



Swing door operators in modular design

ED 100 & ED 250 BARRIER-FREE ACCESSIBLE SWING ENTRIES

Planning and designing buildings with foresight means ensuring accessibility and barrier-free entry for all.

The innovative **DORMA ED 100** and **ED 250** Swing door operators offer the perfect solution for all applications, door types and design challenges, offering whisper quite operation within a compact ultra slim design profile (70mm H x 130mm D)

The elegant design profile and combined intelligent door automation provides the perfect solution for sophisticated architectural designs and DORMA's commitment to quality and product longevity ensures that you are investing for the future.

The ED 100 and ED 250 are both Endurance tested to 1

million cycles to ensure reliability and durability of operation and are Independently tested and certified by a NATA accredited facility to Australian standard AS5007.

The heavy duty ED 100 is suitable for doors with a weight of up to 100kg and a door width of 1100mm, whilst the powerful ED 250 is designed for doors of up to 250kg and door width of 1600mm. Both units can be installed to the pull side using slide channel or to the push side using standard scissor arm. The ED 100 and ED 250 fully comply with the latest Australian and New Zealand industry standards and codes including the National Construction Code (NCC).

Barrier-free operation

The ED 100 and ED 250 provide unhindered automated access for people with disabilities. These units meet and comply with the requirements of the NCC -Access for people with a disability and AS1428.1 ensuring automatic swing doors form part of a barrier-free entry providing access for all. Compliant operation of the units can be achieved using various wall switches, sensors, and remote control and further can be incorporated into building security entry requirements.

ED 100 & ED 250 Features and Benefits

 Modular, flexible system incorporating 'docking' to quickly upgrade the system to specific project or climatic requirements.

- High torque and yet whisper quiet in full automatic swing operation.
- Powerful and responsive operation with intelligent controls in high wind condition.
- Suitable for single leaf or double leaf with full width slimline cover available.
- Exceptionally simple to install with the quick-fit mounting template.

Accessories

 DORMA has an extensive range of door control and program switches, push buttons, presence/safety sensors, P-E safety beams and a wide choice of signage plates including Braille.



| Required operating conditions | | | | |
|------------------------------------|---|--|--|--|
| Ambient temperature | –15 to +50 °C | | | |
| Only suitable for dry environments | Relative humidity max. 93 % (non condensing) | | | |
| Power supply | 240 V AC 50 Hz +/- 10 % | | | |
| Class of predection | IP 20 | | | |

General specifications

| Dimensions (W x H x D) | 685 x 70 x 130 mm |
|--|-------------------------|
| Min. clearance between hinges (double-leaf systems) | 1,400 mm |
| Min. clearance between hinges for ESR (double-leaf systems) | 1,450 mm |
| Weight of single-leaf version | 12 kg |
| Power supply for external accessories | 24 V DC +/- 10 %, 1.5 A |
| Opening angle | Max. 110° |
| Manufactured to ISO 9001 | |

| Integrated functions | | | | |
|---|--------------|--|--|--|
| Hold-open time | | 30 secs, 180 secs (optional) | | |
| Blocking behaviour | | Reversing/Door closer function | | |
| Wind load control | | up to 150 N | | |
| Voltage-independent brak | king circuit | Adjustable via potentiometer | | |
| Electronic latching action | i pulse | Force adjustable | | |
| LED status indicator | green | Operating voltage indicator | | |
| | red | Malfunction indicator | | |
| | yellow | Service interval indicator | | |
| Integrated program switc | h | OFF | | |
| | | AUTOMATIC | | |
| | | PERMANENT OPEN | | |
| | | EXIT ONLY | | |
| | | (only for single-leaf systems) | | |
| User interface with information display | | Status indicator and parameterisation | | |
| Slot for DORMA Upgrade Cards | | Extension of functional range | | |
| TMP – Temperature Management Program | | Temperature-related overload protection | | |
| IDC – Initial Drive Contro | I | Driving phase optimisation | | |
| Cycle counter | | 0 – 1,000,000 (reasonably subdivided) | | |
| Power Assist Function | | Servo-supported when opened manually | | |
| Push & Go Function | | Door opens when moved manually by 4° | | |

Certification

- AS5007 Powered doors for pedestrian access and egress.
- AS1905.1 Australian Standard Part 1 Fire resistant doors.

| Inputs, terminals max. 1.5 mm ² | |
|--|---|
| Potential-free activator | Inside and outside (NO contact) |
| Energised activator | 8 - 24 V DC/AC + 10 % |
| Night-/Bank (key switch) | NO or NC contact |
| Safety sensor | Hinge side and opposite hinge side (NC contact) |
| Test signal for safety sensor | Hinge side and opposite hinge side |
| Emergency-Off pushbutton/ | NC contact |

Outputs, terminals max. 1.5 mm²

| Potential-free door status contact, alternatively | Door closed |
|---|-------------|
| | Door open |
| | Malfunction |

| ED 100 | |
|---|---------------------|
| Max. power consumption | 120 Watts |
| Closing force EN 1154 | EN 2-4, adjustable |
| Max. door-leaf weight for lintel depths of up to 300 mm | 100 kg |
| Door-leaf width | 700-1,100 mm |
| Max. opening speed | **50° (27°*)/second |
| Max. closing speed | **50° (27°*)/second |
| Axle extension | 30/60 mm |
| Lintel depth for slide channel | +/- 30 mm |
| Lintel depth for standard arm | 0-300 mm |

| ED 250 | | | |
|---|--|--|--|
| Max. power consumption | 240 Watts | | |
| Closing force | EN 4-6, adjustable | | |
| Max. door-leaf weight for lintel depths of up to 300 mm | 250 kg to 1,400 mm Door-leaf width | | |
| | 190 kg for 1,600 mm Door-leaf width | | |
| Max. door-leaf weight for lintel depths from 301 mm to 500 mm | 160 kg | | |
| Door-leaf width | 700 – 1,600 mm | | |
| Door-leaf width for fire doors | 700 – 1,400 mm | | |
| Max. opening speed | 60° (27°*)/second | | |
| Max. closing speed | 60° (27°*)/second | | |
| Axle extension | 30/60/90 mm | | |
| Lintel depth for slide channel | +/- 30 mm | | |
| Lintel depth for standard arm | 0 – 500 mm | | |
| For lintel depths standard arm for Fire Protection | 0 – 350 mm | | |

* The values in brackets indicate the maximum speed in Low-Energy Mode without Full-Energy Upgrade Card.

** Depending on the door leaf weight, it is limited automatically in accordance with DIN 18650 and EN 16005, BS 7036-4 and ANSI 156.19.

View: BASIC cover, pull-version, 12.5 mm pivot pin



View: BASIC cover, pull-version, 25 mm pivot pin



View: BASIC cover, push-version



632 555 460 340 Centre of 220 operator axle 100 45 ດຸ ۲ ۲ € R3.3 ۲ ٠ ٠. ٠÷ ٠. 63 ŝ თ 76 ۲ ۲ ۲ 53.5 ۲ ¢ 22 31 19 106 Upper edge of door leaf 150 155 451 Standard axle extension

Drilling template: BASIC cover, pull-version, 12.5 mm pivot pin

Drilling template: BASIC cover, pull-version, 25 mm pivot pin



Drilling template: BASIC cover, push-version







View: FULL WIDTH cover, pull-version, 25 mm pivot pin



View: FULL WIDTH cover, push-version



Drilling template: FULL WIDTH cover, pull-version, 12.5 mm pivot pin



Drilling template: FULL WIDTH cover, pull-version, 25 mm pivot pin



Drilling template: FULL WIDTH cover, push-version



SYSTEM SETUP



The example system is equipped with all available components. It is selected in accordance with the door-leaf width and the door-leaf weight.

- 1 Mains connection 2 Connection unit
- 5 Adjustment of closing force
- 2 Connection unit6 Control unit3 Axle connection on both sides7 Switching power
 - 7 Switching power supply unit
- 8 Slot for
- DORMA Upgrade Cards
- 9 User interface with information display
- 10 Internal program switch
- 11 Slide channel (set)* 12 Standard arm*
- 13 Complete cover*
- *Supplied separately

ARM

4 Drive system

ED slide channel set

(motor/gear/spring)



| sion Colour Order N | | |
|---------------------|------------------|--|
| silver | D29275001 | |
| | Colour silver | |

ED 100 and ED 250: For lintel depths +/- 30 mm

ED standard arm 225



ED 100 and ED 250: For lintel depths 0 – 225 mm

ED standard arm 500

- ED 100: For lintel depths 226 300 mm
- ED 250: For lintel depths 226 300 mm and 250 kg For lintel depths 301 500 mm and 160 kg $\,$

ED axle extensions



| Mounting version | Colour | Order No. |
|------------------|--------|-----------|
| Push-version | silver | D29271001 |
| | | |

| Mounting version | Colour | Order No. |
|------------------|--------|-----------|
| Push-version | silver | D29272001 |

The axle extensions 30 and 60 mm are suitable for all arm versions of the ED 100 & ED 250. The axle extension 90 mm is only suitable for all arm versions of the ED 250. The axle extensions are available in chromated black.

| ED axle extension | Order No. |
|----------------------|-----------|
| 30 mm | D29278001 |
| 60 mm | D29278101 |
| 90 mm | D29278201 |

OPENING AND CLOSING TORQUE

| Way of mounting | Lintel mounting on hinge side with slide channel (pull-version) | | | | Lintel mounting on opposite hinge side Standard arm (push-version) | | | |
|--|--|-------------------|---------|-------------------|---|-------------------|---------|-------------------|
| | ED 100 | | ED 250 | | ED 100 | | ED 250 | |
| | minimum | maximum | minimum | maximum | minimum | maximum | minimum | maximum |
| Closing force EN 1154 | EN 2 | EN 4 | EN 4 | EN 6 | EN 2 | EN 4 | EN 4 | EN 6 |
| Manual closing torque (Nm) | 13 | 34 | 26 | 65 | 13 | 37 | 26 | 70 |
| Closing torque in AUTOMATIC mode (Nm)** | 20 | FE: 150 LE: 67 | 20 | FE: 150 LE: 67 | 20 | FE: 150 LE: 67 | 20 | FE: 150 LE: 67 |
| Manual opening torque (Nm) | 30 | 50 | 55 | 85 | 35 | 55 | 60 | 90 |
| Opening torque in AUTOMATIC mode (Nm)** | 20 | FE: 150 LE: 67 | 20 | FE: 150 LE: 67 | 20 | FE: 150 LE: 67 | 20 | FE: 150 LE: 67 |
| Opening torque of manually-activated Power-Assist Function (Nm) * | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |

FE = With Full-Energy **LE** = Low-Energy standard operator without upgrade card

* Power-Assist Function is adjusted to maximum (function is activated at approx. 3° opening width)

** The torque is activated by an automatic opening in AUTOMATIC mode.

DOOR CLOSER MODE & AUTOMATIC MODE

Users may choose between two operation modes: door closer and AUTOMATIC mode. While adjusted to door closer mode (parameter Hd = 1), the system is optimised for manual operation. With its optional Power-Assist Function, the door closer mode is tailored to predominantly manually-operated doors where a door closer function is desired. The AUTOMATIC mode (parameter Hd = 0) in turn is especially suitable for mainly automatic access via motion detector or pushbutton. In addition, the door reverses as soon as it runs into an obstruction while closing. On activation of the AUTOMATIC mode, also the wind load control is available. Although in AUTOMATIC mode, the doors are still ready for manual access. In this case we would recommend the Push & Go function.

environmental influences.

WIND LOAD CONTROL

ED 100 and ED 250 operators are especially suitable for application at exterior doors that are subject to varying wind loads and for interior doors separating rooms where different pressure prevails. While the system is in AUTOMATIC mode, the wind load control monitors the driving speed and adjusts the speed correspondingly if it exceeds or falls below the adjusted value. In conjunction with the Full-Energy Upgrade Card, the operator provides a force of up to 150 N at the main closing edge – which is then used to compensate

The electronic latching action is activated during the last 5° of the closing cycle in order to support the closing action.

SCAN FOR WIND LOAD TEST VIDEO

POWER-ASSIST FUNCTION

The Power-Assist Function may be activated while the door is in door closer mode (parameter Hd = 1). As soon as a user opens the door by some degrees, the servo function supports the manual opening cycle. In addition, the servo support automatically adapts to the adjusted size of the door closer. The level of servo support is adjustable in order to meet the requirements of DIN 18040, DIN Spec 1104, CEN/TR 15894, BS 8300/2100 and document "M", even up to class EN 6. The smallest adjustable opening torque amounts to 23 Nm/5 lbf – unless the hold-open device is triggered or in the event of a power failure. With the aid of the Power-Assist Function, the system meets the requirements of the European standard EN 1154 and provides barrierfree access during standard operation. However, it is not possible to use the system in conjunction with the Push & Go Function or the wind load control as these functions may affect the easy manual opening of the door.

DORMA UPGRADE CARDS



DORMA Upgrade Cards are designed to increase the functional range of our swing door operators. The installation of the cards is very easy: Just insert the respective Upgrade Card into the proper slot at the control unit and the software will be transferred automatically. DORMA offers different Upgrade Cards, which may either be combined or installed as individual components. Please note that the respective function of the Upgrade Card is only available as long as the card is connected to the control unit.

Upgrade Card Full-Energy – blue



of the Full-Energy Upgrade Card (blue)

All operator systems are supplied as Low-Energy version, which means that the adjustable opening and closing speed range is restricted to a certain limit. The respective limits depend on the prevailing door-leaf width and door-leaf weight and may

Upgrade Card Professional - green

The Upgrade Card Professional provides functions for swing door operators that used to be realised with the aid of external components.

Extended hold-open time of 180 s

The hold-open time of up to 30 seconds, which is already integrated in the basic system, is sufficient for most applications. However, an extended holdopen time of up to 180 seconds may easily be realised with the aid of the Full-Energy Upgrade Card. vary between 1° and 27° per second. These limits furthermore comply with DIN 18650 and EN 16005 (German Industrial Standard), ANSI 156.19 (American Standard) and BS 7036 (British Standard). Depending on their field of

Flip-Flop-Function

In standard mode, the operator opens the door after a Night-/ Bank pulse has been triggered (via the key switch) and closes it on expiry of the hold-open time. When the flip-flop-function is activated, the door opens and remains in PERMANENT OPEN position as soon as the Night-/ Bank function is triggered at the respective input. The door will close when the Night-/Bank function is activated again. The hold-open period in PERMANENT OPEN position is not limited, and the standard hold-open time is available at all other activator inputs. Please

| Colour | Order No. |
|----------------------|--|
| blue | D29251022 |
| blue/ transparent | D29251020 |
| Colour | Order No |
| | Colour blue blue/ transparent |

| | opgrade oura i foressional | Coloui | order Ho: |
|----|----------------------------|--------|-----------|
| ED | Upgrade Card Professional | green | D29253001 |
| ED | 100 & ED 250 | | |

application, such swing door operators might not require safety sensors when operated in Low-Energy Mode. If you need a higher driving speed, you will require the respective Full-Energy Upgrade Card. The driving speed may then be increased to a maximum of 50°/second with the ED 100 and to 60°/second with the ED 250. In this case operating in full energy mode the swing path has to be monitored by safety sensors (mounted onto the door leaf).

note that smoke detectors always have priority to the PERMANENT OPEN function.

Nurse-Bed-Function

(only for double-leaf door systems) As soon as a pulse is triggered, both door leaves of the double-leaf system will open. Sometimes this may not be necessary, as the full passage width is not required. Whenever this is the case, the Nurse-Bed-Function is perfectly suitable to control the two door leaves separately.

The activator that is connected to the external detector only institutes the active door leaf to open. The resulting passage width is sufficiently big to allow people to use the door. The other activator (the one that is connected to the internal detector) is used to open the door to the full opening width. In this case, both door leaves open so that the full passage width is accessible. This function reduces the energy consumption and may help to avoid draughts and thus heat loss.

COVERS

The operator covers are packed separately from the operator system, which makes it easy to select the respectively required cover. DORMA provides covers for single- and double-leaf systems. All covers are designed for on-site mounting and realised in DORMA Contur design. They are furthermore suitable for both the ED 100 and the ED 250 version. When creating double-leaf systems, the four-position internal program switch has to be replaced by a three-position switch, which means that the EXIT ONLY function is only available in combination with the external program switch. Double-leaf systems are required for doors where the clearance between the hinges exceeds 1,400 mm (1,450 mm with ESR).

ED BASIC cover - Aluminium cover for single-leaf swing door systems



| | Colour | Order No. |
|----------------|--------|-----------|
| ED BASIC cover | silver | D29241001 |

ED VARIO cover



This aluminium cover is designed to create a continuous cover for double-leaf swing door systems. In addition to the VARIO cover, you will require two ED BASIC covers, which are mounted on the right and on the left of the operator system. The ED VARIO cover is designed to hide the gap between the two covers and may be cut to the appropriate size on site. With the aid of the VARIO cover, you may also increase the length of single-leaf operators.

The cover may be installed on the left or on the right side and can be cut to the appropriate size on site.

The VARIO cover is a silver finish and available in two versions.

| Number of door leaves | Silver-coloured | Order No. |
|-----------------------|-----------------|-----------|
| single-leaf version | | · |
| 800 mm – 1,600 mm | 2200 mm | D29242001 |
| double-leaf version | | |
| 1,500 mm – 2,200 mm | 2200 mm | D29242001 |

BARRIER-FREE TOILET



Plate Features

The internal/external mounted PDS plates are designed using a polycarbonate membrane that is vandal resistant, UV stabilised and anti graffiti coated.

The **MLAK-PDS** plate option is an innovative system that enables people with disabilities to gain 24/7 access to a network of public facilities that utilise this system.

PDS operation:

- When vacant green indicator illuminated, press the outside Push to Open button or Insert MLAK Key to activate and open the door
- Once inside press the Push to Lock button to secure the door (outside button switched off and Occupied red indicator is now illuminated)
- To exit simply press the Push to Open button



External Plate

Included on the plate is a solid push button and stainless steel housed red/green indicators providing a wide viewing angle and IP67 rating. (205mm H x 230mm W)



Internal Plate

Included on the plate are solid push buttons and stainless steel housed red/ green indicators providing a wide viewing angle and IP67 rating. (265mm H x 230mm W)



External Plate MLAK (option) Included on the plate is the Prestige Key switch keyed to the MLAK and stainless steel housed red/ green indicators providing a wide viewing angle and IP67 rating. (205mm H x 230mm W)

Barrier-free solutions for people with disabilities (PWD)

Planning and designing buildings with foresight means ensuring accessibility and openness for all and where everyone can use the facilities without restrictions or the need for outside help.

The DORMA Privacy Door System (PDS) provides unhindered automated access for people with impairment. The PDS can be fitted to either swing or sliding door operators depending on the required design applications.

The PDS offers the following features:

- Simple to use (amenities and parent rooms)
- Flexible design (sliding or swing)
- Robust and reliable operation
- Braille and tactile signs
- Surface mount or cavity slide
- Electric lock with door closed function
- Built in or key switch staff override function for use in emergency
- Duress alarm I/O
- MLAK braille plate option

The PDS complies with the following:

- NCC Access for people with a disability
- Braille and tactile signs
- AS5007-2007 Power doors for pedestrian access and egress

PROGRAM SWITCHES

The DORMA Prestige Key switch range provides an aesthetically pleasing option for key activation of any DORMA automatic sliding or swing door operator. Its low profile modern design and secure cylinder retention along with concealed fixings make this switch the perfect choice for both internal and external applications.

PK Switches Series Key Switches



PUSHBUTTONS



Program switchColourOrder No.PK22 modeSAA (silver)A81009002PK44 modeTransparent black/ SAAA81009004PK44 modeTransparent black/ CPA81009014

Pushbutton



| | Colour | Order No |
|------------------------------|-----------------|--------------|
| | ouioui | |
| Palm activated rocker button | stainless steel | D19143001170 |
| Handicap symbol | stainless steel | D19143201170 |
| 1844 | | |

IP44 weather rating

FURTHER ACCESSORIES

Emergency power supply unit



automated operation even in the event of a power failure an emergency power supply unit can be fitted. Depending on the connected accessories, this unit may keep the system operational for up to one hour by providing emergency power supply for the complete door system. Thus, there is sufficient time for countermeasures and securing the building.

In order to provide full

Dimensions: 160 x 120 x 360 mm (H x W x D) *subject to change depending on model supplied

ESR – Integrated door coordinator

The ESR set is installed inside the double-leaf operator on site. It is available as individual component and easy to install. The system works similar to a drum brake and thereby ensures the proper functioning of the system. Its brake works on the motor shaft of the operator on the active door leaf and transfers the switching signal via a shaft. The system does not require any maintenance.

| | Order No. |
|------------|-----------|
| ED ESR set | D29261001 |

BRC REMOTE SYSTEM

The new BRC system operates with a bi-directional BidCoS wireless protocol. In contrast to unidirectional systems, the receiver sends a message to the hand-held transmitter that the signal has been received. The hand-held transmitter indicates the prevailing status via a LED. Thus a short keystroke is enough

BRC-R



BRC-W



to trigger an opening pulse in a reliable way within the system's typical field range of 100 meters. The BRC-W and BRC-T transmitters are also of bi-directional design; however, the status indicator is not visible as the transmitters are integrated in pushbuttons.

Receiver

Order No.

D29302002

The new BRC-R radio receiver may easily be installed inside the operator as its size is adapted to the available space. Simply fix it on the motorgear-unit with two screws. We offer three different types of transmitters. Up to 1024 transmitters may be allocated to a BRC-R.

The battery-operated wall transmitter in 55 mm design is made of white plastic and may easily be adhered to the wall or fixed with screws. It is suitable for light indoor-use.

| | Order No. | |
|------------------|-----------|--|
| Wall transmitter | D29301002 | |

BRC-H



Bidirectional hand-held transmitter BRC-H, battery-operated, 4 channels, LED for feedback purposes, shockproofdesign including DORMA key strap, only suitable for applicationwith DORMA BRC-R radio receiver

| | Order No. |
|-------------|-----------|
| Hand-held | D29301004 |
| transmitter | |

BRC-T



Wireless pushbutton solution -Long life battery operated transmitter designed to connect and operate from a momentary pushbutton.

Order No.

Battery-opera- D29301003 ted transmitter

MOTION DETECTORS

| | Designation | Specification | Order No. |
|-------------|------------------------------------|--|-----------|
| End. | Prosecure Easy Motion Mono | Full-automatic access on pulse activation; adjustable inclination angle, inclined field of view and field size, LED status indicator Ambient temperature –20 °C to 60 °C | |
| | | silver | A86002000 |
| | Prosecure Easy Motion Stereo | Adjustable inclination angle, inclined field of view and field size, direction recognition, cross-traffic suppression, immunity, LED status indicator Ambient temperature –20 °C to 60 °C | |
| | | silver | A86012000 |
| Accessories | Designation | Specification | Order No. |



| | silver | A86012000 |
|--------------------------|---------------------------|-----------|
| Designation | Specification | Order No. |
| Rain protection cover | For Easy Motion detectors | A86031900 |

INFRARED SAFETY SENSORS

Safety



Reversing





Infrared safety sensors are active infrared sensors and designed to detect all static and moving obstructions, either people or objects, within their detection range.

On the opposite hinge side, the infrared safety sensor fulfils the function of an activator, which means that the sensor will institute the door to reverse and open as soon as an obstruction is detected in the course of a closing cycle. Then the holdopen times starts anew. On the hinge side, the infrared safety sensor will interrupt the automatic movement of the door whenever it detects an obstruction; the door closes on expiry of the adjusted hold-open time. Infrared safety sensors are available in different lengths and may be supplied in the same colour as the operator. We offer two different types of infrared safety sensors: The Prosecure Opti Save, which is required for areas where compliance with DIN 18650 (German Industrial Standard) and EN 16005 is essential and the Prosecure Opti Save, a moving infrared safety sensor, which is suitable for areas that are not subject to DIN 18650 and EN 16005.

*Recommended max mounting height 2500mm above FFL.

| Designation | Specification | Order No. |
|-------------|---------------------|--------------|
| IRS 2-33 | 330mm Safety Sensor | D16521701150 |
| IRS 2-70 | 700mm Safety Sensor | D16521706150 |





DORMA Australia Head Office 46-52 Abbott Road HALLAM Victoria 3803 Phone 1800 675 411 info.au@dorma.com www.dorma.com.au DORMA NZ Limited Head Office Building P 61-69 Patiki Road AVONDALE Auckland 1026 Phone 0800 436 762 info.nz@dorma.com