

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 µf | - | - |
| 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**

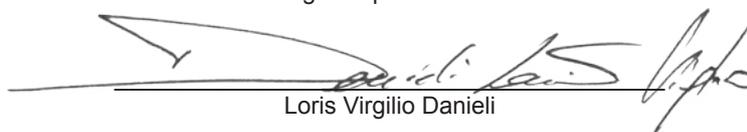
Also declares that ***it is not permitted to start up the machine*** until the machine in which it is incorporated or of which it will be a component has been identified with the relative declaration of conformity with the provisions of Directive 2006/42/EC.

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-

acts 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 XL (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).

Articuled 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.

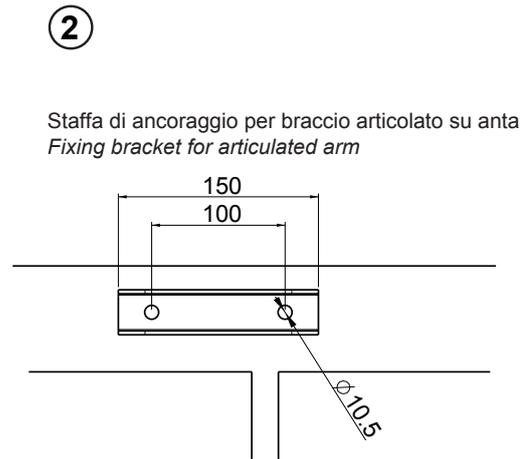
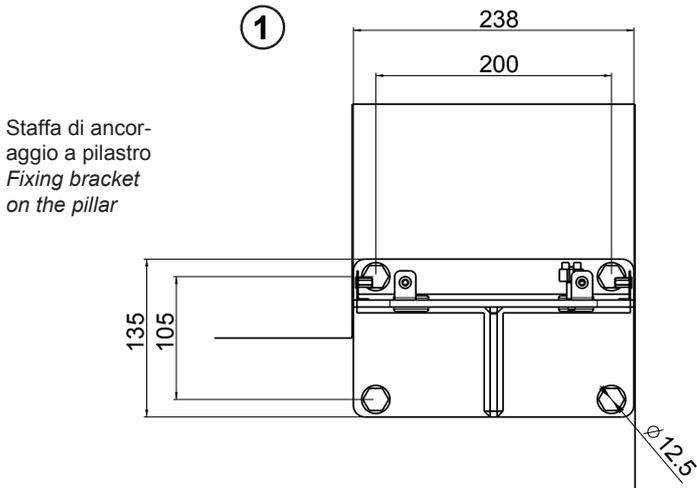
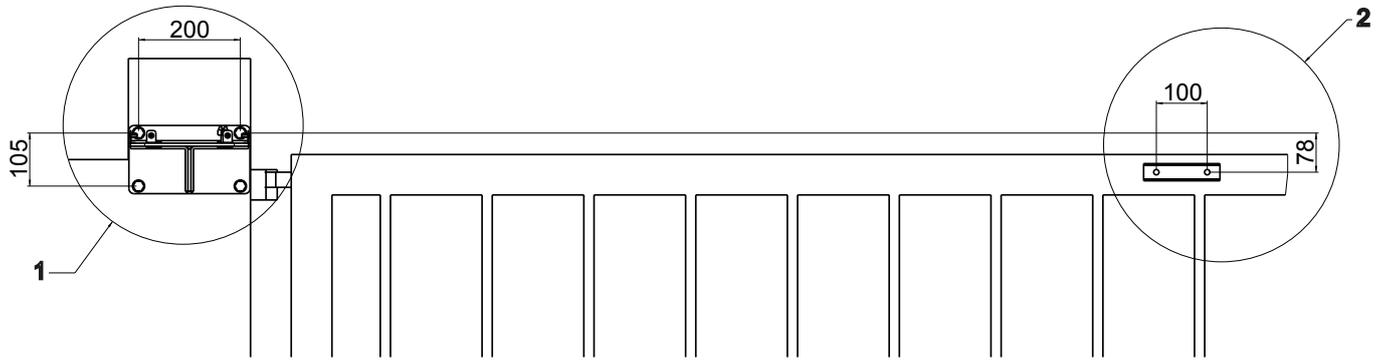


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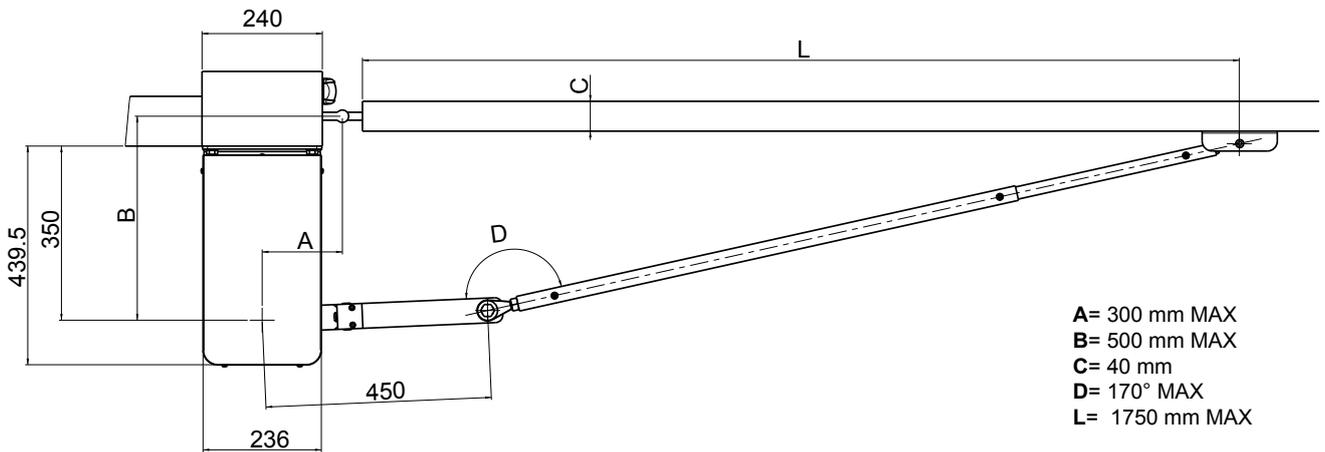
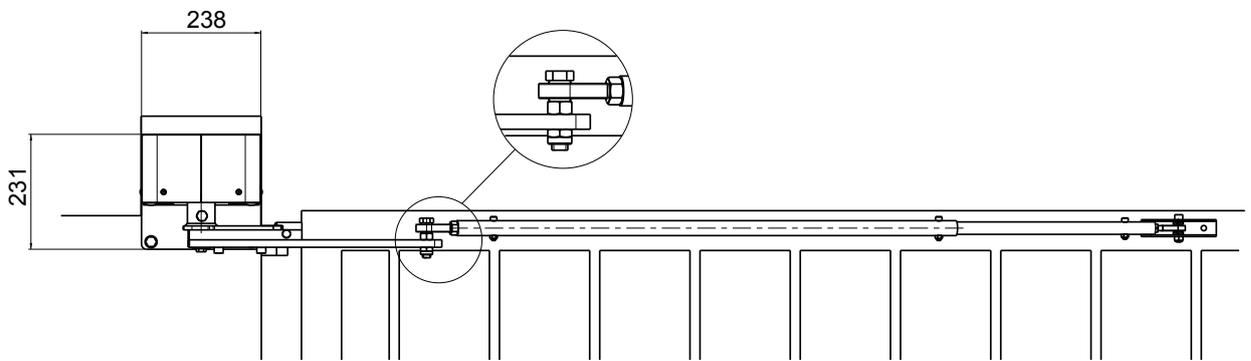


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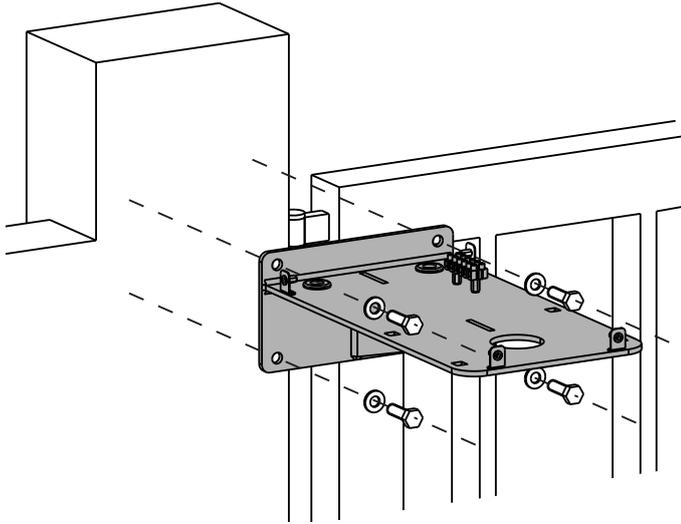


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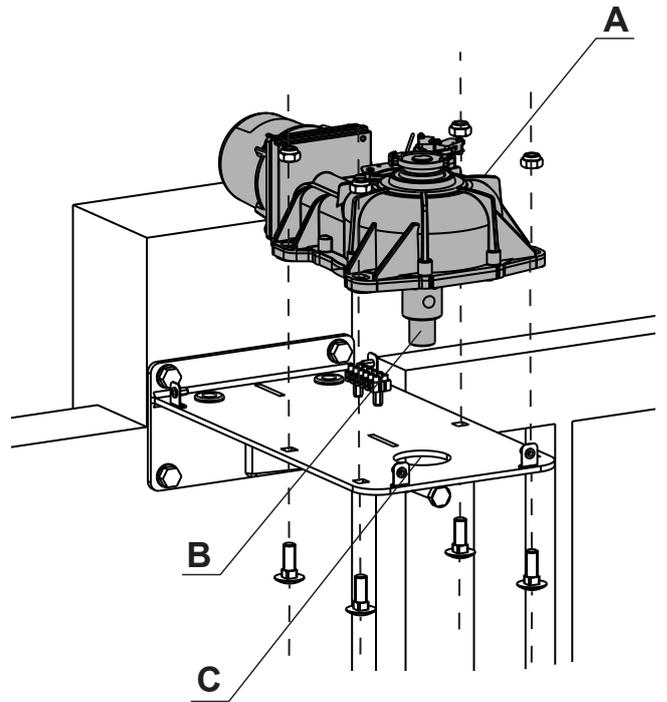


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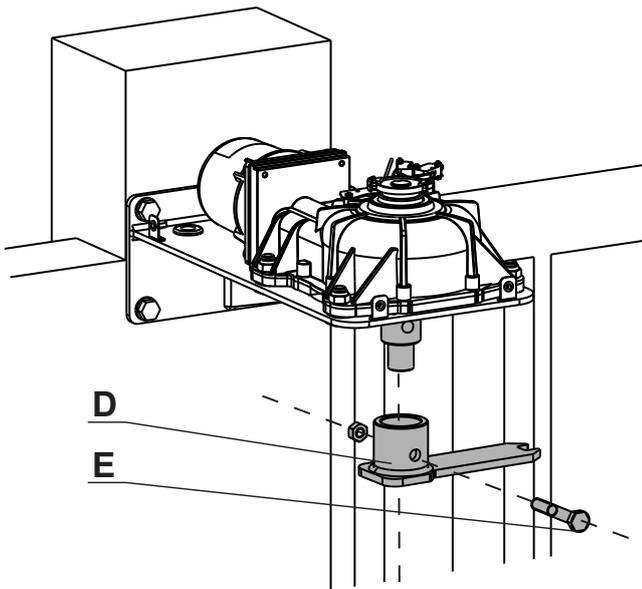


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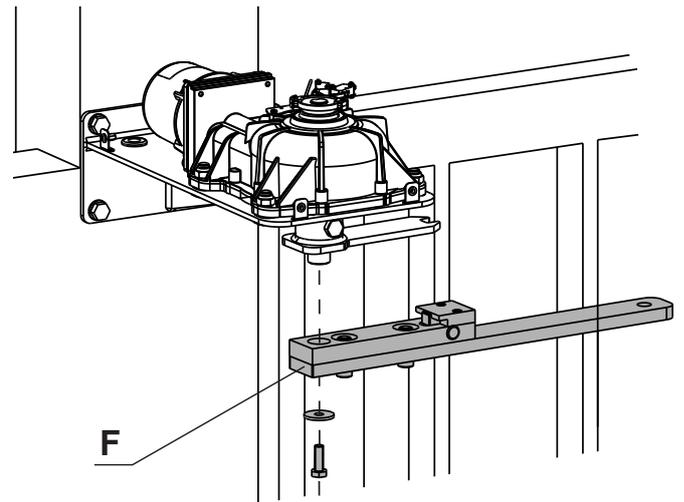


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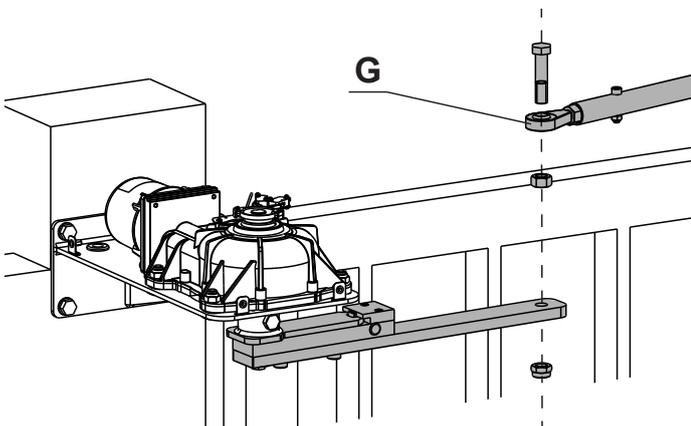


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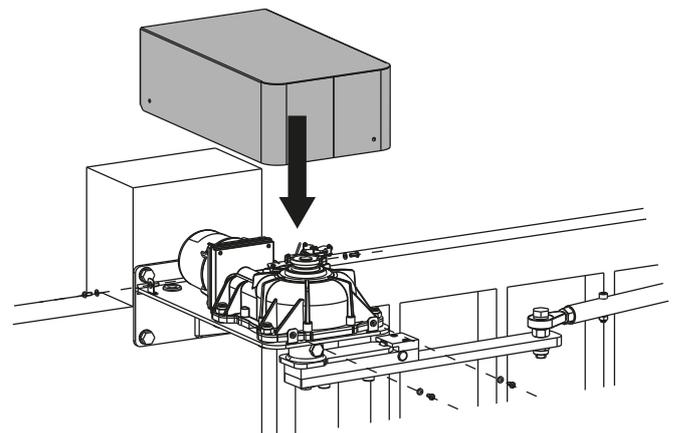
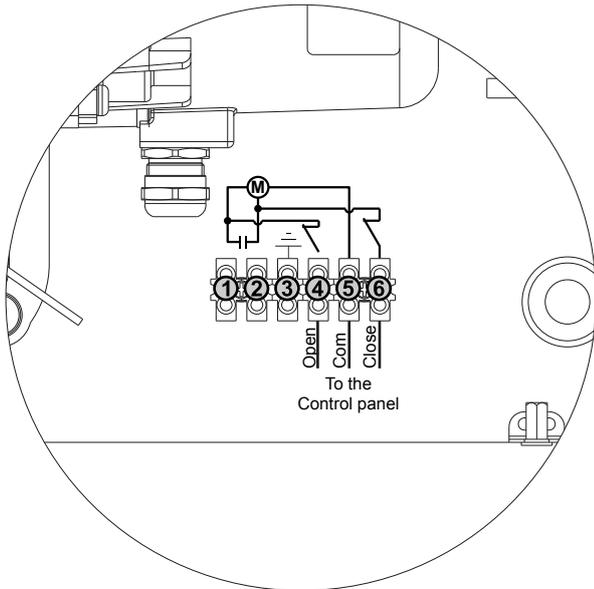


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B

- 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)

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

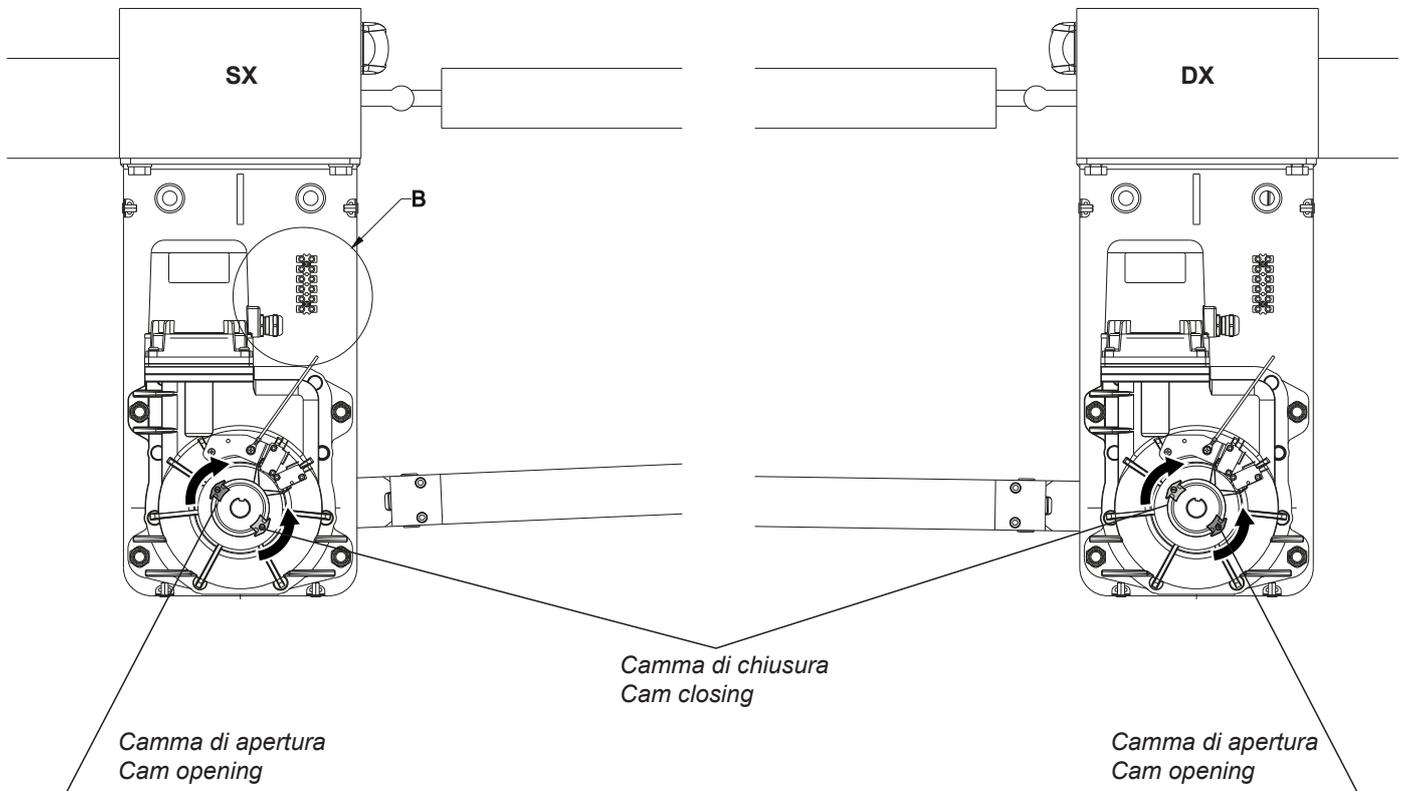


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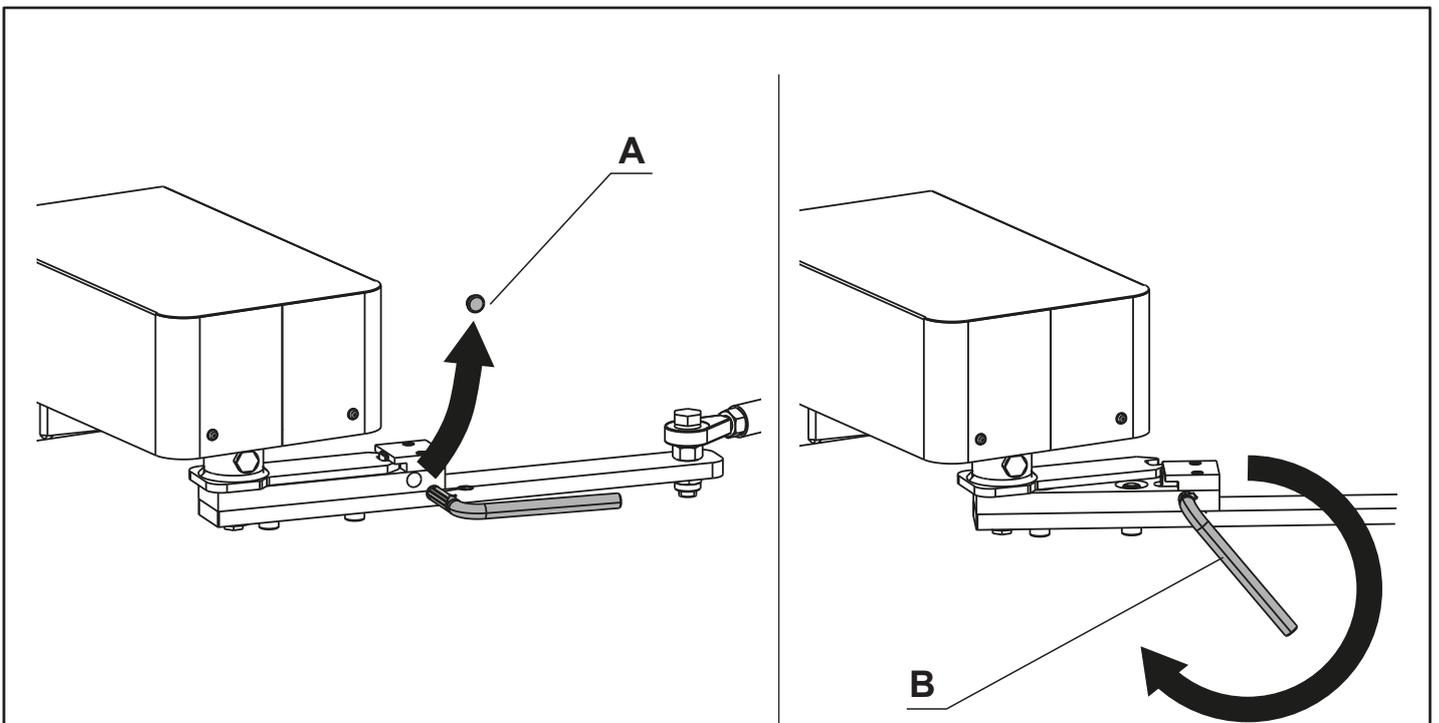
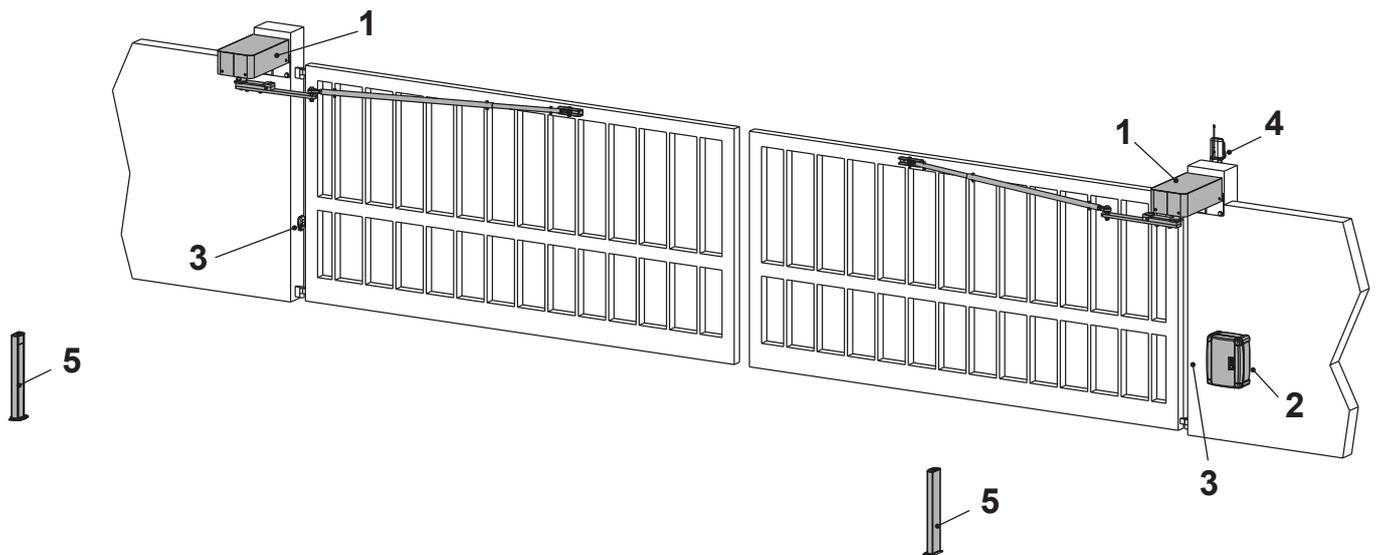
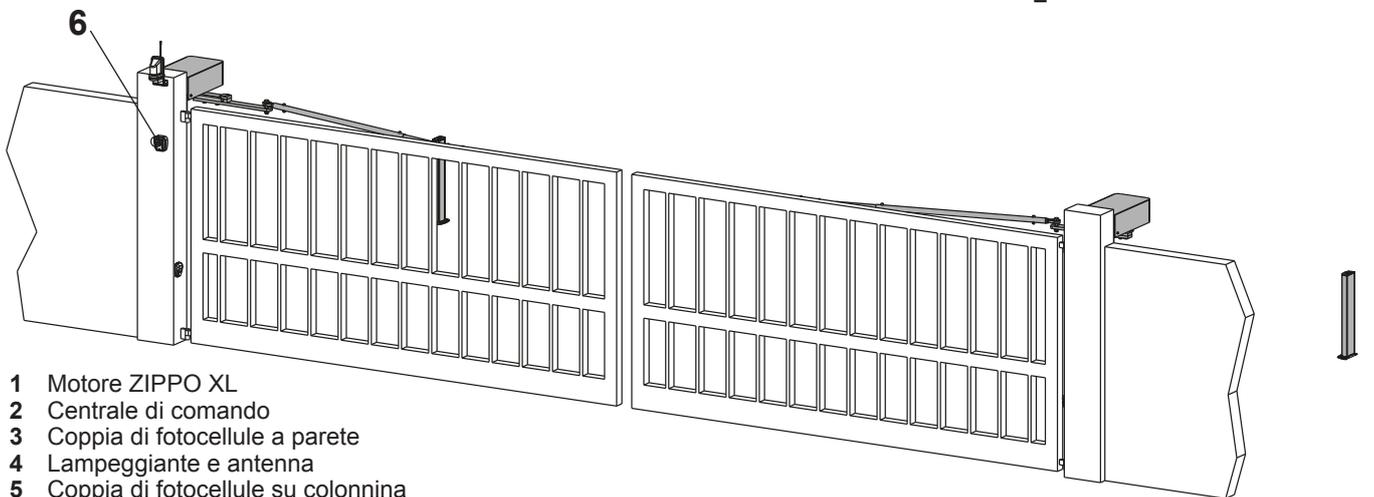


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IMPIANTO TIPO CON ANTE BATTENTI DALL'INTERNO - INSTALLATION TYPE INSIDE_SWING LEAFS



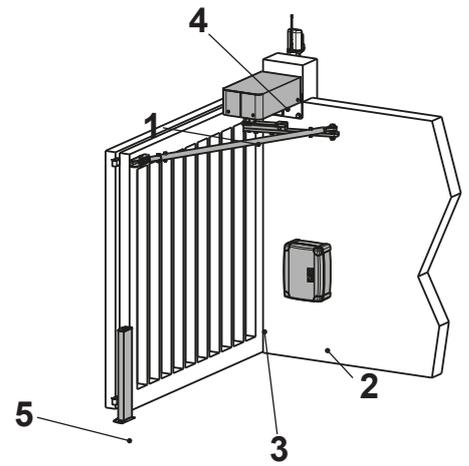
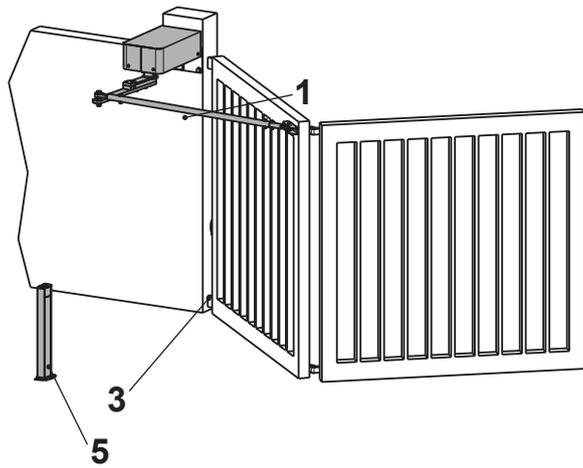
IMPIANTO TIPO CON ANTE BATTENTI DALL'ESTERNO - INSTALLATION TYPE OUTSIDE_SWING LEAFS



- 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



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