ED 100
ED 250

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Swing door operators
in modular design

SWING DOOR OPERATORS IN MODULAR DESIGN

With their ED 100 and ED 250 swing door operators, DORMA offers electromechanical swing door operators for various fields of application. Simply select the suitable version according to your prevailing door-leaf width and weight: While the ED 100 is suitable for doors with a weight of up to 100 kg and a door width of 1,100 mm, the ED 250 is designed for doors with a width of 1,600 mm or a door weight of 250 kg.
Both operators may be installed as push-version with standard arm and as pull-version with slide channel.

Apart from the extended cover, DORMA also provides an easy-to-install integrated door coordinator. With the aid of the DORMA Upgrade Cards, the system's functional range may be adapted to various door versions. The large scope of integrated functions furthermore ensures that the majority of possible applications may easily be realised.

Benefits
- Flexible configuration: Customers only pay for the functions they actually require.
- Cheap transport and easy mounting thanks to the system's reduced weight.
- Low-noise application due to multi-stage gear.
- Elegant visual appearance: DORMA Contur design provides an operator height of only 70 mm.
- Various functions as standard.

Fields of application
- For single- or double-leaf swing doors. Choose between the ED 100 and the ED 250 in accordance with your prevailing door-leaf width and weight.
- The pull-version with slide channel and the push-version with standard arm are suitable for application at fire and smoke doors.
- Thanks to its low- and full-energy version, the system is suitable to automate both rarely and heavily frequented internal and external doors.
- High torque for full-automatic swing doors with radar motion control.
- For interior and exterior doors.
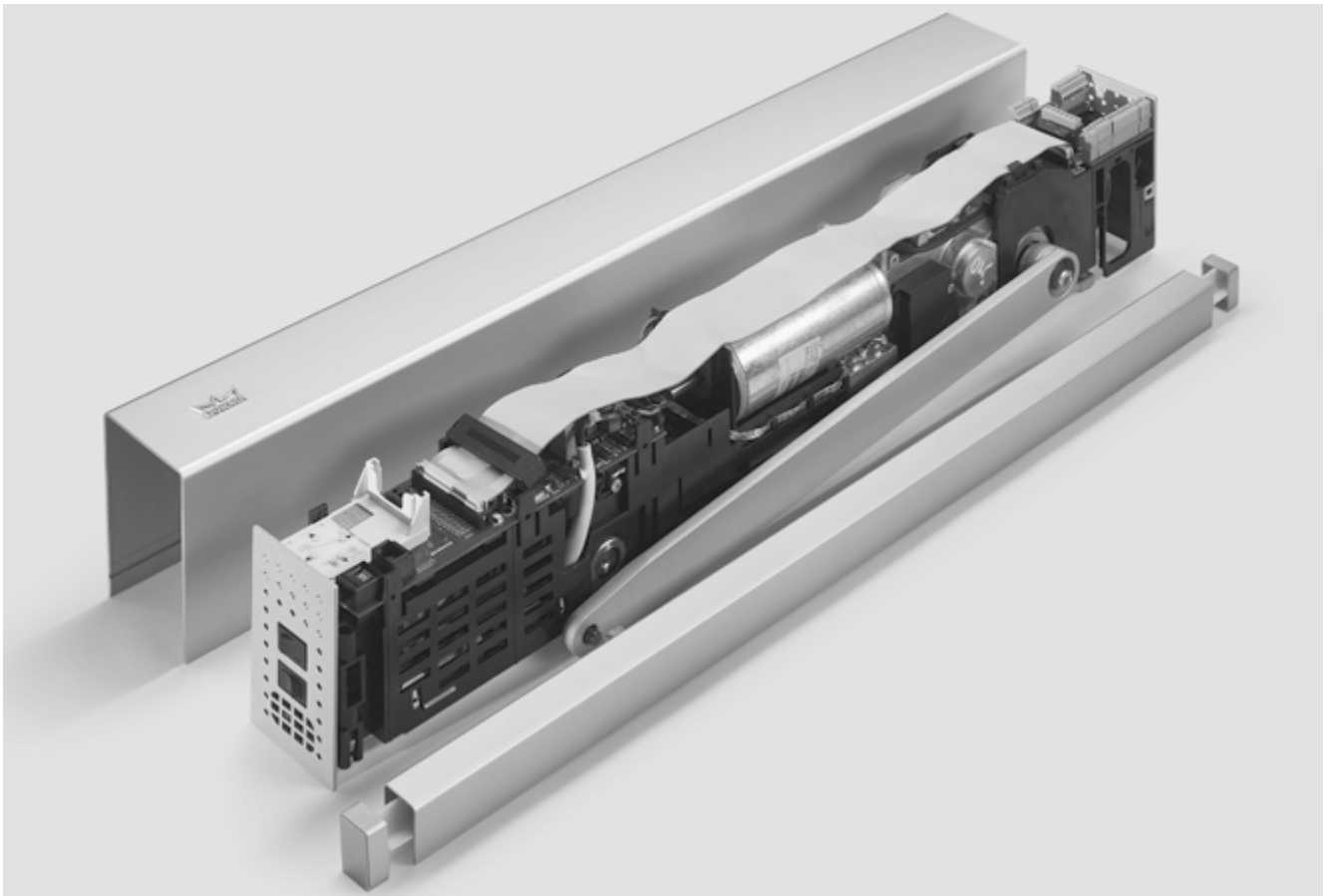
Our commitment to a sustainable future

We are committed to sustainable development as one of our business maxims. DORMA's aim is to ensure energy-saving and resource-conserving production, a high recycling ratio and the longevity of our quality products. Environmental Product Declarations (EPD), based on a holistic life cycle assessment, are used for the calculation of the sustainability of buildings. EPD certificates are on www.dorma.com available.

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 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	yes
Environmental product declaration in accordance with ISO 14025 Programme holder: Institute Construction and Environment e.V. Declaration number: EPD-DOR-2012211-E	yes

Integrated functions

Hold-open time		30 s, 180 s (optional)
Blocking behaviour		Reversing/Door closer function
Locking feedback contact		Motor lock
Wind load control		up to 150 N
Voltage-independent braking circuit		Adjustable via potentiometer
Electronic latching action pulse		Force adjustable
LED status indicator	green	Operating voltage indicator
	red	Malfunction indicator
	yellow	Service interval indicator
Integrated program switch		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
Update interface		Firmware update
TMP – Temperature Management Program		Temperature-related overload predection
IDC – Initial Drive Control		Driving phase optimisation
Cycle counter		0 – 1,000,000 (reasonably subdivided)
Power Assist Funktion		Servo-supported when opened manually
Push & Go Function		Door opens when moved manually by 4°

Inputs, terminals max. 1.5 mm²

Potential-free activator	Inside and outside (NO contact)
Energised activator	8 – 24 V DC/AC + 10 %
Night-/Bank (key switch)	NO contact/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/ Lock switch	NC contact/NO contact

Outputs, terminals max. 1.5 mm²

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

ED 100

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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

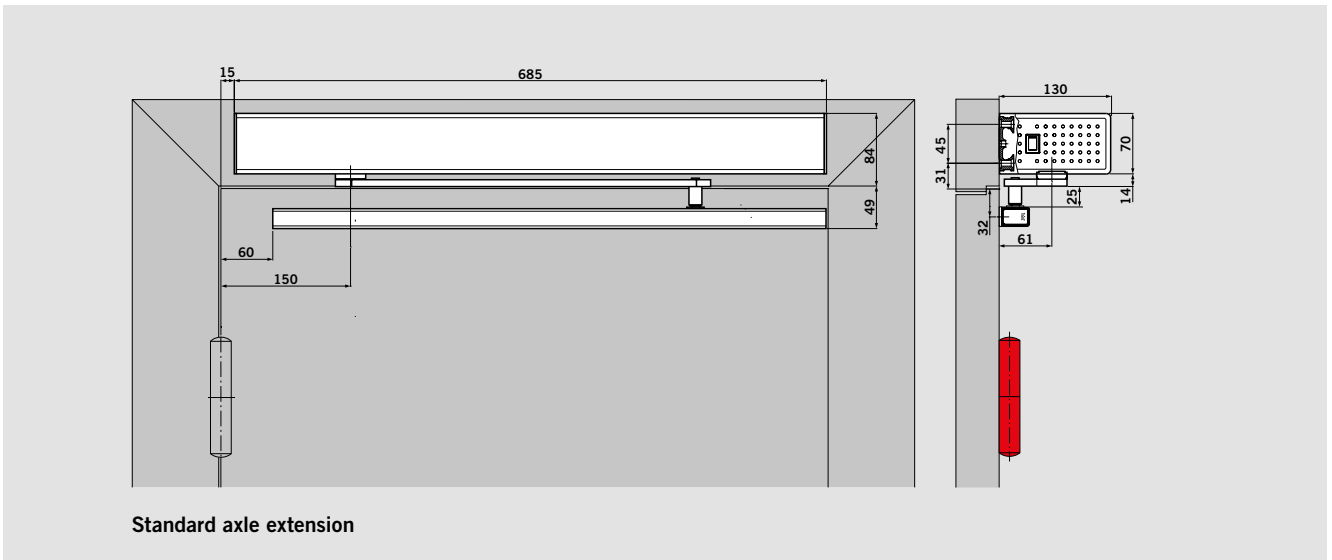|	
Max. power consumption	240 Watts
Closing force	EN 4–6, adjustable
Max. door-leaf weight for lintel depths of up to 300 mm	250 kg to 1,400 mm Door-leaf width
	190 kg for 1,600 mm Door-leaf width
Max. door-leaf weight for lintel depths from 301 mm to 500 mm	160 kg
Door-leaf width	700 – 1,600 mm
Door-leaf width for fire predection 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 or Fire Predection 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.
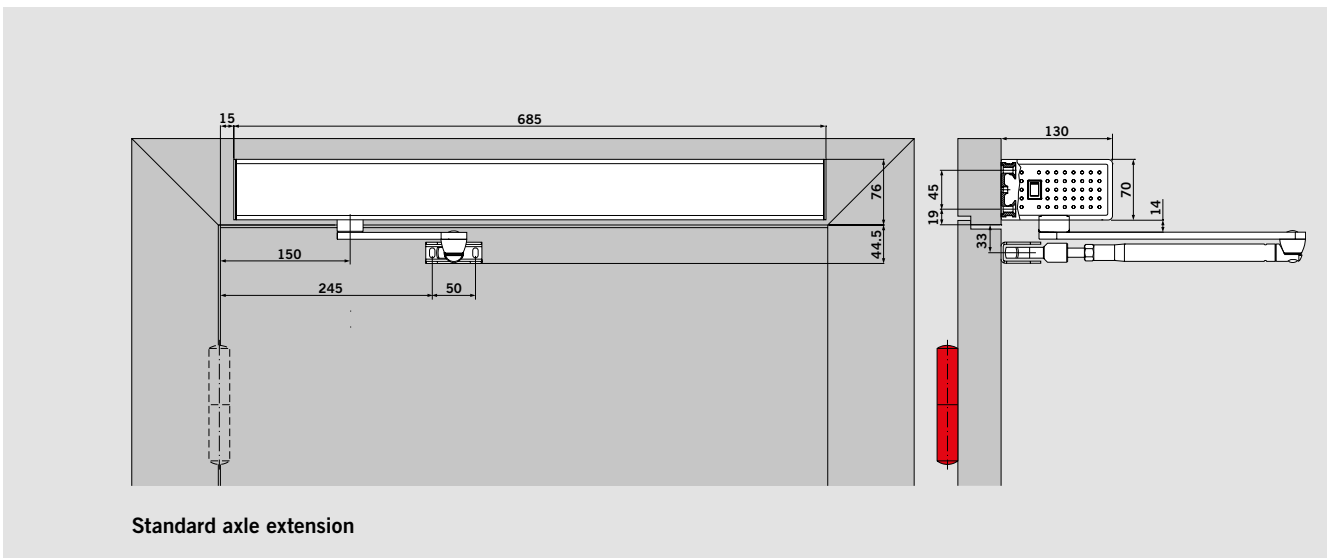
View: BASIC cover, pull-version, 12.5 mm pivot pin
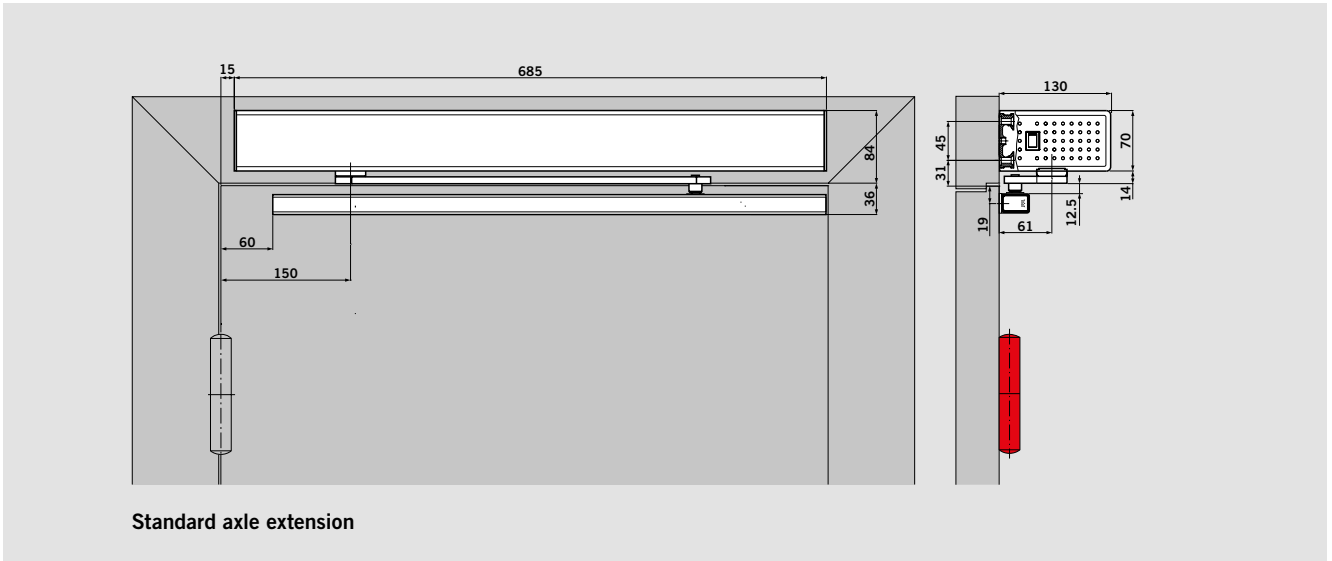
Standard axle extension

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

Standard axle extension

View: BASIC cover, push-version

Standard axle extension
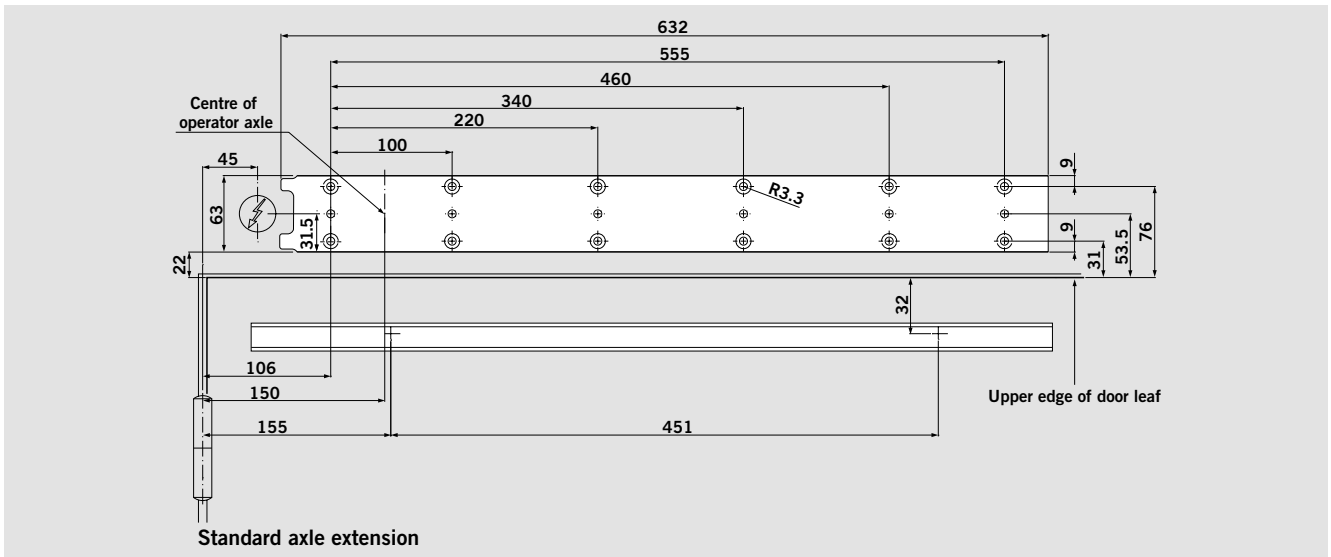
Drilling template: BASIC cover, pull-version, 12.5 mm pivot pin
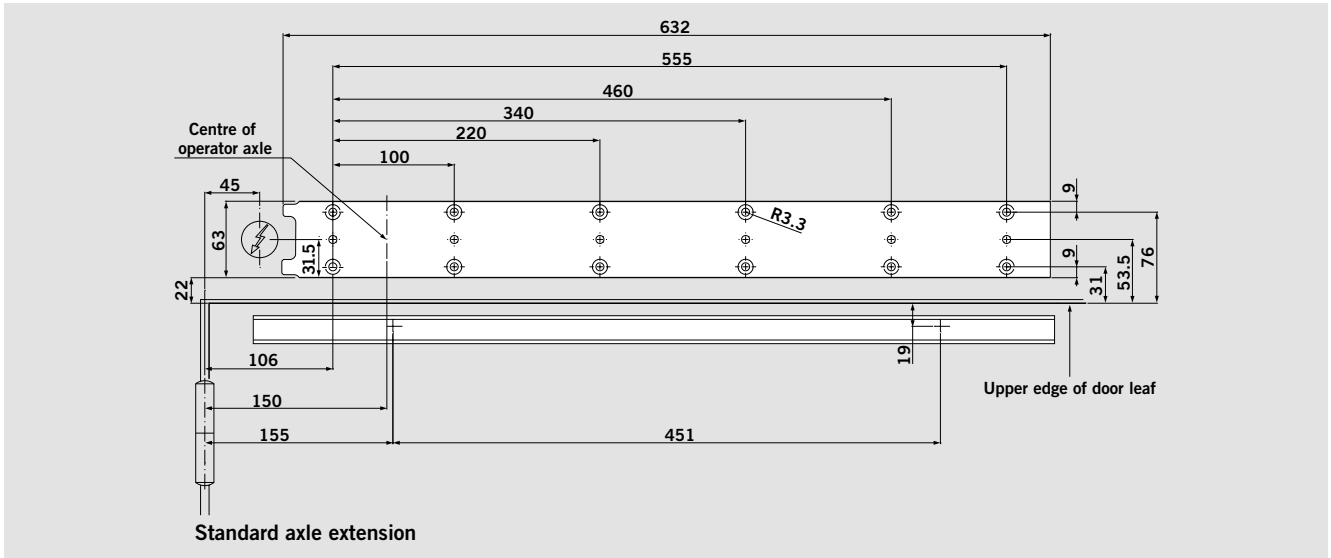
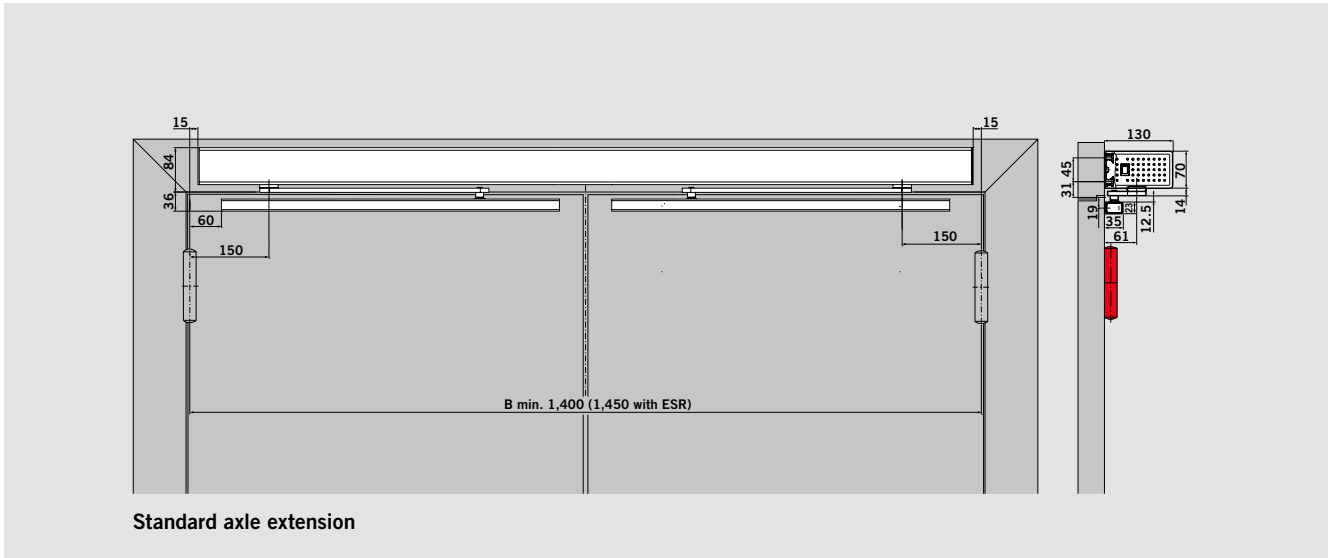**Drilling template: BASIC cover, pull-version, 25 mm pivot pin**

Drilling template: BASIC cover, push-version

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

Standard axle extension

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

Standard axle extension

View: PROFESSIONAL cover, push-version

Standard axle extension

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

Standard axle extension
The cable entry may be realised on the left or on the right side.

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

Standard axle extension
The cable entry may be realised on the left or on the right side.

Drilling template: PROFESSIONAL cover, push-version

Standard axle extension
The cable entry may be realised on the left or on the right side.
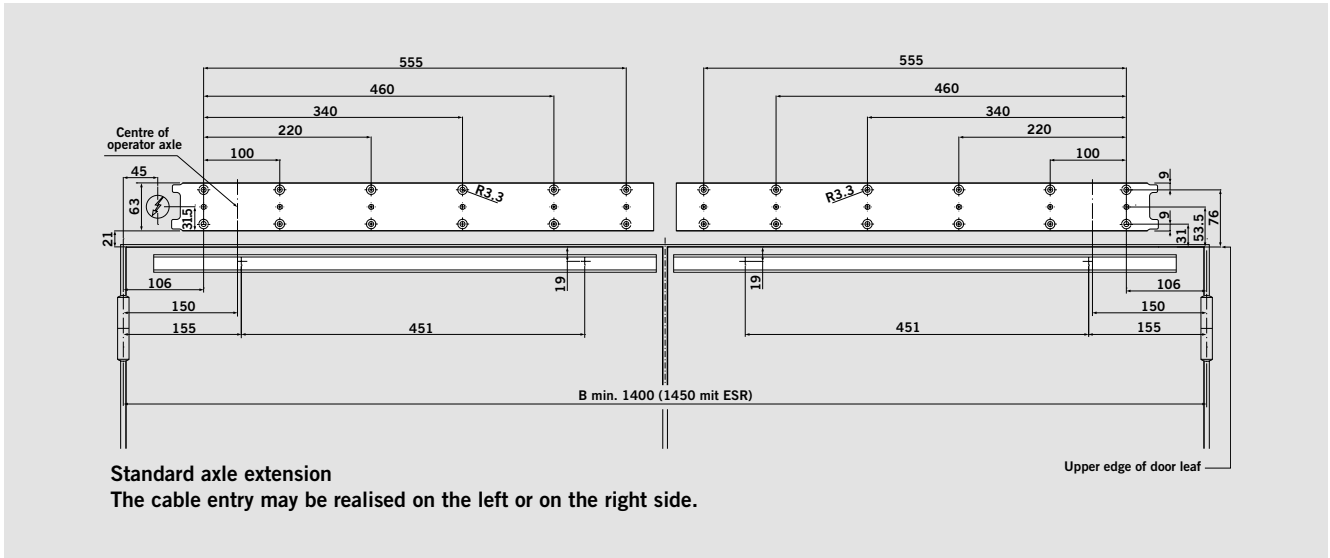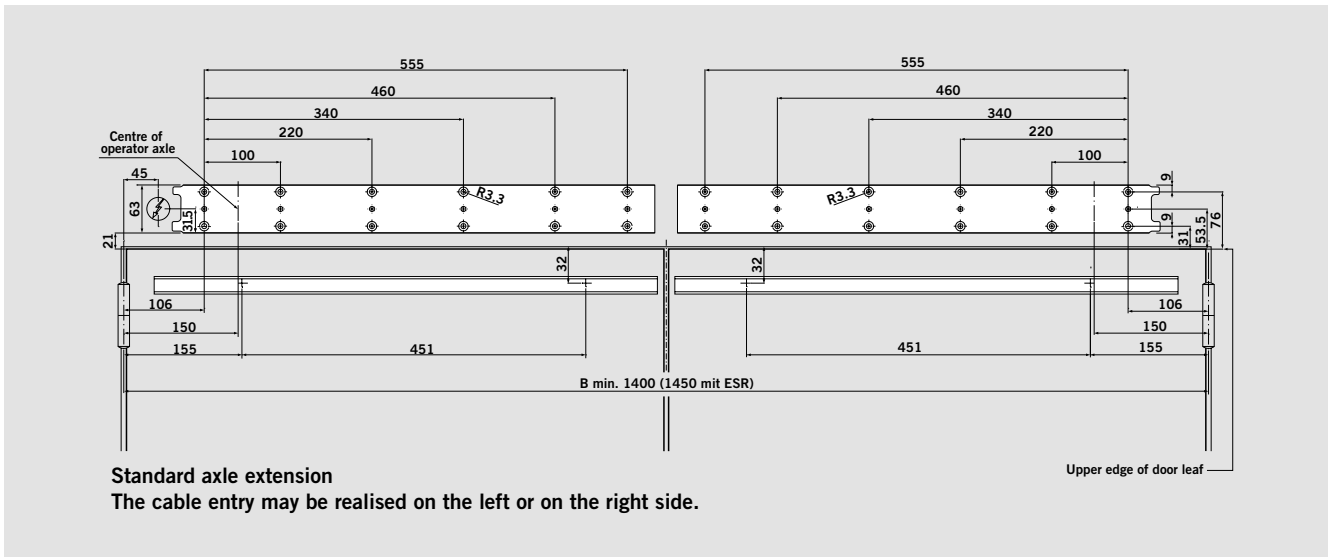
SYSTEM SETUP

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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
3 Axle connection on both sides
4 Drive system
(motor/gear/spring)

5 Adjustment of closing force
6 Control unit
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

System	Specification	Order No.
ED 100 swing door operator 230 V	EN 2 - 4, push-version, fire predection; EN 2 - 4, pull-version, fire predection	29222301
ED 250 swing door operator 230 V	EN 4 - 6, push-version, fire predection; EN 4 - 6, pull-version, nor special requirements	29202301
	EN 4 - 6; pull-version; fire predection	29202302
	EN 4 - 5; pull-version; fire predection	29202303

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 or Fire Predection Upgrade Card,   **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.

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

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 servofunction 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 barrier-free 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.
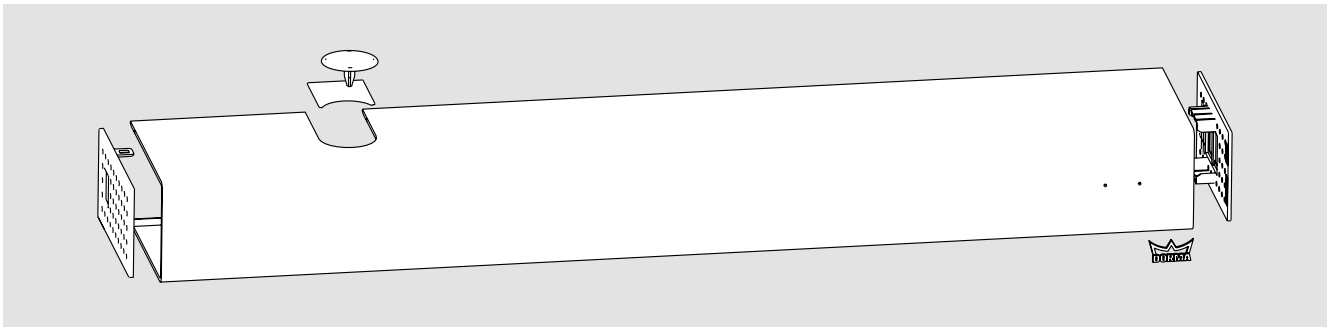
COVERS

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
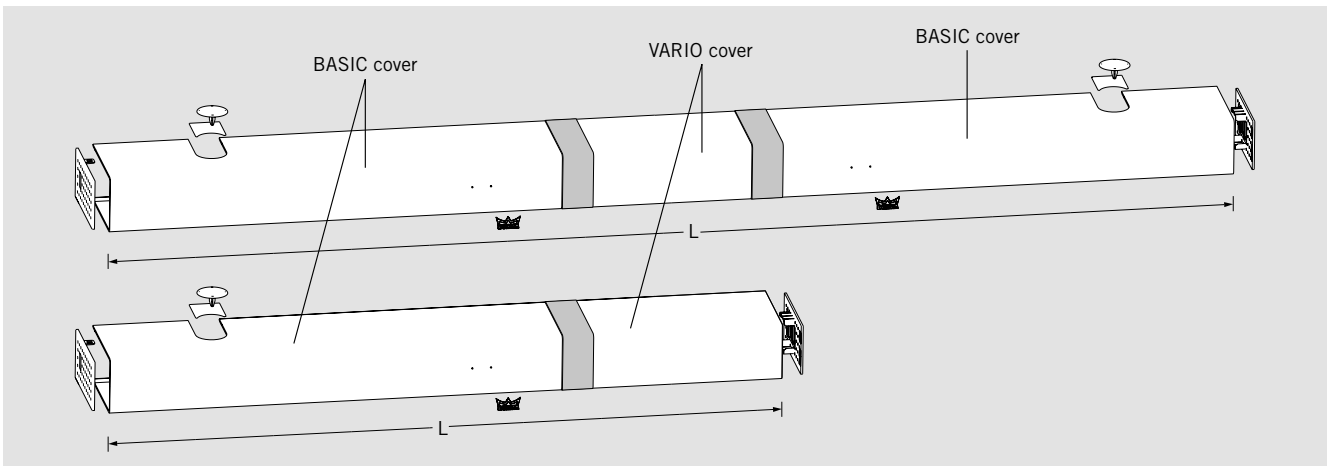
where the clearance between the hinges exceeds 1,400 mm (1,450 mm with ESR).

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

|	Colour	Order No.
ED BASIC cover	silver-coloured	29241001
	white	29241002
	special colour	29241003

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 sawed 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 sawed to the appropriate size on site.
The VARIO cover is silver-coloured and available in two versions.

Number of door leaves	Silver-coloured	Order No.
single-leaf version		
800 mm – 1,600 mm	2200 mm	29242001
double-leaf version		
1,500 mm – 2,200 mm	2200 mm	29242001
1,500 mm – 2,800 mm	2800 mm	29242002

ED PROFESSIONAL cover
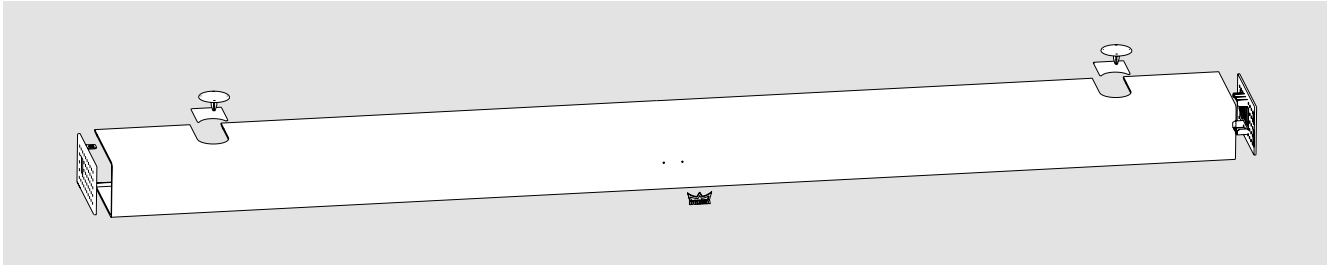
This aluminium cover is designed to create double-leaf swing door systems.
The ED PROFESSIONAL cover is a continuous and seamless cover and available in lengths from 1,400 mm (1,450 mm with ESR) to 3,200 mm.

With the PROFESSIONAL cover, also single-leaf operators may be extended to a length of up to 3,000 mm towards the main closing edge.

	Colour	Order No.
ED PROFESSIONAL cover	siver-coloured or as special colour	29243003

ARM

ED slide channel set

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

Mounting version	Colour	Order No.
pull-version	silver-coloured	29275001
	white	29275002
	special colour	29275003

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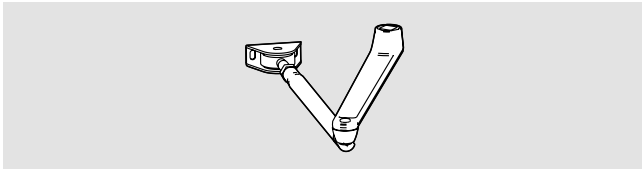
ED 100 and ED 250: For lintel depths 0 – 225 mm

| Mounting version	Colour	Order No.
Push-version	silver-coloured	29271001
	white	29271002
	special colour	29271003

ED standard arm 500
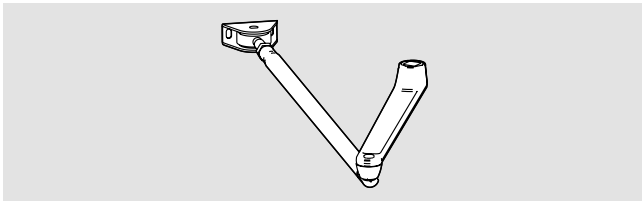
ED 100: For lintel depths 226 – 300 mm
ED 250: For lintel depths 226 – 300 mm and 250 kg
        For lintel depths 301 – 500 mm and 160 kg

| Mounting version	Colour	Order No.
Push-version	silver-coloured	29272001
	white	29272002
	special colour	29272003

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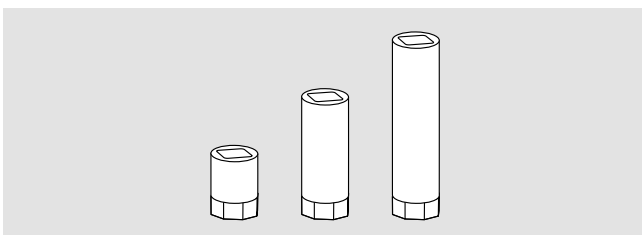
The axle extensions 30 and 60 mm are suitable for all arm versions of the ED 100 & ED 250. The axle extensions 90 mm is only suitable for all arm versions of the ED 250. The axle extensions are available in chromated black.

| ED axle extension	Order No.
30 mm	29278001
60 mm	29278101
90 mm	29278201

DORMA UPGRADE CARDS

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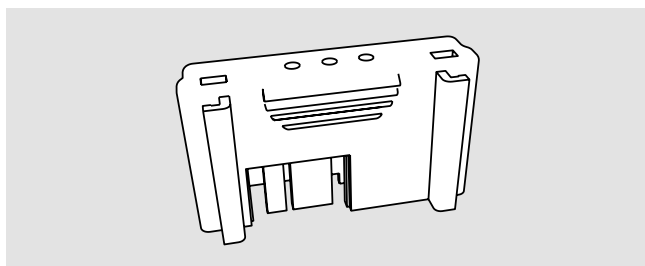
DORMA Upgrade Cards are designed to increase the functional range of our swing door operators. The installation of the cards is very easy: Just insert the respective Upgrade Card into the proper slot at the control unit and the software will be transferred auto-matically.

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

Recommended weight/dimensions for the installation of the Full-Energy Upgrade Card
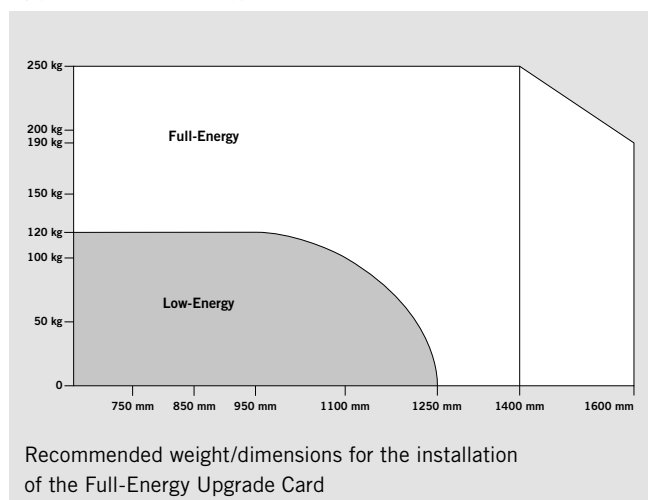
ED Upgrade Card Full-Energy	Colour	Order No.
ED 100	blue	29251022
ED 250	blue/ transparent	29251020

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 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 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 the swing path has to be monitored by safety sensors (mounted onto the door leaf).

Upgrade Card Fire Protection ED 100 – red

When the ED 100 is installed at fire and smoke doors with application in preventive fire protection, the Upgrade Card Fire Protection is required for compliance with the guidelines for hold-open devices. Apart from its smoke detector connection (as monitored current loop), the card also offers a manual reset function (by opening the door), a full-energy function and the system may be triggered at the door leaf.

Thanks to the card's integrated full-energy function, no additional Full-Energy Upgrade Card is required.

Manual reset by opening the door
A triggered hold-open system has to be reactivated manually. As soon as the function has been activated, it suffices to open the door until it has almost reached the adjusted opening width.

Triggering at door leaf
It must be possible to trigger a hold-open device manually in order to close the door. With ED 100 & ED 250, users may deactivate the hold-open function by a slight push against the door leaf. So no pushbutton is required to trigger a closing cycle; however, it is still available as an option.

ED Upgrade Card Fire Protection	Colour	Order No.
ED 100	red	29252022
ED 250	red/ transparent	29252020

Upgrade Card Professional

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 hold-open time of up to 180 seconds may easily be realised with the aid of the Full-Energy Upgrade Card.

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 ex-piry 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 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.

	Colour	Order No.
ED Upgrade Card Professional ED 100 & ED 250	green	29253001

Upgrade Card DCW®

The Upgrade Card DCW® provides the operator with a DCW® Bus connection.
The integrated DCW® driver sup-ports the following accessory:

Emergency exit motor lock with self-locking action DORMA SVP DCW®
The required procedure is controlled by the operator while the operator and the motor lock communicate via the DCW® bus.

ST 32 DCW®
The key switch to trigger the Night-/Bank function is suitable for application as activator outside the secured area (if you turn the key clockwise). When the key switch is used in conjunction with the DCW® program switch: the program switch is adjusted to OFF by turning the key counter-clockwise in order to deny access after closing of business or during work breaks. Turn the key to the right for more than 3 seconds in order to trigger the AUTOMATIC function.*

	Colour	Order No.
ED Upgrade Card DCW® ED 100 & ED 250	yellow	29254001

* Depending on regional standards, provisions and regulations regarding the safeguarding of buildings, further measures to shut off the building may be required.

UPGRADE CARD BARRIER-FREE TOILET
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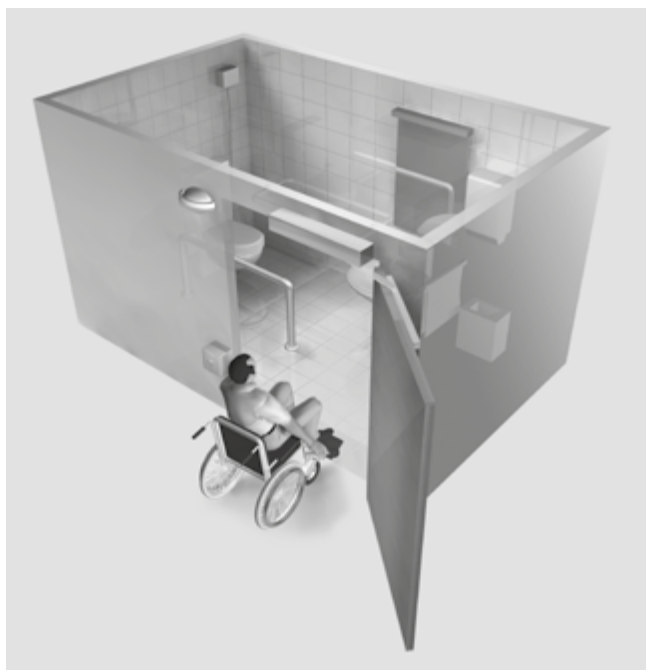
With the aid of the upgrade card, the required special functions are allocated to the in- and outputs of the control unit to facilitate the connection of the respective components.

System overview

The system requires an electric strike, a motor lock or similar devices to keep the door closed. Furthermore, the door is equipped with a lever handle on the inside and a knob on the outside so that the door may only be opened from the inside and the outside with the corresponding key. In addition, large-surface pushbuttons are installed on the inside and on the outside of the toilet while a status indicator (vacant/occupied) on the outside and an occupied light indicator on the inside of the toilet indicate the current status. As an option, we provide an emergency pushbutton (to be mounted on the outside), which allows to open the door immediately in the event of an emergency.

Please note that DORMA recommends connecting the barrier-free toilet to an additional emergency call system (by others).

Entering the barrier-free toilet

While the toilet is vacant, the status indicator on the outside is green. Use the pushbutton on the outside to trigger an automatic opening cycle. The door will close automatically on expiry of the adjusted hold-open time. As soon as the door is fully closed, users may deactivate the external pushbutton via the pushbutton on the inside so that the door is no longer accessible from the outside. At the same time, the external status indicator switches from green to red in order to indicate that the toilet is occupied. Also the internal status indicator turns red to show the user inside the toilet that the door is now locked.

Leaving the barrier-free toilet

Users may open the door either automatically via the internal pushbutton or manually by using the lever handle. At the same time, the system emits a 24 V DC message, which may be used to flush the toilet automatically. The door closes on expiry of the adjusted hold-open time. The status indicator on the outside switches from red to green and the light indicator on the inside goes out as soon as the door has reached its "closed" position.

Emergency opening from the outside

The system is ready for connection of an emergency pushbutton so that, in the event of an emergency, users may deactivate the locking function and the door can only be opened by hand. In this case the door not longer operates automatically.

As an alternative, the door may be opened with the aid of a key from the outside (in the event of an emergency). In both cases, the status indicator on the outside switches from red to green and the light indicator on the inside goes out.

|	Order No.
Upgrade Card Barrier-Free Toilet	29253002

Functional characteristics

In the event of a fire, the ceiling-mounted or lintel-mounted smoke detectors detect emitted smoke and deactivate the automatic opening of the door. In this case, the operator will close the door via the integrated spring and can no longer open it automatically. Apart from the automatic activation via smoke detector, the system may also be triggered manually via the optional manual release pushbutton or when the door is closed by hand. In order to reactivate the system, the door has to be opened manually.
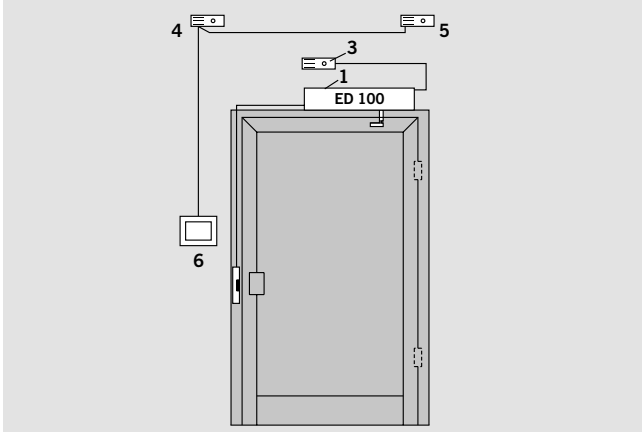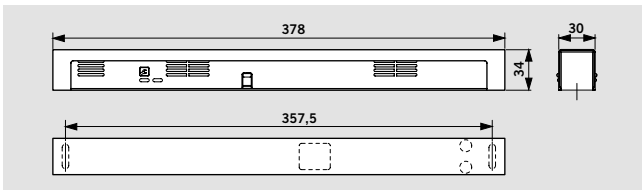

1 ED 100/ED 250
2 ED 100/ED 250 with continuous cove
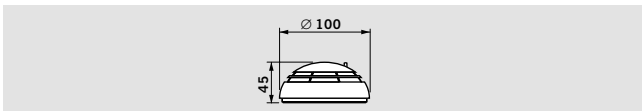**3** RM-ED smoke detector
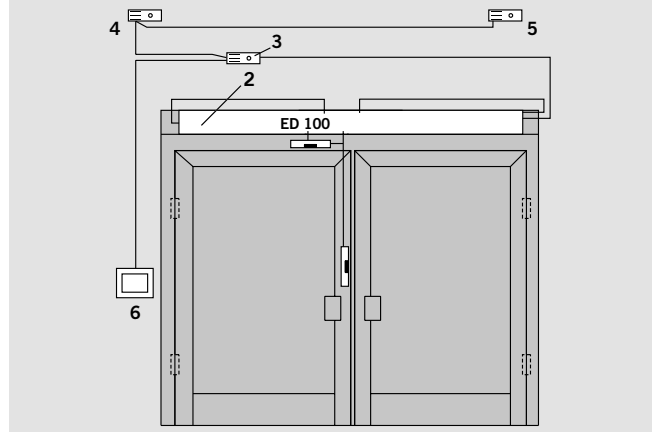
4 RM-N smoke detector, opposite hinge side
5 RM-N smoke detector, hinge side
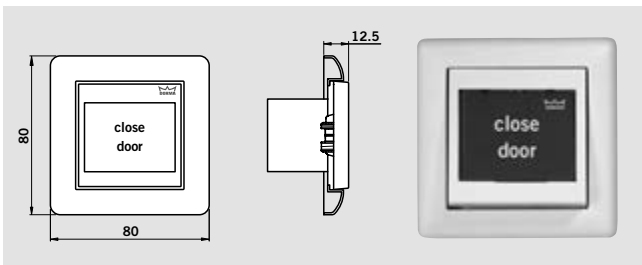**6** Optional manual release pushbutton "Tür zu"
 (German for "close door")

DORMA RM-ED lintel-mounted smoke detector

	Colour	Order No.
RM-ED	silver-coloured	64840001
	white	64840011
	special colour	64840009

DORMA RM-N ceiling-mounted smoke detector

	Colour	Order No.
2 x RM-N	white	64830900

DORMA HT manual release pushbutton

close door

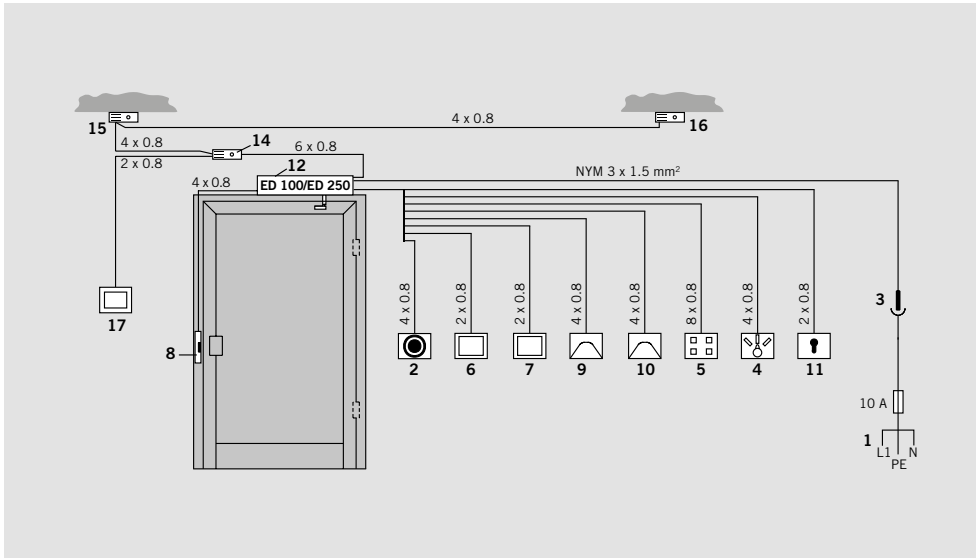|	Colour	Order No.
Flush-mounted version	white	19144601175
Box for surface-mounting for DORMA HT (No picture)	white	05158533332

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.
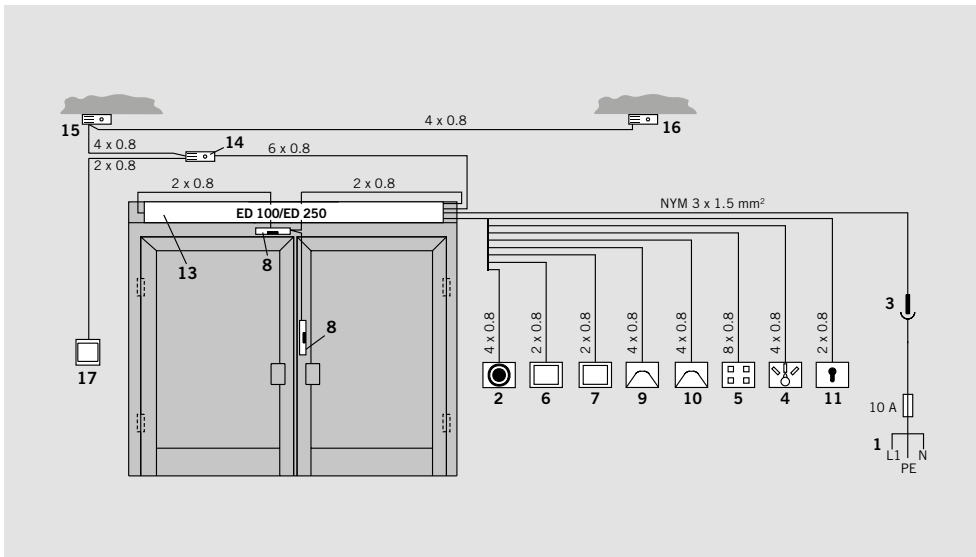
	Order No.
ED ESR set	29261001

ED 100 & ED 250   single-leaf doors

ED 100 & ED 250   double-leaf doors

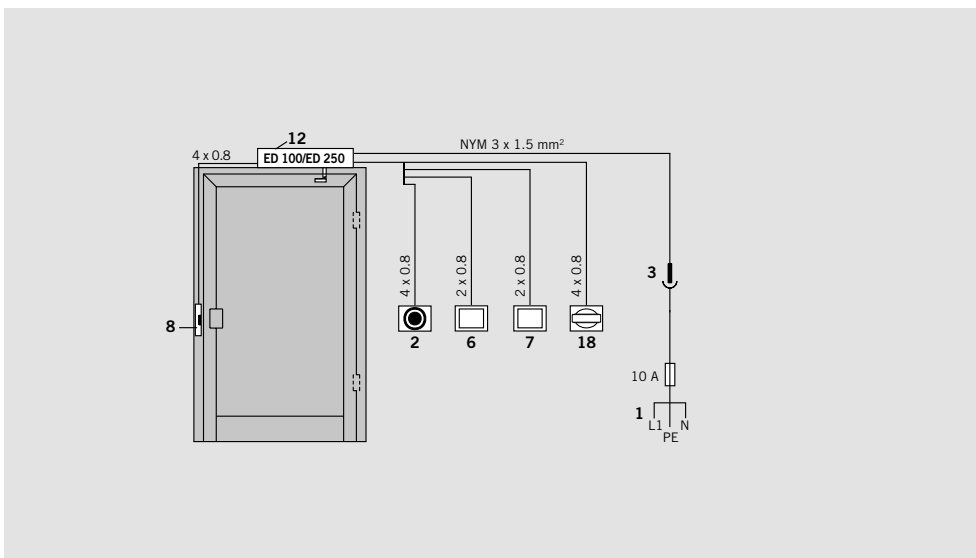

ED 100 & ED 250   single-leaf doors, barrier-free toilet

Connections
1 Power supply
2 Emergency pushbutton, function: Emergency Off
3 Two-pole-and-earth socket
4 External PGS, mechanical
5 External PGS, electronic
6 Pushbutton, inside
7 Pushbutton, outside
8 Locking device
9 Radar motion detector, inside
10 Radar motion detector, outside
11 Key switch
12 ED 100/ED 250
13 ED 100/ED 250 with continuous cover
14 RM-ED smoke detector
15 RM-N smoke detector, opposite hinge side
16 RM-N smoke detector, hinge side
17 Optional manual release pushbutton "Tür zu" (German for "close door")
18 Red-green-display

PROGRAM SWITCHES

—

External program switches are available in different designs and have been conceived for all kinds of demands. They offer various options, from a mechanical to a full-electronic version, alternatively also l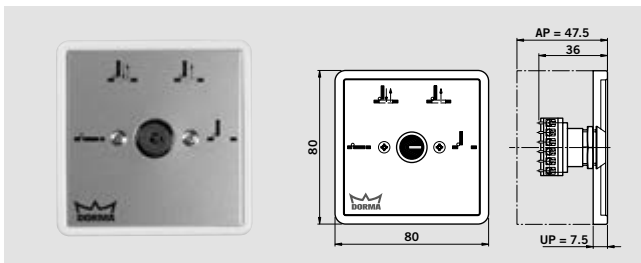ockable via profile half-cylinder or in a full-electronic way via code. These switches are designed to replace the internal program switch.
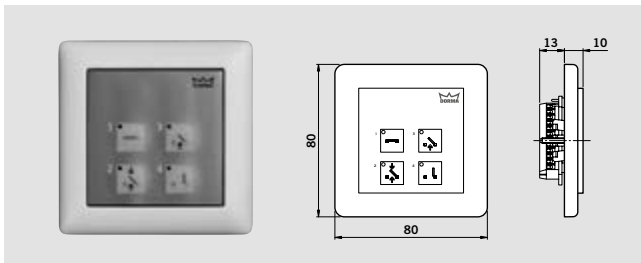
Mechanical
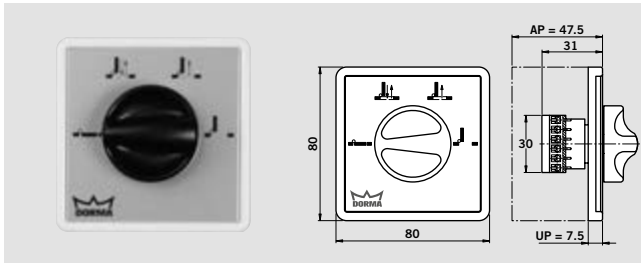
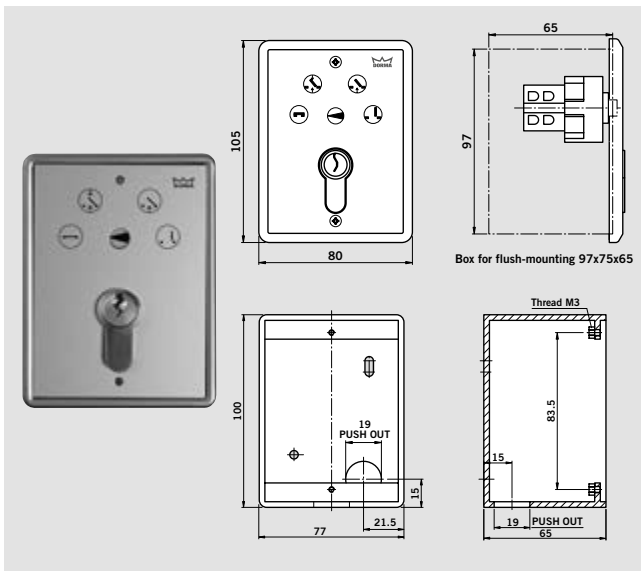| Program switch	Colour	Order No.
4-position, aluminium, flush-mounted version	white, Gira S-Color	19135404150
Box for surface-mounting		5080531332

Mechanical and lockable

Program switch	Colour	Order No.
4-position, lockable, aluminium, flush-mounted version	white, Gira S-Color	19135604150
Box for surface-mounting		5080531332

Electronic

| Full-electronic Program switch	Colour	Order No.
In System 55 design, 4-position, lockable via code or additional TL-ST S55 key switch, membrane keypad, aluminium-coloured, flush-mounted version	white	16557001150
Box for surface-mounting		5158533332

Mechanical with profile half-cylinder

| Program switch	Colour	Order No.
4-position, lockable via profile half-cylinder, white, flush-mounted version	white	19141801170
Box for surface-mounting		19142201170

PUSHBUTTONS
—

Pushbutton
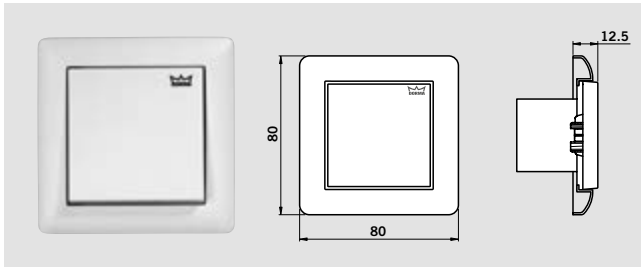
	Colour	Order No.
Single-pole changeover contact, standard frame, flush-mounted version, System 55	white	19144701170

Key switches KT 3-1 surface-mounted version/flush-mounted version
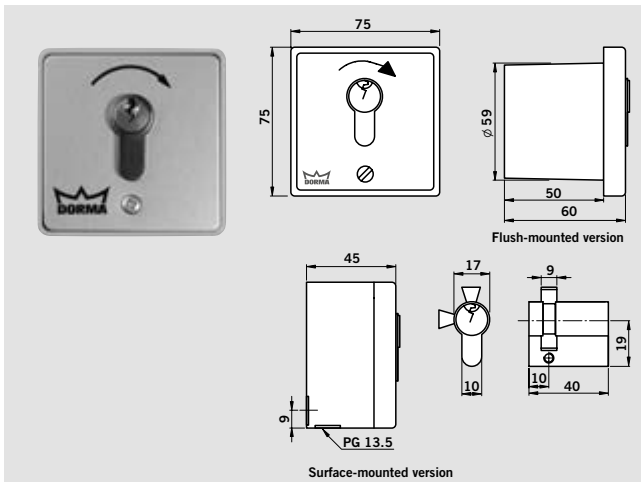
	Order No.
1 NO contact, with profile half-cylinder (may be replaced by any standard profile half-cylinder), key only retractable in neutral position, aluminium, metal, 75 x 75 x 60 mm	
KT 3-1 flush-mounted version	05054531332
KT 3-1 surface-mounted version	05054631332

Key switches ST 32
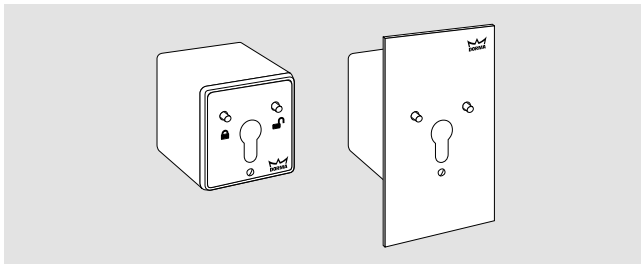
ST 32 tamper-proof key switch with LED display	Order No.
Silver-coloured aluminium cover with face plate, suitable for flush- and surface-mounting, to lock/unlock the door system from the outside Approximate dimensions of housing (W x H x D): 75 x 75 x 67 mm Face plate (flush-mounted): 90 x 100 x 2 mm	56043201

CT 4/1 code keypad as control for locking devices
(keypad and electronic module have to be combined)

	Colour	Order No.
MTB 4/1 metal keypad to enter the activation code (to open the door) and for programming purposes, surface-mounted version 75 x 75 x 11.5 mm		05079331332
EB 4/1 Electronic module, incl. 2 m connection cable, plastic cover, surface-mounted version	black	05063431332

The code keypad does not require optional software for simple access authorisations. The water resistant metal keypad is also suitable for installation in the exterior of a building. Thanks to Plug & Play, the 4- or 6-digit code may be changed directly with the aid of the keypad.

The respective control unit is installed within the security zone and may be connected to all DORMA operators. Surface-mounted version, 230 V/50 Hz, 1.5 V A, 1 x UM potential-free relay contact 8 A, 250 V, connections: max. 2.5 mm, 75 x 75 x 11.5 mm
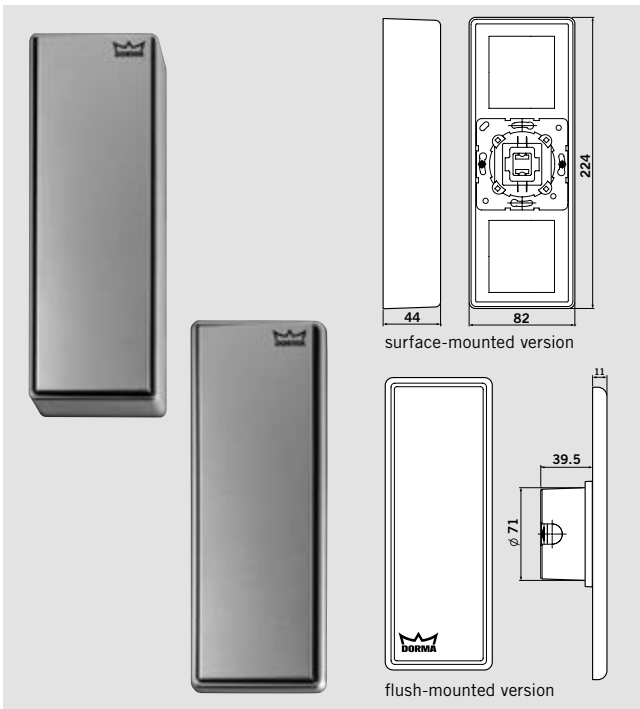
PUSHBUTTON (ELBOW)

Large-sized pushbutton (elbow)
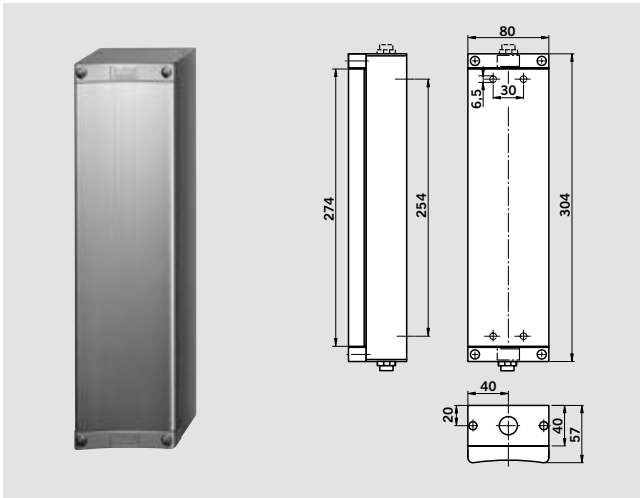
	Colour	Order No.
Flush-mounted version/ surface-mounted version, electrical, 304 x 80 mm	silver-coloured	90410015
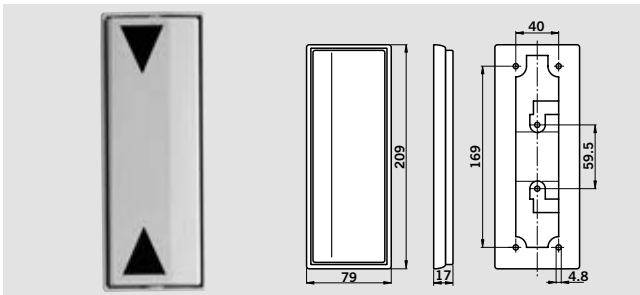
	Colour	Order No.
Surface-mounted version, extra-flat design, plastic, 209 x 79 x 17 mm	grey	05080231332

Large-sized pushbuttons

surface-mounted version

flush-mounted version

Large-sized pushbuttons	Colour	Order No.
With box for flush-mounting, without switch pad, incl. switch, 224 x 82 mm	silver-coloured	05095531332
With box for surface-mounting, without switch pad, incl. switch, 224 x 82 x 44 mm	silver-coloured	05095231332

| Switch pad	Order No.
Stainless-steel, suitable for surface-mounted version/ flush-mounted version, 214 x 70 mm	05095431332
Stainless-steel, suitable for surface-mounted version/ flush-mounted version, 214 x 70 mm, lettering "Tür auf" (German for "open door") (No picture)	05095331332

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 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.

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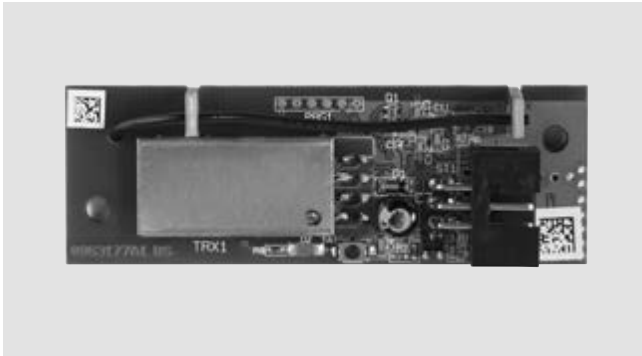
The new BRC-R radio receiver may easily be installed inside the operator as its size is adapted to the available space. Simply fix it on the motor-gear-unit with two screws. We offer three different types of transmitters. Up to 1024 transmitters may be allocated to a BRC-R.

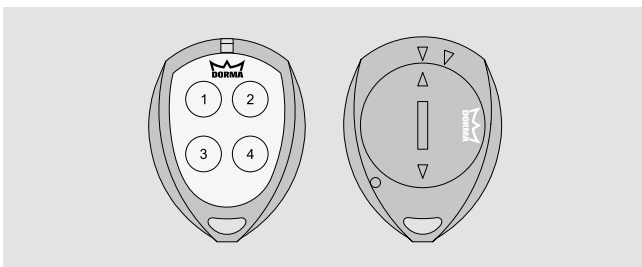|	Order No.
Receiver	29302002

BRC-W

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	29301002

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 transmitter	29301004

BRC-T

Battery-operated transmitter, designed for installation into a pushbutton with deep box for flush-mounting or into a surface-mounted large-sized pushbutton. In connection with the DORMA stainless-steel large-sized pushbutton it is also suitable for heavier conditions.

	Order No.
Battery-operated transmitter	29301003

MOTION DETECTORS
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Motion detectors	Designation	Specification	Colour	Order No.
	Prosecure Easy Motion Mono	Full-automatic access on pulse activation; adjustable inclination angle, inclined field of view and field size, LED status indicator, not in accordance with EN 16005 Ambient temperature –20 °C to 60 °C	black silver coloured white	86001000 86002000 86003000
	Prosecure Easy Motion Stereo	Adjustable inclination angle, inclined field of view and field size, direction recognition, cross-traffic suppression, immunity, LED status indicator, not in accordance with EN 16005 Ambient temperature –20 °C to 60 °C	black silver coloured white	86011000 86012000 86013000
	Prosecure Opti Motion Mono	Adjustable inclination angle, inclined field of view and field size, direction recognition, immunity, LED status indicator Ambient temperature –20 °C to 60 °C	black silver coloured white	86101000 86102000 86103000
	Prosecure Opti Motion Stereo	Adjustable inclination angle, inclined field of view and field size, direction recognition, cross-traffic suppression, Slow Motion function, immunity, LED status indicator Ambient temperature –20 °C to 60 °C	black silver coloured white	86111000 86112000 86113000

| Accessories	Designation	Specification	Order No.
	Rain protection cover	For Easy Motion detectors	86031900
	Rain protection cover/ ceiling angle bracket	For Opti Motion detectors	86131900
	Prosecure Remote Control	Remote control for programming Prosecure Opti Motion detectors or products from other brands, for the convenient and exact adjustment of high-mounted sensors, self-explaining menu navigation, LCD display, ambient temperature -20 °C to 60 °C	86991900

INFRARED SAFETY SENSORS

Safety

Reversing

Stop

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
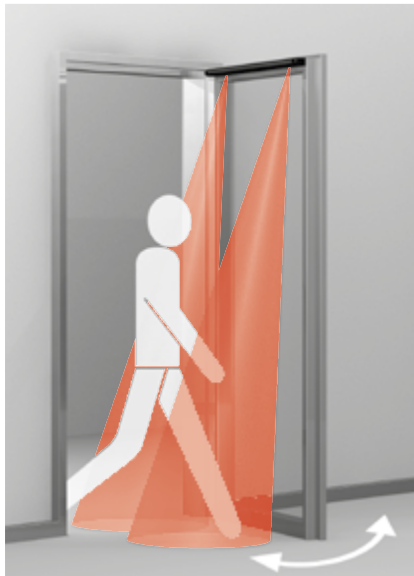
institute the door to reverse and open as soon as an obstruction is detected in the course of a closing cycle. Then the hold-open times starts anew.
On the hinge side, the infrared safety sensor will interrupt the automatic movement of the door whenever it detects an obstruction; the door closes on

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.

Prosecure Opti Save active infrared safety sensor

Prosecure Opti Save safety sensors are excelled by their easy commissioning and adjustment. The sensors' monitoring quality within the driving path depends on the condition of the floor in the

close range of the door system. Prosecure Opti Save sensors are suitable to monitor standard floors and floors with low reflectance levels, gratings or floor mats.
The operator and the Prosecure

Opti Save communicate bidirectionally via the integrated communication interface. The system performs the cyclical sensor test and activates the Energy Saving Mode (ESM) in a fast and reliable way, while the

operator automatically assesses its utilisation degree and switches the Prosecure Opti Save to Energy Saving Mode as soon as it is not required.

Active infrared safety sensor Prosecure Opti Save		Order No.
Prosecure Opti Safe 700	with 1 master module and 2 pairs of transmitter/receiver modules, Length 700 mm, Type-approved in accordance DIN 18650 and EN 16005	8650**X**070
Prosecure Opti Safe 900	with 1 master module and 2 pairs of transmitter/receiver modules, Length 900 mm, Type-approved in accordance DIN 18650 and EN 16005	8650**X**090
Prosecure Opti Safe 1200	with 1 master module and 2 pairs of transmitter/receiver modules, Length 1200 mm, Type-approved in accordance DIN 18650 and EN 16005	8650**X**120
Prosecure Opti Safe 1600	with 1 master module and 4 pairs of transmitter/receiver modules, Length 1600 mm, Type-approved in accordance DIN 18650 and EN 16005	8650**X**160

X 1 = Black
2 = Silver-coloured
4 = Special colour
5 = White

FURTHER ACCESSORIES
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Red-green display

The red-green display indicates the status of the door system. The extravagant, semicircular designer light indicator is made of acryl, manufactured according to the latest LED technology and equipped with a high-grade LED display (24 V, brilliancy according to DIN VDE 0834, part 1). Its light signals are visible from both sides and the front – even from a large distance. Light indicator, 24 V DC, LED display (red, green, white).

Order No.
05111631332

Emergency power supply unit

In order to provide unlimited safety to all visitors of a building, existing door systems have to remain fully functional even in the event of a power failure. This is achieved with the aid of the DORMA MT 700 UPS emergency power supply unit. Depending on the connected accessories, this unit can 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. UPS MT 700 V A emergency power supply unit, integrated in 230 V power supply line

Dimensions:
160 x 120 x 360 mm
(H x W x D)

Order No.
05094531332