

EKOSWING

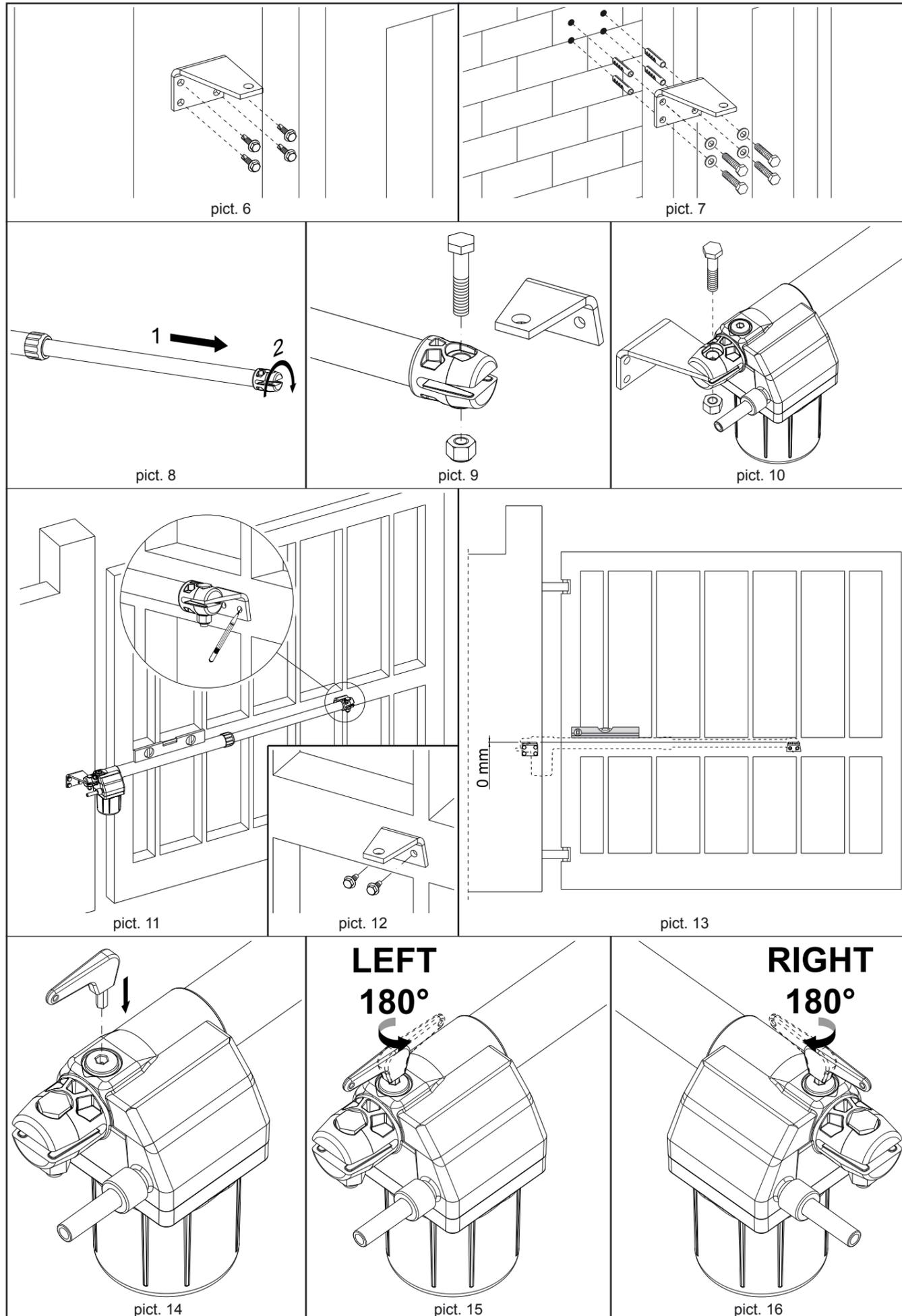
Swing Gate Operator - Residential/Communities



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USE AND MAINTENANCE MANUAL

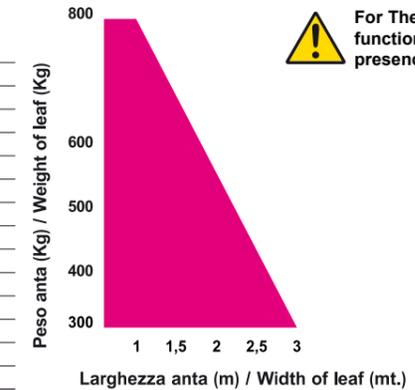
English



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TECHNICAL CHARACTERISTICS OF THE ECOARM SERIES

Power input	230 Vac ±10%
Motor power input	230 Vac ±10%
Frequency	50/60 Hz
Capacitor	10 µf
Absorbed current (no load)	1,2 ÷ 1,7 A
Absorbed power (no load)	280 W
Motor speed (no load)	900 rpm
Useful travel	443 mm
Thermal protection trips at	150 °C (autoreset)
Reduction ratio	1/27
Operating temperature	from -20 °C to +70 °C
Weight	6,9 Kg
Motor IP	IP 53
Work cycle	40 %
90° travel time	17 sec.



! For The installation of blank swing gates, functioning cannot be guaranteed in the presence of wind.

DESCRIPTION

The **EKOSWING** automated system for swing gates is an electro-mechanical non-reversing actuator that transmits motion to the leaf via a worm screw system. The actuator is available in only 230 Vac version. The non-reversing system ensures the leaf is mechanically locked when the motor is not operating. A convenient and safe release system with customised key makes it possible to manually move the leaf in the event of a malfunction or of a power failure.

ATTENTION:

- !** The correct operation and the declared specifications only apply if TAU accessories and safety devices are used.
- !** In the absence of a mechanical clutch, the use of a control unit with an adjustable electronic clutch, or the installation of a sensitive edge, is required in order to ensure crush-proof safety.
- !** The EKOSWING automated system was designed and built for controlling vehicle access. Avoid any other use whatever.

Preliminary checks

Prior to installing the automation, 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 current Safety Standards;
- leaf length 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 both opening and closing mechanical limit stops;
- presence of an efficient earthing for electrical connection of the actuator.

Perform any necessary metalwork job before installing the automated system. **The condition of the gate structure directly affects the reliability and safety of the automated system.**

Installation dimensions (pict.4)

Determine the fitting position of the actuator with reference to pict.4. Check with care if the distance between the open leaf and any obstacles (walls, fences etc.) is higher than the actuator dimensions.

ACTUATOR PARTS (pict.1)

Pos.	Description
1	Actuator
2	Release device
3	Rod
4	Wing connection bracket
5	Rear bracket

DIMENSIONS (pict.2)

INSTALLATION (pict.3)

Electrical set-up (standard system - EKOSWING)

Pos.	Description	Cables
1	Attuatore	4x1,5 mm ²
2	Control unit	3x1,5 mm ² (power supply)
3	TX photocells	4x0,5 mm ²
4	RX photocells	2x0,5 mm ²
5	Key-operated selector switch	3x0,5 mm ²
6	Flashing light and aerial	2x1 mm ² + 1RG58
7	Mechanical stops	-

Notes:

- Use suitable tubes and/or hoses to lay electric cables
- Choose short routes for cables and keep power cables separate from control cables.

E K O S W I N G	X°	A (mm)	B (mm)	C (mm)
	90	150	200 ÷ 260	20 mm
	90	200	160 ÷ 220	20 mm
	90	250	120 ÷ 220	20 mm
	90	300	85 ÷ 155	20 mm
	100	150	175 ÷ 235	20 mm
	100	180	140 ÷ 205	20 mm
	100	200	120 ÷ 190	20 mm
	100	230	95 ÷ 160	20 mm
	110	175	120 ÷ 190	20 mm
110	200	95 ÷ 160	20 mm	
110	225	60 ÷ 130	20 mm	

When measurement "C" is greater/smaller than 20 mm, increase/diminish measurement "B" by the difference (e.g.: if C= 25mm, increase "B" by 5mm), making sure that it does not exceed the limits shown in the table.

If the pillar dimensions or the hinge position do not allow the installation of the actuator, a niche on the pillar, as shown in pict. 5, should be created in order to maintain the A dimension as determined. The niche should be dimensioned in such a way to enable easy installation, actuator rotation and operation of the release device.

Please keep to the values given in the table and oil the gate's hinges.

- 1_ Fix the rear bracket in the position determined before. In the event of iron pillar carefully use n°4 Ø 6,3 mm self-drilling screw (pict.6). In the event of brick pillar (pict.7), use n°4 M8 bolts.



During the fastening operations, check if the bracket is perfectly horizontal by means of a level.

- 2_ Set the operator for manual operation (see paragraph **MANUAL RELEASE**).
- 3_ Completely extend the rod till it reaches the limit stop (1 pict.8).
- 4_ Lock the operator again (see paragraph **RESTORING NORMAL OPERATION**).
- 5_ Turn the rod clockwise half a revolution (2 pict.8).
- 6_ Assemble the front bracket as shown in pict.9. Fasten the screw using the nut (pict.9).



WARNING: Do not force the clamping as this may break the stem head. Take up the slack only.

- 7_ Anchor the actuator to the rear bracket using the screw and nut supplied (see 1 pict.10);



ATTENTION: The actuator can be moved by hand only if it is installed on the gate and in released position (see paragraph **MANUAL RELEASE).**

- 8_ Check measurement "L" according to the table (pict.4).
- 9_ rest the bracket that has just been fixed, onto the wing of the **completely closed** gate and mark the fixing points (make sure it is level, see pict. 11).

Before going on to the next phase please carry out the following test:

- 10_ Release the actuator (see paragraph **MANUAL RELEASE**) and manually check if the gate can completely open without hindrances and stop at the mechanical travel stops as well as if the leaf moves regularly without any friction.
- 11_ Carry out the necessary corrective measures and repeat from point 10. Manually open the gate to the maximum required angle;
- 12_ Tighten the arm until the front bracket finds itself over the position just marked on the gate.

If the small bracket does cover the position marked it means installation has been done correctly.

This method can be used to establish where the small bracket will have to be welded for each opening angle (X°) required provided it is possible (parameters A and B and the actuator's useful travel permitting).

- 13_ fasten the gate mounting bracket in the position indicated (pict.12), referring to the dimensions shown in pict. 13 and ensuring the planarity of the assembly.



Note: if the gate structure does not allow a fix bracket fastening it is necessary to create a sturdy supporting base in the gate structure.



ATTENTION: The actuator can be moved by hand only if it is installed on the gate and in released position (see paragraph **MANUAL RELEASE).**

WIRING THE ACTUATOR

Locate the cable to connect the operator to the Control Board (in the back part of the Operator).

System grounding must comply with current Safety Standards.

Connect the operator following the instructions reported in the Control Board's Manual.

Connect up the condenser in parallel to the 2 phases of the motors (terminals 5-7 and 8-10). Warning! Do not short-circuit the two wires as this may cause discharges because of the current remaining in the wires. Use control units with torque limiting device only.

TESTING THE AUTOMATED SYSTEM

- Carefully check operating efficiency of the automated system and of all accessories connected to it, paying special attention to the safety devices.
- Explain correct operation and use of the automated system to the user.
- Indicate the potentially dangerous areas of the automated system to the user.

MANUAL RELEASE

If the automated system needs to be moved manually due to a power lack or to an actuator malfunction, proceed as follows:

- 1_ Cut power by means of the safety circuit breaker (even in the event of a power lack).
- 2_ Insert the key into the lock (pict. 14);
- 3_ Turn the key counter-clockwise (for LEFT version Gate Operators) or clockwise (for RIGHT version Gate Operators) 180°. The Operator is in manual mode. Remove the key.
- 4_ Open or close the leaf manually.



Note: To hold the actuator in manual operation the release device should be left in its current positions and the system should be without power.

RESTORING NORMAL OPERATION

To restore normal operating conditions, proceed as follows:

- 1_ Insert the key into the lock.
- 2_ Turn the key clockwise (for LEFT version Gate Operators) or counter-clockwise (for RIGHT version Gate Operators) 180°. Remove the key.
- 3_ Power up the system and perform some movements in order to check the correct restoring of every function of the automated system.

USE

Actuators EKOSWING are designed to move gates with a maximum length of 3.0 metres.

It is expressly **forbidden to use the device for any other purposes or under any other circumstances other than those mentioned**. The electronic control unit (which must be fitted with an electric clutch) allows the following functions to be selected:

automatic : a command impulse opens and shuts the gate
semiautomatic : a command impulse opens or shuts the gate.
 In the event of a power failure, the gate may be moved manually by activating the "manual release" device.

This is an electrically powered automatic device and should therefore be used with care. In particular:

- do not touch with wet hands and/or wet or bare feet;
- disconnect the power supply before opening the control box and/or the actuator;
- do not pull the plug out by its cable;
- do not touch the motor unless you are certain it is cool;
- only operate the gate when it is completely visible;
- do not approach the gate while it is moving;
- do not allow children or animals to play near the gate;
- do not allow children or disabled people to use the remote control or other operating devices;
- carry out routine maintenance;
- in the case of a fault, disconnect the power supply and only move the gate if it is possible and safe to do so. Do not touch the gate and call in an authorised technician.

MAINTENANCE

To ensure trouble-free operation and a constant safety level, an overall check of the system should be carried out every 6 months.



ATTENTION: no-one, except for the maintenance man, who must be a specialised technician, must be able to use the automatic system during maintenance.

Switch off the mains power supply to eliminate the risk of electrocution. If the power supply must be left on for certain operations, each control device should be checked or disabled (remote controls, push button strips, etc.) except for the one used by the maintenance man.

The EKOSWING actuators need very little maintenance. However, as the gate must be in good working order for them to work properly, the operations required to keep it in perfect condition are described below.

Routine maintenance

Each of the following operations must be carried out every 6 months for domestic use (approx. 3000 work cycles) and every 2 months for intensive use such as blocks of flats (always 3000 work cycles).

Gate:

- lubricate and grease the hinges of the gate.

Automation system:

- check the safety devices (photocells, pneumatic edge, etc.) work according to the manufacturer's instructions;



Note: with use, a thin line of oxide may form on the actuator stem. This is due to the materials addition when welding the tube/stem. However, in **NO WAY does this affect the quality or normal operation of the gearmotor. We recommend the stem be cleaned regularly using special products for stainless steel.**

Extraordinary maintenance or breakage

If major work on electromechanical parts must be carried out, the faulty component should be removed and repaired in the workshop by the maker's or other authorised technicians.

Keep all the documents concerning the system inside or near the control unit.

SPECIAL APPLICATIONS

There is no special application other than the described use.

NOISE LEVELS

Airborne noise generated by the gearmotor in normal operating conditions is constant and does not exceed 70 dB.

