



Ditec CUBIC

Swing gates automation

(Original instructions)

IP1812EN

Technical Manual

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Caption



This symbol indicates instructions or notes regarding safety, to which special attention must be paid.



This symbol indicates useful information for the correct functioning of the product.

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1. General safety precautions



**Failure to respect the information given in this manual
may cause personal injury or damage to the device.**

Keep these instructions for future reference

This installation manual is intended for qualified personnel only.

Installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with Good Working Methods and in compliance with the current regulations. Read the instructions carefully before installing the product.

Bad installation could be dangerous.



The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

Before installing the product, make sure it is in perfect condition.

Do not install the product in explosive areas and atmospheres: the presence of inflammable gas or fumes represents a serious safety hazard.

Before installing the motorisation device, make all the necessary structural modifications to create safety clearance and to guard or isolate all the crushing, shearing, trapping and general hazardous areas.

Make sure the existing structure is up to standard in terms of strength and stability. The motorisation device manufacturer is not responsible for failure to observe Good Working Methods when building the frames to be motorised, or for any deformation during use.

The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account: applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorised door or gate.

The safety devices must protect against crushing, cutting, trapping and general danger areas of the motorised door or gate.

Display the signs required by law to identify hazardous areas.

Each installation must bear a visible indication of the data identifying the motorised door or gate.

When necessary, connect the motorised door or gate to an effective earthing system that complies with the current safety standards.



During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.

The automation protection casing must be removed by qualified personnel only.

The electronic parts must be handled using earthed antistatic conductive arms. The manufacturer of the motorisation declines all responsibility if component parts not compatible with safe and correct operation are fitted.

Only use original spare parts for repairing or replacing products.



The installer must supply all information concerning the automatic, manual and emergency operation of the motorised door or gate, and must provide the user with the operating instructions.

General safety precautions for the user



These precautions are an integral and essential part of the product and must be supplied to the user.

Read them carefully since they contain important information on safe installation, use and maintenance.

These instructions must be kept and forwarded to all possible future users of the system.

This product must only be used for the specific purpose for which it was designed.

Any other use is to be considered improper and therefore dangerous. The manufacturer cannot be held responsible for any damage caused by improper, incorrect or unreasonable use.

Avoid operating in the proximity of the hinges or moving mechanical parts. Do not enter within the operating range of the motorised door or gate while it is moving.

Do not obstruct the motion of the motorised door or gate, as this may cause a dangerous situation.

The motorised door or gate may be used by children over the age of 8 and by people with reduced physical, sensorial or mental abilities, or lack of experience or knowledge, as long as they are properly supervised or have been instructed in the safe use of the device and the relative hazards.

Children must be supervised to make sure they do not play with the device, nor play/remain in the sphere of action of the motorised door or gate.

Keep remote controls and/or any other command devices out of the reach of children, to avoid any accidental activation of the motorised door or gate.

In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly, and contact only qualified personnel.

Failure to comply with the above may cause a dangerous situation.

Any repair or technical intervention must be carried out by qualified personnel.

Cleaning and maintenance work must not be carried out by children unless they are supervised.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and only qualified personnel must perform routine maintenance on the motorised door or gate. In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

All installation, maintenance and repair work must be documented and made available to the user.

Only lock and release the door wings when the motor is switched off. Do not enter within the operating range of the wing.



To dispose of electrical and electronic equipment correctly, users must take the product to special "recycling centres" provided by the municipal authorities.

2. Declaration of incorporation of partly completed machinery

(Directive 2006/42/EC, Annex II-B)

The manufacturer Entrematic Group AB, with headquarters in Lodjursgatan 10, SE-261 44 Landskrona, Sweden, declares that the automation for swing gates type Ditec CUBIC6-CUBIC6H-CUBIC6HV:

- is designed to be installed on a manual gate to form a machine pursuant to Directive 2006/42/EC. The manufacturer of the motorised gate must declare conformity with Directive 2006/42/EC (annex II-A) prior to initial machine start-up;
- conforms to the applicable essential safety requirements indicated in ANNEX I, Chapter 1 of the Directive 2006/42/EC;
- conforms to the Low Voltage Directive 2006/95/EC;
- conforms to the Electromagnetic Compatibility Directive 2004/108/EC;
- conforms to the R&TTE Directive 1999/5/EC;
- the technical documentation conforms to Annex VII-B of the Directive 2006/42/EC;
- the technical documentation is managed by Marco Pietro Zini with headquarters in Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY;
- a copy of technical documentation will be provided to national competent authorities, following a suitably justified request.

Landskrona, 13-01-2013

Marco Pietro Zini
(Entrance Automation President)



2.1 Machinery Directive

Pursuant to Machinery Directive (2006/42/EC) the installer who motorises a door or gate has the same obligations as the manufacturer of machinery and as such must:

- prepare the technical data sheet which must contain the documents indicated in Annex V of the Machinery Directive;
(The technical data sheet must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorised door);
- draw up the EC Declaration of Conformity in accordance with Annex II-A of the Machinery Directive and deliver it to the customer;
- affix the EC marking on the motorised door or gate, in accordance with point 1.7.3 of Annex I of the Machinery Directive;
- ensure compliance of the motorised door or gate with safety regulations, by installing the necessary safety devices;
- refer to the installation manual of control panel for the operating force adjustments, in compliance with EN12453 and EN12445.

3. Technical data

	CUBIC6	CUBI6H	CUBIC6HV
Power supply	230 V~ 50 Hz	24 V ~	24 V ~
Absorption	1,5 A	12 A	12 A
Couple	340 Nm	340 Nm	220 Nm
Capacitor	10 µF	-	-
Opening time	18 s/90°	12÷25 s/90°	6÷13 s/90°
Max opening	110°-180° [see page 26]	110°-180° [see page 26]	110°-180° [see page 26]
Service class	3 - FREQUENT	4 - INTENSIVE	4 - INTENSIVE
Intermittence	S2 = 15 min S3 = 25%	S2 = 30 min S3 = 50%	S2 = 30 min S3 = 50%
Temperature	min -20° C max +55° C min -35° C max +55° C (with NIO enabled)	min -20° C max +55° C min -35° C max +55° C (with NIO enabled)	min -20° C max +55° C min -35° C max +55° C with NIO enabled
Degree of protection	IP67	IP67	IP67
Control panel	E2 - LOGICM	VIVAH	VIVAH
Applications m = leaf width kg = leaf weight CUBIC6L CUBIC6LG			

3.1 Operating instructions

Service class: 3 (minimum 30 cycles a day for 10 years or 60 cycles a day for 5 years).

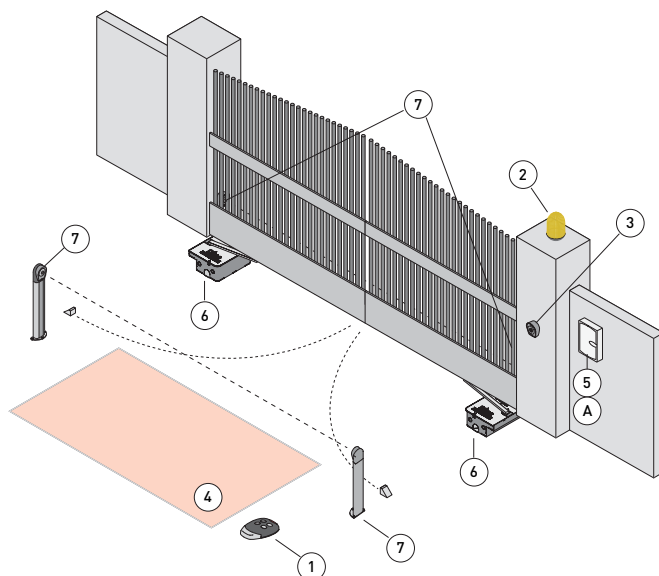
Use: FREQUENT (For vehicle or pedestrian accesses to town houses or small condominiums with frequent use).

Service class: 4 (minimum 100 cycles a day for 10 years or 200 cycles a day for 5 years)

Use: INTENSIVE (For vehicle or pedestrian accesses to large condominiums, industrial or commercial complexes and parking lots with very frequent use).

- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). When used with the maximum permissible weight a reduction in the above mentioned performance can be expected.
- Service class, running times, and the number of consecutive cycles are to be taken as merely indicative Having been statistically determined under average operating conditions, and are therefore not necessarily applicable to specific conditions of use.
- Each automatic entrance has variable elements such as: friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic entrance or curtail its working life or parts thereof (including the automatic devices themselves). The installer should adopt suitable safety conditions for each particular installation.

4. Standard installation



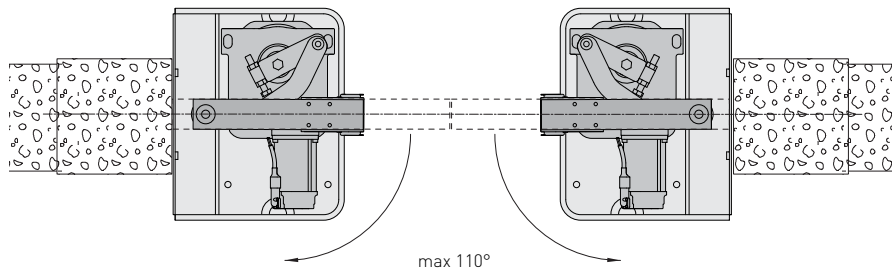
Ref.	Code	Description
1	GOL4	Transmitter
2	LAMPH LAMP	Flashing light 24 V= Flashing light 230 V=
3	XEL5 GOL4M	Key selector Codified via radio control keyboard
4	LAB9	Magnetic loop detection device for traffic monitoring
5	E2 LOGICM VIVAH	Control panel
6	CUBIC6	Geared motor 230 V=
	CUBIC6H	Geared motor 24 V=
	CUBIC6C	Foundation casing
	CUBIC6CG	Oversize foundation casing
	CUBIC6CY	Stainless steel foundation casing
	CUBIC6L	Lever mechanism kit
	CUBIC6LG	Oversize lever mechanism kit
	CUBIC6TC	Chain-operated lever mechanism kit
	CUBIC6SBL	Lever-operated release kit
7	CUBIC6SBD	Key-operated release kit
	CUBIC6FM	Magnetic limit switch kit
	XEL2 LAB4	Photocells Photocells IP55
A		Connect the power supply to an approved omnipolar switch with an opening distance of the contacts of at least 3mm (not supplied). The connection to the mains must be made via an independent channel, separated from the connections to command and safety devices.



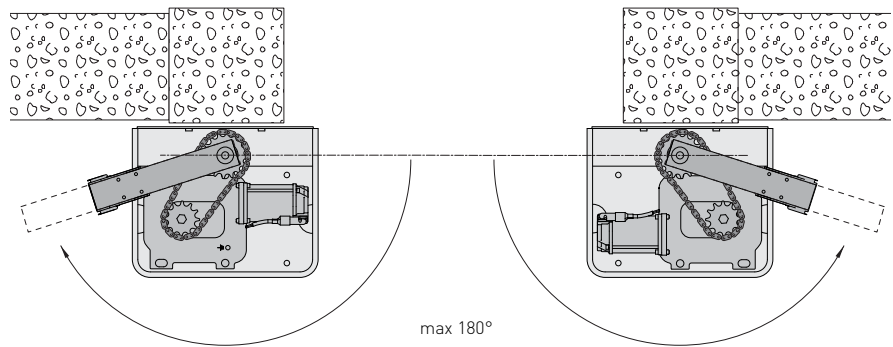
NOTE: the given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices.

5. Examples applications

CUBIC6L - CUBIC6LG



CUBIC6TC



6. Installation

Unless otherwise specified, all measurements are expressed in millimetres (mm).

6.1 Preliminary checks

Check that the structure is sufficiently sturdy and that the hinge pivots are properly lubricated. Provide an opening and closing stop.

Note: if the gate wing is more than 2.5 m wide, an electric lock should be installed.

6.2 Foundation case installation

Install the foundation case as indicated in the relevant manual.

6.3 Lever mechanisms installation

Choose and install the lever mechanisms as indicated in the relevant manual.

6.4 Wing release installation

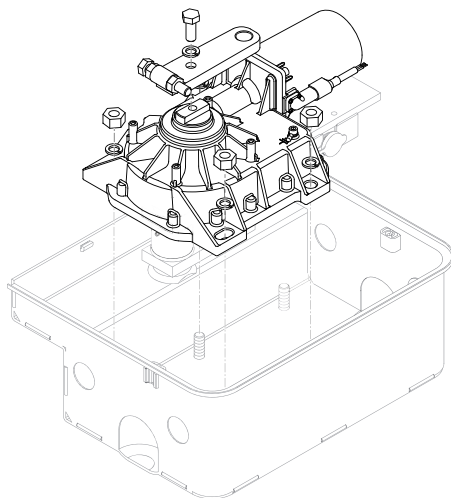
Choose and install the door release mechanisms as indicated in the relevant manual.

WARNING: to install the releases more easily, we advise you to position the gate at the centre of the foundation casing and remove the lid, in such a way as to have enough space for fixing the screws.

6.5 Geared motor installation

After installing the foundation casing, the respective lever and release mechanisms go before the installation of the gear motor as shown in the figure. **NOTE:** the figure shows the motor installed on the right door wing.

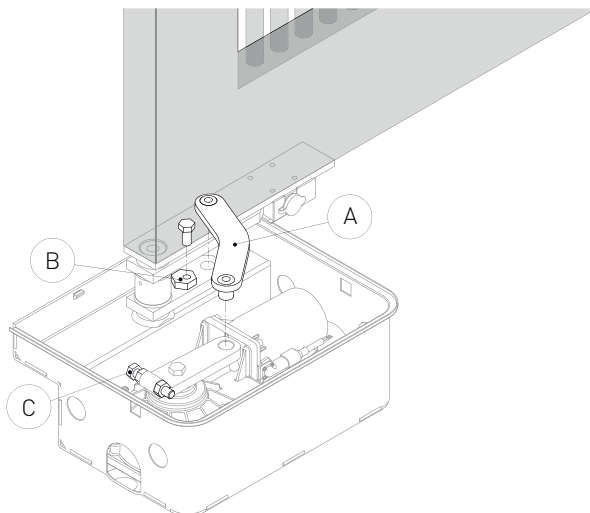
Carefully clean the bottom of the foundation casing from dirt or cement to guarantee an even laying of the gearmotor.



6.6 Installation with CUBIC6L-CUBIC6LG

Insert lever [A] on the gearmotor and position the mechanical stop [B] and [C] and adjust it, as shown in the figure.

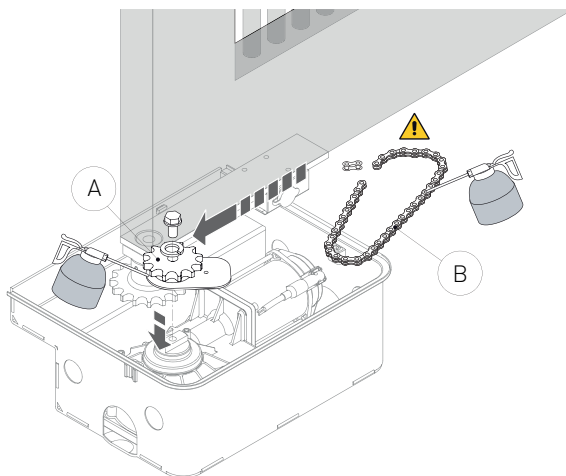
NOTE: the figure shows the motor installed on the right door wing.



6.7 Installation with CUBIC6TC

Insert pinion [A] and join the two pinions by means of the chain [B], as shown in the figure.

Lubricate the chain and the lever mechanism as indicated in the figure.



WARNING: fasten the motor to the foundation case after connecting the chain.

6.8 CUBIC6FM installation

It is possible to limit the travel of the wing by means of magnetic limit switches. Choose and install the magnetic limit switches as indicated in the relative manual. Make the electrical connections as shown in the control panel.
WARNING: the magnetic limit switches cannot interrupt the power supply to the motor.

7. Electrical connections

Before connecting the power supply, make sure the plate data correspond to that of the mains power supply.

An omnipolar disconnection switch with minimum contact gaps of 3 mm must be included in the mains supply.

Check that upstream of the electrical installation there is an adequate residual current circuit breaker and a suitable overcurrent cutout.

WARNING: the electrical connections for the extension of the motor cables must be made on the outside of the foundation casing in an appropriate junction box (not supplied).

In the CUBIC6 gearmotors, the blue wire corresponds to the common contact of the motor phases, and must be connected to the W or Z terminals of the control panel.

The CUBIC6 gearmotor can be connected to the E2 and LOGICM control panels.

The CUBIC6H and CUBIC6VH gearmotors can be connected to the VIVAH control panel.

The electrical connections and the start-up of the gearmotors are shown in the installation manuals of the E2, LOGICM and VIVAH control panels.

8. Routine maintenance plan

Perform the following operations and checks every 6 months according to intensity of use of the automation.

Without 230 V~ power supply and batteries if present:


- Lubricate the levers of the gearmotor.
- Lubricate the rotation pivot of the gate leaf.
- Lubricate the gate leaf hinges.
- Check the good conditions of the electric connection.
- Check that the fixing screws of the gearmotor are firmly tightened.
- Clean the inside of the cases and check that drain is not clogged.
- Check the value of the capacity of the motor condenser.

Reconnect the 230 V~ power supply and batteries if present:

- Check the power adjustment.
- Check the good operation of all command and safety functions (photocells).
- Check the good operation of the release system.

Operating instructions

General safety precautions for the user

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Do not obstruct the motion of the motorised door or gate, as this may cause a dangerous situation.

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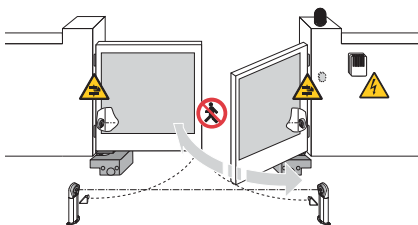
Do not allow children to play or stay within the operating range of the motorised door or gate.

Keep remote controls and/or any other command devices out of the reach of children, to avoid any accidental activation of the motorised door or gate.

In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly, and contact only qualified personnel.

Failure to comply with the above may cause a dangerous situation.

Any repair or technical intervention must be carried out by qualified personnel.



Cleaning and maintenance work must not be carried out by children unless they are supervised.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and only qualified personnel must perform routine maintenance on the motorised door or gate. In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

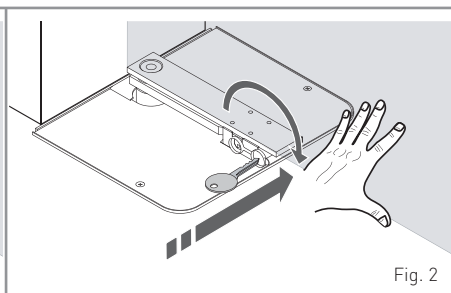
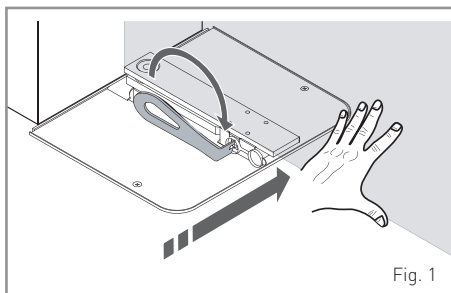
All installation, maintenance and repair work must be documented and made available to the user.

Only lock and release the door wings when the motor is switched off. Do not enter within the operating range of the wing.



To dispose of electrical and electronic equipment correctly, users must take the product to special "recycling centres" provided by the municipal authorities.

Manual release instructions



In the event of failure or if there is no voltage:

CUBIC6SBL: insert the lock release lever and rotate by 180° (fig.1). Release any electric lock. Manually open the gate.

CUBIC6SBD: insert the lock release key in the lock and rotate by 180° (fig.2). Release any electric lock. Manually open the gate.

To block the door wings again: rotate the lock release lever or key by 180°. Move the door wing manually until it is completely reattached.



WARNING: the door wing block and release operations must be performed with the motor idle.



For any problems and/or information, contact the Technical Service.

ENTRE//MATIC



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