

A high-quality photograph of a DORMA ED 100 or ED 250 door handle. The handle is a long, horizontal, rectangular metal bar with a brushed finish. It is shown from a three-quarter perspective, highlighting its sleek design and the mounting hardware on the right end. A semi-transparent white box is overlaid on the handle, containing the text "ED 100, ED 250" and a small horizontal line pointing to the left side of the handle.

ED 100, ED 250

Operating instructions

ED 100, ED 250

This instruction manual is designed for all those operating their automatic door system with an ED 100 or ED 250. It is intended for the person responsible for the technical maintenance and reliable functioning of the door system. Please read these instructions carefully and keep them readily to hand within the close range of the door system.

Contents

	Page
1. For your safety	2 - 3
2. EC declaration of conformity	4
3. EC declaration of incorporation	4
4. System setup	5
5. Technical specifications	5
6. Functional characteristics	6 - 7
7. Malfunctions	8
8. Accessories	9

„Translation of original operating instructions”

1. For your safety

This documentation contains important information regarding the mounting and the safe operation of the door system. Read these instructions carefully before operating the ED 100/250.

It is important for your personal safety to abide by all enclosed instructions.

An incorrectly performed installation might cause serious injuries.

Using control elements, making adjustments or performing procedures that are not described in this documentation might cause electric shocks, danger caused by electric voltage/current and/or danger due to mechanical incidents. Please keep these documents for further reference and hand them over to the person in charge in case the system is transferred to another party.

Explanation of symbols



NOTE

This symbol underlines important information that may facilitate your work.



REMARK

This symbol warns you of possible system damage and explains how to avoid this damage.



WARNING

This symbol indicates dangers that might cause personal or material damage or even kill people.

Intended application

As electromechanical swing door operators, the ED 100 and the ED 250 are only designed to open and close interior swing doors with a door-leaf weight of up to 100 and 250 kg respectively.

Simply select the suitable version according to your prevailing door-leaf width and weight.

Both operators are suitable for installation as pull-version with ED slide channel set and as push-version with the ED standard arm. The closing force paths have been optimised for the respective ways of mounting and comply with the requirements of EN 1154.

Limitation of liability

The ED 100/250 may only be used according to their specified intended application. DORMA GmbH + Co. KG will not accept any liability for damage resulting from unauthorised modifications of the ED 100/250. Furthermore components/accessories that have not been approved by DORMA are exempted from liability.

ED 100, ED 250

Safety instructions



Work on electrical equipment may only be performed by properly qualified staff (electricians).

- Do not allow children to play with the ED 100/250 or its rigidly mounted adjustment and control devices.
- Keep remote controls out of reach of children.
- Never stick metal objects into the openings of the ED 100/250; otherwise you might sustain an electric shock.
- The ED 100/250 has to be secured against water and other liquids.
- Only specially qualified staff may open the power supply housing.
- Disconnect the ED 100/250 from power supply (de-energise the system) before removing the cover of the power supply housing.

Low-energy product

The ED 100/250 meets the requirements of a low-energy application in accordance with the German DIN 18650 (industrial standard):

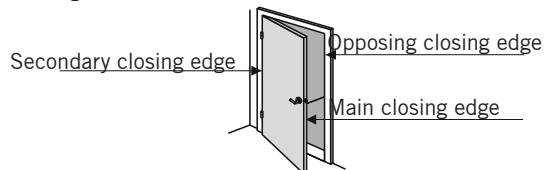
- Reduced dynamic force at door leaf and reduced contact force via low driving speeds
- Reduced static force at door leaf and reduced contact force via force limitation

The door system does not compulsorily require additional safety equipment.

Dangers at closing edges



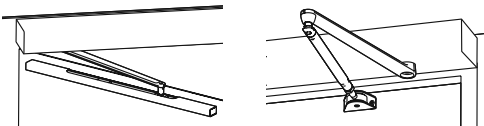
Automatic doors may cause hazards by crushing, shearing, hitting and drawing-in at the different closing edges.



Dangers caused by slide channel and arm



The slide channel and the arm may cause hazards by crushing and shearing.



Residual risk

Depending on the structural conditions, the prevailing door version and the available safety equipment, residual risks (such as crushing and hitting – with limited force) cannot be excluded.

All people using a door are generally aware of the danger spot at the secondary closing edge of every swing door (also at manually operated doors).

This danger spot cannot be influenced by the manufacturer of the operator and a protection of this closing edge often cannot be realised due to its construction and technical function.

A suitable clamping protection (like a rubber or textile cover) is available in the specialised trade and not part of the scope of delivery.

Recycling and disposal



Both the **ED 100/250** and its packing mainly consist of recyclable raw material.

The **ED 100/250** and the respective accessories must not be disposed of as domestic waste.

Please ensure that the old appliance and the respective accessories (if available) are properly disposed of.

Abide by the prevailing national statutory provisions!

Final and regular inspection

As person who runs the automatic door, you are responsible for the regular inspection of the system. The system has to be inspected before the first commissioning. This inspection has to be carried out according to the **DORMA** inspection book. The person performing the inspection must be trained by **DORMA**. At least once a year, the operator has to be serviced and maintained as required by a properly qualified technician. All inspections have to be documented in the inspection logbook (starting on page 9 of this operation instructions). The logbook is your proof that you have met your duties.



We would recommend taking out a maintenance agreement with DORMA.

Cleaning

The operator has to be de-energised (disconnected from power supply) before cleaning. Switch off mains switch. Clean the device with a damp cloth. Make sure that no water gets into the device. When using cleaning agents, check that these products are suitable for the surface finishes. Do not switch on the device until all surfaces are completely dry.

Wear

The following wear parts have to be inspected once a year and replaced if required:

- Arm
- Slide shoe
- Slide channel

Only use original spare parts.

2. EC declaration of conformity

The undersigned representing the following manufacturer DORMA GmbH + Co. KG DORMA Platz 1 58256 Ennepetal Germany
declares that the product ED 100, ED 250
complies with the provisions of the EC Directive(s) specified in the Appendix and that the standards and/or technical specifications referred to in the Appendix were applied.

Richtlinie / Directive

<input checked="" type="checkbox"/>	2006/95/EG	Niederspannungsrichtlinie / Low Voltage Directive / Directive basse tension
	89/106/EWG/EEC/CEE	Bauprodukte / Building products / Produits de construction
<input checked="" type="checkbox"/>	2004/108/EG	Elektromagnetische Verträglichkeit / Electromagnetic compatibility / Compatibilité électromagnétique
	2006/42/EG	Maschinenrichtlinie / Machinery directive / Directive machine Die technischen Unterlagen sind erhältlich beim Manager Productcompliance unter: / The technical documentation is available from the Product Compliance Manager at: / Les documents techniques sont disponibles auprès du Manager conformité produit à l'adresse suivante: product.compliance@dorma.com

Harmonisierte europäische Norm, nationale Regel / Harmonized European standard, national rule / Norme européenne harmonisée, disposition nationale:

<input checked="" type="checkbox"/>	EN 13849-1	<input checked="" type="checkbox"/>	EN 61000 - 3 - 2	EN 179
	EN ISO 12100	<input checked="" type="checkbox"/>	EN 61000 - 3 - 3	EN 1125
<input checked="" type="checkbox"/>	EN ISO 12100-1		EN 55014	EN 1154
<input checked="" type="checkbox"/>	EN ISO 14121-1	<input checked="" type="checkbox"/>	EN 55022	EN 1155
<input checked="" type="checkbox"/>	BGR 232	<input checked="" type="checkbox"/>	EN 60335 - 1	EN 1158
<input checked="" type="checkbox"/>	EN 61000 - 6 - 2	<input checked="" type="checkbox"/>	EN 60950 - 1	EN 1935
<input checked="" type="checkbox"/>	EN 61000 - 6 - 3			EN 12209

3. EC declaration of incorporation

The manufacturer DORMA GmbH + Co. KG DORMA Platz 1 58256 Ennepetal Germany
declares that the incomplete machine ED 100, ED 250
complies with the following basic requirements of the Machinery Directive (2006/42/EC) - 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 incomplete machine further complies with all relevant provisions of Directives 2006/95/EC and 2004/108/EC.
It may be incorporated and operated in automatic door control mechanisms in conformity with the Machinery Directive provided that the manufacturer of the systems ensures that all requirements under the Machinery Directive are met and an EC Declaration of Conformity has been issued.
The specific technical documentation was prepared and is available from the Product Compliance Manager at product.compliance@dorma.com.
It will be electronically forwarded to individual public authorities in response to a duly reasoned request.

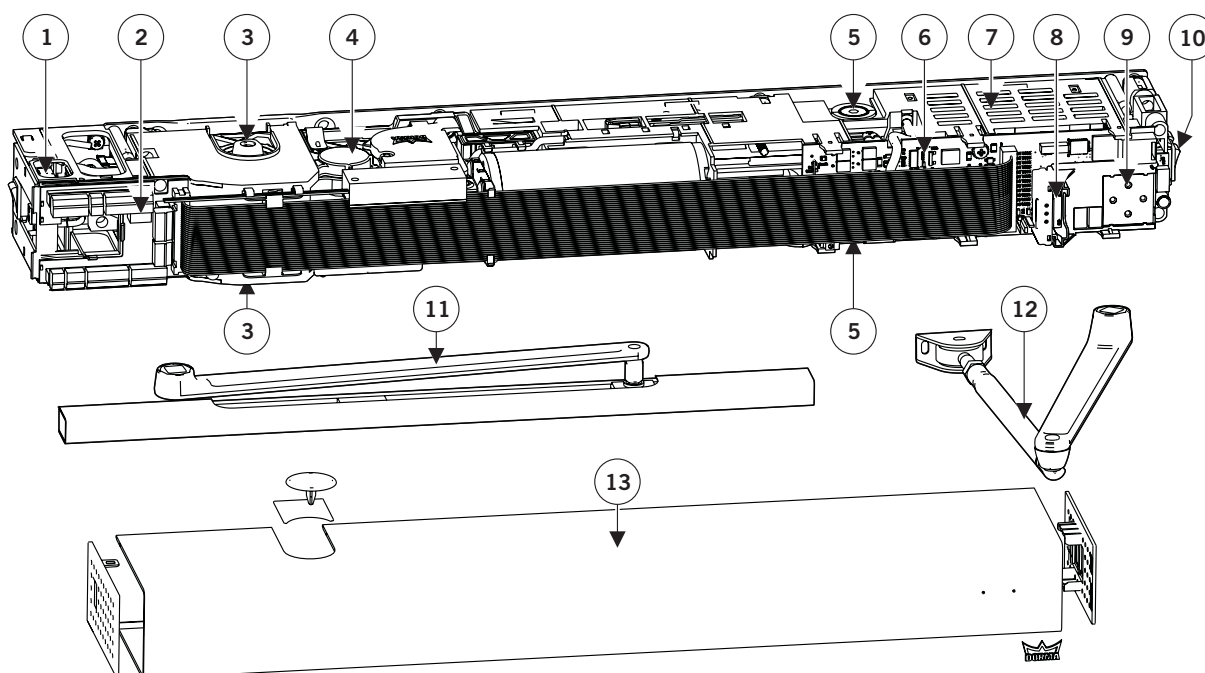
4. System setup

Operator system

The operator system comprises all core components.

Select the system in accordance with the door-leaf width and the door-leaf weight.

- | | |
|--------------------------------------|--|
| 1. Mains connection | 8. Slot for DORMA Upgrade Cards |
| 2. Connection unit | 9. User interface with information display |
| 3. Axle connection on both sides | 10. Internal program switch |
| 4. Drive system (motor/gear/ spring) | 11. * Slide channel (Set) |
| 5. Adjustment of closing force | 12. * Standard arm |
| 6. Control unit | 13. * Complete cover |
| 7. Switching power supply unit | * Not part of the scope of delivery. |



5. Technical specifications

Required operating conditions

Ambient temperature	-15 to +50° C
Only suitable for dry environments	relative humidity max. 93%, non-condensing
Power supply	230 V AC +/- 10% 50 Hz
Power consumption for external accessories Max.	1500 mA

General specifications

Dimensions (WxHxD)	685 x 70 x 130 mm
Operator weight	12 kg
Power supply for external accessories	24 V DC +/- 10%, 1.5 A

ED 100

Power consumption	Max. 120 Watts
Closing force EN 1154	EN 2-4, adjustable (Fire protection from EN 3 on)
Opening speed*	Max. 50° / second
Closing speed*	Max. 50° / second

ED 250

Power consumption	Max. 240 Watts
Closing force EN 1154	EN 4-6, adjustable
Opening speed*	Max. 60° / second
Closing speed*	Max. 60 / second

Activators

Internal and external activators, a Night-/Bank activator and an intercommunication system may be connected to the door system. The internal activator is normally installed inside the building or room while the external activator is installed on the outside of the building or room. A Night-/Bank activator is mounted on the outside and often realised as card reader or key switch.

Manual locking device

When the door is locked by hand:

- The operator must be adjusted to OFF in order to avoid damage to the door system.
- If a lock switch is installed, the operator will be switched off automatically.

DORMA recommends installing a lock switch.

Safety equipment

The required safety equipment in accordance with the latest state of the common and country-specific standards, laws, codes and regulations has to be installed before the system is mounted.

The **ED 100** and **ED 250** operators may be used in a low-energy-mode and a full-energy-mode.

Low-Energy-Mode

The low driving speed of the door avoids dangers resulting from the automatic movement of the door as far as possible. The door opens at an extremely low speed and thus offers a high safety level.

Full-Energy-Mode

Due to the high driving speed of the door, the swing path has to be protected with the aid of sensors.

Safety sensors that are mounted to the door leaf monitor the swing path and thus avoids that people are hit by the door as far as possible.

Safety sensors on hinge side

In case a safety sensor is detected an obstruction:

- The door stops during its opening cycle
- The door remains closed (does not perform an opening cycle) if the door is in "closed" position.

The operator will resume standard operation as soon as the detection range is no longer obstructed.

Safety sensors on opposite hinge side

In case a safety sensor is detected an obstruction:

- The door will reverse during the closing cycle
- The door will remain open.

The operator will resume standard operation as soon as the detection range is no longer obstructed.

Maintenance interval indicator

In case you have installed the internal 4-position program switch, you will have a maintenance interval indicator. A yellow LED informs you that the system has to be serviced. DORMA Service may adjust the maintenance interval indicators.

Use in conjunction with a hold-open device

When the operator is used at a fire or smoke door, it is normally installed in conjunction with a hold-open device. In this case, the operator either holds the door open permanently (PERMANENT OPEN) or for a short interval (AUTOMATIC) with the aid of the hold-open device. However, in the event of a fire, the door must close to avoid the smoke or fire from spreading throughout the building. Therefore the automatic opening function of the operator is deactivated as soon as one of the connected smoke detectors is triggered. In this case, the red LED on the detector goes on. From that point on, users can only open the door manually. The hold-open function is also deactivated whenever the power supply is interrupted. However, it will suffice if the supply voltage drops below the prescribed value - which is often the case when testing an emergency power supply unit.

Manual triggering of the hold-open device

Apart from the automatic triggering via a smoke detector, it must be possible to trigger the hold-open device manually on site. This allows users to close the door in case of danger, even before the smoke detectors have been triggered. How users can trigger the device manually depends on the connected accessories. Either there is a red pushbutton within close range of the door reading "Close door" or users can deactivate the hold-open function by closing the door manually from its "open" position. To deactivate the function manually, the user has to move the door in closing direction by 10°, which corresponds to around 10 - 20 cm - depending on the width of the door.

Reactivation of operator

In order to reactivate the operator, the user has to reset the hold-open device. According to legal provisions, this manual reset has to be effected by a user on site. It does not matter in which way the system has been triggered. There are several ways to reset the system:

Reset by moving the door

1. Reset the smoke detector (LED is green).
2. Close the door fully.
3. Open the door until it has reached the adjusted opening width.
4. Release the door.

Reset via program switch

1. Reset the smoke detector (LED is green).
2. Adjust the program switch to "Off" and back to the previous function.



Fire and smoke doors are important for your personal safety. It is thus essential that these doors can close reliably and without any hindrance in case of danger. Therefore, never use additional wedges or similar items to hold the door open, as they may prevent the door from closing in case of an emergency.

7. Malfunctions

Malfunctions may have different reasons.

Ambient conditions often cause malfunctions, thus the operator tries to analyse these conditions and to respond correspondingly. In this case the operator interrupts its currently adjusted function and restarts following a certain standby-time or when a new pulse has been triggered. In case this fails, the automatic function of the operator is switched off and the system displays an error message. A red LED at the program switch indicates the malfunction. The LED either blinks or shows a continuous light and thereby indicates that the malfunction has to be removed by **DORMA** Service.

Self-help in case of malfunctions

You have the following options to reset error messages:

1. Set program switch to OFF or reset the system with the aid of the RESET key on the user interface while the cover is open.
2. Mains reset: Set mains switch to OFF; then wait for 10 seconds and set it back to ON position.

Always analyse and remove the cause for the malfunction before you acknowledge the respective error message.

The following table is designed for your assistance.

Please check the following questions in case the door still does not close or open:

- Is the power supply available?
- Is the mains switch adjusted to ON?
- Is the door freely movable?
- Is the door locked manually? Has the lock switch been activated?
- Is the program switch properly adjusted (correct position)?
- Is the swing path unobstructed?
- Has the hold-open device been triggered?

In case you have checked all the above-mentioned questions and the system still does not work, please contact DORMA Service to remove the malfunction.

8. Accessories

Electrical connection

Apart from the broad range of **DORMA** accessories, also other manufacturers offer various activators, locking devices, safety sensors and further accessories that are compatible with **ED 100** and **ED 250** operators. All accessories that are approved by DORMA for application at **ED 100** and **ED 250** operators are listed on the positive list for accessories.

www.dorma.com/positivliste

DORMA cannot ensure the compatibility of devices that are not listed on the positive list. If these components are used nonetheless, it might happen that the full range of functions is not available or that the operator works improperly. Furthermore the operator or the connected component might be damaged.

See limitation of liability on page 3.

Activator

In general we refer to the following devices as activators:

- Radar motion detectors
- Passive infrared motion detectors
- Pushbuttons
- Switches
- Sensors
- Radio systems, infrared receivers
- Access control systems
- Telephone systems and intercoms

Minimum requirements

Operating voltage with power supply via operator:
24 V DC +/- 10%

Pulse width:
min. 200 ms

Potential-free output
(When installed at internal signal input, external detector or Night-/Bank)

Energised output (telephone systems):
8 - 24 V DC / AC + 10%

Locking device

In general we refer to the following devices as locking devices:

- Electric strike plate
- Electric strikes Motor locks with feedback contact
- Multi-point locking device with feedback contact
- Door magnets

Motor locks/multi-point locking devices without feedback contact cannot be directly connected to the operator. In order to ensure that the operator and the locking device work together properly, the locking device has to comply with the following specifications:

Minimum requirements

Operating voltage with power supply via operator:
24 V DC +/- 10%

Operating voltage with external power supply:
max. 48 V DC/AC

Current load for relay contact of locking device:
max. 1 A

Rated for continuous duty: electric strike:
min. 30%

Rated for continuous duty: motor lock:
100 %



ED 100, ED 250

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ED 100, ED 250

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