



# EvoDrive+

# User manual



# **EVODRIVE+ AUTOMATIC GUIDE FOR INTERIOR SLIDING DOOR**

ORIGINAL MANUAL

## **PART 3 - User Manual**

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This section of the manual is oriented ONLY to the end user.

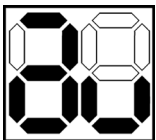
## 1. PRODUCT DESCRIPTION

This door is equipped with the **EvoDrive** automatic door linear drive, specifically designed for interior doors. Equipped with the latest technology in automatic doors, the leaves are moved by a linear motor that slides with the door leaf by attraction and repulsion of the permanent magnets incorporated along the header frame, making the operator a very compact unit, with a superb, smooth and silent movement. Please, read these instructions in full before using the door for first time.

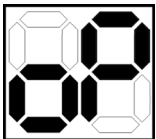
## 2. INSTRUCTIONS OF USE

### 2.1 Operating modes

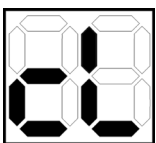
The **EvoDrive** is delivered with a wireless remote control with 4 buttons to let you set the operating mode to any of the following:



- i. **Automatic:** press button “Automatic” on the remote control to set the door to Automatic mode. In this mode the door will open, stay open during an adjustable hold-open time (set by the service technician) and close every time an activation device is triggered. The activation devices can be a push button, a touch-less switch, radar or sensor.  
**“Push & Go”:** while the door is in automatic mode, you may manually push the door leaf or simply pull from the door handle in the direction of opening, and the leaf will open and close one cycle.



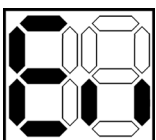
- ii. **Open:** press button “Open” on the remote control to set the door to Open mode. In this mode, the door will slide from any position to open and stay in this position until a new operating mode is selected. While the door is in Open mode, the leaf can be moved manually (very convenient for cleaning purposes) until a new operating mode is selected.



- iii. **Closed:** In this mode the leaf will move to the closed position, while the activation elements will remain inactive to avoid unwanted openings.

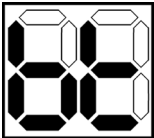
If the operator is equipped with an automatic lock (optional), the door will remain closed and locked in this position until a new mode of operation is selected.

If the door does not have an automatic latch, the leaf will close and remain closed.



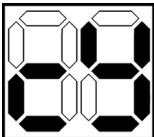
- iv. **Exit Only / Access control:** In this mode, the activation elements (push button, proximity detector, sensors and radars) on one side of the door will remain active to allow activation and opening of the door, while the devices on the opposite side will remain disabled to prevent door opening from that side.  
It is recommended to use an automatic lock (optional) to use this function.  
If the operator is equipped with an automatic lock (optional), the door will close and remain locked (\*) every time the door moves to the closed position. It will not open until it is reactivated from any of the active devices on one side of the door, or until a new mode of operation is selected.

In this mode, an “**Access control device**” such as a card reader, keypad or finger print reader can be used to allow one full open and closing cycle, after which the door will slide back to close position and remain blocked by means of the automatic lock (if supplied).



- v. **Bath mode:** In this mode the automatic guide can be installed in a public bath, in addition you can add an indicator to indicate the status (optional) or a sensor to close automatically (optional).

If the automatic guide is equipped with an automatic lock (optional), the door can be locked when the bathroom is occupied, and this mode also has a security system in the event that someone is locked, which consists of activating the element outside for more than 30 seconds in a leaf and the door will unlock.



- vi. **Ciclic mode:** In this mode the door will continue to open and close continuously, it is recommended not to select this mode as it is a strictly internal use mode to verify the product correctly.

(\*) **Warning:** in the event of power failure, for safety reasons the lock is programmed to release and unblock the door leaf so it can be moved manually to open **position**

## 2.2 Operation during power failure

Thanks to the particular technology of the EvoDrive+ automatic guide (absence of mechanical elements such as gears or belts), in the event of power failure the manual and smooth movement of the door is guaranteed by simply pushing or pulling the door leaf or handle with a minimum effort.

If the automatic guide is equipped with an automatic lock, this will be released in the event of power failure, and the motors will be disconnected to allow a manual movement of the door, performing just like any other manual sliding door.

## 2.3 Door cleaning

To clean the door, **press button “Open”** on the remote control to set the door to “Open” mode, then move the door leaf manually to any position. In this mode, the activation devices will remain disabled, and the door is safe for cleaning.

**When cleaning is finished, please remember to set the door to the next desired operating mode.**

## 2.4 Restrictions of use

In order to reduce unnecessary risks to people all automatic doors equipped with an EvoDrive automatic guide installed in an area where it is expected to be used by children, elderly, frail and disabled users, a risk assessment must be done taking into consideration the necessities of these groups of risk. Should this be the case, it is required to provide the necessary indications, help and advice on the correct use of these doors to those groups of risk.

Don't allow children play within the clear opening and the travelling area of the door leaves, and always keep the remote controls out of their reach.

Linear Motor Applications, S.L. declines all responsibility for any eventual damages to persons, animals or objects as a result of not observing the indications described in this installation, maintenance and user manual.

The manufacturer of the automatic guide declines all responsibility (civil or criminal) for any non-authorized manipulation of the product, or the replacement of parts or components of the automatic guide using of non-original or non-authorized accessories and spare parts, which may result on an increase of risk and danger to people.

It is strictly forbidden to remove or alter the stickers or signs supplied by the manufacturer in the automatic guide and its components and accessories.

It is strictly forbidden to stand within the moving area of the door, and to operate near the mechanical parts in motion.

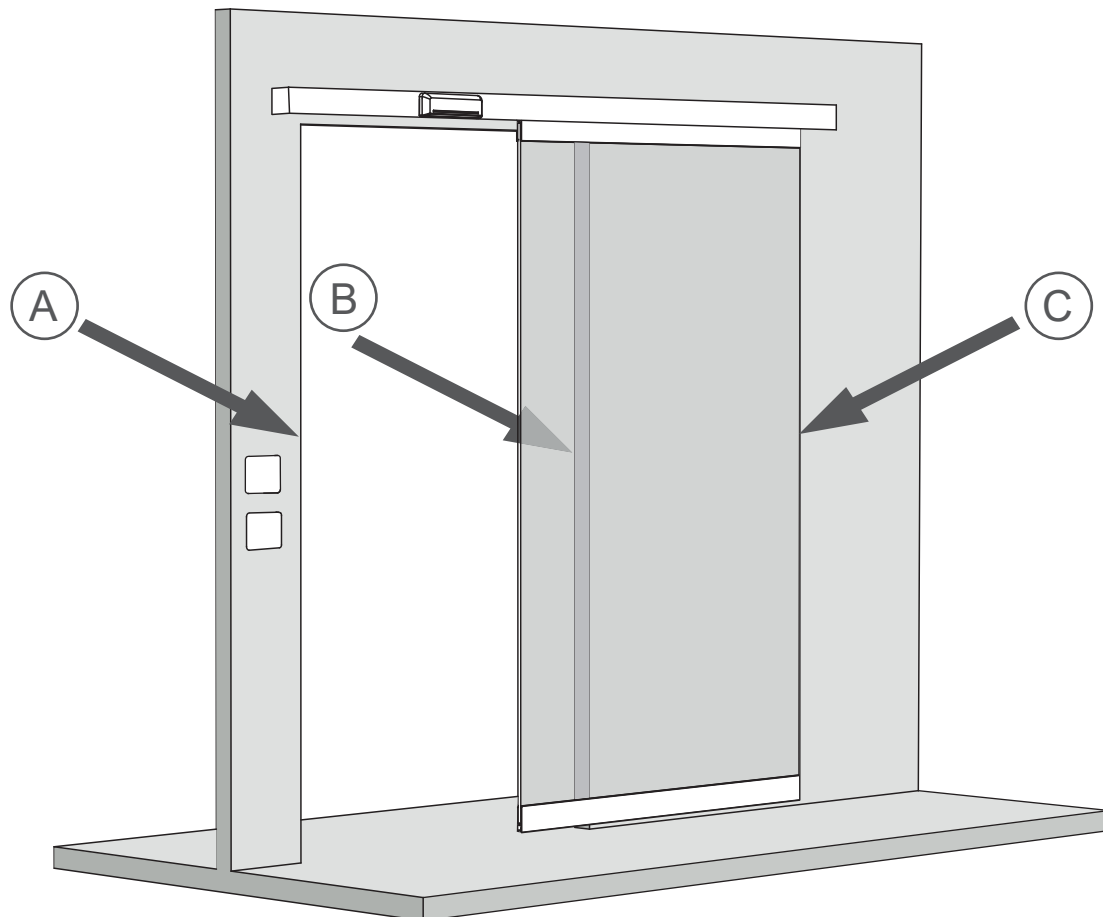
Only authorized technicians are allowed to open the cover of the door guide and manipulate the internal parts, for installation and maintenance purposes. The power switch must be turned off before doing any intervention on the door guide.

Users are strictly not allowed to open the cover and/or manipulate the internal parts of the door guide.

### 3. RISK ASSESSMENT

#### 3.1 Identification of dangerous areas

The image below shows the zones of risk of the sliding door.



As indicated in the “Directive on Machinery”, it is understood by:

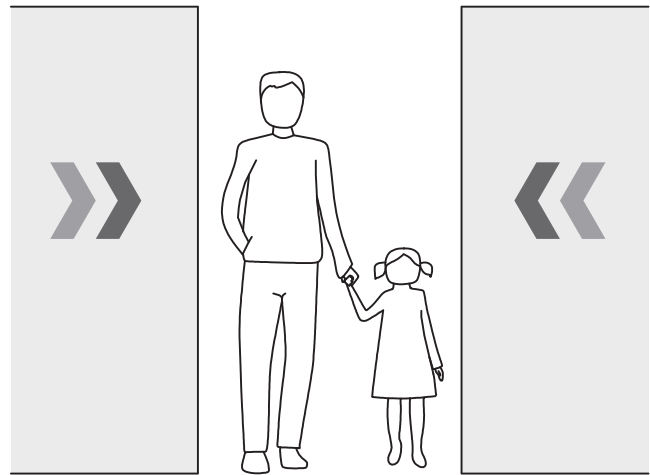
“**Danger zone**”, any area inside and/or near a machine where, the presence or exposure of a person, constitutes a risk for the safety and health of that person.

“**Exposed person**”, any person standing or moving completely or partially, within a danger zone.

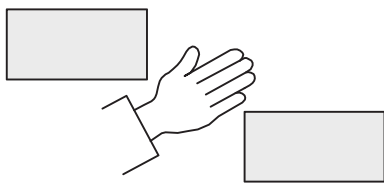
In relation with the usage of this automatic guide, the diagrams below show the typical residual risks in relation with the zones of risk indicated above.



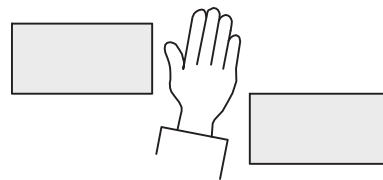
Impact



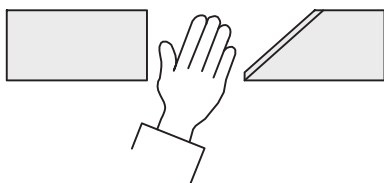
Crush



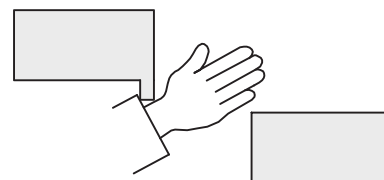
Shearing



Entrapment



Cut



Hooking



### 3.2 Residual risks

Although the EvoDrive automatic guide has been designed and manufactured to ensure a safe operation, some residual risks may still persist even after adopting complementary measures of protection.

Automatic sliding doors may have some risks of crush, impact, entrapments and other potential hazards. Depending on the structural conditions on site, the door version and the safety equipment, these risks may not disappear completely.

In accordance with the European norm **EN16361**, the travelling area where the leaf of an automatic door is sliding should have some type of protection, to reduce the risk of impact to persons as much as possible. To limit these risks of the EvoDrive guide, the following safety measures should be considered and implemented:

- The possibility of using **safety sensors** to detect the movement and presence of people and/or objects within the travelling area.
- **“Low energy” mode**: subject to the width and mass of the door leaf, its speed is reduced and adjusted to a predefined value during the closing cycle, to ensure that the kinetic energy of the door leaf and the impact force do not exceed those admitted in the said norm.
- To ensure a high level of safety, mainly in those installation sites where the presence of groups of risks recommends the adoption of additional safety measures, the EvoDrive automatic guide allows the **simultaneous** implementation of the two above mentioned safety measures.

A qualified technician should verify the correct installation, commissioning, adjustment and operation of the safety sensors and/or the “low energy” mode, always in accordance, but not limited to the above mentioned norm.

## 4. TROUBLESHOOTING

If the door remains still in open or closed position, check the following recommendations before calling the after sales service:

- The power must be connected: check if the ON/OFF switch is ON
- The operating mode in the remote control is in the correct position. Check if the door moves in Automatic mode.
- The door is not blocked by any object or dirt under the door leaf or within the doorway. In case there is an obstruction within the door travelling area, remove that obstruction and change the operating mode to Open and Automatic to resume normal operation.

If these points are in order and the door is still not moving when activated, being the door in Automatic mode, please contact a service technician.

## 5. TECHNICAL SPECIFICATIONS

### Mechanical features

Main features	Clear opening width lateral leaf (mm): 750 - 1400 Clear opening width double leaf (mm): 1500 - 2800 Operator length lateral leaf (mm): 1650 - 2850 Operator length double leaf (mm): 3100 - 5700 Opening speed: adjustable between 200 and 800 mm/s Closing speed: 200 mm/s EN16005 "Low Energy" Guide weight: 8-10 kg
Guide dimensions	60 mm height x 70 mm width
Leaf weight	Min. 5 kg - Max. 80 kg
Otros datos	Operating noise: < 50 dB Use - continuous Number of cycles: > 1.000.000
Adjustable parameters	Opening direction: right or left Biastable Mode "Low energy" or normal mode Opening speed Hold open time

### Electrical features

Power supply	80-264 VAC/390 VDC & 47-63 Hz (Universal) Maximum Operatin Power: 180 W Protection fuse: 2 A Cable section: 3x1,5 mm <sup>2</sup> . Length 2 m
Power consumption	In motion: 60 W Max (0,2 s): 180 W In stand-by < 4 W
Motor	Type: Linear LSMPM (Linear Synchronous Motor with Permanent Magnets) No. of poles: 4 Pitch pole: 50 mm No. of phases: 3 Voltage: 24 V DC Permanent neodymium magnets Force: < 100 N
Control	Motion control by means of a driver with field oriented control (FOC) Self-adjustment of clear opening
Accessories	Voltage: 24 V CC Current: 1 A
Operating temperature	Min: 5 °C - Max: 40 °C

**6. AUTOMATIC GUIDE CE DECLARATION FORM****DECLARATION OF CONFORMITY****Directive 2006/42/CE -Directive on Machinery-**

We hereby declare, under our sole responsibility, that the product and model described here in is conform to the essential health and safety requirements as described in the following directives issued by the European Council for the harmonisation of the legal norms in all countries members of the European Union:

Product:	Automatic guide for internal sliding door
Model:	EvoDrive+
Serial number:	All starting with 610
Manufacturer:	Linear Motor Applications, S.L. Pol. Ind. Santiga Pasaje Arrahona nº4, Nave 1 08210 Barberà del Vallés, Barcelona Spain
Directives and standards:	Directive 2006/42/CE on machinery · EN ISO 12100: 2012 · EN ISO 13857: 2008 Directive 2004/108/CE - "Electromagnetic Compatibility (EMC)" · EN 61000-3-2:2006+A1:2009+A2:2009 · EN 61000-3-3:2008 · EN 61000-6-1:2007 · EN 61000-6-3:2007+A1:2011 Directive 2004/95/CE - "Safety of low voltage electrical appliances" · UNE EN 60335-1:2012+A11:2014

The CE mark is attached to each product, indicating its compliance with the above mentioned directives and norms. This declaration of conformity applies only when the installation and commissioning of the machine described herein has been made according to the manufacturer's installation, user and maintenance manual.

Barberà del Vallés, Barcelona, on the 15th of July of 2015

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