate will open and stop by reaching the mechanical end stop. The gate remains open in the pause (pause time can be set up to max.100 seconds) after the pause time has expired the gate will automatically close. During opening and during pause time it is not possible to stop or reverse the gate. No commands are accepted during pause time.

To set this working mode turn potentiometer “**TIME**” clockwise, the more you turn in clockwise sense, the more you increase the pause time before gate will automatically close. max. pause time is 100 seconds.

### MOTOR POWER ADJUSTMENT

By increasing motor power you reduce the obstacle detection sensitivity:

**Motor M1:** turn potentiometer “**POWER M1**” clockwise to increase the power

**Motor M2:** turn potentiometer “**POWER M2**” clockwise to increase the power

### TIME SHIFT (delay time in opening and closing between the 2 wings)

The delay time between wing 1 (M1) and wing 2 (M2) is automatic.

At the opening M1 starts to open first, and M2 follows M1 after about 3 sec.

Vice versa when closing. In case M2 is installed on a wing opening with a greater opening angle than M1’s gate wing, it may be needed to increase the standard time shift between the wings. Time shift adjustment is available upon request, but as it requires a software adjustment it can be overtaken only by the manufacturer. Contact the manufacturer for more informations.

### „RAM-SHOT“ or ANTI-PRESSION FUNCTION

This automatic function performs an almost unnoticeable reversing when the gate detects the mechanical end limit, to reduce the pressure on the gear wheel when the gate is in stop position, and guarantee long life term of all mechanical parts of the actuator. The board is standard programmed with this function activated. Even if it’s recommended to keep this function, it possible to deactivate it.

To deactivate the “Ram-shot” function, proceed as follows:  
Press P1 for 1 second, the red LED lights up. Press P2 for one second. The function is deactivated. To restore the function, repeat the process.

### REMOTE CONTROLS ( FOB)

**Warning:** control board model CTH42 can storage up to 10 ducati rolling coded remote controls buttons. In case you need to use more than 10 remote controls, you can purchase an extra (optional) Ducati radio receiver (RIXY6040 or RIXY 6043). Warning: only original ducati rolling coded remote controls are compatible.

**A-1) How to memorize a remote control button in the control board memory to command a FULL OPENING CYCLE** (on 2 wings gate both wings will open and both wings will close/ on 1 wing gate the gate will fully open)

Warning: Gate must be closed and idle ( check the RED LED is switched off).

- 1) on the main electronic board press push button **P1**
  - the red LED will switch on (to confirm you entered the learning mode)
- 2) release **P1**
- 3) Press the remote control button you want to use to operate your gate. Hold the remote control button pressed for at least 3-4 seconds
  - once the main electronic board has stored the remote control the main control’s board red LED will blink shortly to confirm remote control button has been memorized. Wait for the main board’s red LED to switch off.
- 4) You can now use the stored remote control’s button to command your gate manoeuver. (Same remote control’s button will operate both opening and closing of your gate). Repeat this operation for all desired remote controls.

**A-2) How to memorize a remote control button in the control board memory to command a PEDESTRIAN OPENING CYCLE** (on 2 wings gate only 1 wing will open partially and both wings will close/ on 1 wing gate the gate will fully open)  
Repeat same procedure as above A-1) but use push button J1 instead of P1.

### **B) How to erase all remote controls from the memory of your control board**

If the electronic board’s memory is full or if a remote control is lost, it is possible to erase the stored remotes controls from the memory of the electronic board (attention this process leads to a total loss of memory).

Thereafter, the remote controls must be re-stored on the board.

Warning: Gate must be closed and idle.

- 1) on the main electronic board press push button **P1** and hold it pushed for about 30 seconds until the red LED blinks to confirm all memory has been deleted
  - 2) release **P1**
- Memorize again the remaining remotes you want to use by following instructions as in point A) here above. Repeat the procedure for each remote control