

User manual
Crawford
Automatic Sliding Door Drive
CSL400 Standard
CSL400 ER for escape routes



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About this Manual



All users and owners of the 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 possible 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 instructions are applicable to specific methods of operation or models, the applicable operation type or model numbers appear in the title.

About Crawford

Crawford, solutions that work



Crawford has a world leading position as a solution provider in and around industrial and pedestrian door openings. The extensive program of doors and docking systems, combined with an incomparable service offer is the main reason why more than a million customers have chosen Crawford as their single supplier for efficient and trouble-free operations.

Crawford is part of the Swedish public engineering group Cardo, which has an annual turnover of close to 850 million euro and a strong international position in the areas of Doors, Docking and Pumps. With some 2 million industrial doors and docking systems sold worldwide and with 3,000 dedicated specialists, Crawford is able to help you find the solution most suitable to your situation, as well as modifications and upgrades when needs change.

Service Agreements

Our relationship continues



Your industrial doors and docking systems are an essential part of your business – regardless of their age or manufacturer. That is why it makes sense to plan their maintenance before expensive and disruptive repairs are necessary.

A Crawford Service Agreement is your best assurance of safe and trouble-free equipment operation. Not only does it reduce the risk of breakdowns, it guarantees regulatory compliance and ensures that your doors and docking systems maintain their classifications.

You can choose from four different types of Crawford Service Agreement, based on the role of your doors and docking systems, and the intensity with which you use them. This lets you achieve the perfect balance of economy, safety and security.

Maintenance of your sliding door

To make sure your sliding door continues to operate with maximum reliability, safety and performance, it is necessary to do regular maintenance, minimum once per year, 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

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 Crawford Service Centre for appropriate means of disposal.

Your Local Crawford Service Centre

It is recommended that you contact your local Crawford Service Centre for details about Crawford 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 Crawford. However, they are not included in the scope of delivery.

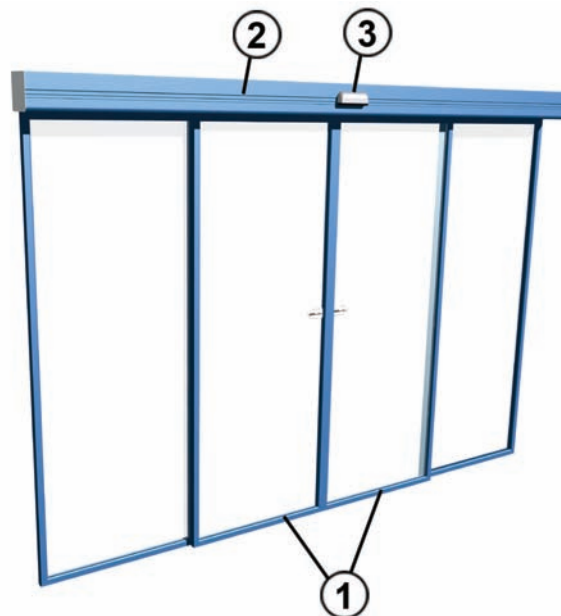
Automatic Sliding Door drive

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1. Functional description

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



The sliding door has 3 primary parts:

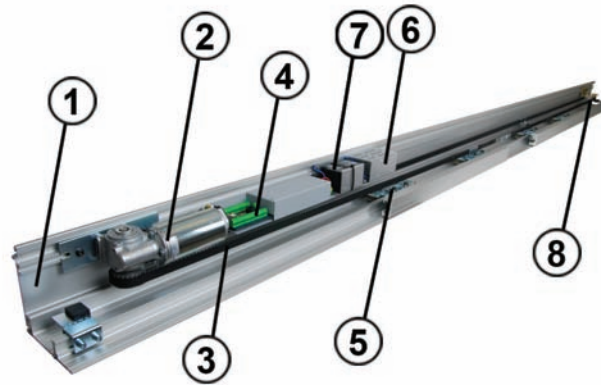
1. Door leaves
2. Drive unit
3. Activators / safety sensors

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 drafts. The door leaves are carried by the carry wheels. The door adapter profile connects to the carry 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 carry wheel brackets.



The drive unit consists of:

1. Mounting profile
2. Motor (the CSL400ER for escape route is equipped with a second motor at position 8)
3. Tooth belt
4. Control board
5. Carriage wheel assembly
6. Power Supply
7. Power failure backup batteries
8. Tension wheel (see item 2)

1.2.1 Motor

The motor is installed in the header box and is connected via a toothed belt to the carry wheel bracket. The motor operates on 40V DC.

1.2.2 Control board CSL-CU 400.

The control board CSL-CU 400 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:

- Motor(s)
- Encoder for position feedback
- Transformer
- Safety activators
- Back-up battery (optional)
- 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 (overhead and/or photocells)
- Fire alarm (optional)
- Emergency battery back-up (optional)
- Rubber belt (optional)

1.4 Activators

The different types of optional activators are:

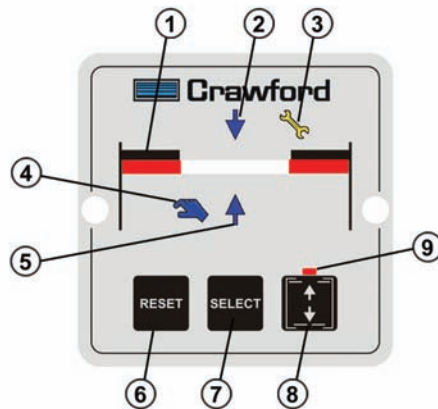
- Radar (motion detection)
- Active infra-red (motion and/or presence detection)
- Key switch (manual)
- Push button (manual)

The activators give an impulse to open or close the door. The radar and active infra-red activators are installed close to or on the drive unit. The other activators (key switch and push button) can be installed in other positions.

1.5 Program switch


1.5.1 Program switch buttons

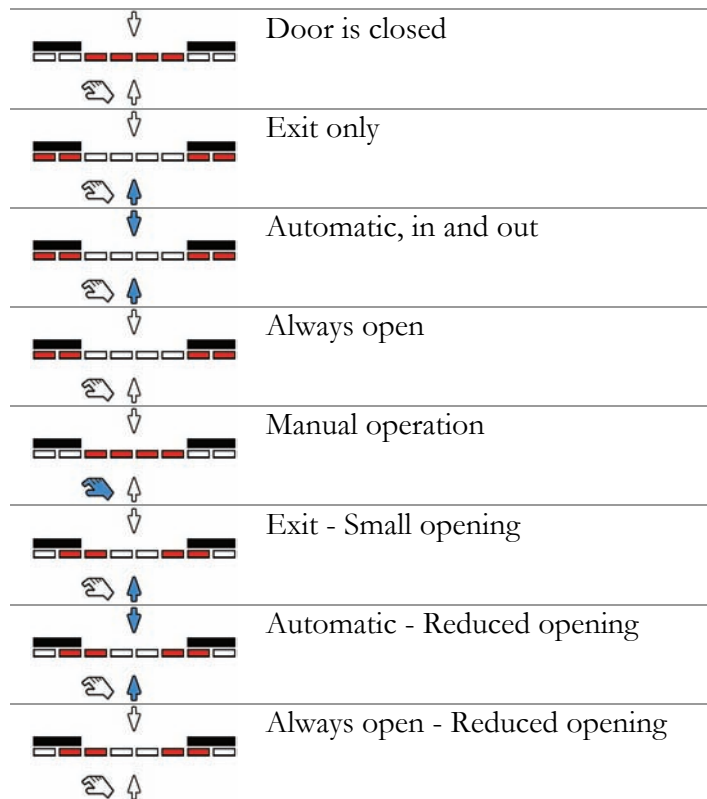
The program switch is used to select the required program. The program switch can be installed close to the door or at another location in the building.




1. Door leaves
2. Outside activator
3. Service indicator
When the service indicator is on, service is needed or there is an error in the system. Contact your local Crawford service center.
4. Manual operation is active
5. Inside activator
6. Reset
7. Selector
8. Interlocking activator
9. Red LED indicator "interlocking active"

1.5.2 Selector button

The selector button  enables the user to choose the correct operating programs.



When pressing keys  and  at the same time for 5 seconds, the keypad will be locked. Repeat this action to unlock the keypad.

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 functionality and safety of the door.

3. Operating instructions

3.1 Daily Procedures

3.1.1 Daily start procedure

1. Examine the door for damage
2. If damage is found:
 1. Put suitable warning signs around the door and on the door leaves.
 2. Contact your local Crawford Service Centre to ask for help.
3. If no damage is found:
 1. Set program selector to the required position.

3.1.2 Daily stop procedure

1. Examine the door for damage.
2. If damage is found:
 1. Put suitable warning signs around the door and on the door leaves
 2. Contact your local Crawford Service Centre.
3. If no damage is found, and the door is in an escape route and/or the only entrance, make sure that no person is in the building.
4. Set the program selector to the required position.

3.1.3 Daily function check after start procedure

1. Approach the door from both sides and make sure the door opens and closes.
2. If the door does not operate correctly contact your local Crawford Service Centre.

4. Maintenance

According to the DIN18650, and AutSchR for escape routes, Crawford 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

At Crawford we think it is important for our doors or docking equipment 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	<ul style="list-style-type: none"> • Replace the rubber belt • Replace the floor guide
Every 3 years or 250.000 openings	<ul style="list-style-type: none"> • Replace the power failure back-up batteries • Replace the replaceable part of the key switch • Replace the mohair brush • Replace the tooth belt
Every 4 years or 500.000 openings	<ul style="list-style-type: none"> • Replace the carry wheels • Replace the wheel track • Replace the anti raise wheel
Every 7 years or 750.000 openings	<ul style="list-style-type: none"> • 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 lifetime and ensure a safe and reliable function.

The following items have to be considered for replacement:

- Lock
- Radars/sensors
- Safety sensors
- Program switch
- Control unit
- 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 water hose 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 the local service centre for repairs.

5. Troubleshooting

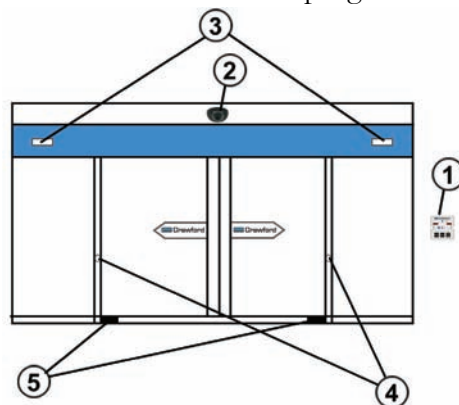
This chapter contains troubleshooting information for user of an Automatic sliding door. If a fault is not described below, contact your local Crawford Service Centre for assistance.

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 Crawford Service Centre.

5.1 Checklist before you call your Local Crawford Service Center

- Make sure the main electrical power supply is on.
- Make sure the program switch (1) 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 (2) are clean.
- Make sure the safety sensors (3) are clean.
- Make sure the photocells (4) are clean.
- Make sure bottom guides (5) are running freely.
- Press "reset" on the program switch.



6. Declaration of Conformity

Crawford Spares Production Holland
Postbus 120
NL-1700 AC Heerhugowaard

Herewith declares under sole responsibility that the pedestrian sliding door, equipped with Crawford's CSL- 400 drive unit to which this declaration relates, is in conformity with following standard(s):

- NEN-EN-IEC 60335-1 and NEN-EN-IEC 60335-2-103
- EN 61000-6-2
- EN 61000-6-3
- EN 13849-1

Following the provisions of the Directives:

2006/42/EC	Machinery Directive
2006/95/EC	Low Voltage Directive
2004/108/EC	EMC Directive
RoHS Directive,	Restriction of Hazardous Substances

Applied national standards:

- DIN 18650-1, 2005-12
- DIN 18650-2, 2005-12
- pr EN 16005
- AutSchR
- BS7036

Heerhugowaard 2010-08-01



Frank Achterbosch

Managing Director

Crawford is a leading international provider of door and logistics solutions. The carefully selected programme of doors and dock loading equipment, combined with profound application know-how and an unparalleled service offering, is the reason why more than a million customers have chosen Crawford as the preferred supplier for trouble-free operation around the clock.

