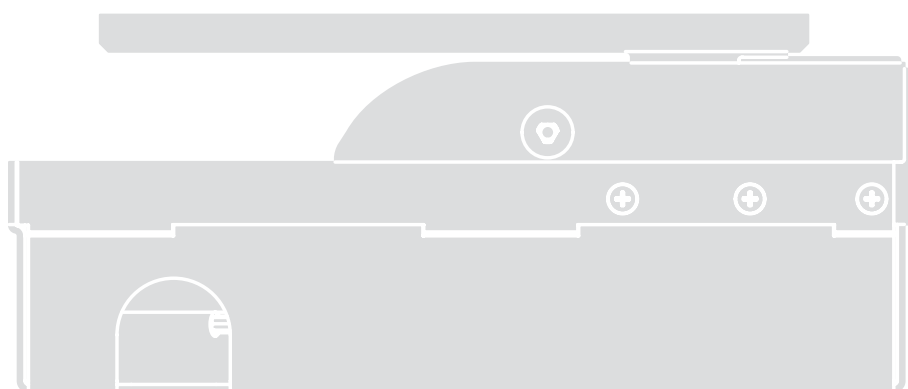


SFAB2024
SFAB2124



Swing gate opener

EN - Instructions and warnings for installation and use

IT - Istruzioni ed avvertenze per l'installazione e l'uso

FR - Instructions et avertissements pour l'installation et l'utilisation

ES - Instrucciones y advertencias para la instalación y el uso

DE - Installierungs-und Gebrauchsanleitungen und Hinweise

PL - Instrukcje i ostrzeżenia do instalacji i użytkowania

NL - Aanwijzingen en aanbevelingen voor installatie en gebruik

1 GENERAL SAFETY WARNINGS AND PRECAUTIONS

GENERAL WARNINGS

The following warnings are taken directly from the Regulations and apply, as far as possible, to the product described herein.

- **ATTENTION! - Important safety instructions. Follow all instructions as improper installation may cause serious damage.**
- **ATTENTION! - Important safety instructions. It is important for you to comply with these instructions for your own and other people's safety. Keep these instructions.**
- Before commencing the installation, check the "Technical characteristics" (in this manual), in particular whether this product is suitable for automating your guided part. If it is not suitable, DO NOT continue with the installation.
- The product cannot be used before it has been commissioned as specified in the chapter on "Testing and commissioning".
- **ATTENTION! - According to the most recent European legislation, the implementation of an automation system must comply with the harmonised standards provided by the Machinery Directive in force, which enables declaration of the presumed conformity of the automation. Taking this into account, all operations regarding connection to the electricity grid, as well as product testing, commissioning and maintenance, must be performed exclusively by a qualified and skilled technician!**
- Before proceeding with the installation of the product, check that all the materials are in good working order and suited to the intended applications.
- This product is not intended to be used by persons (including children) whose physical, sensory or mental capacities are reduced, or who lack the necessary experience or skill.
- Children must not play with the appliance.
- Do not allow children to play with the fixed control devices of the product. Keep the remote controls away from children.
- **ATTENTION! - In order to avoid any danger from inadvertent resetting of the thermal cut-off device, this appliance must not be powered through an external switching device, such as a timer, or connected to a supply that is regularly powered or switched off by the circuit.**
- Provide a disconnection device (not supplied) in the plant's power supply grid, with a contact opening distance permitting complete disconnection under the conditions dictated by overvoltage category III.
- Handle the product with care during installation, taking care to avoid crushing, denting or dropping it, or allowing contact with liquids of any kind. Keep the product away from sources of heat and naked flames. Failure to observe the above can damage the product, and increase the risk of danger or malfunction. Should this happen, stop installation immediately and contact Customer Service.
- The manufacturer assumes no liability for damage to property, items or persons resulting from non-compliance with the assembly instructions. In such cases the warranty for material defects is excluded.
- The weighted sound pressure level of the emission A is lower than 70 dB(A).
- Cleaning and maintenance to be carried out by the user must not be

- carried out by unsupervised children.
- Before working on the system (maintenance, cleaning), always disconnect the product from the mains power supply.
- Check the system periodically, in particular all cables, springs and supports to detect possible imbalances, signs of wear or damage. Do not use, if repairs or adjustments are necessary, since installation failure or an incorrectly balanced automation may cause injury.
- The packing materials of the product must be disposed of in compliance with local regulations.
- When operating a biased-off switch, make sure that other persons are kept away.
- When operating the gate, keep an eye on the automated mechanism and keep all bystanders at a safe distance until the movement has been completed.
- Do not operate the product if anyone is working nearby; disconnect its power supply before permitting such work to be done.
- If the power cable is damaged, it must be replaced by the manufacturer or by an appointed servicing company or similarly qualified person in order to prevent any form of risk.

INSTALLATION WARNINGS

- Prior to installing the drive motor, check that all mechanical components are in good working order and properly balanced, and that the automation moves correctly.
- If the gate or door being automated has a pedestrian gate, then the system must include a control device that will inhibit the operation of the motor when the pedestrian gate is open.
- Make sure that the control devices are kept far from moving parts but nonetheless in a visible position. Unless a selector is used, the control devices must be installed at a height of at least 1.5 m and must not be accessible.
- Ensure that entrapment between the driven part and the surrounding fixed parts due to the opening movement of the driven part is avoided.
- Permanently fix the label concerning the manual release adjacent to its actuating member.
- After installing the drive motor, make sure that the mechanism, protective system and all manual manoeuvres operate properly.

2 DESCRIPTION OF THE PRODUCT AND DESTINATION OF USE

This product is destined to be used to automate gates or doors with hinged panels, exclusively in the residential environment.

ATTENTION! - Any use different to that described and in environmental conditions different to those stated in this manual must be considered improper and prohibited!

The product is an electro-mechanical gear motor, with a 24 Vdc motor. The gear motor is powered by the external control unit, to which it must be connected.

If the electric energy is interrupted (black-out), the gate panels can be moved by releasing the gear motor using the relevant wrench; to perform the manual manoeuvre, see chapter 3.6.

The product is available in two versions:

- SFAB2024 without encoder, suitable for MC424 control units.
- SFAB2124 with encoder, suitable for MC824H control units.

ATTENTION! - Do not use gear motors with incompatible control units.

3 INSTALLATION

3.1 - Preliminary checks on installation

Before performing installation, check the integrity of the product components, the adequacy of the model chosen and the suitability of the environment destined for installation.

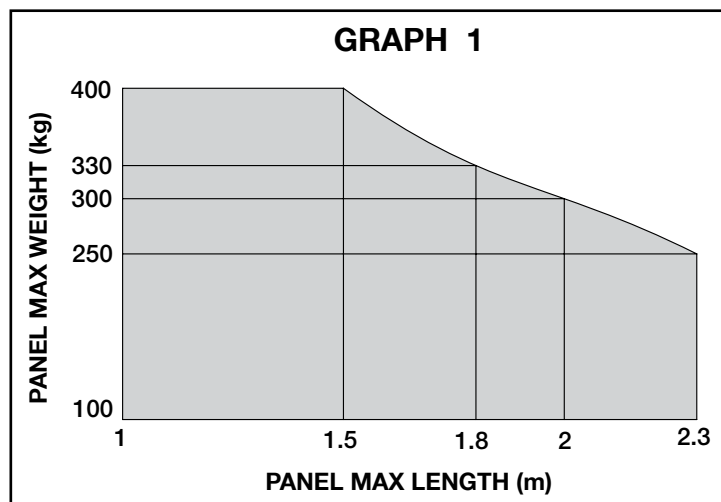
IMPORTANT - The gear motor cannot automate a manual gate that does not have an efficient and safe mechanical structure. Moreover, it cannot solve defects caused by incorrect installation or bad maintenance of the gate itself.

3.2 - Suitability of the gate to automate and the surrounding environment

- Check that the gate mechanical structure is suitable to be automated and complies with the Standards in force on the territory (if necessary, refer to the data given on the gate label).
- Moving the gate panel manually in Opening and in Closure, check that the movement takes place with the same and constant friction in all points of the run (there must not be moments of greater effort).
- Check that the gate panel stays in equilibrium, i.e. that it does not move if taken manually into any position and left.
- Check that the space around the gear motor allows to manually release the gate panels easily and safely.
- Envision end run retainers on the ground both for opening and closure of the gate.
- Check that the gear motor fixing area is compatible with the clearance of the latter (fig. 1).

3.3 - Limits of use for the product

Before installing the product, check that the gate panel has dimensions and weight that lie within the limits given in **graph 1**; also evaluate the climatic conditions (e.g. strong wind) present in the place of installation. They can greatly reduce the values given in the graph.



3.4 - Set-up for installation

Fig. 2 shows an example of automated plant realised with Nice components. These components are positioned according to the typical and usual layout. With reference to **fig. 2**, establish the approximate position where each component envisioned in the plant will be installed and the most appropriate connection layout.

Components useful for realising a complete plant (fig. 2):

- A - Electro-mechanical gear motors
- B - Control unit
- C - Pair of photocells
- D - Columns for pairs of photocells (C)
- E - Flashing signal with antenna incorporated
- F - Digital keyboard
- G - Pair of mechanical stops in opening and closure
- H - Key selector switch

3.5 - Installation

01. Carry out large foundation excavations, for positioning the foundation case (**fig. 3**): envison a drain pipe for the water in order to prevent stagnation.
02. Place the foundation case in the excavated area, with the hole aligned with the axis of the upper hinge (**fig. 4**).
03. Envision a conduit for the passage of the power input cable and one for draining the water.
04. Sink the foundation case in the concrete, making sure that it is perfectly level (**fig. 5**).
05. At this point, make 3 threaded holes M10 on the lower part of the panel with minimum depth of 15 mm (**fig. 6**). **Note** – As an alternative to the screws, it is possible to fix the panel hitching lever with strong welding;
06. Fix the panel hitching lever using 3 screws (**fig. 6**).
07. **IMPORTANT! – Lubricate the foundation case bush (fig. 7).**
08. Insert the hitching lever already fixed to the panel into the foundation case bush (**fig. 8**). **VERY IMPORTANT – Check that the door is firmly secured to the hinges on the column/wall so that it CANNOT BE LIFTED (fig. 8-A).** This is to ensure correct contact with the drive shaft gears.
09. If the gate has its own mechanical stops (**fig. 2 - G**) pass directly to point

10. Otherwise, if the gate does not have its own mechanical stops or if at end run all of the motor thrust is not to be applied to the panel, it is possible to use the end runs inside the gear motor and proceed as follows:

a) Insert the regulation dowels (for the opening and closing end run) in the holes prepared on the foundation case:

- **Panel opening to 90°:** see **fig. 9** for the left and right panel.

- **Panel opening to 180°:** see **fig. 10**.

b) **Regulation of the end run (opening and closure):** activate the end runs until the desired stop point in opening and closure is reached. Finally, add the nuts and if the end run positions are correct, tighten the nuts well (**fig. 11**).

10. At this point, insert the motor inside the foundation case, pushing it to the end of the case aligning the fixing holes present on the gear motor with those of the case itself (**fig. 12**).

11. Insert the supplied screw fasteners into the holes (**fig. 13**) and tighten them slightly until the gear motor is slightly raised with respect to the bottom of the case.

12. Now move the panel slowly to allow engagement with the motor and then tighten the screw fasteners fully home (**fig. 14**).

13. Pass the power input cable through a previously prepared raceway (**fig. 15**): to make the electric connection to the control unit, see chapter 4 and refer to the control unit manual.

14. Position three lids "A, B, C" respecting the following circuit:

a) Place the upper lid "A" on the foundation case and run it to stop (**fig. 16 - 1**), Insert lid "B" into the slot at the same time (**fig. 16 - 2**).

b) Fix lid "A" using the 3 supplied screws (**fig. 16 - 3**).

c) Fix the lower lid "C" using the screws supplied (**fig. 16 - 4 and 5**).

3.6 - Manual release and block of the gear motor

To release and block the gear motor, use the supplied triangular spanner:

• Release:

01. Insert the wrench into one of the 2 lateral holes present on the upper lid and turn it 180°, indifferently in one of the two directions (**fig. 17**).

02. Move the panel manually and take it to the desired position.

• Block:

01. Insert the wrench into one of the 2 lateral holes and turn it 180° indifferently in one of the two directions (**fig. 17**).

02. The panel will block at the first manoeuvre commanded by the control unit.

4 ELECTRIC CONNECTIONS

Recommendations:

- The gear motor is supplied with an electric power input cable measuring 2 m. Therefore, if a greater distance must be covered to perform the electric connections, a diversion box must be used (not supplied). **IMPORTANT! – It is prohibited to join the electric cable inside the foundation case.**
- **Make the electric connections with the mains power input disconnected.**

To connect the power input cable to the control unit, see the manual regarding the latter and the following indications:

WIRE	CONNECTION
Blu wire	24 V motor power input
Brown wire	24 V motor power input
Black wire	Encoder (SFAB2124 version only)
Grey wire	Encoder (SFAB2124 version only)
Yellow-green wire	Earth

5 INSPECTION AND COMMISSIONING

ATTENTION! – The operations described in this chapter must only be performed by qualified and skilled staff, respecting the instructions in the manual, the laws and the Safety Standards in force on the territory.

This is the most important phase in the realisation of the automation, in order to guarantee maximum safety of the system. The inspection procedure described can also be used to periodically check the devices that make up the automation. The inspection phases and commissioning of the automation must be performed by qualified and expert staff that must establish the tests necessary to check the solutions used regarding the risks present and to check respect with that envisioned by the Laws, Standards and Regulations: particularly, all requisites of the EN 13241-1 Standard, which establishes the test methods for checking the gate automations.

ATTENTION! – Before carrying out any check, disconnect any electrical power input source.

5.1 - Inspection

Each individual component of the automation, e.g. sensitive edges, photocells, emergency stop etc requires a specific inspection phase. For these devices the procedures given in the respective instruction manuals must be performed. For the SFAB(...) inspection, proceed as follows:

- 1 Check that everything envisioned in chapter 1 - General safety warnings and precautions, is rigorously respected.
- 2 Close the gate.
- 3 Remove any electric power input source to the control unit.
- 4 Release the gear motor using the relative wrench, see paragraph 3.6.
- 5 Open the panel manually until the maximum opening position is reached and check that there is no friction during the movement.
- 6 Check that the panel, left in any position of its run, does not move.
- 7 Check that the safety systems and the mechanical stops are in good working order.
- 8 Check that the screw connections are well-fastened.
- 9 If necessary, clean the inside of the foundation case and check that the water drain functions correctly.
- 10 Block the gear motor using the relative wrench, see paragraph 3.6.
- 11 Apply the electric power input to the control unit.
- 12 Measure the impact force according to the EN 12445 and EN 12453 standards. If the control of the “driving force” is used by the control unit as an auxiliary to the system for the reduction of the force of impact, try and adjust the functions that offer better parameters.
- 13 Permanently fix a label, which describes how to manually release the gear motor, in a zone adjacent to the automation.

5.2 - Commissioning

Commissioning can only be performed after all of the inspection phases of the gear motor and other devices present have been performed with positive results. For commissioning refer to the control unit instruction manual.

IMPORTANT – Partial commissioning or in “temporary” situations is prohibited.

6 PRODUCT MAINTENANCE

Maintenance must be performed in strict observance of the safety provisions in this manual and according to current legislation and standards.

The automation devices do not require special maintenance. However a check should be performed at least every six months to ensure complete efficiency of all devices.

For this purpose, the tests and checks envisaged in paragraph 5.1 “Testing” should all be performed, as well as all procedure in the paragraph “Maintenance operations permitted for the user”.

If other devices are present, follow the instructions in the relative maintenance schedule.

DISPOSAL OF THE PRODUCT

This product is an integral part of the automation and therefore must be demolished with it.

As for installation, the plant must also be demolished by qualified staff at the end of its life span.

This product is made up of various types of materials: some can be re-cycled, others must be disposed of. Obtain information regarding recycling or disposal systems envisioned by the Standards in force on your territory for this category of product.

Attention! – some parts of the product can contain pollutant or dangerous substances which, if dispersed into the environment, could have damaging effects on the same and human health.

As indicated by the symbol at the side, it is prohibited to throw this product into domestic waste. “Separate collection” must be performed for disposal, according to the methods envisioned by the Regulations in force on your territory or take the product back to your dealer on the purchase of a new equivalent product.



Attention! – local regulations in force may envision heavy sanctions if this product is disposed of abusively.

PRODUCT TECHNICAL FEATURES

RECOMMENDATIONS: • All technical features stated make reference at a room temperature of 20°C (± 5°C). • Nice S.p.A. reserves the right to modify the product at any time it deems necessary, however maintaining the same functionality and destination of use.

- **Type:** Electro-mechanical dear motors for gates and doors with hinged panels
- **Power input:** 24 V ---
- **Peak absorption:** 5 A
- **Maximum absorption:** 2 A
- **Peak power:** 120 W
- **Maximum power:** 50 W
- **Protection rating:** IP 67
- **Run:** from 0° to 90° (±10°) or from 0° to 180° (±10°) [intermediate openings between 90° and 180° are not possible]
- **Idle speed:** 1.25 rpm
- **Speed at nominal torque:** 1 rpm
- **Maximum torque:** 250 Nm
- **Nominal torque:** 120 Nm
- **Functioning temperature:** -20 °C ... +50 °C
- **Cycles/hour at the nominal torque:** 60
- **Duration:** Estimated between about 80.000 and 200.000 manoeuvre cycles, according to the conditions given in Table 1
- **Dimensions:** 230 mm x 206 mm x h 88 mm
- **Weight:** 15 kg (gear motor with foundation space)