

A close-up photograph of two silver-colored metal door operator components. The top component is a long, rectangular unit with a small DORMA logo embossed on its top surface. Below it is a shorter, similar component. A semi-transparent white box is overlaid on the left side of the image, containing the text "ED 100A", "ED 250A", and a horizontal line.

ED 100A
ED 250A
—

Automatic swing
door operators

AUTOMATIC SWING DOOR OPERATORS

The convenience of an automatic door is increasingly being recognised and appreciated by building owners and users alike. From a designers point of view it is desirable that the form of any product does not compromise aesthetic considerations whilst still meeting the client's functional and environmental requirements. The ED 100A / ED 250A operators have an identical contemporary, unobtrusive design which is impressively small allowing them to blend in with the most architecturally sensitive environments. Throughout the development process of the ED 100A / ED 250A the DORMA design team's priority was towards selective materials sourcing, clean manufacturing processes and energy saving product features resulting in a series of products which minimise their environmental impact. Features such as the ESM Energy Saving Mode function and Wind Load Control contribute towards reducing a building's carbon footprint. By introducing the ED 100A / ED 250A DORMA have set new standards in automatic swing door design in aesthetics, functionality and environmental terms. With our ED 100A / ED 250A, DORMA offers electro-mechanical swing door operators for various fields of application. Simply select the suitable version according to your door-leaf width and weight: While the ED 100A is suitable for doors with a weight of up to 100 kg and a door width of up to 1,100 mm, the ED 250A is designed for doors with a width of up to 1,600 mm and a door weight of up to 250 kg. Both operators may be installed as push-version with standard arm or as pull-version with slide channel.



Benefits

- Elegant visual appearance: DORMA Contur design provides an operator height of only 70mm.
- Low noise levels through multi-stage gearing.
- Efficient closing due to an electronic latching action enabling the motor to support the spring to overcome door seals, room to room pressure differentials and wind loads.
- Suitable for 60 minute fire rated doors for both push and pull application.
- Optional integrated door co-ordinator to ensure the correct closing of rebated double doors.

DORMA and the Environment

DORMA takes its responsibilities seriously to minimise impact on the environment in all aspects of its activities. This philosophy has remained a key driver throughout the development of the ED 100A / ED 250A.

- We have attached particular importance to using as little material as possible, and have managed to reduce by almost 40% the required material compared to our previous generation of swing door operators. The low weight has a positive effect on the shipping of the goods and thus reduces unnecessary CO₂ emissions.
- Even the best operator will require replacement one day; we are prepared for this as all components are recyclable.
- The ED 100A / ED 250A along with all DORMA swing door operators provides sufficient force reserves. Even when the system is used to the maximum the operator will always try to open and close the door perfectly within the statutory limits. DORMA swing door operators contribute to avoiding the loss of heat thereby contributing towards reducing a building's carbon footprint.
- IRS safety sensors consume significant amounts of power over a 24 hour period when mains power is not turned off – as is the case in the vast majority of buildings. The ED 100A / ED 250A offers an integrated ESM Energy Saving Mode function which allows the sensors to be switched to standby to minimise unnecessary power consumption which offers an energy saving of up to 30%.
- The ED 100A / ED 250A mainly closes via spring force. However, thanks to its direct drive, the motor automatically switches on to provide support when required. This assists the door to reach its closed position minimising energy loss.

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 50 Hz +/- 10 %
Class of protection	IP20

General specifications

Dimensions (W x H x D)	685 x 70 x 130 mm
Min. clearance between hinges (double-leaf systems)	1,450 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

Parameters

Opening angle	Max. 110°
Latching action	Adjustable from 7° – 0°
Hold-open time	0 – 30 seconds
First entry-last exit hold-open time	0 – 30 seconds
Blocking behaviour	Reversing closing cycle/ Door closer function
Locking feedback contact	Motor lock/Electric strike
Working point of wind load control	Total load of max. 50 Nm
Voltage-independent braking circuit	Adjustable via potentiometer
Electronic latching action pulse	Force adjustable

Integrated functions

LED status indicator	green	24V DC voltage indicator
	red	Error Code
	yellow	Service interval expired
Integrated program switch	OFF	
	AUTOMATIC	
	PERMANENT OPEN	
	EXIT ONLY (OPTIONAL – only for single-leaf systems)	
User interface with information display	Status indicator and parameterisation	
Slot for DORMA Upgrade Cards	Extension of functional range	
Update interface	Firmware update	
TMP – Temperature Management Program	Temperature-related overload protection	
IDC – Initial Drive Control	Driving phase optimisation	
Cycle counter	0 – 1,000,000 (reasonably subdivided)	

Inputs, terminals max. 1.5 mm²

Potential-free activator	Inside and outside
Voltage input/First entry-last exit	Max. 8 – 24 V AC/DC + 10%
First entry-last exit (key switch)	NC contact/NO contact
Safety sensor	Hinge side and opposite hinge side
Test signal for safety sensor	Hinge side and opposite hinge side
Emergency-Off pushbutton/ Lock switch	NC contact/NO contact

Outputs, terminals max. 1.5 mm²

Potential-free door status contact	Door closed
	Door open

ED 100A

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 for single-leaf version	700 – 1,100 mm hinged 770– 1,100 mm pivoted*
Door-leaf width for double-leaf version	1,450 – 2,200 mm hinged 1,590– 2,200 mm pivoted*
Max. opening speed	50° per second
Max. closing speed	50° per second
Axle extension	30 mm / 60 mm
Lintel depth for slide channel	+/- 30 mm
Lintel depth for standard arm	0 – 300 mm

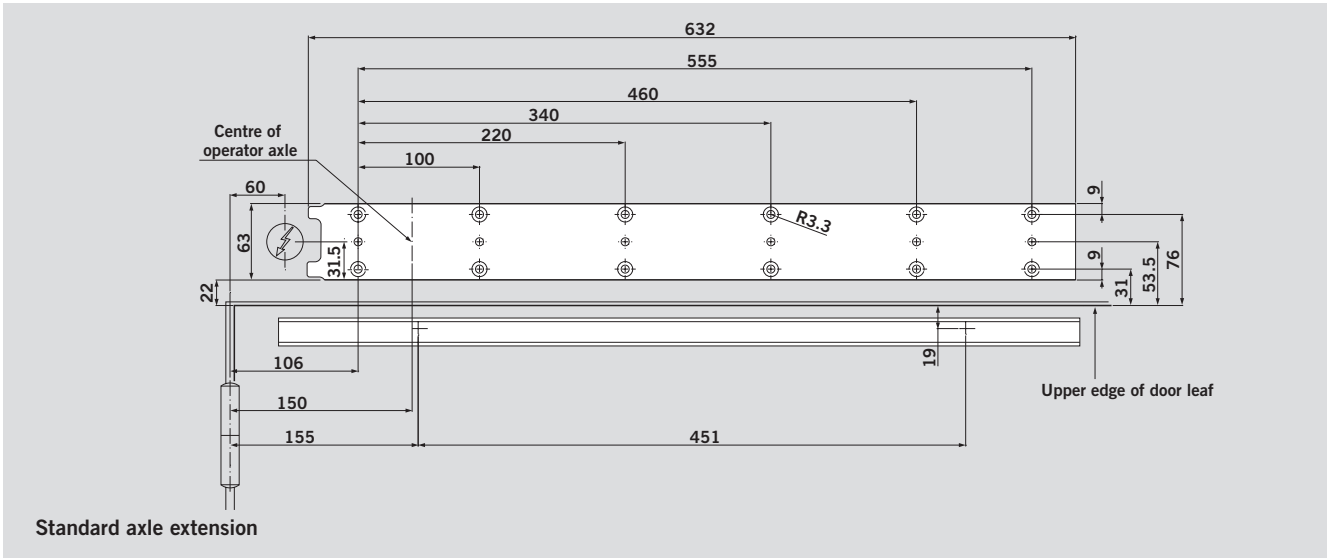
* Based on 70 mm pivot centres.

ED 250A

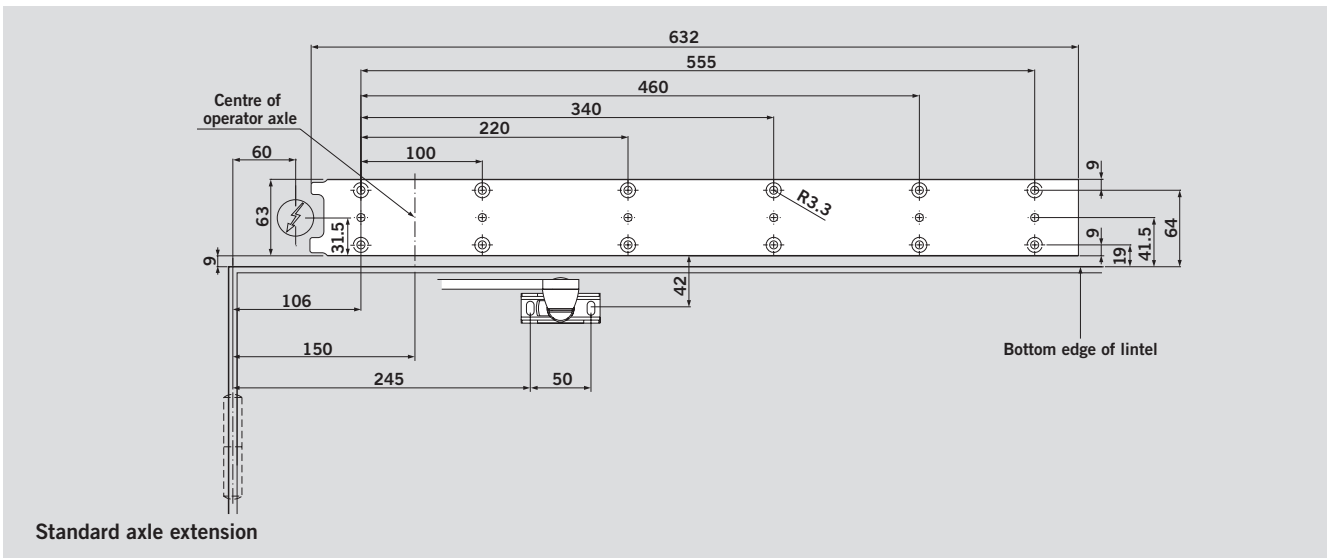
Power consumption	240 Watts
Closing force EN 1154	EN 4–6, adjustable
Max. door-leaf weight for lintel depths of up to 225 mm	250 kg
Max. door-leaf weight for lintel depths from 226 mm to 500 mm	120 kg
Door-leaf width for single-leaf version for single-leaf fire protection doors	700 – 1,600 mm hinged 770– 1,600 mm pivoted* 700-1,400 mm
Door-leaf width for double-leaf version for double-leaf fire protection doors	1,450 – 3,200 mm hinged 1,590– 3,200 mm pivoted* 1,400-2,800 mm
Max. opening speed	60° per second
Max. closing speed	60° per second
Axle extension	30 mm / 60 mm / 90 mm
Lintel depth for slide channel	+/- 30 mm
Lintel depth for standard arm	0 – 500 mm

* Based on 70 mm pivot centres.

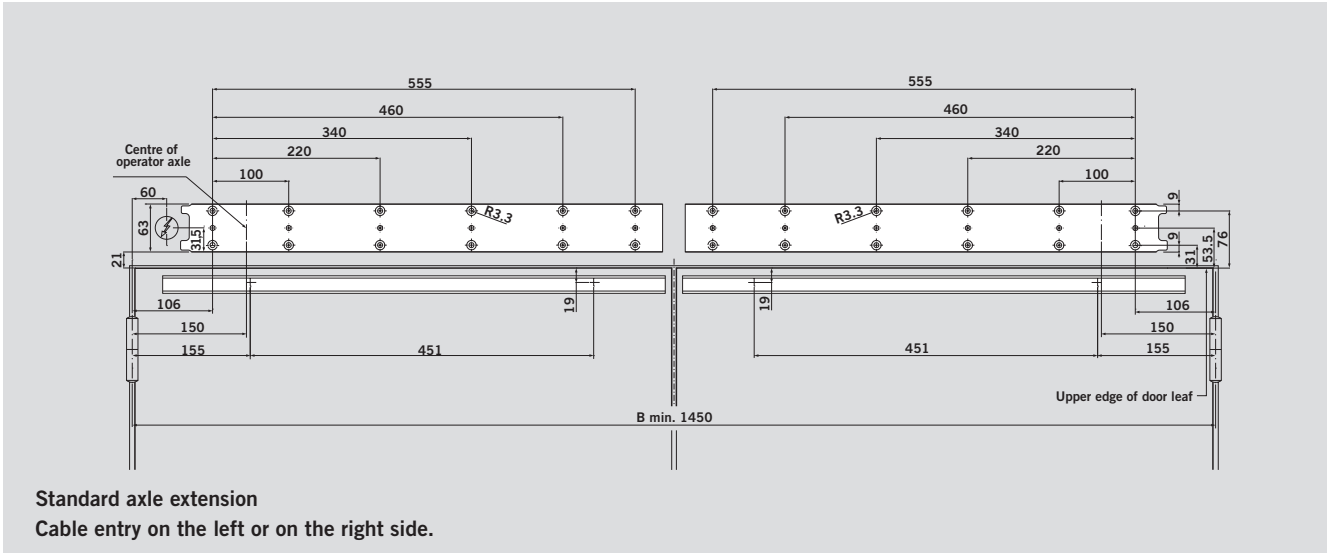
Drilling template: BASIC cover, pull-version, 12.5 mm drive arm pin



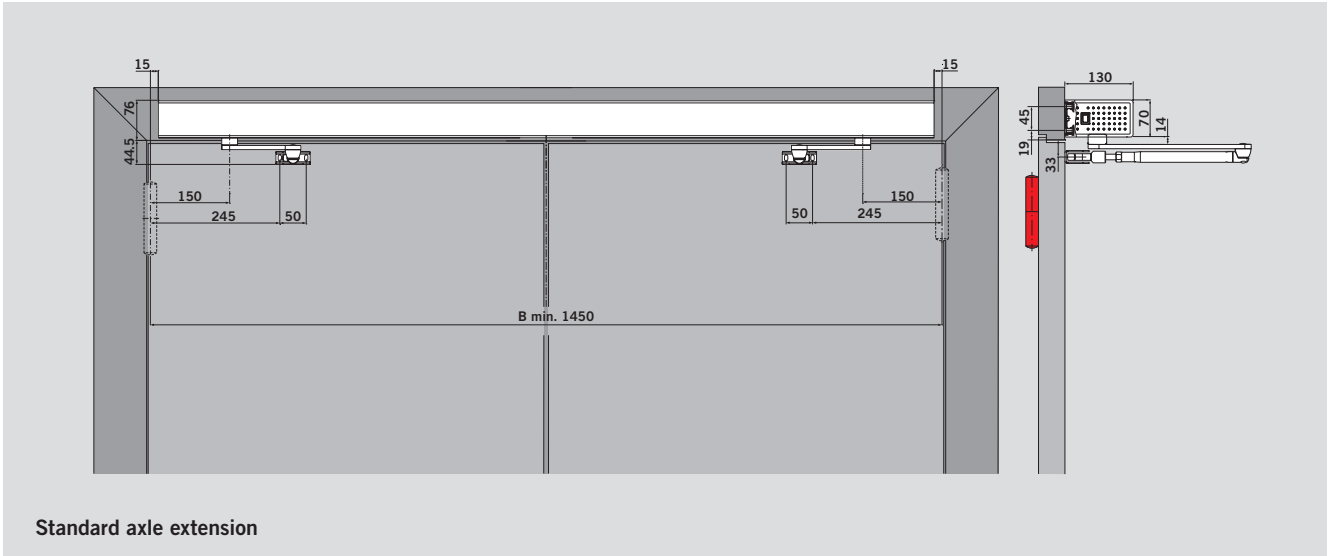
Drilling template: BASIC cover, push-version



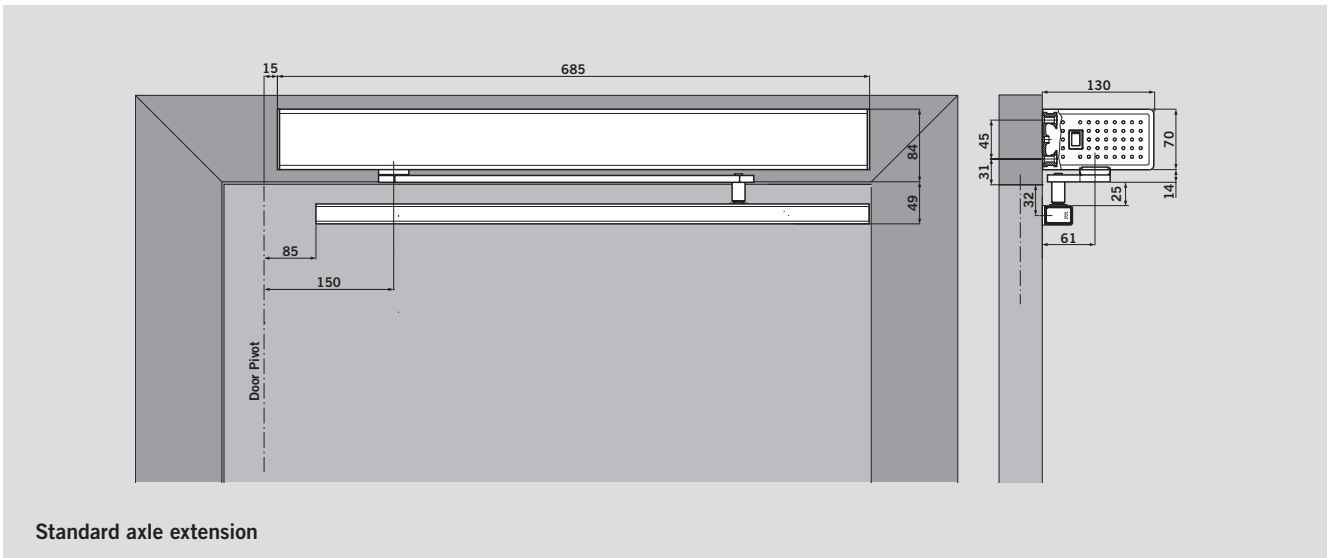
Drilling template: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin



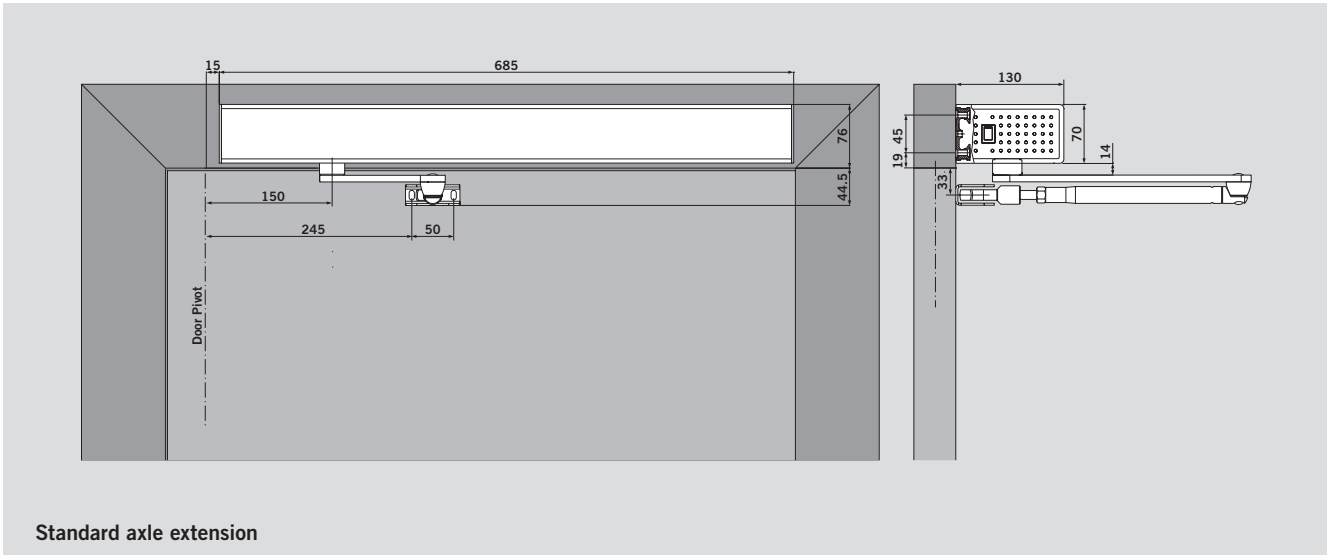
View: CONTINUOUS cover, push-version



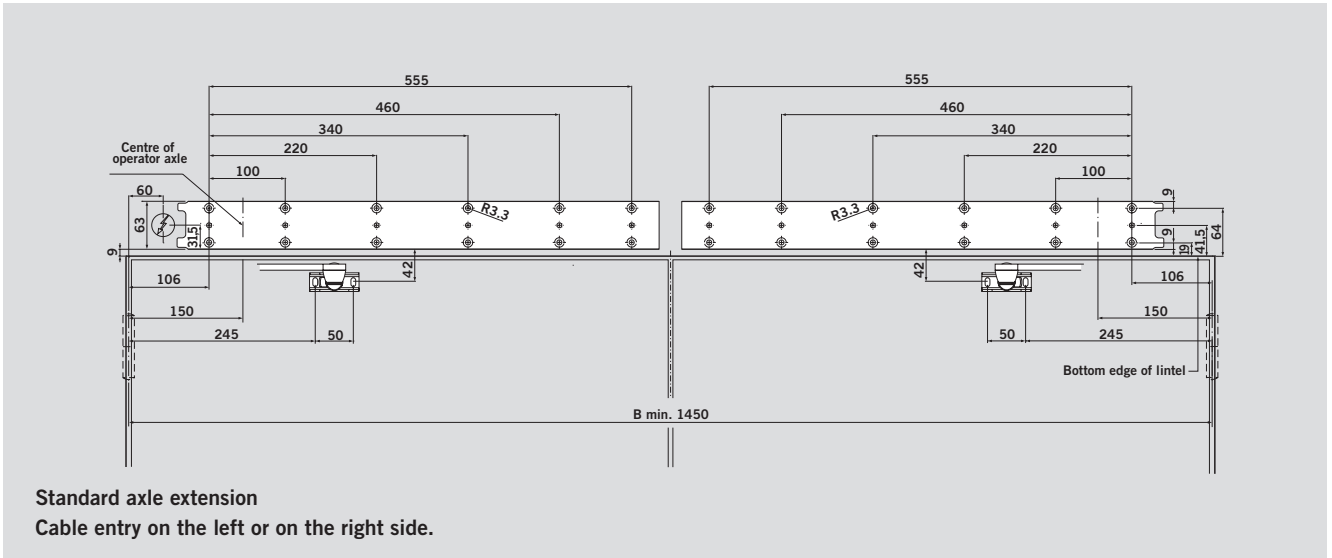
View: BASIC cover, pull-version, 25 mm drive arm pin, pivoted door



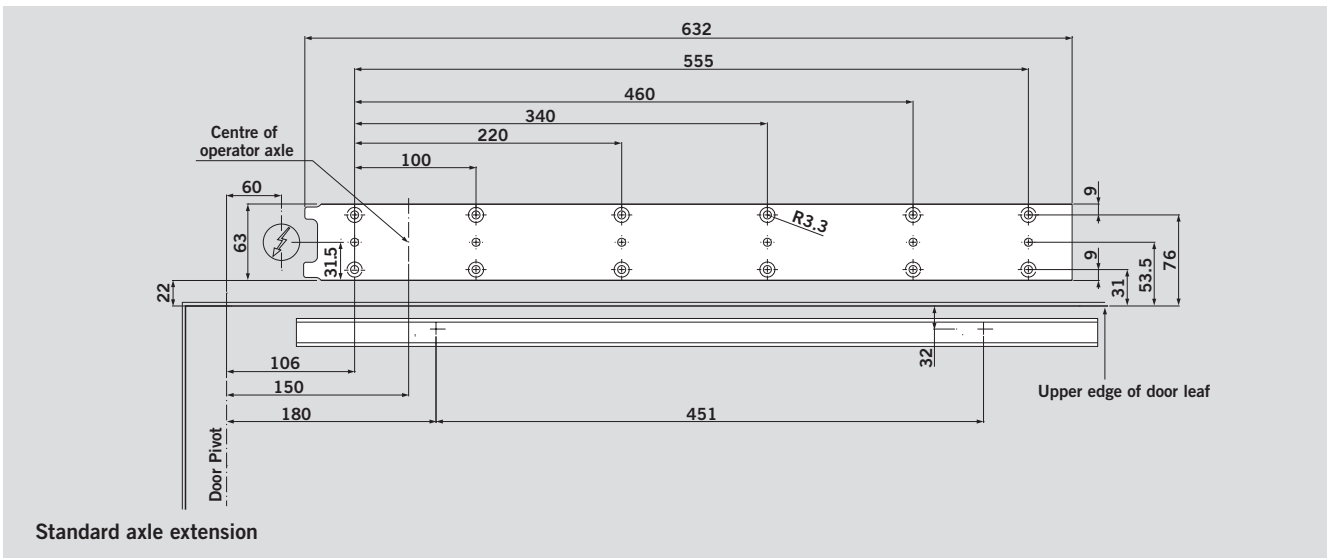
View: BASIC cover, push-version, pivoted door



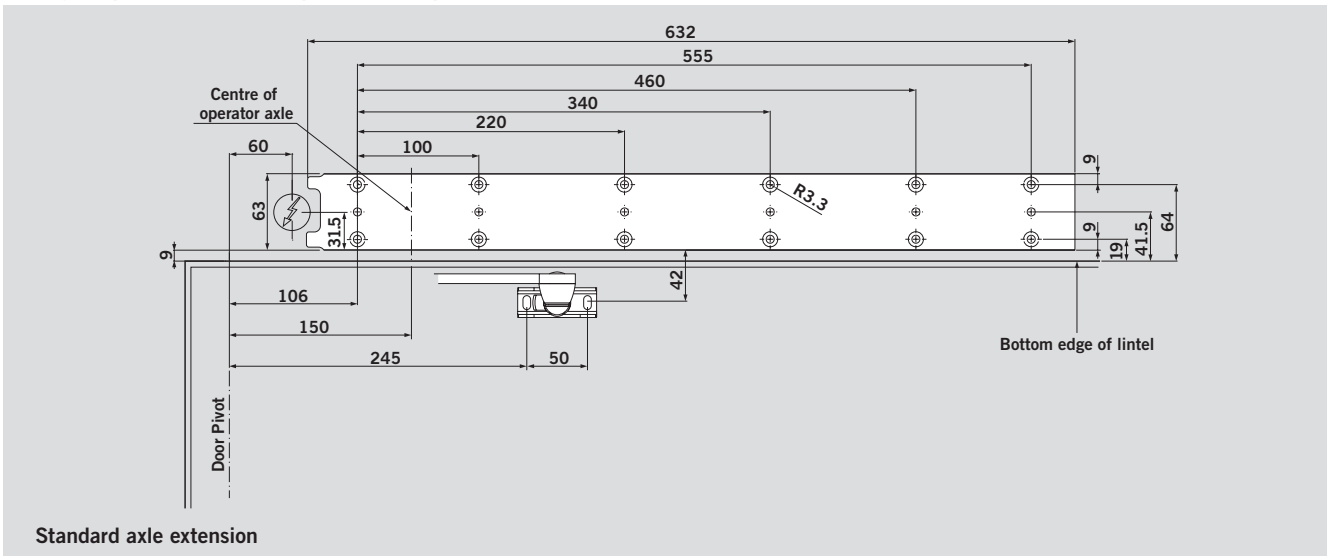
Drilling template: CONTINUOUS cover, push-version



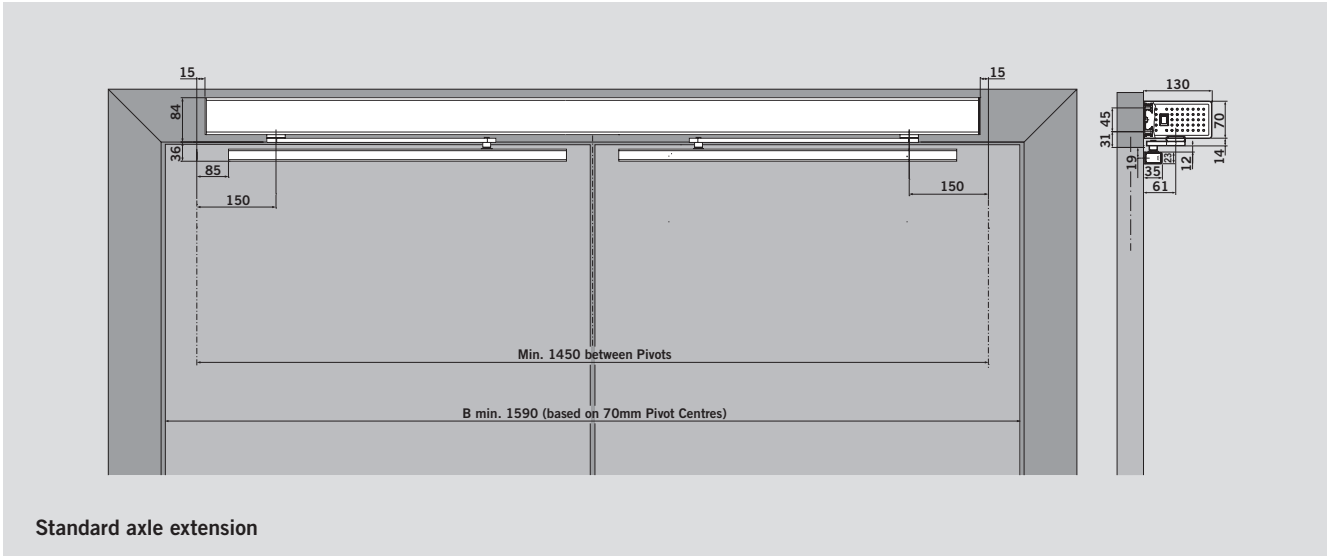
Drilling template: BASIC cover, pull-version, 25 mm drive arm pin, pivoted door



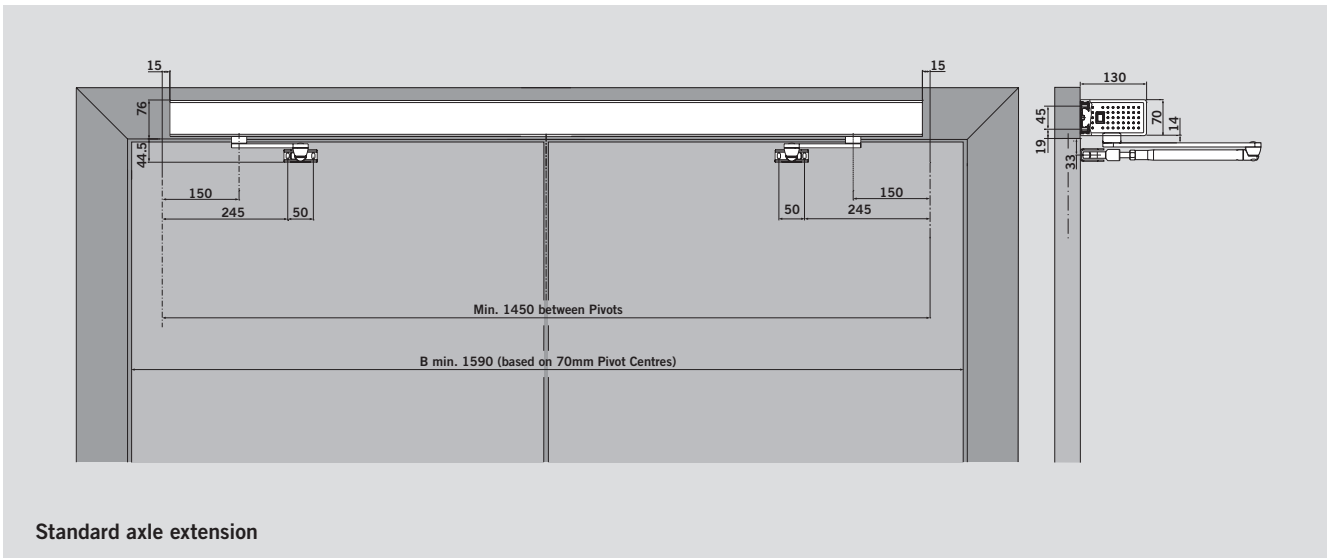
Drilling template: BASIC cover, push-version, pivoted door



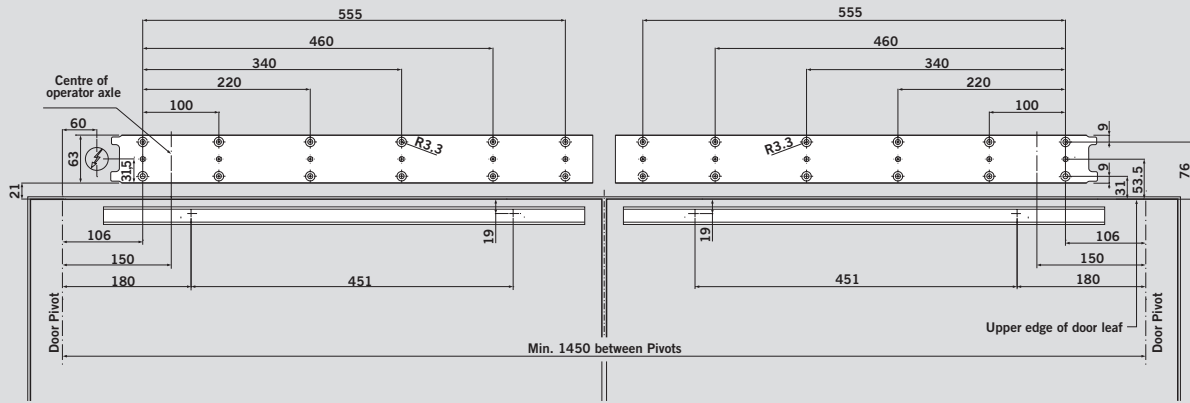
View: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin, pivoted door



View: CONTINUOUS cover, push-version, pivoted door

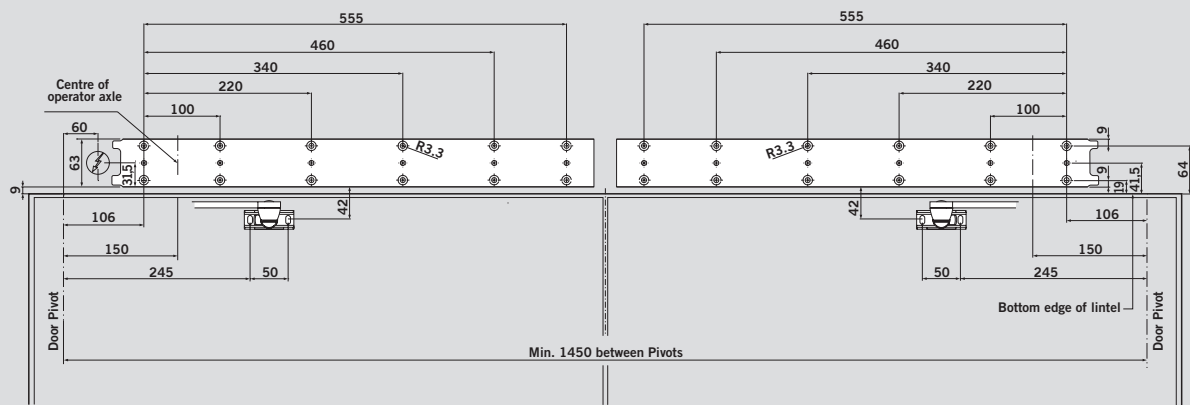


Drilling template: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin, pivoted door



Standard axle extension
Cable entry on the left or on the right side.

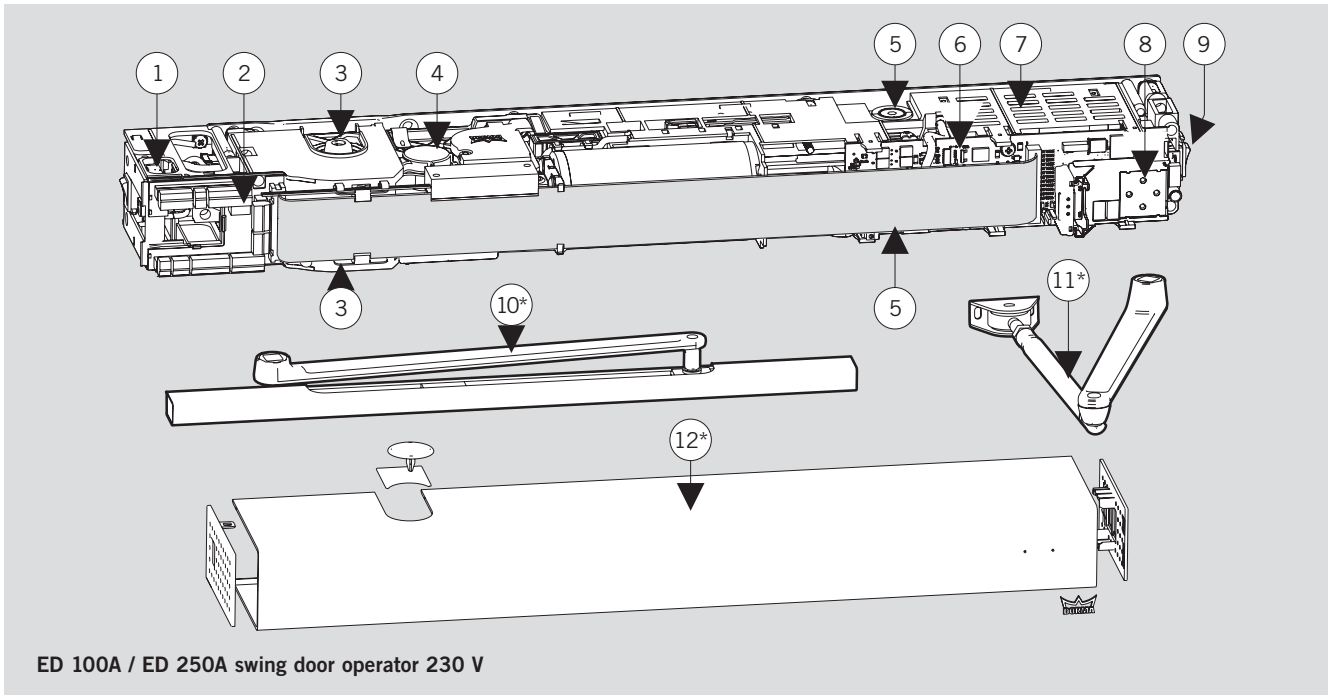
Drilling template: CONTINUOUS cover, push-version, pivoted door



Standard axle extension
Cable entry on the left or on the right side.



SYSTEM SETUP



ED 100A / ED 250A swing door operator 230 V

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

- | | | | |
|---------------------------------|------------------------------------|---|-------------------------------|
| 1 Mains connection | 4 Drive system (motor/gear/spring) | 7 Switching power supply unit | 10 Slide channel (Set)* |
| 2 Connection unit | 5 Adjustment of closing force | 8 User interface with information display | 11 Standard arm* |
| 3 Axle connection on both sides | 6 Control unit | 9 Internal program switch | 12 Complete cover (ED BASIC)* |
- *supplied separately

ARM

ED slide channel set – pull-version

The slide channel set is suitable for doors with a door-leaf width of 1,600 mm. The maximum lintel depth amounts to +/- 30 mm. (Number 10 in above diagram)

ED standard arm 225 – push-version

The standard arm is suitable for lintel depths of up to 225 mm, admissible door-leaf width of 1,600 mm. (Number 11 in above diagram)

For lintel depths from 0 to 225 mm

ED 100 arm 225 to 300 mm

ED 250 arm 225 to 500 mm

COVERS

DORMA provides covers for single and double-leaf systems. All covers feature the DORMA Contur design and are designed for on-site mounting.

ED BASIC cover

Aluminium cover for single-leaf swing door systems.

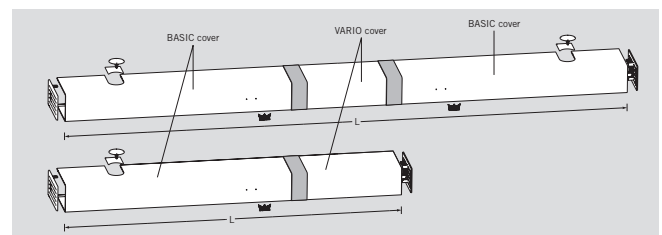
ED VARIO cover

This cover combines with the ED BASIC cover to provide 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 left and the right of the operator system.

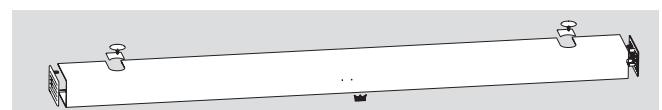
ED PROFESSIONAL cover

Designed for double-leaf swing door systems, the ED PROFESSIONAL cover is a continuous and seamless cover available in lengths from 1400 mm to 3,200 mm. Also, single-leaf operators may be extended to a length of up to 3,000 mm towards the main closing edge.

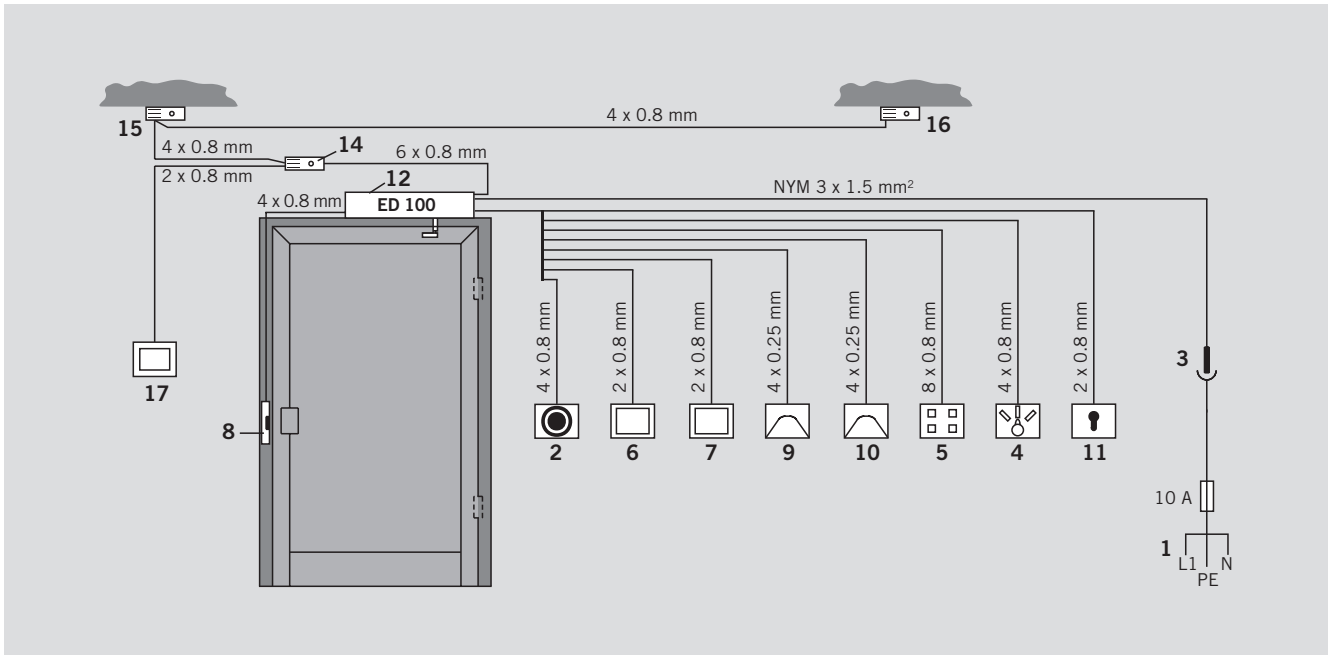
ED BASIC and VARIO covers



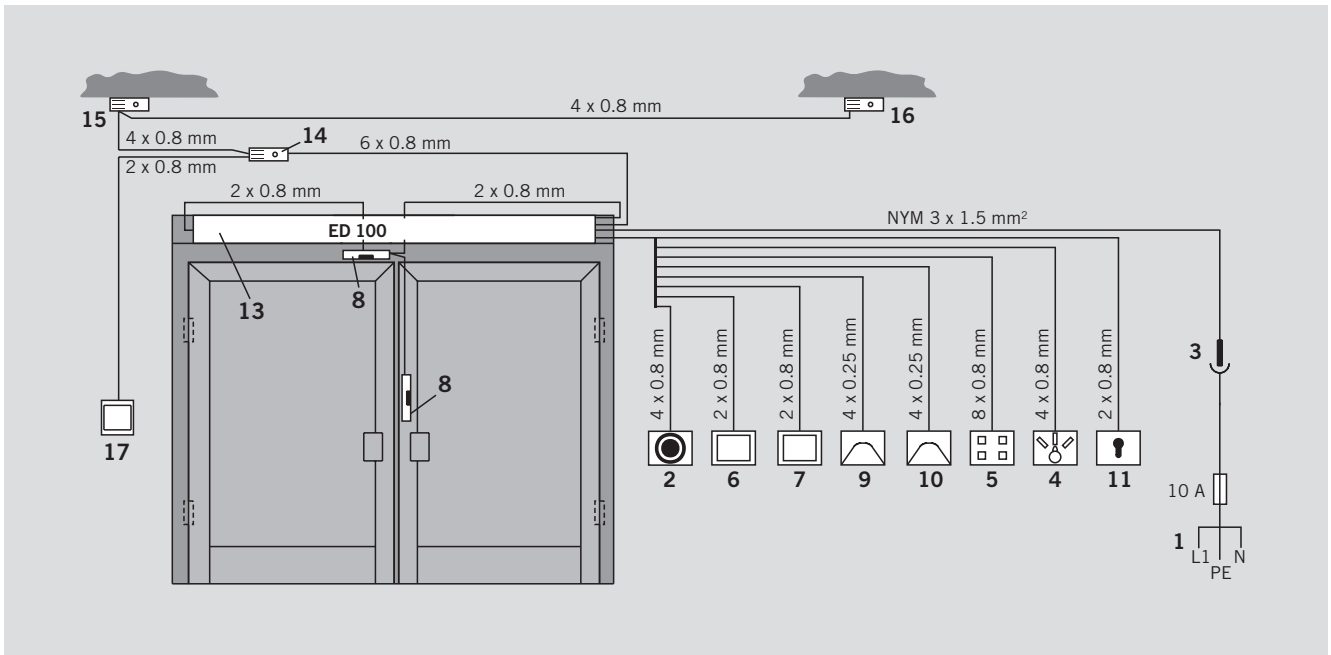
ED PROFESSIONAL cover



ED 100A / ED 250A, single-leaf doors



ED 100A / ED 250A, double-leaf doors



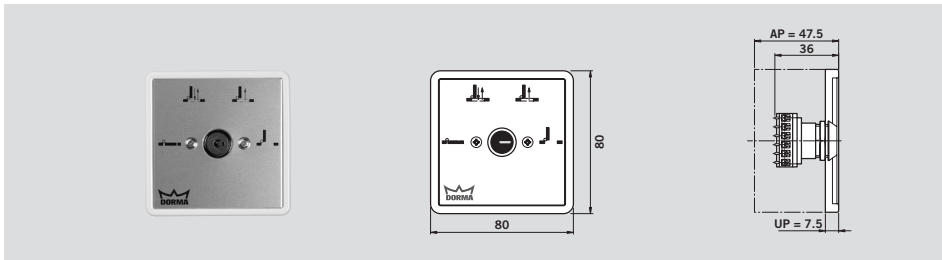
Connections

- | | | | |
|---|----------------------------------|---|---------------------------------------|
| 1 Power supply | 6 Pushbutton, inside | 12 ED 100A / ED 250A | 16 RM-N smoke detector, hinge side |
| 2 Emergency pushbutton, function: Emergency Off | 7 Pushbutton, outside | 13 ED 100A / ED 250A with continuous cover | 17 Optional manual release pushbutton |
| 3 Two-pole-and-earth socket | 8 Locking device | 14 RM-ED smoke detector | |
| 4 External PGS, mechanical | 9 Radar motion detector, inside* | 15 RM-N smoke detector, opposite hinge side | |
| 5 External PGS, electronic | 10 Remote actuation | | |
| | 11 Key switch | | |

* Additional external radar may also be used

OPTIONS - PROGRAM SWITCHES

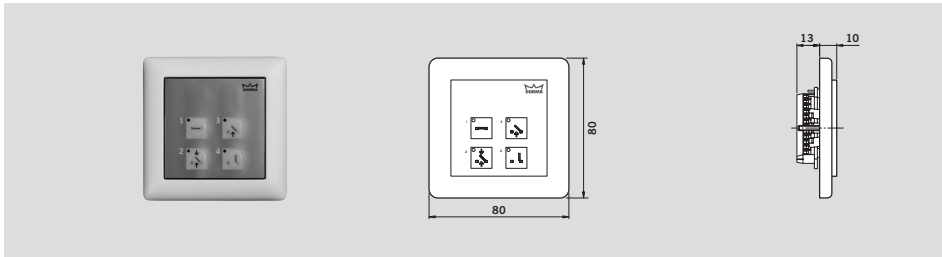
PG-D3



Program switch PG-D3

4-position, lockable, aluminium, white, flush-mounted version, Gira S-Color

EPS-D



EPS-D full-electronic program switch

In System 55 design, 4-position, lockable via code or additional TL-ST S55 key switch, membrane keypad, aluminium-coloured, white, flush-mounted version

ESR – Integrated door coordinator

The ESR set is installed inside the double-leaf operator on site. It is available as an individual component and is easy to

install. The system works similar to a drum brake and thereby ensures the proper functioning of the system. The brake is

released when the passing leaf is fully closed allowing the active leaf to close in turn.

OPTIONS - RADAR MOTION DETECTOR

Easy Motion radar motion detector with direction recognition



Radar motion detectors respond to movements. They detect approaching people within their detection range and trigger the activation (opening) signal at the door operator. Adjustable to allow for difficult installations.

Easy Motion

With direction recognition, black
black rain cover*

*DORMA recommends installing a rain cover for outdoor applications.

OPTIONS - SAFETY BARRIERS

Framed 'F' type safety barriers

BS EN 16005:2012 Power operated doorsets – Safety in use states: Barriers are intended to direct pedestrian traffic or to avoid pedestrians from entering non-safe zones. They shall be a) designed so that children cannot easily climb over or crawl under them, b) suitably secured, c) able to withstand forces occurring in normal service, d) a minimum of 900 mm high. Barriers, when used, shall not create new hazards.

DORMA offer the following range of barriers to ensure compliance.



Framed 'F' type with glass infill.

Silver painted aluminium frame. 10mm toughened glass infill.

Framed 'F' type with solid infill.

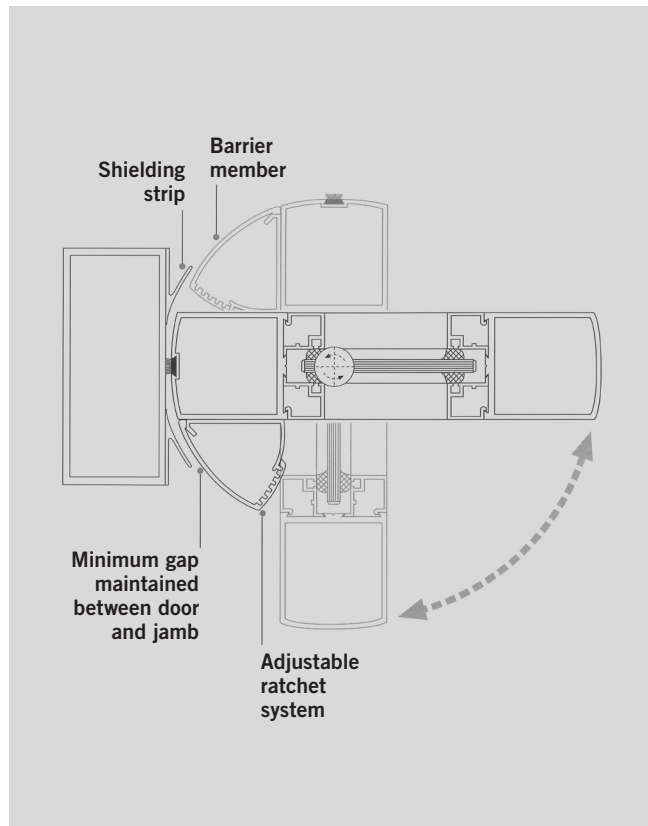
Silver painted aluminium frame. Silver painted aluminium sheet infill

OPTIONS - BACK EDGE PROTECTION

Pivotsafe and Hingesafe

BS EN 16005:2012 Power operated doorsets – Safety in use states: Danger points between the leaf and frame presenting a fingertrap hazard shall be avoided structurally or by an appropriate protective device or safeguards provided by means of protective measures.

To ensure that installations carried out by DORMA meet the strictest safety standards we offer a range of options suitable for the majority of door types.



Pivotsafe for pivoted doors.

Aluminium. Available in anodised or RAL painted finishes. Suitable for conventional doors with pivot centres between 50mm and 75mm

Hingesafe for hinged doors.

UVPC. Available in either white or brown.



INFARED SAFETY SENSORS

Safety



Reversing



Stop



DORMA 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 hold-

open time 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. DORMA infrared safety sensors are available in different lengths and may be supplied in the same colour as the operator.

IRS-4 active infrared safety sensor



IRS-4 active infrared safety sensor c/w cable & loop	Colour	Part number
IRS-4 With one sensor, length: 350 mm	silver	294350
IRS-4 With two sensors, length: 1100 mm	silver	294110

IRS-4 weather protection hood	Part number
IRS-4 Length: 350 mm	294352
IRS-4 Length: 1100 mm	294112

ESM Energy Saving Mode

The Energy Saving Mode is available when the IRS-4 is installed in combination with the ED 100A / ED 250A swing door operator.

The sensors automatically switch to Stand-By Mode as soon as the program switch at the operator is adjusted to OFF.



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