ED 100, ED 250

User manual

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EN

dormakaba

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1. General

ED 100 and ED 250 are electromechanical automatic swing door drives and are used for the automatic opening and closing of swing doors.

Please retain these documents and forward them to the new owner in case the system is passed on.

Symbols used in this manual

✎ **NOTE** A note points to important information that will facilitate your work.

⚠ **WARNING** **Indicates risks that may lead to physical injury or death.**

2. Safety

This documentation contains important instructions for the safe operation. Read these instructions before you use the door system.

In order to ensure your safety please follow all the enclosed instructions.

Intended use
ED 100 and ED 250 are electromechanical automatic swing door drives and are used exclusively for the automatic opening and closing of swing doors in the interior with a maximum door panel weight of 160 or 400 kg.

Limitation of liability
ED 100 und ED 250 may be used only for their intended purpose.
Unauthorized modifications to the door system will exclude any liability by dormakaba Deutschland GmbH for any resulting damage. We will not be liable for the use of accessories that are not approved by dormakaba.

Safety instructions

⚠ **Work on electrical equipment must be performed by qualified electricians only.**

⚠ **Never allow children to play with the ED 100/250 or its control and regulating devices.**

⚠ **Keep remote controls out of the reach of children.**

⚠ **Never insert a metal object into the openings of the door system. Otherwise, there will be the risk of an electrical shock.**

⚠ **The ED 100/250 must be protected against water and other liquids.**

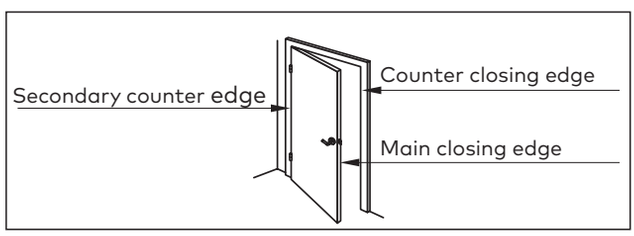
⚠ **Safety glass must be used for glass door panels.**

⚠ **Only properly qualified persons may open the mains connection unit.**

⚠ **Deenergize the ED 100/250 before removing the protective cover.**

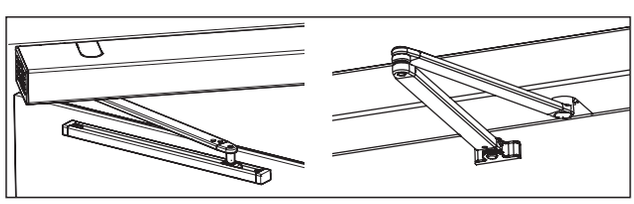
Danger points on closing edges

⚠ **There is a risk of crushing, squeezing and drawing at automatic doors at the various closing edges.**



Danger posed by slide rail lever and arms assembly

⚠ **There is a risk of squeezing and crushing on slide rail levers and arms assemblies.**



Residual risk

Depending on the structural conditions, the type of door and protection, it is not possible to rule out residual risks (e.g. slight bruising, limited impact and the risk to unsupervised children).

The danger point on any (even manually operated) swing door at the secondary closing edge is generally known to all users of a door. It is not controllable by the drive manufacturer and from a design and functional point of view a protection is often not possible.

A possible suitable crush protection (e.g. rubber or textile cover) is available in specialist shops and not part of the scope of delivery.

3. Product description

3.1 Description of function

The ED 100 and ED 250 are electromechanical automatic swing door drives. They automatically open swing doors once an activator has been activated.
The door closes after the set hold-open time has lapsed.
If a suitable locking device is connected, it will be opened by the movement of the door.
In case of a power failure, people can pass through the door at any time; the drive will then work like a normal door closer.

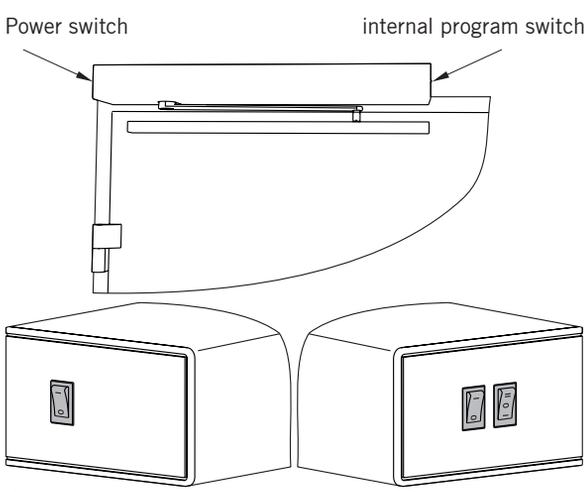
Functions

The drives feature 4 different functions. The functions can be selected on the program switch.

Function	Meaning
OFF	The door will be automatically opened once the activator Night/Bank has been activated. The door closes when the open-hold time night/bank has ended.
AUTOMATIC	The door will automatically open once an activator has been activated. The door will close again once the set hold-open time has expired.
PERMANENT OPEN	The door will automatically open and stay open as long as the function is activated.
EXIT ONLY	The door will automatically open only after the inside activator or the activator Night/Bank has been activated. The door will close again once the set hold-open time has expired.

3.2 Operating elements

The power switch is always on the door hinge side; the internal program switch is always on the side of the main closing edge.



Program switch

Use the program switch to select the function. The program switch can be a 4-digit or 3-digit type.
In case of an internal, 3-digit program switch, the function EXIT ONLY is not available for 2-panel systems.

Internal program switch

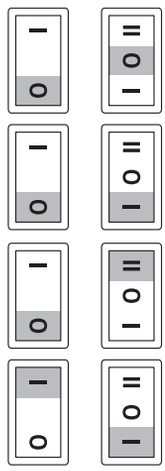
In order to select the function, you must set a combination of both rocker switches on the internal program switch.

OFF
Both switches are set to **„0“**.

AUTOMATIC
The front switch is set **„0“**,
the rear switch is set to **„I“**.

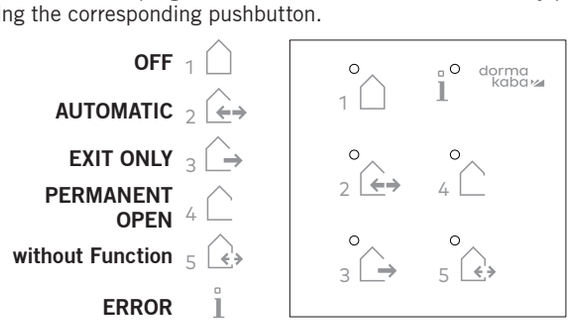
PERMANENT OPEN
The front switch is set to **„0“**,
the rear switch is set to **„II“**.

EXIT ONLY
(only for 1-panel systems)
The front switch is set to „I“,
the rear switch is set to „I“.



External program switch

On the external program switch, the function is selected by pressing the corresponding pushbutton.



3.3 Technical data

Ambient temperature	-15 – +50 °C
Relative air humidity	Max. 93 % non-condensing
Power supply	230 V AC +10 % / -15 %, 50 Hz
Protection class	IP 20
Fuse protection provided by the customer	16 A
Operating noise	Max. 50 dB(A)
ED 250	
Max. power input	240 Watt
Closing force	EN 4–6 infinitely variable
Door panel width	700 – 1,600 mm
ED 100	
Max. power input	120 Watt
Closing torque EN 1154	EN 2–4 infinitely variable
Door panel width	700–1,100 mm

3.4 Activator
Activator, inside outside, night/bank and and intercom system may be connected to the device. The activator inside is usually found inside a building or room. The activator outside is found on the outside of a building or room. The activator night/bank is installed on the outside and often designed as a card reader or key switch button.

3.5 Manual lock
If the door is closed manually, the drive must be switched to the function OFF in order to prevent damage to the system.

✎ If a door lock switch is installed, the drive function will be automatically shut off.

✎ dormakaba recommends the use of a door lock switch.

3.6 Low/Full Energy mode
The drives ED 100 and ED 250 can be operated in the low and full energy mode.

Low energy mode
The low speed of the door avoids most of the risk posed by automatic movements. The door opens very slowly and offers therefore superior safety.

Full energy mode
The high speed makes it necessary to secure the turning range of the door with sensors.
Safety sensors mounted to the door panel monitor the turning range and will prevent people from getting hit by the door as far as possible.

3.7 Safety sensors
If the safety sensors on the hinge side detect an obstacle during the opening, the door will stop.

If the safety sensors on the hinge side detect an obstacle while the door is closed, the door will remain closed.

If the safety sensors on the opposite hinge side detect an obstacle during the closing, the door will reverse.

If the safety sensors on the opposite hinge side detect an obstacle while the door is open, the door will remain in the open position.

If the monitoring range is free again, the drive will resume its normal operation.

3.8 Maintenance interval display
If the internal 4-digit program switch is used, a service interval display will be available. A yellow LED will inform you about required maintenance work. The service counters can be set by dormakaba service personnel.

3.9 Use in a hold-open system
If the drive is used on a smoke control door or fire door, the drive will usually be operated in a hold-open system in combination with smoke detectors. The drive of the door will keep the door open either permanently (PERMANENT OPEN) or temporarily (AUTOMATIC). However, in case of a fire, the door must close in order to prevent smoke and fire from spreading. For this reason, the opening automatic of the drive will be automatically shut off as soon as a connected smoke detector detects smoke; this is indicated on the smoke detector by a red LED. The door can then only be opened manually. The hold-open function will be canceled even if the power supply is interrupted.

Manual activation of the hold-open function
In case of danger, the door can also be closed manually - either by pushing the optional red pushbutton with the label „Close door“ or by manually moving the door approx. 10-20 cm in the Closed direction.

Recommissioning the drive unit
In order to reestablish the drive function, the hold-open system must be reset. In accordance with the legal provisions, this must be carried out manually. The reset can be carried out in different ways.

Reset via the door position
1. Reset the smoke detector (LED display is green).
2. Completely close the door.
3. Open the door to the adjusted opening width.
4. Release the door.

Reset via the program switch
1. Reset the smoke detector (LED display is green).
2. Program switch in OFF and back.

⚠ **Smoke control doors and fire doors are important for your safety. However, this is only the case if the doors will properly close in the case of danger. Therefore, do not use additional wedges or objects that could prevent the closing.**

3.10 Use on a barrier-free WC
Access to a barrier-free WC
If the status display mounted to the outside is green, the WC is vacant.

If you press the pushbutton mounted on the outside, the following will happen:

▶ The door opens automatically.

▶ The WC can now be entered.

▶ The door closes once the set hold-open time has expired.

If you press the pushbutton mounted on the inside after the door is closed, the following will happen:

▶ The pushbutton on the outside is deactivated.

▶ The status display mounted on the outside lights red in order to signal „occupied“.

▶ The display mounted on the inside lights red to confirm to the user that the door is locked.

Leaving the barrier-free WC
If you press the pushbutton mounted on the inside, the following will happen:

▶ The door opens automatically once the set hold-open time has expired.

▶ A forced flushing may take place at the same time.

▶ If the door is closed again, the status display mounted on the outside changes to green and the display on the inside ceases.

Emergency opening from the outside
In case of emergency situations, the connection of an emergency button is provided. If activated, the guard locking is released and the door can only be opened manually. The automatic drive function will be shut off.

Alternatively, you can also open the door with a key from the outside in case of an emergency. In both cases, the outer status display will change from red to green and the inner display will cease.

3.11 Accessories

In addition to an extensive range of dormakaba accessories, many activators, locking devices, safety sensors and further accessories of other manufacturers are available that could be operated with the operators ED 100 and ED 250.

Should the accessories not be part of the scope of delivery of dormakaba, then dormakaba cannot guarantee the compatibility. If these devices are used anyways, the full functional range of the drive may not be available or the device may not function properly. The drive unit or the connected device may also become damaged and the warranty might become void.

4. Maintenance and care

Maintenance

⚠ Maintenance work must be carried out only with the system de-ernergized (turn off the fuse protection on site).

Acceptance and regular inspection

As the operator of the automatic door, you are responsible for the regular inspection of the system. An initial inspection is required before the initial commissioning. The acceptance must be carried out according to the inspection book by a person trained by dormakaba. The door system is then to be inspected and maintained, if necessary, at least once a year by a specialist. All inspections will be documented in the inspection book (from page 8 in these operating instructions). It serves as proof that you have fulfilled your obligations and it must be retained.

Have the door system inspected and maintained, if necessary, at least once a year by a specialist.

The testing and approval must be carried out according to the inspection book by a person trained by dormakaba.
The results are to be documented and to be retained by the operator for at least 1 year.

The following parts are wear parts and need to be checked at least once a year and replaced, if necessary (see installation instructions):

- Arm assembly
- Sliding piece
- Slide channel

Use only original spare parts.

Care

⚠ Turn the program switch during the cleaning to the OFF position or PERMANENT OPEN position in order to prevent unintended movements.

⚠ Never let water or other other liquids enter the drive unit.

⚠ Never insert a metal object into the openings of the drive unit. Otherwise, there will be the risk of an electrical shock.

Clean the drive with a moist cloth and common cleaning agents. Do not use any scrubbing agents as they might damage the surface. Do not start the device before the surfaces are dry.

5. Maintenance by dormkaba

A regular maintenance of your system will pay off:
weak spots are detected and eliminated early, the service life will be increased.

dormakaba and its authorized partners offers a premium maintenance service for automatic doors and catching devices, whereby the offcial seal of approval provides the operators of the building with reliable safety. If not all door systems are properly tested, the building operator will be liable for property damage and physical injuries in case of an accident. Irrespective of safety aspects, a regular maintenance makes also sense from an economic point of view. This allows you to detect and eliminate possible damage or wear early on. The risk of unforeseeable costs due to, for example, high repair costs can be minimized – and we will help you keeping an eye on your budget. The goal is always to increase the service life of your door systems.

dormakaba will assume the complete organization and execution of the maintenance. Your benefits: all installations will be tested by trained experts in regular intervals - even systems from other manufacturers. The building operator does not have to take care of anything; legal requirements will be met in a reliable manner.

A maintenance contract for the door will ensure the tested reliability according to a premium standard.

We want to convince you as well – let us prepare you a non-binding and free quote for a maintenance contract.
For more information on this topic and many others on the dormakaba service, please go to our homepage at www.dormakaba.com.

6. Troubleshooting

Functional errors may have many causes.

The errors are often caused by environmental conditions and the drive unit will therefore try to detect and to react to them accordingly. The drive unit stops the current function and starts again after a waiting period or a new pulse. If it does not work, the automatic function will be shut off and an error message will be output.

This is indicated by a red LED on the program switch.

The display flashes or lights permanently and indicates an error that need to be eliminated by the dormakaba Service.

The following options are available to reset error messages:

1. Switch the program switch to the OFF position.
2. Mains reset. Switch off the power switch.
   Restart after 10 seconds.

The cause should be analyzed and eliminated before an error message is acknowledged.

Self-help in case of errors
In case errors occur during the operation
please check the following:

- Mains voltage available?
- Is the power switch on?
- Can the door be freely moved?
- Is the door manually locked, shutdown (lock switch) activated?
- Has the correct function been selected with the program switch?
- Is the turning range of the door free from obstacles?
- Has the hold-open system been triggered?

Please contact the Service Department if these points are okay and the doors system still does not work.

7. Disassembly, recycling and disposal

The disassembly is carried out in the reverse order of the installation manual and must be carried out by qualified personnel.

De-energize the door system before disassembling the door system.

Dispose the product in an environmentally friendly manner. Electronic parts and batteries may not be disposed via the general trash.
Take them to an appropriate collection point for disposal.

Always comply with the applicable national legal provisions.

8. EC Declaration of conformity

dormakaba Deutschland GmbH,
DORMA Platz 1, 58256 Ennepetal

hereby declares that the products
ED 100, ED 250, ED 900, ED 250 PA
comply with the provisions of the named EC Directive(s) and that the standards and/or technical specifications referred to in the following have been applied.

Directive:	2014/30/EC	Electromagnetic compatibility
	2011/65/EU	RoHS

The technical documentation is available from the Product Compliance Manager: **product-compliance.dach@dormakaba.com**

Harmonized European standard, national rule:

EN 13849-1	EN ISO 12100	EN 16005
EN 60335-1	EN 60335-2-103	EN 61000 - 6 - 2
EN 61000 - 6 - 3	EN 61000 - 3 - 2	EN 61000 - 3 - 3
EN IEC 63000		

System components
Smoke detector RM-ED
ED Cover with integrated smoke detector
„ED Cover Basic RM“ / „ED Cover Vario RM“

9. EC Declaration of incorporation

dormakaba Deutschland GmbH,
DORMA Platz 1, 58256 Ennepetal

hereby declares that the incomplete machine
ED 100, ED 250, ED 900, ED 250 PA
complies with the following basic requirements of the Machine Directive (2006/42/EC)- Appendix I, Article:
1.1.3, 1.1.5, 1.2.1, 1.2.3, 1.2.5, 1.2.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.7, 1.3.8.1, 1.3.9, 1.5.1, 1.5.2, 1.5.4- 1.5.10, 1.5.16, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.7.1.1, 1.7.3, 1.7.4

The incomplete machine also complies with all relevant provisions of the directives 2014/35/EC und 2014/30/EC.

It may be installed and operated in automatic door systems in accordance with the Machine Directive if the manufacturer of the system ensures that all requirements of the Machine Directive are complied with and if the manufacturer issues a EC Declaration of conformity.

The special technical documents have been prepared and are available from the Product Compliance Manager:
product-compliance.dach@dormakaba.com.

Upon a substantiated request, they will be electronically transmitted to the national authorities.

10. UKCA Declaration of conformity

This declaration is issued under the sole responsibility of the manufacturer.

The undersigned representing the following manufacturer
dormakaba Deutschland GmbH,
DORMA Platz 1, 58256 Ennepetal, Germany

declares that the products
ED 100, ED 250, ED 900, ED 250 PA
complies with the provisions of the applicable UK legislation and UK designated standards.

Directive:	2014/30/EC	Electromagnetic Compatibility Regulations 2016
	2011/65/EU	RoHS, The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Regulation 2012

The technical documentation is available from the Product Compliance Manager: **product-compliance.dach@dormakaba.com**

Harmonized European standard, national rule:
EN 13849-1:2015
EN ISO 12100:2010
EN 16005:2012/AC:2015
EN 60335-1:2012/A13:2017
EN 60335-2-103:2015
EN 61000 - 6 – 2:2005
EN 61000 - 6 – 3:2007/A1:2011
EN 61000 - 3 – 2:2014
EN 61000 - 3 – 3:2013
EN IEC 63000:2018

System components
Smoke detector RM-ED
ED Cover with integrated smoke detector
„ED Cover Basic RM“ / „ED Cover Vario RM“

11. UKCA Declaration of Incorporation

This declaration is issued under the sole responsibility of the manufacturer.

The undersigned representing the following manufacturer
dormakaba Deutschland GmbH,
DORMA Platz 1, 58256 Ennepetal, Germany

declares that the partly completed machine(s)
ED 100, ED 250, ED 900, ED 250 PA
complies with the following basic requirements of the Supply of Machinery (Safety) Regulations 2008 – Annex I, Section:
1.1.3, 1.1.5, 1.2.1, 1.2.3, 1.2.5, 1.2.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.7, 1.3.8.1, 1.3.9, 1.5.1, 1.5.2, 1.5.4- 1.5.10, 1.5.16, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.7.1.1, 1.7.3, 1.7.4

The partly completed machine further complies with all relevant provisions of the Electromagnetic Compatibility Regulations 2016 and the Electrical Equipment (Safety) Regulations 2016.

It may be incorporated and operated in automatic door control mechanisms in conformity with the Supply of Machinery (Safety) Regulations 2008 provided that the manufacturer of the systems ensures that all requirements under the Supply of Machinery (Safety) Regulations 2008 are met and an UKCA Declaration of Conformity has been issued.

The specific technical documentation was prepared and is available from the Product Compliance Manager at
product-compliance.dach@dormakaba.com

It will be electronically forwarded to individual public authorities in response to a duly reasoned request.

Translation of original document, change without notice

www.dormakaba.com

dormakaba Deutschland GmbH
DORMA Platz 1
58256 Ennepetal
Deutschland
T: +49 2333 793-0
F: +49 2333 793-4950