

Entrance Dynamics sliding door operator EDSL450

User manual

Original instructions

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21-08-2014	1.00	Initial publication
01-12-2014	1.10	Changed declaration

About this manual



All users and owners of the EDSL450 sliding door must read, understand, and obey the information and instructions in this manual. Failure to do so may result in damage to, or failure of the equipment, and possibly injury to persons.

This manual contains information and user instructions for a sliding door. When information or instructions are applicable to all the methods of operation or models, there are no operation types or model numbers in the title. When information or information are applicable to specific methods of operation or models, the applicable operation type or model names appear in the title.

Maintenance of your sliding door

To ensure your sliding door continues to operate with maximum reliability, safety and performance, it is necessary to perform regular maintenance as specified in this user manual and in the logbook supplied with your sliding door. This maintenance must be done by qualified service engineers, trained to recognise possible problems, and to replace parts that have a defined life expectancy.

Dismantling and disposal of the door operator

Dismantling of the door or parts thereof may only be carried out by qualified personnel. These tasks are complicated and potentially dangerous. Please make a contribution to protecting the environment when disposing of the door at the end of its functional life. Contact your local authorised service provider for appropriate means of disposal.

Your local service provider

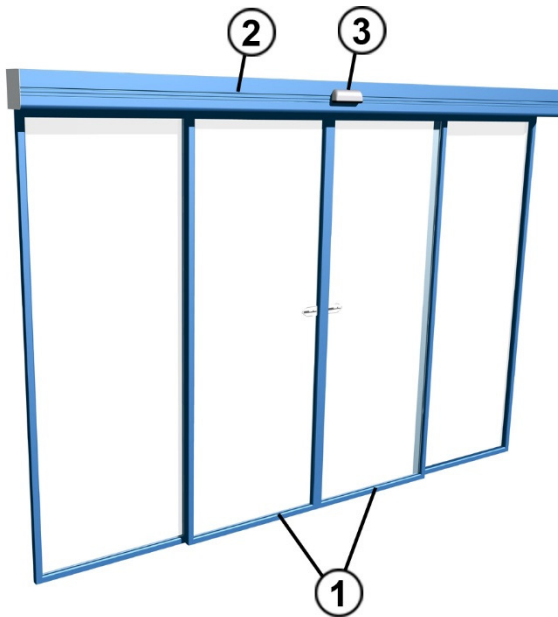
It is recommended that you contact your local authorised Entrance Dynamics service provider for details about service agreements available for your sliding door.

Door leaf - Scope of delivery

The door leaves are produced by third parties, in accordance with specifications as approved by Entrance Dynamics. However, they are not included in the scope of delivery.

1 Introduction

The sliding door is designed to enable easy access to and from buildings or between building sections.



The sliding door has 3 primary parts:

1. Door leaves
2. Drive unit
3. Activators / Safety sensors

1.1 Door Leaves

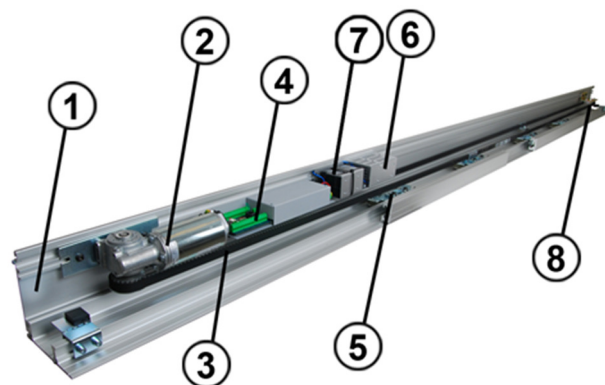
The door leaves are usually made of glass and surrounded by profiles made of aluminium. Brush profiles are installed on the door leaves to reduce draft. The door leaves are suspended from the carriage wheels. The door adapter profile connects to the carriage wheels and the door leaves. The bottom of the door leaves are kept in position by the floor guides.

1.2 Drive unit

The drive unit opens and closes the sliding door. The door leaves are connected to the drive unit via the carriage wheel brackets.

The drive unit consists of:

1. Mounting profile
2. Motor
3. Tooth belt
4. Control board
5. Carriage wheel assembly
6. Power Supply
7. Power failure backup batteries
8. Tension wheel



1.2.1 Motor

The motor, which is part of the drive unit, drives the door leaves through a tooth belt. The motor operates on 40V DC.

1.2.2 Control board EDSL-CU-450

The control board EDSL-CU 450 is the central controller for the sliding door. It receives information from the safety devices and motion detectors and operates the motor to open or close the door. The control board is installed in the drive unit and is connected to:

- The motor
- Encoder for position feedback
- Power supply
- Safety activators
- Back-up battery
- Electrical lock (optional)
- External activation device (optional)
- Push buttons / intercom installation (optional).

1.3 Safety System

The safety system opens or closes the door in case of emergency. The safety system consists of:

- Panic button
- Safety sensors
- Emergency battery back-up
- Fire alarm (optional)

1.4 Activation

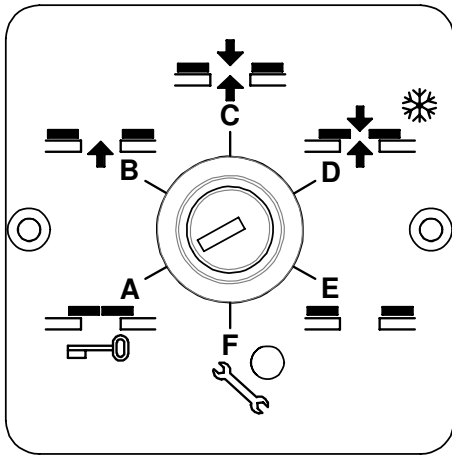
The different types of optional activators are:

- Radar (motion detection)
- Active infrared (motion and/or presence detection)
- Key switch (manual)
- Push button (manual)
- Hand-transmitters
- Etc.

The activators give an impulse to open or close the door. The radar and active infrared activators are installed close to or on the drive unit. The other activators can be installed in other positions, and are not necessarily in proximity to the drive unit.

1.5 Program selector switch

The Program switch is used to select the required program. The program switch can be installed close to the door or at another location in the building.



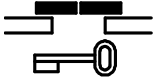


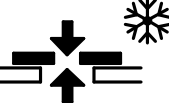


1.6 Program selection and interaction

The program switch is used to select the program that will be used for the sliding door.

1.7 Program selection

Selection is done with a key switch. The switch can be positioned in six different positions, five of which are programs and one is used for error reporting and reset (position F).

See the table below for the list of programs that can be selected. To prevent multiple changes to the selected program while switching from one to another, the switch has to remain stationary for more than two seconds before the new program is activated.

Position	Function
A 	Program close. Door is closed and locked. Sensors will not open the door. Only porter input can be used to open the door.
B 	Program exit-only + full open. Door opens on activation of inside motion sensor. An open door will remain open if either inside or outside presence sensor is active. Door is opened to the full open position.
C 	Program automatic + full open. The door will open on activation of all sensors, inside or outside. Door is opened to full open position.
D 	Program automatic + reduced open. The door will open on activation of all sensors, inside or outside. Open position will be to the reduced open position or full open position depending on the activator. This program cannot be used in escape routes.
E 	Program open + full open. Door opens and remains open during this program regardless of sensors active.
F 	Error reporting and reset. When the controller has a warning or is in error, placing the switch in this position will cause program switch to display the warning or error code.

Program change may not be possible if the program is overridden in the door controller.

For added security the key can be removed from the switch when positioned in any position, except the reset position (F).

1.7.1 Program indication

The active program of the door controller is presented with an indicator. If the program switch is at that program the indicator lights continues. If the program selection of the switch is overridden, then the indicator will blink.

If a program is active that the program switch is not capable of displaying or during loss of communication to the controller the program switch will rotate the program selection indicators as the indication that no program can be displayed.

1.7.2 Status indication

Next to the service symbol is a multi-colour indicator for status information, such as warning and error.

Status indicator colours

Colour	Description
Green	Ok, no errors or warnings active.
Orange (continuous)	Warnings present which may prevent the door from functioning correctly. Some warnings can be reset with the program switch, but most must be resolved otherwise.
Red (blinking)	Door controller is in error state. Errors can be reset with the program switch (retry).
Orange (pulsing)	Door controller is in service mode. Service mode cannot be altered with the program switch.

1.7.3 Override program

The program used by the door controller can override the selection made with the program switch. The indicator will always show the program selected (if possible). If the active program is different then the program selected with the switch the indicator will blink.

There are two possible methods to override the program – with active inputs and temporary (pulses). The temporary override can be reset by selecting the active program. After it has been selected the override is cancelled. As a result the indicator will be lid continuously. Afterwards, the program can be changed by the program switch again.

1.7.4 Show error and warning code

If an error or warning is active on the controller the code can be shown on the program indicators. A warning or error is indicated with a multi-colour indicator next to the service symbol. When the program switch is positioned in the service position, the warning or error code will be shown. Whether the shown code is a warning or error is determined by the status indicator. The code is shown using all six program indicators, including the service symbol. **Fout! Verwijzingsbron niet gevonden.** shows the symbols and added labels for clarity. The labels are used in the warning and error tables (table and table).

Multiple warnings can be active simultaneously. However, only one warning will be shown. The door controller determines what code will be shown.

1.7.5 Reset error

To reset the error, the reset position must be selected for more than 1 second. On selecting a program position the reset command is transmitted. While the key switch is reset position the warning or error code is shown instead of the active program.

1.7.6 Initialise door

The door can be re-initialised by selecting the reset position for more than 3 seconds, but less than 8 seconds.

If the reset is selected more than 8 seconds no actions are performed, but the warning or error code is shown instead of the active program.

1.7.7 Warning and error codes

1.7.7.1 Table Warning codes

A	B	C	D	E	F	Warning description
●	○	○	○	○	●	Service required
○	●	○	○	○	●	Battery missing
●	●	○	○	○	●	Battery low voltage
○	○	●	○	○	●	Battery operation
●	○	●	○	○	●	Battery hardware of controller
○	●	●	○	○	●	Radar inside bad
●	●	●	○	○	●	Radar outside bad
○	○	○	●	○	●	AIR inside bad
●	○	○	●	○	●	AIR outside bad
○	●	○	●	○	●	I2T activated
●	●	○	●	○	●	Motion disabled
○	○	●	●	○	●	Fire active
●	○	●	●	○	●	Program flow error
○	●	●	●	○	●	Escape module error
●	●	●	●	○	●	AIR inside monitoring error
○	○	○	○	●	●	AIR outside monitoring error
●	○	○	○	●	●	Mechanical escape bad
○	●	○	○	●	●	Side screen sensor monitoring error
●	●	○	○	●	●	Sensor supply overload
○	Indicator is off					
●	Indicator is on					

1.7.7.2 Table Error codes

A	B	C	D	E	F	Error description
●	○	○	○	○	○	Supply failure
○	●	○	○	○	○	Current offset error
●	●	○	○	○	○	Temperature error
○	○	●	○	○	○	Motor drive fault
●	○	●	○	○	○	Motor inverted while operational
○	●	●	○	○	○	Connect motor
●	●	●	○	○	○	Motor shorted
○	○	○	●	○	○	Motor and/or encoder
●	○	○	●	○	○	Encoder error
○	●	○	●	○	○	Low home current
●	●	○	●	○	○	Escape motor movement direction
○	○	●	●	○	○	Memory error
●	○	●	●	○	○	Overvoltage error
○	●	●	●	○	○	Door controller error
●	●	●	●	○	○	Door mechanical connection
○	○	○	○	●	○	No close position
●	○	○	○	●	○	No open position
●	○	●	●	●	○	Software error
○	●	●	●	●	○	Untested unit

2 Safety

2.1 Safety symbols used in this manual

The following safety symbols are used in this manual:



Indicates a general warning

- Only authorized persons are permitted to operate the door.
- Read and fully understand the safety instructions before you operate or do maintenance on the door.
- Always obey local health and safety regulations when you operate or do maintenance on the door.
- Make sure there are no persons or equipment in the working area of the door before you operate the door.
- Do not remove or immobilize safety equipment installed on or near the door.
- Do not operate the door if it has any defects. Report defects to the supervisor immediately.
- Do not operate the door after the date of the next scheduled maintenance. The date of the next scheduled maintenance is shown in the logbook.
- Do not modify the door. Unauthorized modification can cause danger to people and affect the function and safety of the door.

3 Operating instructions

3.1 Daily Procedures

3.1.1 Daily start procedure

- Visually check the door for damage
- If damage is found:
 - Apply suitable warning signs around the door and on the door leaves.
 - Contact your local service provider.
- If no damage is found:
 - Set program selector to the required position.

3.1.2 Daily stop procedure

- Examine the door for damage.
- If damage is found:
 - Apply suitable warning signs around the door and on the door leaves
 - Contact your local service provider.
- If no damage is found:
 - If the door is in an escape route and/or the only entrance, make sure that no person is in the building.
 - Set the program selector to the required position.

3.1.3 Daily function check after start procedure

- Approach the door from both sides and make sure the door opens and closes.
- If the door does not operate correctly contact your local service provider.

4 Maintenance

According to the EN16005, DIN18650, and AutSchR for escape routes, the installer retains responsibility for the safe operation of the sliding door, only when user instructions are obeyed and the service checklist and scheduled maintenance tasks are done by authorised/certified people. If not, the owner takes over all responsibility. The owner is responsible that maintenance is carried out!

4.1 Preventive maintenance schedule

Frequency	Part	Tasks
Daily	Door complete	Do the daily start procedure
		Do the daily function check after start procedure
		Do the daily stop procedure
		Make sure the door leaves are clean but visible
		Make sure the door leaves are free of obstacles (boxes, goods etc.)
	Floor guides	Make sure the leaves are guided properly and remove any debris from floor/track.
follow the local regulations but not less as every 12 months	Door complete	Annual inspection made by authorised Service Partner.

4.2 Replacement schedule

Apart from regulatory maintenance, we at Entrance Dynamics think it is important for our doors to be treated the same way as a vehicle; change the oil and the tires at the correct time. With preventive replacement you make sure the product keeps its functionality, safety and classification. It keeps the warranty valid and prevents unexpected and expensive breakdowns or accidents. The following list contains the recommended replacement frequencies.

Frequency	Tasks
Every year or 100.000 openings	Replace the floor guide
Every 3 years or 250.000 openings	Replace the backup batteries
	Replace the replaceable part of the key switch
	Replace the mohair brush
	Replace the tooth belt

Frequency	Tasks
Every 4 years or 500.000 openings	Replace the carriage wheels Replace the wheel track Replace the anti-derailment wheels
Every 7 years or 750.000 openings	Replace the drive unit Replace the electric lock

The economic life time of the products is on normal use and in a normal environment, estimated on 10 years or 1.000.000 cycles,

Therefore, after 10 years or 1.000.000 cycles, a major overhaul has to be executed in order to extend the life time and ensure a safe and reliable function.

The following items have to be considered for replacement:

- Hook lock
- Combined Radars/Sensors
- Safety devices
- Other activators
- Control unit
- Program switch
- Emergency button

4.3 Preventive maintenance procedures

4.3.1 Clean the door



Do not use the door leaf or Drive unit to support a ladder when you do maintenance on a door.

Always use ladders as specified in local health and safety instructions



Do not use a high pressure washer to clean the door.

1. Do the Daily Stop procedure.
2. Use a soft clean brush and mild detergent to clean the inside and outside of the door leaf.
3. Use a soft clean brush and mild detergent to clean the outside of the Radars/Sensors/Photocells
4. If damage is found, contact your local service provider for repairs.

5 Troubleshooting

This chapter contains troubleshooting information for the user of an automatic sliding door. If a fault is not described below, contact your local service provider for assistance.

Symptom	Cause	Solution
Door does not open.	No power	Make sure the main switch/and fuse are serviceable. Switch the power supply on.
	Program Selector in "close" position.	Select program selector to the "automatic" position.
		Do the daily start procedure
Door does not close	Object detected by Sensor/Radar	Move the object outside the detection area.
	No power	Make sure the main switch/and fuse are serviceable Switch the power supply on.
	Program Selector in "open" position	Change the position on the program selector.

If it is necessary to adjust the opening or closing speed, or the sensitivity or detection field of sensors, please contact your local service provider.

5.1 Checklist before you contact your local service provider

- Make sure the main electrical power supply is on
- Make sure the program switch is in the correct position.
- Make sure there are no obstacles beside, under or between the door leaves
- Make sure the inside and outside sensors are clean and free of obstructions
- Make sure the safety sensors are clean and free of obstructions
- Make sure the photocells are clean
- Make sure bottom guides are running freely.
- Perform "reset" on the program switch.

6 Declaration of incorporation

We Entrance Dynamics B.V.
Breeuwhamer 6
1648 HG De Goorn
Netherlands

Declare under our sole responsibility that the type of equipment:

Sliding door operator type EDSL450

Sliding door retrofit kit type EDSL450

Is in compliance with the following directives:

2006/95/EC Low Voltage Directive

2004/108/EC ElectroMagnetic Compatibility Directive (EMCD)

2006/42/EC Machinery Directive (MD) with the following essential health and safety requirements:

1.1.2, 1.2.1,1.2.2,1.2.3,1.2.4.2,1.2.6,1.3.9,1.4.3,1.7.2,1.7.4,1.7.4.1,1.7.4.2.

2002/95/EC Restriction of Hazardous Substances (RoHS)

Technical documentation for safe integration is provided

Harmonized European standards which have been applied:

EN 60335-1

EN 61000-6-2

EN 61000-6-3

EN ISO 13849-1

EN 16005

Other standards or technical specifications, which have been applied:

DIN 18650-1/-2

EN 60335-2-103

EC type examination or certificate issued by notified body

IFT 0757: No 14-000152-PB01

SP 0402 : No SC0707-14

(for full address, please contact Entrance Dynamics B.V.)

The equipment must not be used until the installation organisation, by issuing a Declaration of Conformity, has declared that final installed automatic door system has been subject to a risk assessment in compliance with Machinery Directive 2006/42/EC.

The manufacturing process ensures the compliance of the equipment with the technical file, and is regularly accessed by 3rd party.