

USE AND MAINTENANCE MANUAL

ZIPPO
Automations for swing gates

D-MNLOZIPPOXL-GB 15-11-2017 - Rev.01



IT - Istruzioni originali



**MADE IN
ITALY**



English

The data described in this handbook are purely a guide. TAU reserves the right to change them in any moment.

The manufacturer reserves the right to modify or improve products without prior notice. Any inaccuracies or errors found in this handbook will be corrected in the next edition.

When opening the packing please check that the product is intact. Please recycle materials in compliance with current regulations.

This product may only be installed by a qualified fitter. The manufacturer declines all liability for damage to property and/or personal injury deriving from the incorrect installation of the system or its non-compliance with current law (see Machinery Directive).

Description and characteristics

The automation **ZIPPO XL** have been designed to move swing gates.

THE USE OF THE EQUIPMENT FOR PURPOSES OR CIRCUMSTANCES OTHER THAN THOSE MENTIONED IS STRICTLY PROHIBITED.

ZIPPO	XL	XLB	XLB-R
Alimentazione / Power / Stromspeisung / Alimentation / Alimentación	230V AC		
Frequenza / Frequency / Frequenz / Fréquence / Frecuencia	50/60 Hz		
Condensatore / Capacitor / Kodensator / Condensateur / Condensador	12,5 μ f	-	-
Motore / Motor / Motor / Moteur / Motor	230V AC	12V DC	24V DC
Tempo di apertura 90° / Opening time 90° / Laufzeit, 90° Temps de ouverture 90° / Tiempo de apertura 90°	16,5 sec.	16,5 sec.	10 sec.
Assorbimento / Absorption / Stromentnahme / Absorption / Absorción	1,4 A	1,3 A	1,5 A
Potenza assorbita / Absorbed rated power / Aufgenommene Leistung Puissance absorbée / Potencia nominal absorbida	260 W	300 W	
Rapporto di riduzione / Reduction ratio / Übersetzungsverhältnis Rapport de réduction / Relación de reducción	1/1175		
Intervento di termoprotezione / Thermal protection trips at / Eingreifen des Warmeschutzes Intervention protection thermique / Intervención termoprotección	160°C		
Grado di protezione / Protection level / Schutzart Degré de protection / Grado de protección	IP 44		
Ciclo di lavoro / Working cycle / Arbeitszyklus / Cycle de travail / Ciclo de trabajo	50%	100%	
Temperatura di esercizio / Operating temperature / Betriebstemperatur Température de fonctionnement / Température de fonctionnement	-20°C + 55°C		
Coppia max / Max torque / Max Motordrehmoment / Couple max / Par màx	402 Nm	458 Nm	
Lunghezza max. semi-anta / Max. length of half-leaf / Max. halb Torflügelänge Longueur max. demi-battant / Longitud max. media-hoja	4 mt		
Peso max. anta / Max. leaf weight / Flügelgewicht max. - Poids max battant Peso máximo de la hoja	400 Kg		
Peso / Weight / Gewicht / Poids / Peso	21 Kg		

MANUFACTURER'S DECLARATION OF INCORPORATION
(in accordance with European Directive 2006/42/EC App. II.B)

Manufacturer: TAU S.r.l.
Address: Via E. Fermi, 43
36066 Sandrigo (Vi)
ITALY

Declares under its sole responsibility, that the product: *Electromechanical actuator*
designed for automatic movement of: *Industrial Doors*
for use in a: *Industrial environment*
complete with: -

Model: *ZIPPO XL*
Type: *ZIPPO XL / XLB / XLB-R*
Serial number: *SEE SILVER LABEL*
Commercial name: *AUTOMATION FOR INDUSTRIAL DOORS*

Has been produced for incorporation on an access point (*industrial door*) or for assembly with other devices used to move such an access point, to constitute a machine in accordance with the Machinery Directive 2006/42/EC.

Also declares that this product complies with the essential safety requirements of the following EEC directives:

- **2014/35/EU Low Voltage Directive**
- **2014/30/EU Electromagnetic Compatibility Directive**

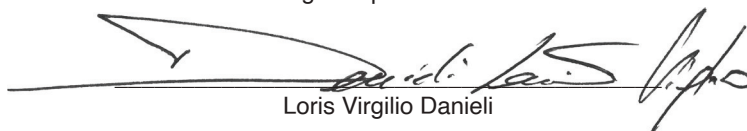
Also declares that ***it is not permitted to start up the machine*** until the machine in which it is incorporated or of which it will be a component has been identified with the relative declaration of conformity with the provisions of Directive 2006/42/EC.

The following standards and technical specifications are applied:
EN 61000-6-2; EN 61000-6-3; EN 60335-1; EN 300 220-2 V2.4.1;
EN 12453:2000; EN 12445:2000; EN 60335-2-103.

The manufacturer undertakes to provide, on sufficiently motivated request by national authorities, all information pertinent to the partly completed machinery.

Sandrigo, 15/11/2017

Legal Representative


Loris Virgilio Danieli

Name and address of person authorised to draw up all pertinent technical documentation:

Loris Virgilio Danieli - via E. Fermi, 43 - 3606 Sandrigo (Vi) Italia

INSTALLATION WARNINGS

GENERAL SAFETY REQUIREMENTS

- 1) **Carefully read all instructions before installation, as they provide important instructions regarding the safety, installation, operation and maintenance. Incorrect installation or use of the product may lead to serious physical injury.**
- 2) Never leave packaging materials (plastic, polystyrene etc.) within the reach of children as they constitute a potential hazard.
- 3) Keep the instructions in a safe place for future consultation.
- 4) This product has been designed and constructed exclusively for the use specified in this documentation. Any other use not specified herein may impair product integrity and/or constitute a hazard.
- 5) TAU Srl declines all liability for improper use or use other than as specified for this automation.
- 6) Do not install the unit in an explosive environment: the presence of either gas or flammable fumes is a serious safety risk.
- 7) The mechanical elements must comply with the requirements as stated in the standards EN 12604 and EN 12605. For non European member states, in addition to the national reference standards, the above-mentioned standards must be observed to ensure an adequate level of safety.
- 8) TAU Srl is not responsible for failure to observe Good Practice in construction of the gates/doors to be power-operated, nor any deformations occurring during use.
- 9) Installation must be performed in compliance with the standards EN 12453 and EN 12445. For non European member states, in addition to the national reference standards, the above-mentioned standards must be observed to ensure an adequate level of safety.
- 10) Before performing any operations on the system, disconnect from the mains and detach the batteries.
- 11) On the automation power line, install a device for disconnection from the power mains with a gap between contacts equal to or greater than 3 mm. Use of a 6A thermal magnetic circuit breaker with multi-pole switch is recommended.
- 12) Check upline of the system that there is a residual current circuit breaker with a threshold of 0.03 A.
- 13) Ensure that the earthing system is to professional standards and connected to the metal section of the gate/door.
- 14) The automation is equipped with an intrinsic anti-crushing safety device comprising a torque control. The trip threshold must in all cases be checked as stated in the standards specified in point 9.
- 15) The safety devices (standard EN 12978) enable the protection of danger areas from **risks associated with mechanical movements** such as crushing, dragging and shearing.
- 16) The use of at least one luminous indicator is recommended for each system, as well as a warning notice fixed suitably to the frame structure, in addition to the devices specified in point 15.
- 17) TAU declines all liability for the safety and efficient operation of the automation in the event of using system components not produced by TAU.
- 18) For maintenance, use exclusively original TAU parts.
- 19) Never modify components that are part of the automation system.
- 20) The installer must provide all information regarding manual operation of the system in the event of an emergency and supply the system User with the "User Guide" enclosed with the product.
- 21) Never allow children or other persons to stay in the vicinity of the product during operation.
- 22) Keep all radio controls or other pulse supplier device out of the reach of children to prevent inadvertent activation of the automation.
- 23) Transit should only occur with the automation stationary.
- 24) The user must never attempt to repair or intervene directly on the product; always contact qualified personnel for as-

sistance.

- 25) It is strictly forbidden to use high pressure water cleaners or jets of water in general to clean the automation.
- 25) Maintenance: at least every six months, make a general check of the system, with special reference to the efficiency of the safety devices (including, when envisaged, the operator thrust force) and release mechanisms.
- 26) **All actions not expressly envisaged in these instructions are strictly prohibited.**

1_ CONDITIONS OF USE

The ZIPPO XL automation for swing gates has been designed for industrial and domestic use.

2_ OVERALL DIMENSIONS

The main dimensions of the automation with telescopic arm are indicated in pic. # 1 and # 2.

3_ INSTALLATION

 **Installation must be carried out by skilled and qualified personnel in compliance with the regulations in force.**

3.1_ Preliminary checks

Prior to installing the operator, make all structural modifications in order to ensure safety distances and protect and segregate areas in which people may be exposed to the risk of crushing, shearing, dragging or similar dangers.

- Make sure the existing structure is sufficiently sturdy and stable;
- the mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605;
- leaf length and leaf weight in compliance with the actuator specifications;
- regular and uniform movement of the leaves, without any friction and dragging during their entire travel;
- stiff hinges in good conditions;
- presence of an efficient earthing for electrical connection of the actuator.

Perform any necessary metalwork job before installing the operator.

 **The preliminary checks are REQUIRED. It is expressly forbidden to install the product on doors in poor condition or not properly maintained.**

The condition of the door structure directly affects the reliability and safety of the gate operator.

3.2_ Cables typology

Connection	Type of cable	Cable I. 1 < 10 m	Cable I. 10 < 20 m	Cable I. 20 < 30 m
230v supply	FG70R CEI 20-22 CEI EN 50267-2-1	3 x 1,5 mm ²	3 x 2,5 mm ²	3 x 4 mm ²
Photocell transmitters		2 x 0,5 mm ²	2 x 0,5 mm ²	-
Photocell receivers		4 x 0,5 mm ²	4 x 0,5 mm ²	-
Accessory 24v power supply		2 x 0,5 mm ²	2 x 1 mm ²	-
Control devices		2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Aerial	RG58	See relative instructions		
Metal mass sensor	See relative instructions			

NOTE: If the length of the cables is not as stated in the table, determine the cable section on the basis of the real draw of the connected devices and in compliance with the IEC EN 60204-1 Standard.

As to connections with numerous loads on the same line (in sequence), dimensions must be recalculated on the basis of the real draw and distance. As to the connection of any prod-

ucts not dealt with in this manual, the documents attached to the products themselves must be consulted.

3.3_ Typical system (pic. # 12-13)

- 1 ZIPPO XL Motor
- 2 Control Panel
- 3 Pair of wall photocells
- 4 Flashing light with aerial
- 5 Pair of photocells with mounting post
- 6 Key switch

3.4_ Motor positioning

 **Note: this refers to the right motor (RX) that installed on the wing right seen from inside the room.**

Fig.1 shows the measures for the holes to be made on the pillar to fix the motor frame (1) and on the leaf for fix the articulated arm bracket (2)

Proceed as follows:

- 1_ install the motor frame (1) as shown in Fig. 3.

 **Note: the bracket holes (2) must be 100mm below the upper holes of the fixing motor plate (1) as in fig. 1.**

Once mounted the motor plate 1, proceed with fixing the motor operating as follows (fig. 4):

- 3_ position the gearmotor A on the plate by inserting the output shaft B on the C hole and secure it with the supplied screws.

3.5_ Insertion of articulated arm

To apply the articulated arm to the motorgear, proceed as follows:

- 1_ Insert the operator lever D on the drive shaft and fix the articulated joint through the provided screw and nut E (picture 5)
- 2_ Assemble through the provided screw the second part of the articulated arm F (picture 6)
- 3_ Assemble through the provided screw and nut the third part of the articulated arm G (picture 7).
Keep a maximum angle of 170° between the articulated arm connected to the operator and the part of the arm G, in order to make the movements of the operator easier (picture 2)
- 4_ After having assembled the articulated arm, adjust the length and fix it to the anchor plate (picture 1)
- 5_ Close the automation through the provided cover (picture 8)

3.6_ Switch adjustment

Motor LX (seen from inside the room)

Opening: release the actuator (see par. "Manual release") and move the leaf to the required open position. Turn the opening cam clockwise until the micro-switch trips and secure it with the central screw (pic. # 10).

Closing: move the leaf to the required closed position. Turn the closing cam anticlockwise until the micro-switch trips and secure it with the central screw (pic. # 10).

Motor RX (seen from inside the room)

Opening: release the actuator (see par. "Manual release") and move the leaf to the required open position. Turn the opening cam anticlockwise until the micro-switch trips and secure it with the central screw (pic. # 10).

Closing: move the leaf to the required open position. Turn the closing cam clockwise until the micro-switch trips and secure it with the central screw (pic. # 10).

 **Whenever the position of the microswitch stops is modified, it is advisable to repeat the saving procedure on the control board (see D760M instructions).**

3.7_ Electrical connections (pic. # 9)

ZIPPO		
POS.	COLOR	DESCRIPTION
3	Yellow / Green	Grounding
4	Dark Blu	Phase 1 + Cap.
5	Light Blue	Motor common
6	Grey	Phase 2 + Cap.

Use only control units with electric clutch.

The distance between the control unit and the motor must not exceed 10 – 12 m.

TAU srl recommends its composite cable, Code **M-03000010CO**;



Place the control unit in the immediate vicinity of the motors.



Be careful not to run cables for auxiliary devices inside raceways housing other cables supplying power to large loads or lights with electronic starters.



In the event control pushbuttons or indicator lights are installed inside homes or offices several metres away from the actual control unit, it is advisable to decouple the signal by means of a relay in order to avoid induced interference.



CAUTION-If during the memorization process one or both of the doors close instead of opening, stop the automations and reverse the polarity of the motor.

4_ USE

The ZIPPO XL automation has been designed for swing gates with leaves max. 3 mt. long and weight max of 200 Kg.



It is categorically forbidden to use the equipment for any other use or under circumstances different from those mentioned herein.

The electronic unit (**that must have the built-in electric clutch**) normally makes it possible for you to choose from:

automatic : a command pulse will open and shut the door

semiautomatic : a command pulse will open or shut the door

If there is a blackout to control it manually first operate the unlock mechanism.

Furthermore, it also comprises electrical equipment and therefore must be approached and used with caution and foresight. In particular we recommend:

- not to touch the equipment with wet hands and/or bare or wet feet;
- not to perform the automatic or semiautomatic function in the presence of known or suspected malfunctions;
- not to pull the cable to disconnect the equipment;
- not to let children, or those unable, use the cabinet keys or controls (including remote controls) even if only to play with;
- do not touch the motor unless you are certain it is cold;
- only operate the door when it is completely visible;
- not to enter within the operating range while it is moving, wait for it to stop;
- not to let children or animal play within the operating range of the door;
- to perform periodic maintenance by specialised personnel;
- if there is a fault, turn off the power supply. Use the manual manoeuvre only if safe. Do not attempt to resolve the problem yourself, contact a qualified technician of the manufacturer or authorised by the manufacturer. In any case, make sure that the spare parts are original so that the safety of the automation is not compromised.

4.1_ Manual release

In case you need to manually move the door, due to lack of electricity or automation fault, you must use the release device as follows:

- 1_ Take the protection cap out (picture 11)
- 2_ Insert the provided tube key B in the hole of the lever of the gate and turn it in the specified direction (picture 11);
- 3_ Move the unlocked leaf manually.

In order to restore the standard working of the automation, hook

again the articulated arm to the operator.



Note: To prevent an involuntary pulse from activating the gate during the maneuver, before re-locking, turn off the power.

5_ MAINTENANCE

The ZIPPO's actuators need very little maintenance. However, to ensure they always work properly, the door has to be in good condition: hence we shall describe briefly what you need to do to keep your articulated door efficient.

ATTENTION: no one, except the person who services the equipment (who must be a specialised technician), should be able to command the automatism during servicing. Consequently, it is advisable **to turn the electricity off at the mains** also to avoid possible electric shocks. **If the electricity has to be on for certain checks, check or disable all command devices** (remote controls, push button panels, etc.) except for the device being used by the maintenance person.

Routine maintenance

Each of the following operations must be carried out when the need arises and, in all cases, every 6 months (always 750 work cycles).

Articulated door

- Lubricate the hinges and telescopic arms.

Automation system

- check the safety devices (photocells, etc.). They must work properly in dangerous situations and cut in as configured during installation;
- check that the slide way is clean and free from debris;
- push the door fully open making sure never to use a force of more than 150 N (15 kg);
- make sure the door moves smoothly;
- check that the screw connections are perfectly tight.

FREQUENCY: every 750 manoeuvres or 6 months, **failing which the guarantee lapses.**

Extraordinary maintenance or breaks

- In case of unusual repairs on mechanic parts, we kindly ask to remove only the damage part in order to allow headquarter technicians or authorized ones to repair or fix easily the faulty part.

6_ SCRAPPING

All materials must be disposed of in observance of current standards.

If the automation is to be scrapped there are no particular dangers or risks associated with the automation itself.

In the case of material recovery, separate components according to the waste category (electrical parts - copper - aluminium - plastic, etc.).

7_ DISASSEMBLY

If the automation is disassembled for subsequent re-assembly in another site:

- Disconnect the power supply and the entire electrical system;
- Remove the gearmotor from the fixing base;
- Disassemble all system components;
- If some components cannot be removed or are damaged, replace.

GUARANTEE: GENERAL CONDITIONS

TAU guarantees this product for a period of 24 months from the date of purchase (as proved by the sales document, receipt or invoice).

This guarantee covers the repair or replacement at TAU's expense (ex-works TAU: packing and transport at the customer's expense) of parts that TAU recognises as being faulty as regards workmanship or materials.

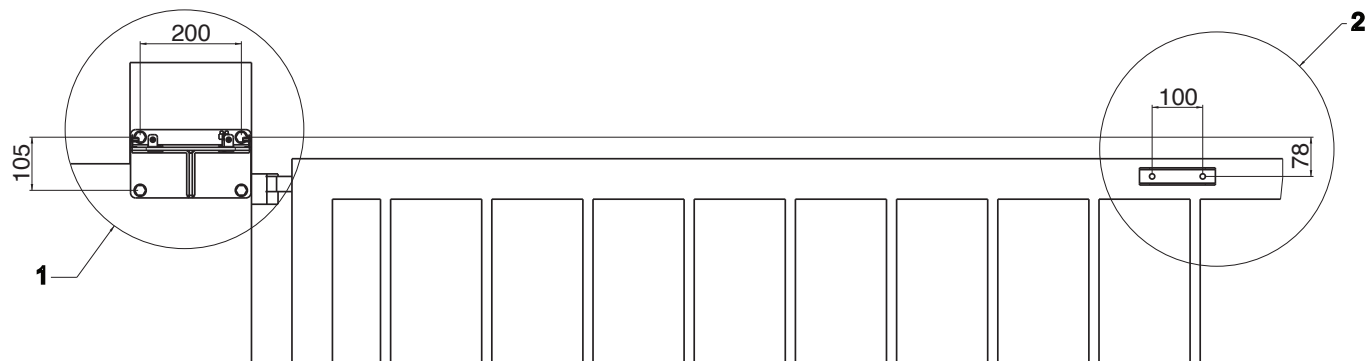
For visits to the customer's facilities, also during the guarantee period, a "Call-out fee" will be charged for travelling expenses and labour costs.

The guarantee does not cover the following cases:

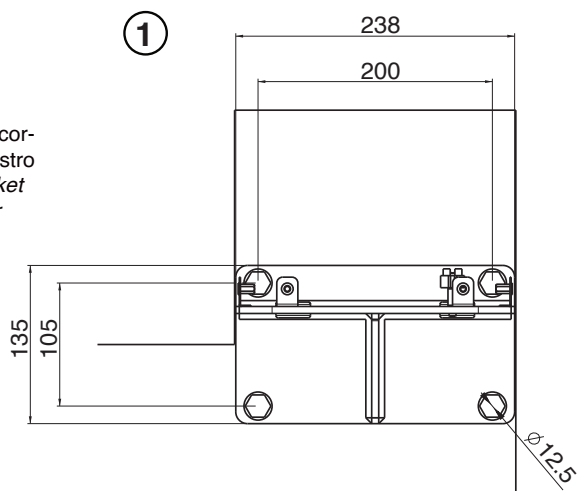
- If the fault was caused by an installation that was not performed according to the instructions provided by the company inside the product pack.
- If original TAU spare parts were not used to install the product.
- If the damage was caused by an Act of God, tampering, overvoltage, incorrect power supply, improper repairs, incorrect installation, or other reasons that do not depend on TAU.
- If a specialised maintenance man does not carry out routine maintenance operations according to the instructions provided by the company inside the product pack.
- Wear of components.

The repair or replacement of pieces under guarantee does not extend the guarantee period.

In case of industrial, professional or similar use, this warranty is valid for 12 months.



Staffa di ancoraggio a pilastro
Fixing bracket on the pillar



②

Staffa di ancoraggio per braccio articolato su anta
Fixing bracket for articulated arm

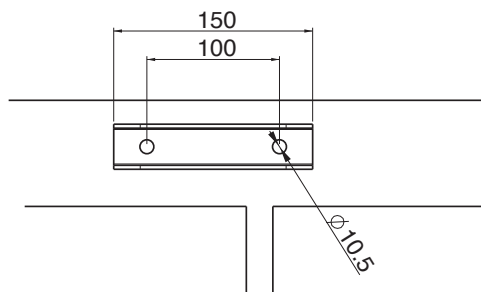


fig. / pic. # / Abb. / image / imagen 1

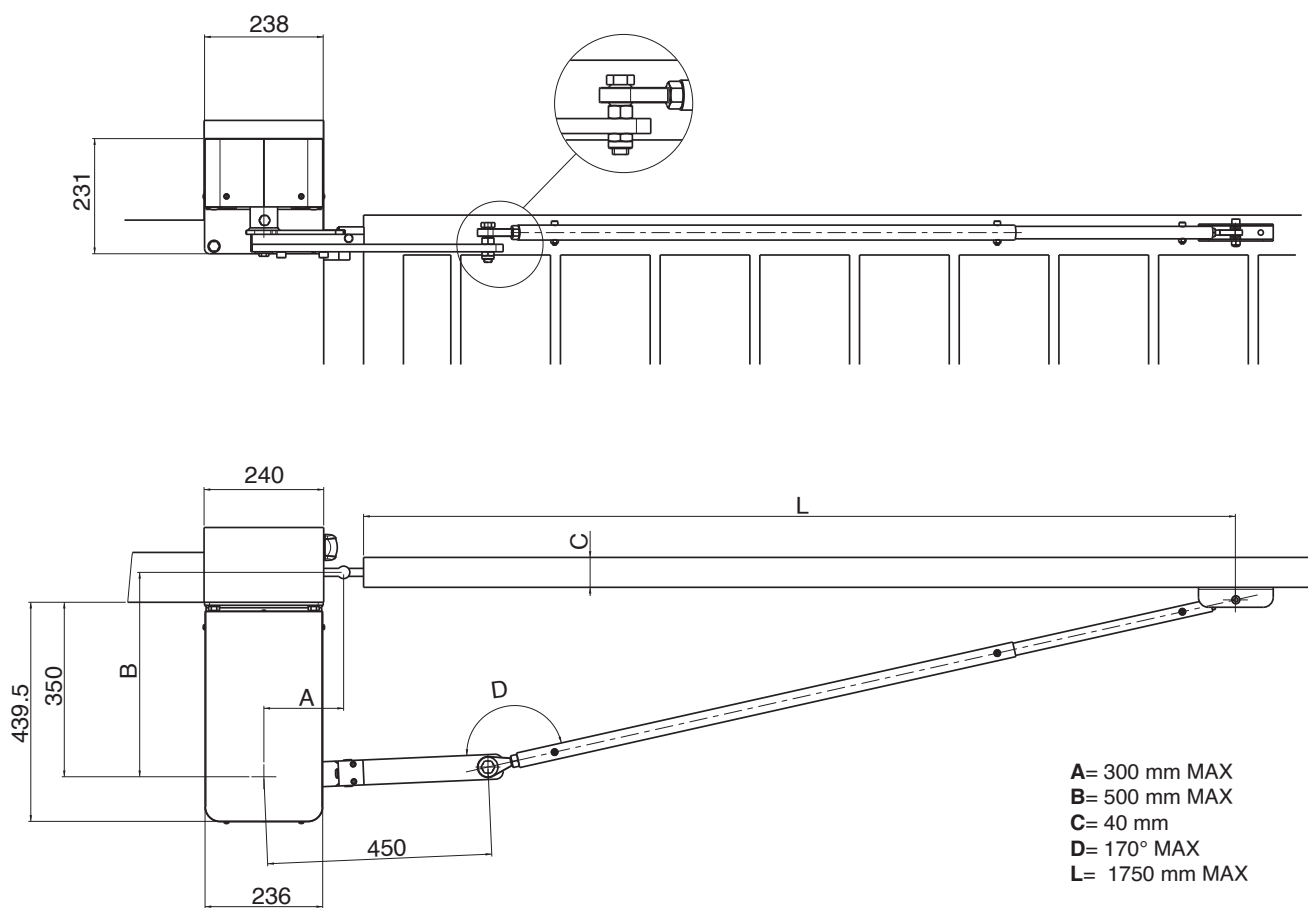


fig. / pic. # / Abb. / image / imagen 2

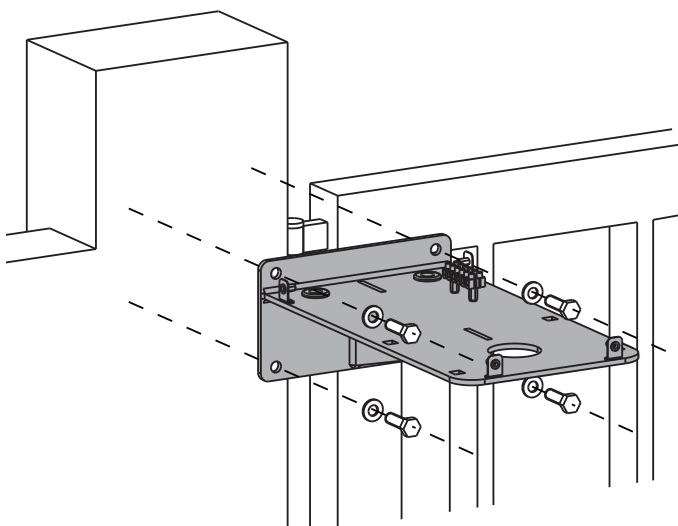


fig. / pic. # / Abb. / image / imagen 3

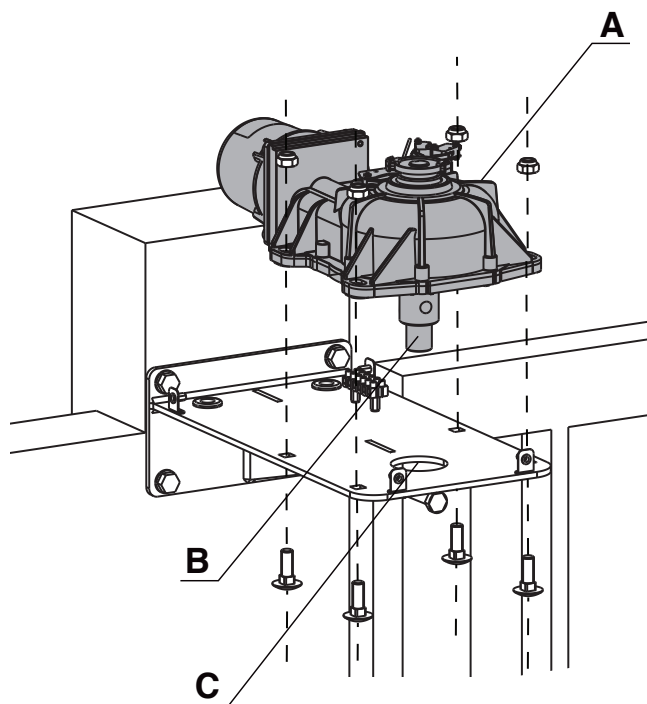


fig. / pic. # / Abb. / image / imagen 4

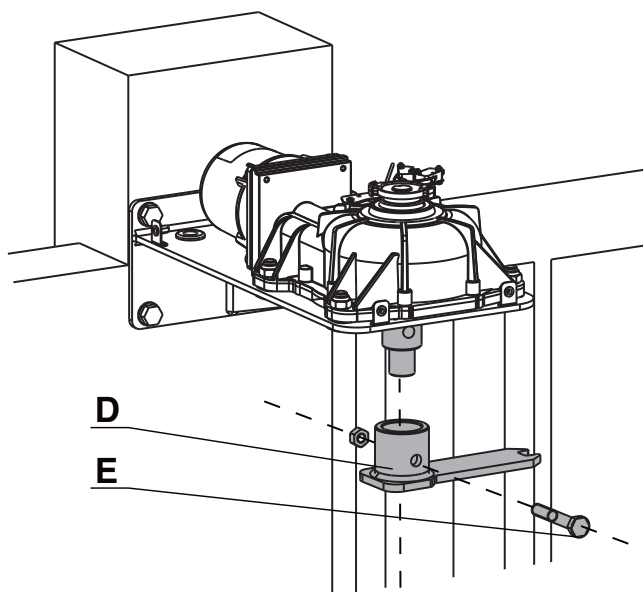


fig. / pic. # / Abb. / image / imagen 5

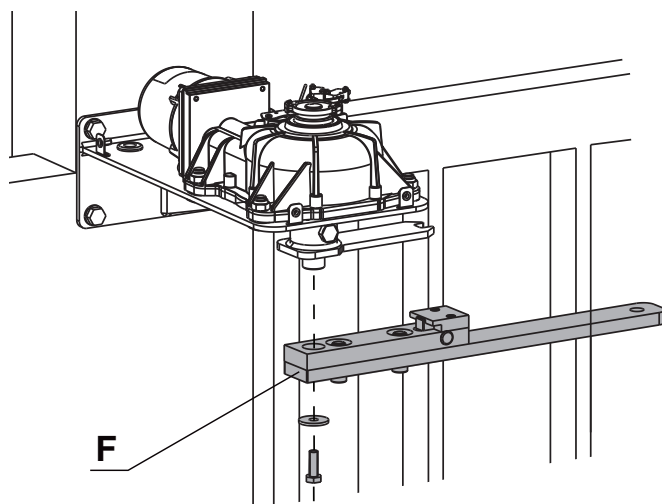


fig. / pic. # / Abb. / image / imagen 6

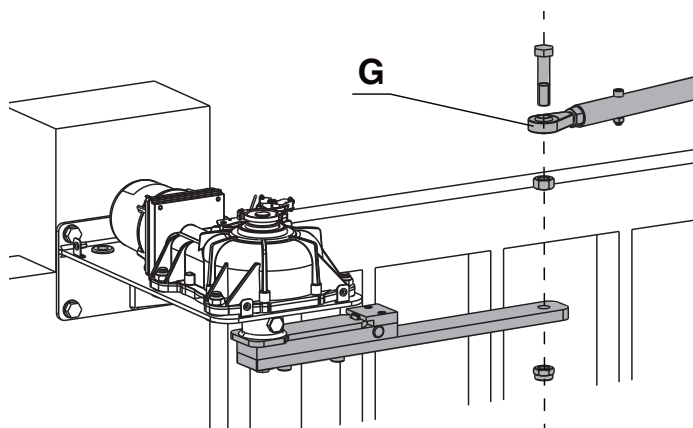


fig. / pic. # / Abb. / image / imagen 7

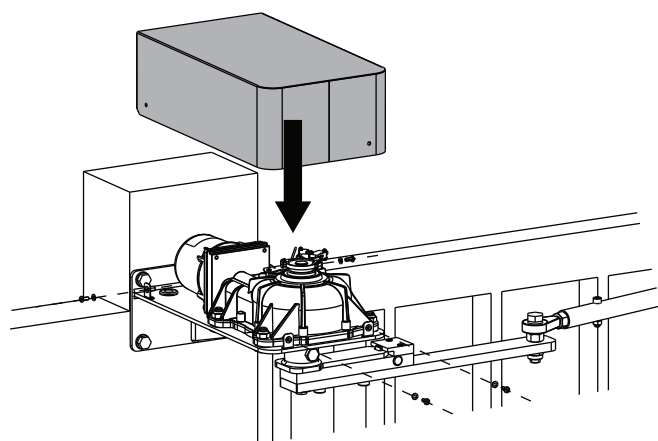
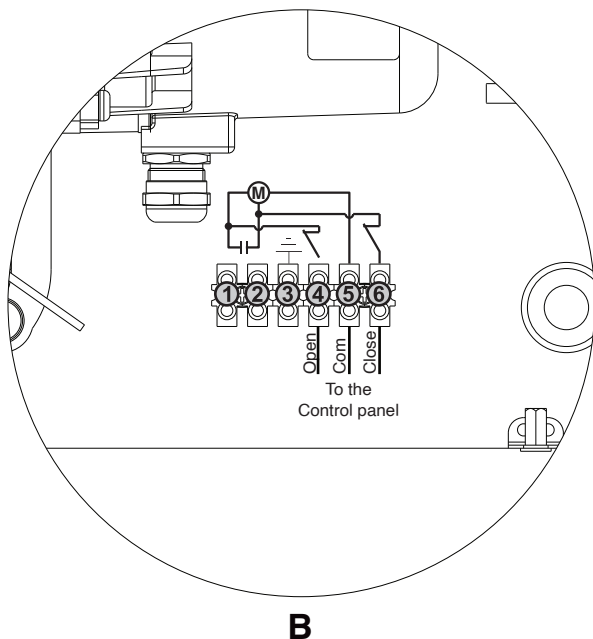


fig. / pic. # / Abb. / image / imagen 8



- 3 Messa a terra (giallo/verde)
Grounding (yellow/green)
Erdung (Gelb/Grün)
Mise à la terre (jaune/vert)
Puesta a tierra (amarillo/verde)
- 4 Fase1 + cond + com FCA (blu scuro)
Phase1 + cap + com OLS (dark blu)
Phase1 + Kond + Gem ETA (dunkelblau)
Phase1 + cond + com FCO (bleu foncé)
Fase1 + cond + com FCA (azul oscuro)
- 5 Comune motore (azzurro)
Motor common (light blue)
Sammelkontakt (blau)
Commun moteur (bleu)
Común motor (azul)
- 6 Fase2 + cond + com FCC (grigio)
Phase2 + cap + com CLS (grey)
Phase2 + Kond + Gem ETZ (Grau)
Phase2 + cond + com FCF (gris)
Fase2 + cond + com FCC (gris)

B

fig. / pic. # / Abb. / image / imagen 9

MOTORE ZIPPO XL VISTO DALL'ALTO - ZIPPO XL OPERATOR (TOP VIEW)

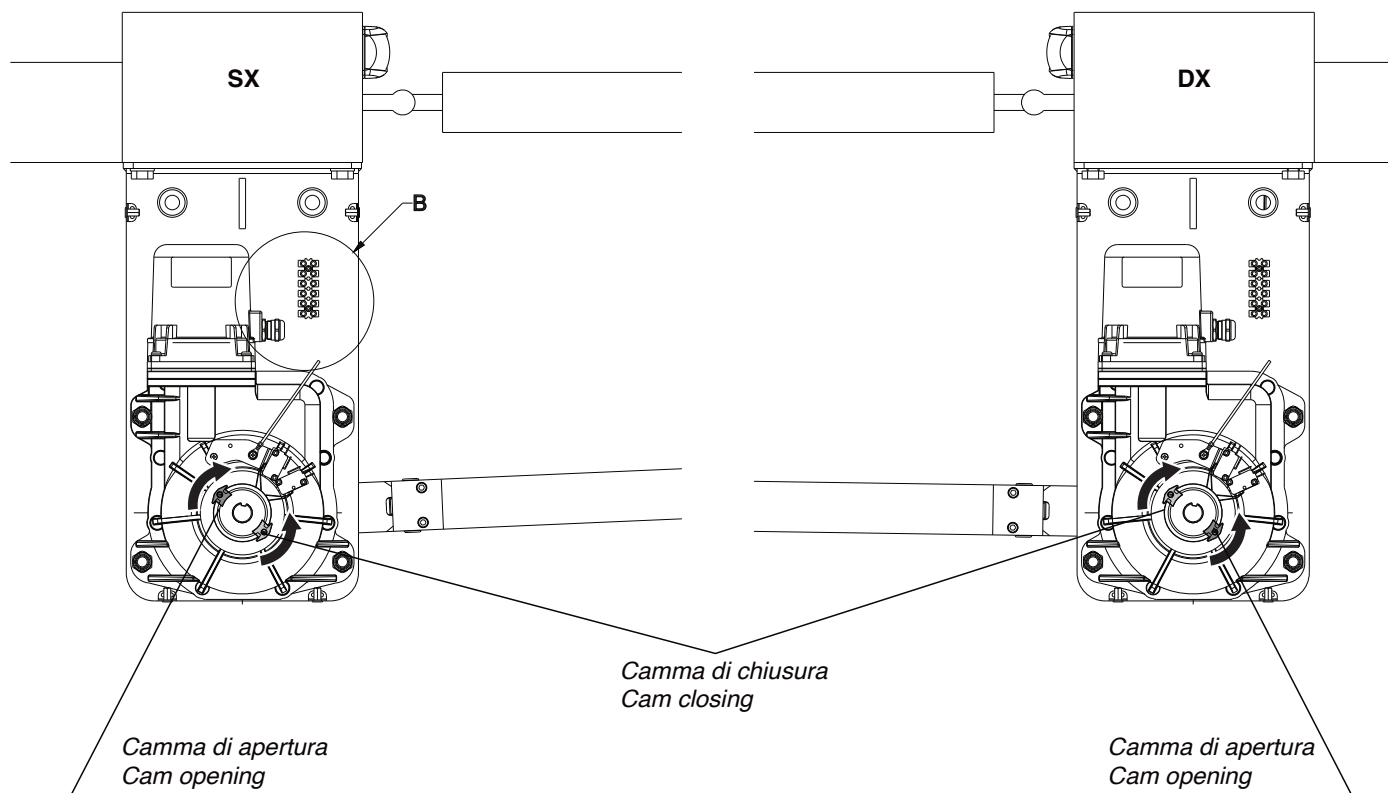


fig. / pic. # / Abb. / image / imagen 10

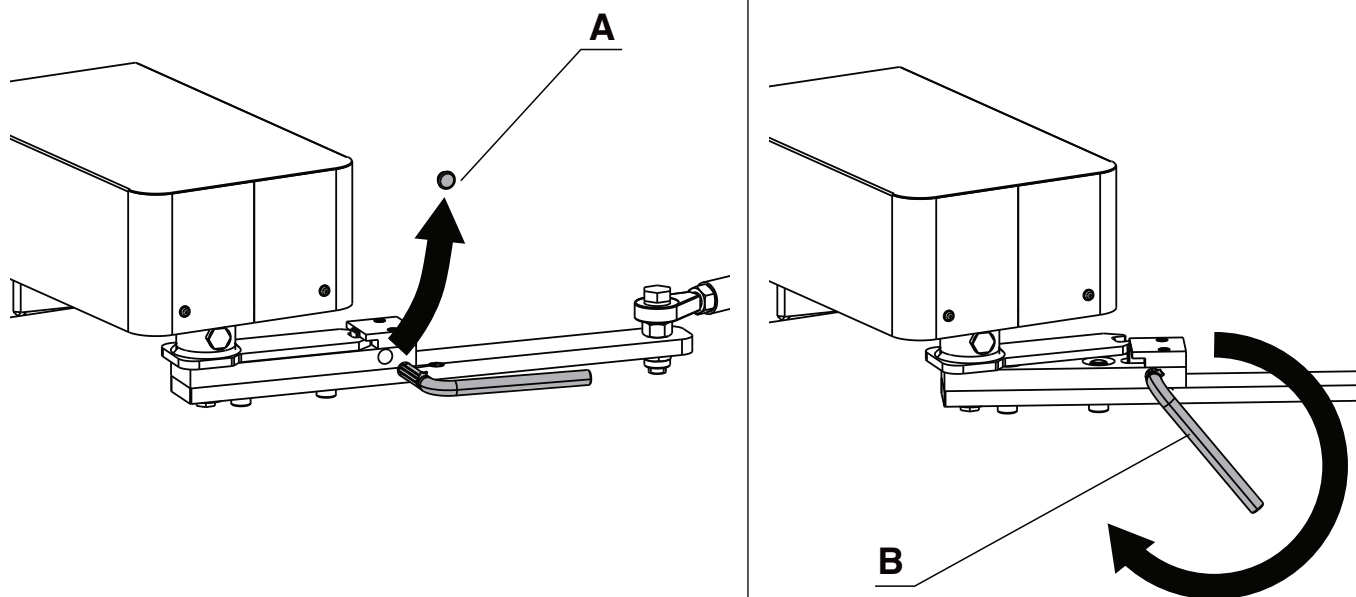
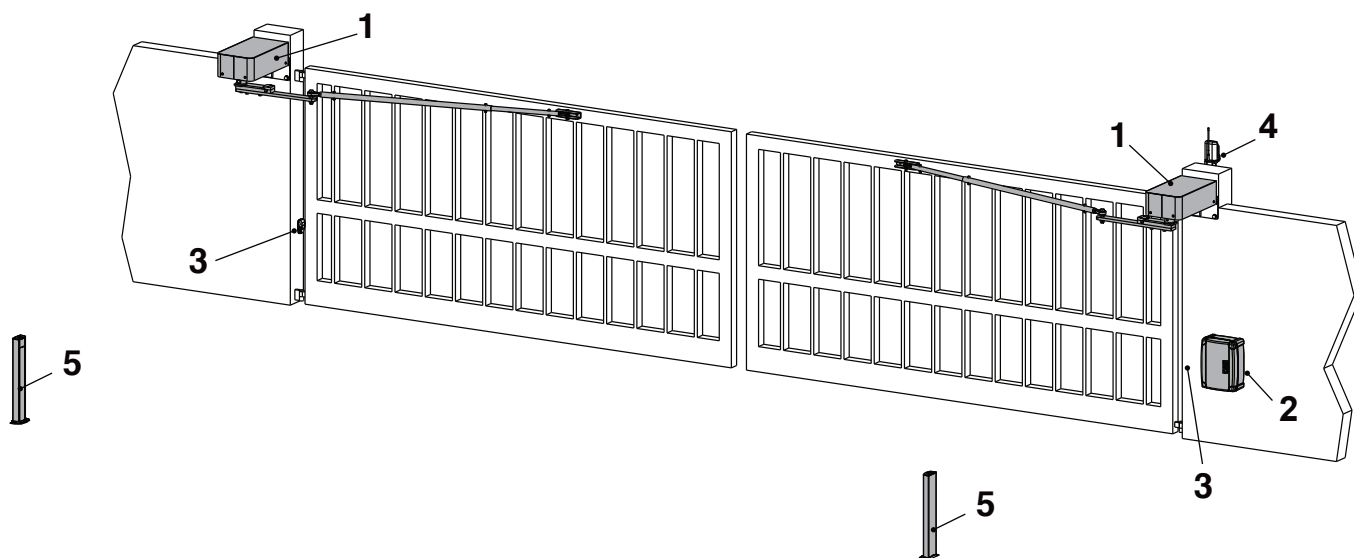
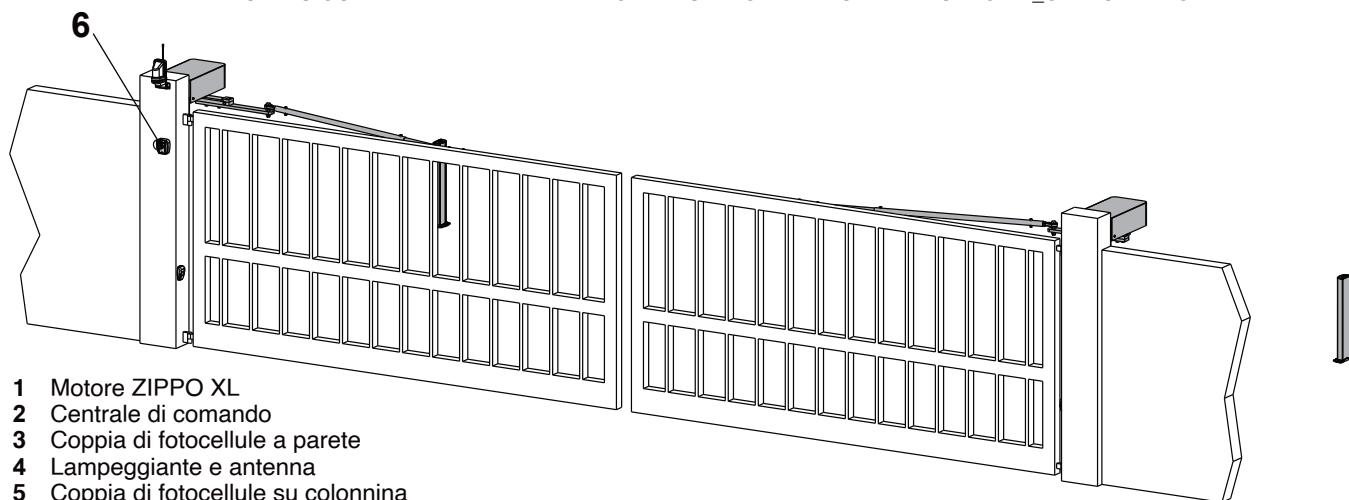


fig. / pic. # / Abb. / image / imagen 11

IMPIANTO TIPO CON ANTE BATTENTI DALL'INTERNO - INSTALLATION TYPE INSIDE_SWING LEAFS



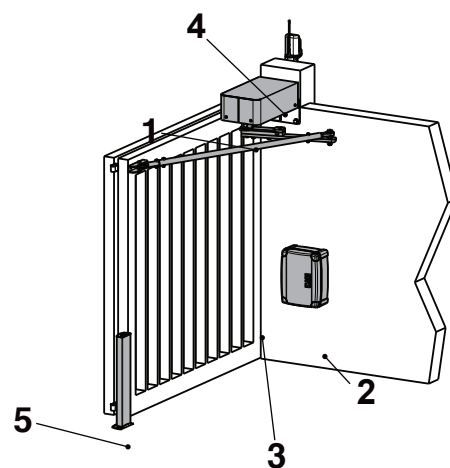
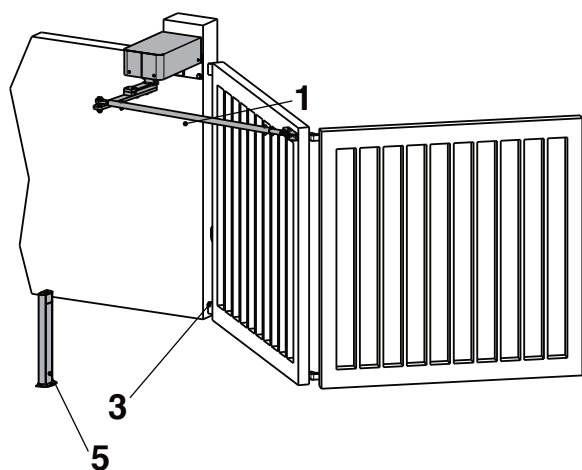
IMPIANTO TIPO CON ANTE BATTENTI DALL'ESTERNO - INSTALLATION TYPE OUTSIDE_SWING LEAFS



- 1 Motore ZIPPO XL
- 2 Centrale di comando
- 3 Coppia di fotocellule a parete
- 4 Lampeggiante e antenna
- 5 Coppia di fotocellule su colonnina
- 6 Selettore a chiave

fig. / pic. # / Abb. / image / imagen 12

IMPIANTO TIPO CON CANCELLO A 4 ANTE - *RESIDENTIAL FOLDING GATE. TYPICAL INSTALLATION*



- 1 Motore ZIPPO XL
- 2 Centrale di comando
- 3 Fotocellule a parete
- 4 Lampeggiante e antenna
- 5 Coppia di fotocellule su colonnina

fig. / pic. # / Abb. / image / imagen 13



Via Enrico Fermi, 43
36066 Sandrigo (VI) - Italy
Tel +39 0444 750190
Fax +39 0444 750376
info@tauitalia.com
www.tauitalia.com



MANUALE D'USO E INSTALLAZIONE

USE AND INSTALLATION MANUAL

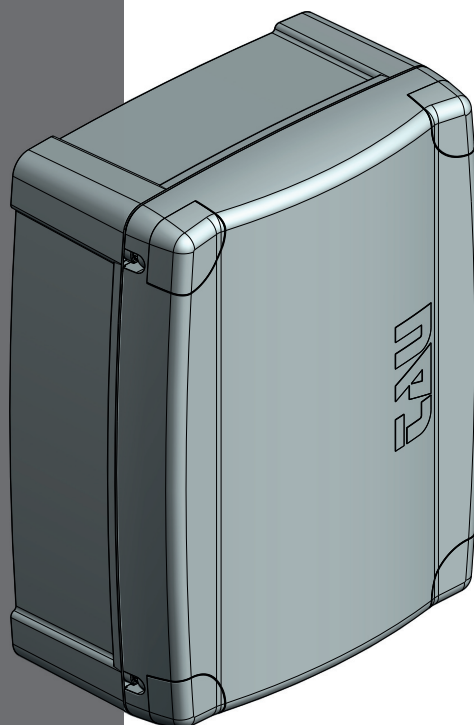
BENUTZUNGS- UND

INSTALLATIONSANLEITUNG

MANUEL D'EMPLOI ET INSTALLATION

MANUAL DE USO E INSTALACIÓN

D770M



Ver. Firmware 8.xx

D-MNL0D770M 05-10-2022 - Rev.08



MADE IN
ITALY



SCHEMA CABLAGGIO D770M / D770M WIRING DIAGRAM / SCHALTPLAN DER D770M

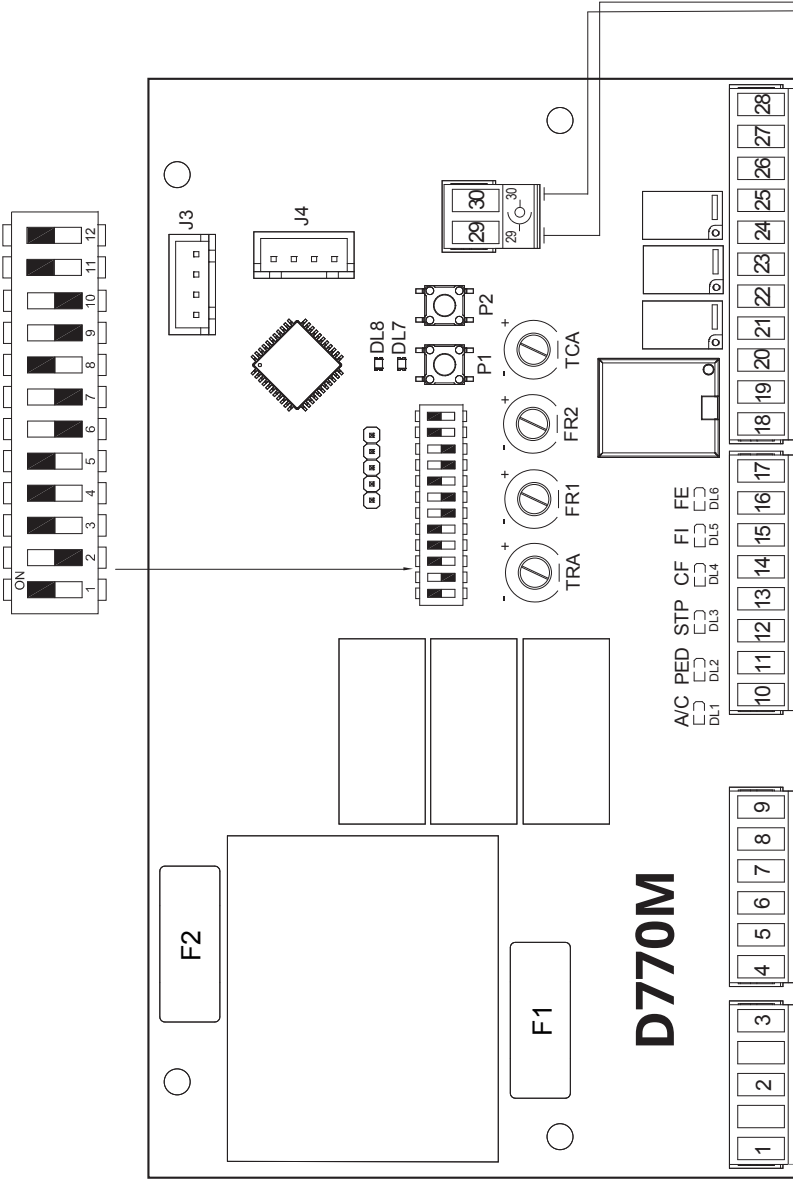
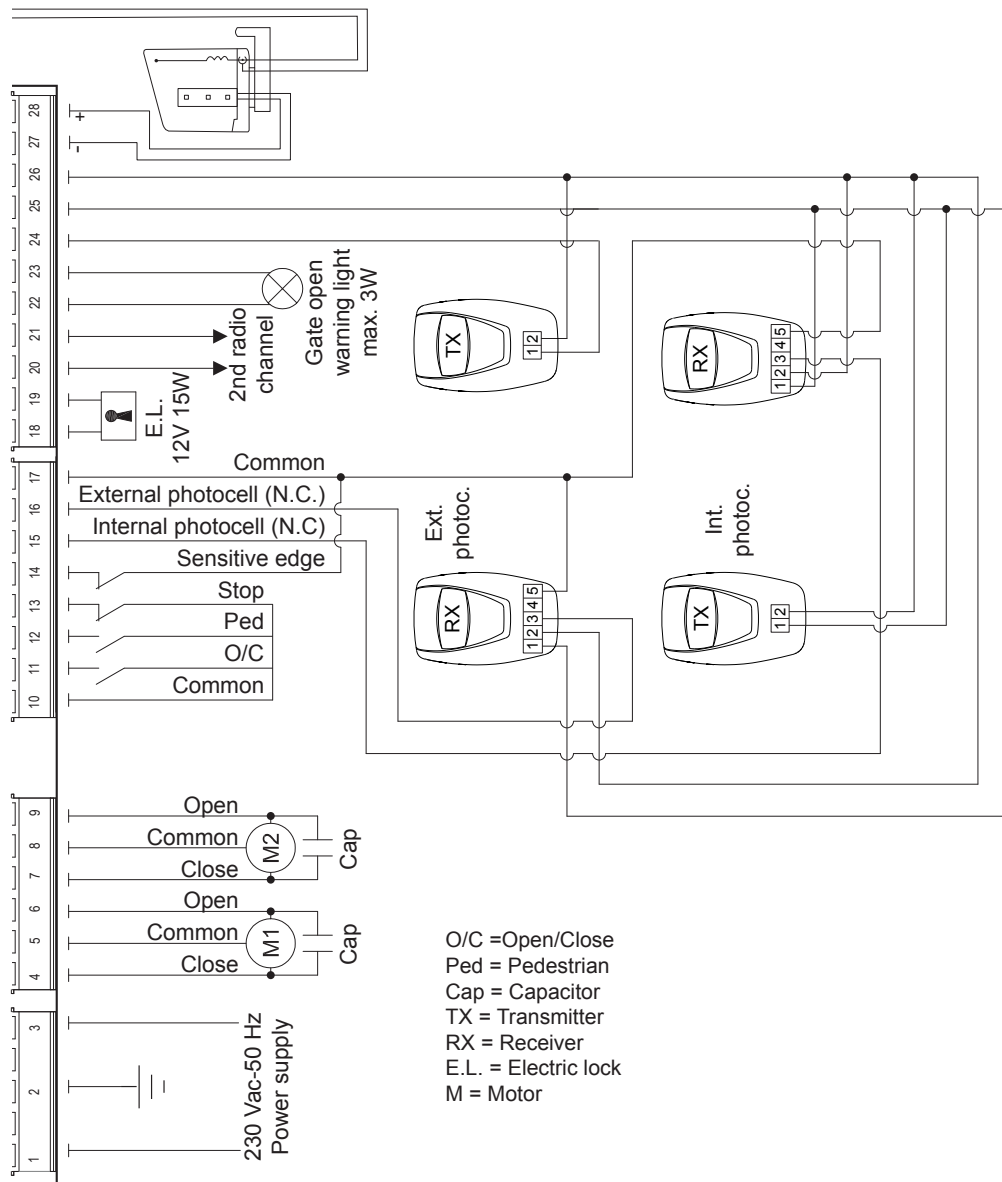


SCHÉMA CÂBLAGE D770M / ESQUEMA DEL CABLEADO D770M / ESQUEMA ELÉCTRICO D770M



WARNINGS

This manual has been especially written for use by qualified fitters. No information given in this manual can be considered as being of interest to end users. This manual is enclosed with control unit D770M and may therefore not be used for different products!

Important information:

Disconnect the panel from the power supply before opening it.

The D770M control unit has been designed to control an electromechanical gear motor for automating gates and doors of all kinds.

Any other use is considered improper and is consequently forbidden by current laws.

Please note that the automation system you are going to install is classified as "machine construction" and therefore is included in the application of European directive 2006/42/EC (Machinery Directive).

This directive includes the following prescriptions:

- Only trained and qualified personnel should install the equipment;
- the installer must first make a "risk analysis" of the machine;
- the equipment must be installed in a correct and workmanlike manner in compliance with all the standards concerned;
- after installation, the machine owner must be given the "declaration of conformity".

This product may only be installed and serviced by qualified personnel in compliance with current laws, regulations and directives.

When designing its products, TAU observes all applicable standards (please see the attached declaration of conformity) but it is of paramount importance that installers strictly observe the same standards when installing the system.

Unqualified personnel or those who are unaware of the standards applicable to the "automatic gates and doors" category may not install systems under any circumstances.

Whoever ignores such standards shall be held responsible for any damage caused by the system!

Do not install the unit before you have read all the instructions.

INSTALLATION

Before proceeding, make sure the mechanical components work correctly. Also check that the gear motor assembly has been installed according to the instructions. Then make sure that the power consumption of the gear motor is not greater than 3A (otherwise the control panel may not work properly). THE EQUIPMENT MUST BE INSTALLED "EXPERTLY" BY QUALIFIED PERSONNEL AS REQUIRED BY LAW.

Note: it is compulsory to earth the system and to observe the safety regulations that are in force in each country.

IF THESE ABOVE INSTRUCTIONS ARE NOT FOLLOWED IT COULD PREJUDICE THE PROPER WORKING ORDER OF THE EQUIPMENT AND CREATE HAZARDOUS SITUATIONS FOR PEOPLE. FOR THIS REASON THE "MANUFACTURER" DECLINES ALL RESPONSIBILITY FOR ANY MALFUNCTIONING AND DAMAGES THUS RESULTING.

1. CONTROL CARD FOR TWO SINGLE-PHASE MOTORS 230V AC

The D770M panel features an electronic photocell control system which switches the external photocell transmitter on and off thereby causing the control unit microprocessor to check whether the relay switches correctly. If this does not happen, the control unit is automatically blocked.

- MICROPROCESSOR-CONTROLLED LOGIC
- SELF-DIAGNOSIS LED's
- LINE INPUT FUSE
- BUILT-IN TORQUE LIMITING DEVICE
- ELECTRONIC CONTROL OF SAFETY DEVICES
- PEDESTRIAN ENTRY FUNCTION
- BUILT-IN LED FLASHING LIGHT CIRCUIT
- 433.92 MHz 2 CHANNEL BUILT-IN RADIO RECEIVER (CH)
- "SLOW-DOWN" FUNCTION IN OPENING AND IN CLOSING PHASE
- DIAGNOSTICS OF MALFUNCTIONS SIGNALLLED BY LED
- COMPATIBILITY WITH OUR APPS: TAUOPEN AND TAUAPP

ATTENTION:

- **do not use single cables (with one single wire), ex. telephone cables, in order to avoid break-downs of the line and false contacts;**
- **do not re-use old pre-existing cables.**
- **In case of long sections of cables (> 20 m) for N.O./N.C. controls (e.g. OPEN / CLOSE, STOP, PEDESTRIAN, etc.), in order to avoid gate malfunctions, it will be necessary to uncouple the various controls using RELAYS or using our 750T-RELE device.**

2. TESTING

When all connections have been made:

- All the green LED's must be on (each corresponds to a Normally Closed input).
- They only turn off when the safeties they are associated with are active.
- All the red LED's must be off (each corresponds to a Normally Open input) they only turn on when the commands they are associated with are active.
- Led DL8 must flash green every 4 sec. (indicates the logic state of the control unit, see sect. "Diagnostics Led")

3. TECHNICAL CHARACTERISTICS

Power input to board	230V AC - 50Hz
Max motors nominal power	600 W ca.
Primary input line rapid fuse (F1 - 5x20)	F 3,15 A
Input voltage of motor circuits	230V AC
Input voltage of auxiliary circuits	24V AC
24Vac line rapid fuse (F2 - 5x20)	F 500 mA
Logic circuit input voltage	5V DC
Working temperature	-20°C ÷ + 55 °C
Box protected to	IP43

*** The control unit enclosure was created with IP65 protection rating but is declared IP43 as it is expected to be drilled to be fixed to the wall and to allow cable entry. Not knowing if the holes will be provided with suitable cable glands or if they will be hermetically sealed, a degree of protection equal to IP43 is prudently declared**

4. TERMINAL BOARD CONNECTIONS

Key: N.C. = Normally Closed - N.O. = Normally Open

Terminals	Function	Description
1 - 2 - 3	POWER SUPPLY	POWER input 230 Vac, 50Hz (115 Vac 60 Hz); 1= PHASE, 2= EARTH, 3= NEUTRAL.
4 - 5 - 6	MOTOR M1	MOTOR M1 power output (opens the leaf fitted with the electric lock), 230 Vac, max. 300 W. 4=CLOSE, 5=COMMON, 6=OPEN. Notice: connect the capacitor between terminals 4 and 6;
7 - 8 - 9	MOTOR M2	MOTOR M2 power output, 230 Vac, max. 300 W. 7=CLOSE, 8=COMMON., 9=OPEN. Notice: connect the capacitor between terminals 7 and 9;
10 - 11	OPEN/CLOSE	OPEN/CLOSE button input (contact normally open); for operating information see dip-switches 2 and 4 functions. (COMMON=10);
		WARNING: with dip 10 to ON the input switches OPEN: automation open as long as the button is held down. On his release, the automation stops.
10 - 12	PEDESTRIAN	PEDESTRIAN button contact input (contact normally open) – commands total opening and closing of motor 1 – governed by dip-switches 2 and 4. (COMMON=10);
		WARNING: with dip 10 to ON the input switches CLOSE: automation close as long as the button is held down. On his release, the automation stops.

10 - 13	STOP	STOP button input (normally closed contact); this stops the automatic system. At the next command, the opposite operation to the previous one is performed (COMMON=10). Bridge the connectors if not used;
14 - 17	SENSITIVE EDGE	SENSITIVE EDGE input (potential free contact N.C., dip 12 OFF) or 8,2 KΩ RESISTIVE SENSITIVE EDGE (dip 12 ON); During the opening phase, it temporarily stops the gate and makes it close again for about 20 cm, thus allowing to free the potential obstacle. During the closing phase, it stops the gate and makes it totally reopen. In this case, if programmed, the automatic closing will be inhibited. Jumper terminals if not used. (17 = COMMON - 14 = SENSITIVE EDGE)
15 - 17	INTERNAL PHOTOCELLS	PHOTOCELL OR SAFETY DEVICE input INSIDE the automation (Normally Closed contact); COMMON=17. When these devices trigger during the opening phase, they temporarily stop the automation until the obstacle has been removed; during the closing phase they stop the automation and then totally open it again. Bridge the connectors if not used.
16 - 17	EXTERNAL PHOTOCELLS	PHOTOCELL OR SAFETY DEVICE input OUTSIDE the automation (Normally Closed contact); COMMON=17. Then these devices trigger during the closing phase, they stop the automation and then totally open it again. Bridge the connectors if not used. Notice: Because the control of the safety system (FOTOTEST) is performed on the photocell's transmitter, this must always be powered by terminals 24 - 26, therefore if this connection is broken the control unit will not accept any opening command. To eliminate the safety system control, position dip-switch 6 to OFF.
18 - 19	ELECTRIC LOCK	ELECTRIC LOCK power output 12 Vac max. 15 W; For the connection of the device it is recommended to use cables with a cross section of 1.5 mm².
20 - 21	2 nd RADIO CH	2nd RADIO CHANNEL - RELAY K2 output (contact normally open); In case the operating mode can be selected through TauApp; Warning: to connect other devices to the 2nd Radio Channel (area lighting, pumps, etc.), use an additional auxiliary relay.
22 - 23	GATE OPEN WARNING LIGHT	GATE OPEN WARNING LIGHT - RELAY K3 output; 24 V ac, max 3W; the light lights with the same frequency as that of the flashing light for the entire opening and closing manoeuvre and remains on if the gate is open and off when the gate has closed; In case the operating mode can be selected through TauApp;
24 - 26	PHOTOCELL TX	24 Vac external transmitting photocell power supply output for safety device control (connect the external TX photocell only) max. of 2 photocell transmitters;
25 - 26	AUX - PHOTOCELL RX	24Vac output, 10W for the power supply of photocells, external receivers, etc.
27 - 28	FLASHING LIGHT	LEDS FLASHING LIGHT output 12V dc, 200mA max. (NEGATIVE=27 - POSITIVE=28) The signal is already modulated for direct use. Flashing frequency is double during closing;
29 - 30	AERIAL	AERIAL input (EARTH=29, SIGNAL=30); The antenna is normally integrated in the VLED flashing light
J3	AUX	Quick coupling for the connection of the T-WIFI and T-CONNECT devices
J4	MEMORY CARD	Quick plug-in for MEMORY CARD connection for transmitters codes.

5. LOGIC ADJUSTMENTS

TRIMMER

TRA

Second motor delay adjustment: during closing cycle from approx. 0 to 30 sec. (on top of the time that the card calculates automatically during the SETUP procedure); during opening from approx. 0 to 6 sec (on top of the time that the card calculates automatically during the SETUP procedure).

FR1	Motor 1 torque adjustment (swing 1). The trimmer is set to provide sufficient thrust to work the gate without exceeding the limits established by current standards (EN 12453). Turning the trimmer clockwise (+) increases the motor torque, turning it anticlockwise (-) reduces it.
FR2	Motor 2 torque adjustment (swing 2). The trimmer is set to provide sufficient thrust to work the gate without exceeding the limits established by current standards (EN 12453). Turning the trimmer clockwise (+) increases the motor torque, turning it anticlockwise (-) reduces it.
TCA	Automatic closing time adjustment from 2 to 120 seconds.
Notice:	turn the TRIMMER clockwise to increase adjustments; turn it anticlockwise to decrease.

6. DIP SWITCH

1	AUTOMATIC CLOSING	On	After opening, the gate automatically closes when the delay set on the T.C.A. trimmer expires;
		Off	Automatic closing disabled;
2	2 / 4 STROKE	On	With automatic closing enabled, a sequence of open/close commands causes the gate to OPENCLOSE-OPEN-CLOSE etc (see also dip switch 4);
		Off	In the same conditions, the same command sequence causes the gate to OPEN-STOP-CLOSE-STOP-OPEN-STOP (step-by-step);
3	CLOSES AGAIN AFTER THE PHOTOCELL	On	After the photocell is activated (input 7 - 9), the automation closes automatically after 5 seconds.
		Off	function off.
4	NO REVERSE	On	The gate ignores the close command while it is opening (NO REVERSE);
		Off	The gate behaves according to the position of dip-switch n° 2;
5	PRE-FLASHING	On	The pre-flashing function enabled;
		Off	The pre-flashing function disabled;
6	FOTOTEST	On	The "photocell test" function is enabled;
		Off	The "photocell test" function is disabled. N.B.: to be used when the photocells are not used;
7	OPENING RAM BLOW	On	The "opening ram blow" function is on. This permits the release of the electric lock (to be used only in the presence of an electric lock);
		Off	The "opening ram blow" function is off;
8*	MOTORS SELECTION	On	Enables just one motor (M1).
		Off	Enables 2 motors.
9*	DECELERATION	On	The deceleration function is on (see "PROGRAMMING INSTRUCTIONS");
		Off	The deceleration function is off;
10**	MAN MODE	On	Enables the MAN mode: the OPEN / CLOSE input switches OPEN, the PEDESTRIAN input switches CLOSE; (transmitter disabled)
		Off	Normal function
 WARNING: with dip 10 ON the input OPEN / CLOSE (terminals 10-11) switches OPEN, the PEDESTRIAN input (terminals 10-12) switches CLOSE. In MAN mode, it is not necessary to run the race setup, and the dip-switches 1, 2, 3, 4 and 9 are not used.			
11	ELECTRIC LOCK OPERATION	On	Power supply output for closing electromagnet command relay. When the automation is closed, the control relay is powered, while in opening, closing and in pause time the relay is disconnected. Do not use the output voltage to directly power the electromagnet.
		Off	Impulsive operation of the electric lock: at each opening, the electric lock works for a short moment.

12	<i>SENSITIVE EDGE SELECTION</i>	On	RESISTIVE SENSITIVE EDGE (terminal no. 15)
		Off	RESISTIVE EDGE - potential free contact N.C. (terminal no. 15) Note: if not used, keep the DIP in the OFF position.

* It is necessary to run the SETUP stroke if you modify the DIP.

** It is necessary to run the SETUP stroke if you turn the DIP from ON to OFF

IMPORTANT:

Each pair of terminals attached to an NC contact that is not in use must be short-circuited in order to ensure the proper operation of the board.

The door's earthing system must comply with current standards. The manufacturer will accept no liability for any damage deriving from failure to comply with this requirement.

7. PROGRAMMING INSTRUCTIONS (SETUP)

If a transmitter has been previously programmed, it can be used to perform the following procedure. Otherwise, connect a Key Switch or a NO Pushbutton to the AP/CH wire terminals on the controller.

DOUBLE SWING GATE - DIP 8 OFF (2 motors operation) - DIP 9 in ON (Soft-Stop function enabled):

- 1 Press and hold down for at least 5 seconds P1 and P2 buttons to activate the programming mode;
- 2 Leds DL7 + DL8 begin to flash quickly and the 2 wings open;
 **f the automation closes instead of opening, stop the gate travel by temporarily disconnecting the voltage. Invert the phases of the motor that closes (terminals 4-6 for M1, terminals 7-9 for M2) and resume the procedure from the beginning after having given voltage.**
- 3 Once opening is complete, press AP/CH button or the remote control: both leaves will stop;
- 4 Press AP/CH button or the remote control: the leaf #2 will close at standard speed;
- 5 Press AP/CH button or the remote control when the leaf should start to decelerate;
- 6 When the leaf is completely closed press AP/CH button or the remote control (leaf #2 programming completed);
- 7 Press AP/CH button or the remote control: the leaf #1 will close at standard speed;
- 8 Press AP/CH button or the remote control when the leaf should start to decelerate;
- 9 When the leaf is completely closed press AP/CH button or the remote control (leaf #1 programming completed);
- 10 The green led DL7 will flash every 4 sec. (programming completed and saved).

SINGLE SWING GATE - DIP 8 ON (1 motor operation) - DIP 9 in ON (Soft-Stop function enabled):

- 1 Press and hold down for at least 5 seconds P1 and P2 buttons to activate the programming mode;
- 2 Leds DL7 + DL8 begin to flash quickly and the 2 wings open;
 **f the automation closes instead of opening, stop the gate travel by temporarily disconnecting the voltage. Invert the phases of the motor that closes (terminals 4-6 for M1, terminals 7-9 for M2) and resume the procedure from the beginning after having given voltage.**
- 3 Once opening is complete, press AP/CH button or the remote control: the leaf will stop;
- 4 Press AP/CH button or the remote control: the leaf will close at standard speed;
- 5 Press AP/CH button or the remote control when the leaf should start to decelerate;
- 6 When the leaf is completely closed press AP/CH button or the remote control (leaf programming completed);
- 7 The green led DL7 will flash every 4 sec. (programming completed and saved).

GATE 2 WINGS - DIP 8 OFF (2 motors operation) - DIP 9 in OFF (Soft-Stop function disabled):

- 1 Press and hold down for at least 5 seconds P1 and P2 buttons to activate the programming mode;
- 2 Leds DL7 + DL8 begin to flash quickly and the 2 wings open;
 **f the automation closes instead of opening, stop the gate travel by temporarily disconnecting the voltage. Invert the phases of the motor that closes (terminals 4-6 for M1, terminals 7-9 for M2) and resume the procedure from the beginning after having given voltage.**
- 3 Once opening is complete, press AP/CH button or the remote control: both leaves will stop;
- 4 Press AP/CH button or the remote control: the leaf #2 will close at standard speed;
- 5 When the leaf is completely closed press AP/CH button or the remote control (leaf #2 programming completed);
- 6 Press AP/CH button or the remote control: the leaf #1 will close at standard speed;
- 7 When the leaf is completely closed press AP/CH button or the remote control (leaf #1 programming completed);
- 8 The green led DL7 will flash every 4 sec. (programming completed and saved).

SINGLE SWING GATE - DIP 8 ON (1 motor operation) - DIP 9 in OFF (Soft-Stop function disabled):

- 1 Press and hold down for at least 5 seconds P1 and P2 buttons to activate the programming mode;
- 2 Leds DL7 + DL8 begin to flash quickly and the 2 wings open;



f the automation closes instead of opening, stop the gate travel by temporarily disconnecting the voltage. Invert the phases of the motor that closes (terminals 4-6 for M1, terminals 7-9 for M2) and resume the procedure from the beginning after having given voltage.

- 3 Once opening is complete, press AP/CH button or the remote control: the leaf will stop;
- 4 Press AP/CH button or the remote control: the leaf will close at standard speed;
- 5 When the leaf is completely closed press AP/CH button or the remote control (leaf programming completed);
- 6 The green led DL7 will flash every 4 sec. (programming completed and saved).

Notice:

- **set a working time slightly longer than necessary (a couple of seconds) to allow complete opening/closing of the leaves.**

8. 433.92 MHz BUILT-IN RADIO RECEIVER

The radio receiver can learn up to a maximum of 30 codes of rolling code (S2RP, S4RP, K-SLIM-RP, T-4RP) to be set freely on 2 channels.

The first channel directly commands the control board for opening the automatic device; the second channel commands a relay for a N.O. no-voltage output contact (terminals 19 - 20, max. 24V AC, 1 A) and the third channel controls directly the pedestrian opening from the controller.

LEARNING SYSTEM FOR RADIO CONTROL DEVICES

P1 = 1st channel (OPEN/CLOSE) P2 = 2nd channel

- 1_ Press button CH1 briefly to associate a radio control device with the OPEN/CLOSE function;
- 2_ The (green) DL7 LED is ON to indicate the code learning mode has been activated (if no code is entered within 10 seconds the board exits the programming function);
- 3_ Press the button of the relative radio control device;
- 4_ The (green) DL7 LED turns off to indicate saving is complete and then on again immediately waiting for other radio control devices (if this is not the case, try to re-transmit or wait 5 seconds and restart from point 1);
- 5_ To memorise codes to other radio control devices, press the key to be stored on other devices within 5 sec. After this time (green DL7 LED turns off) must repeat the procedure from point 1 (up to a maximum of 30 transmitters);
- 6_ If you wish to save on the 2nd channel, repeat the procedure from point 1 using the P2 key instead of P1 (in this case the red DL8 LED will turn on);



f the maximum number of radio controls is reached (30), the led DL7 (green) for CH1 and the led DL8 (red) for CH2 flash for about 3 seconds without storing however.

REMOTE PROGRAMMING BY MEANS OF T-4RP / K-SLIM-RP / S-2RP / S-4RP (V 4.X)

With the new version of software V 4.X it is possible to carry out the remote self-learning of the new version of transmitters T-4RP / K-SLIM-RP / S-2RP / S-4RP (V 4.X), that is without pressing the receiver's programming buttons.

It will be sufficient to have an already programmed transmitter in the receiver in order to start the procedure of remote programming of the new transmitters. Follow the procedure written on the instructions of the transmitter T-4RP / K-SLIM-RP / S-2RP / S-4RP (V 4.X).

CANCELLING CODES FROM RADIO CONTROL DEVICES

- 1_ Keep button P1 pressed for 3 seconds in order to cancel all the associated radio control devices;
- 2_ (Green) DL7 LED flashes slowly to indicate that the cancellation mode has been activated;
- 3_ press button P1 again for 3 seconds;
- 4_ (Green) DL7 LED turns off for approx. 3 seconds and then remains steady to indicate that the code has been cancelled;
- 5_ repeat the procedure from point 1 using button P2 to cancel all the associated radio control devices;
- 6_ to exit the learning mode without memorising a code, press button P1 or P2 briefly.

MEMORY CAPACITY

The code memory capacity* of the D770M can be expanded from 30 to 126, 254 or 1022 codes (transmit-

ters) by replacing the memory cards as follows (plug them onto J4 connector, see wiring diagram):

126	codes	Art.	250SM126
254	codes	Art.	250SM254
1022	codes	Art.	250SM1022

* Control units are supplied with a standard built-in 30-code memory. The memory card for enhancing the code memory capacity must be ordered separately.

To allow the previously stored codes (max. 30) to be moved to the control unit, it is required to install a memory card, making sure that the control unit is at that time off and that the memory card is brand new and therefore completely empty.

When the control unit is restarted, the codes will automatically move to the memory card.

Moving the codes from the control unit to the memory card does not work if on the memory card used, radio control codes have already been stored and the memory card has been subsequently erased.

To insert new radio controls, the operation described above shall be repeated.



WARNING: Control unit must be turned OFF to insert / remove a memory card.

HARD RESET (factory setting):

- With the power off, press and hold down the P1 button.
Power the board (always keeping the P1 button pressed), the DL8 starts flashing red.
Release the P1 button after 5 sec. the DL7-DL8 switch off and on again by flashing green/red



In case of Hard Reset the memory of the radio receiver will not be erased: all existing transmitters remain programmed.

9. D770M CHARACTERISTICS

TIMER-OPERATED OPENING AND CLOSING CYCLES

The opening/closing of the automation can be controlled by means of a timer that has a free N.O. output contact (relay). The timer must be connected to terminals 10-11 (OPEN/CLOSE button) and can be programmed so that, at the desired opening time, the relay contact closes until the desired closing time (when the timer's relay contact opens, enabling the automatic closing of the gate).

Note: the automatic closing function must be enabled by setting Dip-switch no. 1 to ON).

10. SET-UP FOR OPERATION WITH TAU APPS

In order to use the TauApp and TauOpen apps, it will be necessary to connect to input J3 of the control unit using the supplied cable, the respective T-WIFI and T-CONNECT devices. To activate the operation of the apps see the respective instructions.

11. DIAGNOSTICS LED

DL1 - Red	OPEN/CLOSE button red LED signal
DL2 - Red	PEDESTRIAN button red LED signal
DL3 - Green	STOP button green LED signal
DL4 - Green	SENSITIVE EDGE green LED signal
DL5 - Green	INTERNAL PHOTOCELL green LED signal
DL6 - Green	EXTERNAL PHOTOCELL green LED signal
DL7 + DL8	Led indicating the programming of REMOTE CONTROLS, ERRORS and the status of the control unit

LED: DL7 ● (green) + DL8 ● (red)

Leds DL7 and DL8 displays any mistakes with a series of pre-set flashes:

Key: ● led always on; ● led flashing; ○ led off;

● / ● Alternate flashing (green/red):	Saving to be performed;
● / ● Simultaneous fast flashing (green/red)	Saving in progress;
● / ● No. 8 flashes (green/red):	Eeprom data error; <i>Perform procedure RADIO MEMORY RESET;</i>

LED: DL7 ● (green) + DL8 ○ (red led always off)

● 1 flash every 4 seconds (green): **Normal operation;**

Apart from the logic mistakes, the DL7 LED indicates also the status of the control unit during the saving of the radio controls.

● Always on (green):	Channel CH1 waiting to be saved;
● Fast flashing (green):	CH1 channel memory full;
● Flashing (green):	CH1 channel waiting to be cancelled;
○ Led off:	Cancelling of channel CH1 in progress;

LED: DL8 ● (red) + DL7 ○ (green led always off)

○ Led off: **Normal operation;**

● 1 flash (red): **Phototest error**
Disable phototest (dip-switch 6 OFF), check the operation of the photocells and their connection;

● 7 flashes (red): **Sensitive edge safety intervention**
A command pulse is required to carry out the closure;

● 8 flashes (red): **Eeprom external memory fault;**
Replace the external memory module;

Apart from the logic mistakes, the DL8 LED indicates also the status of the control unit during the saving of the radio controls.

● Always on (red):	Channel CH2 waiting to be saved;
● Fast flashing (red):	CH2 channel memory full;
● Flashing (Rosso):	CH2 channel waiting to be cancelled;
○ Led off:	cancelling of channel CH2 in progress;

12. MALFUNCTIONS: POSSIBLE CAUSES AND SOLUTION**The automation does not start**

- a- Check there is 230Vac power supply with the multimeter;
- b- Check that the NC contacts of the card are actually normally closed (4 green LEDs on: DL3, DL4, DL5, DL6);
- c- Set dip 6 (phototest) to OFF;
- d- Check that the fuses are intact with the multimeter.

The radio control has very little range

- a- Check that the ground and the aerial signal connections have not been inverted;
- b- Do not make joints to increase the length of the aerial wire;
- c- Do not install the aerial in a low position or behind walls or pillars;
- d- Check the state of the radio control batteries.

The gate opens the wrong way

Invert the motor connections on the terminal block (terminals 4 and 6 for motor 1; terminals 7 and 9 for motor 2);

13. GUARANTEE: GENERAL CONDITIONS

TAU guarantees this product for a period of 24 months from the date of purchase (as proved by the sales document, receipt or invoice).

This guarantee covers the repair or replacement at TAU's expense (ex-works TAU: packing and transport at the customer's expense) of parts that TAU recognises as being faulty as regards workmanship or materials. For visits to the customer's facilities, also during the guarantee period, a "Call-out fee" will be charged for travelling expenses and labour costs.

The guarantee does not cover the following cases:

- If the fault was caused by an installation that was not performed according to the instructions provided by the company inside the product pack.
- If original TAU spare parts were not used to install the product.
- If the damage was caused by an Act of God, tampering, overvoltage, incorrect power supply, improper repairs, incorrect installation, or other reasons that do not depend on TAU.
- If a specialised maintenance man does not carry out routine maintenance operations according to the instructions provided by the company inside the product pack.
- Wear of components.

The repair or replacement of pieces under guarantee does not extend the guarantee period.

In case of industrial, professional or similar use, this warranty is valid for 12 months.

MANUFACTURER'S DECLARATION OF INCORPORATION
(in accordance with European Directive 2006/42/EC App. II.B)

Manufacturer:
Address:

TAU S.r.l.
Via E. Fermi, 43 - 36066 Sandrigo (Vi) -ITALY

Declares under its sole responsibility, that the product:
designed for automatic movement of:
for use in a: *Residential / Communities*

Electronic control unit
Swing Gates
complete with: *Radioreceiver*

Model: *D770M*

Type: *D770M*

Serial number: *see silver label*

Commercial name: *Control panel for two single-phase motors 230V AC*

Has been produced for incorporation on an access point (*swing gate*) of for assembly with other devices used to move such an access point, to constitute a machine in accordance with the Machinery Directive 2006/42/EC.

Also declares that this product complies with the essential safety requirements of the following EEC directives:
- 2014/35/EU Low Voltage Directive - 2014/30/EU Electromagnetic Compatibility Directive

and, where required, with the Directive: **- 2014/53/EU Radio equipment and telecommunications terminal equipment**

Also declares that ***it is not permitted to start up the machine*** until the machine in which it is incorporated or of which it will be a component has been identified with the relative declaration of conformity with the provisions of Directive 2006/42/EC.

The following standards and technical specifications are applied:

EN 61000-6-2; EN 61000-6-3; EN 60335-1; ETSI EN 301 489-1 V1.9.2; ETSI EN 301 489-3 V1.6.1;
EN 300 220-2 V2.4.1; EN 12453:2000; EN 12445:2000; EN 60335-2-103.

The manufacturer undertakes to provide, on sufficiently motivated request by national authorities, all information pertinent to the quasi-machinery.

Sandrigo, 18/02/2018

Legal Representative



Loris Virgilio Danieli

Name and address of person authorised to draw up all pertinent technical documentation:
Loris Virgilio Danieli - via E. Fermi, 43 - 36066 Sandrigo (Vi) Italy

ENGLISH