

A black and white photograph of a modern automatic bi-folding door. The door is partially open, showing the glass panels and the metal frame. A small, dark, circular sensor is mounted on the ceiling above the door. The background is a plain, light-colored wall.

FFT  
FFT-F  
—

Automatic bi-folding doors

## Minimum space requirement, easy mounting, economical and safe

Whenever the door opening is narrow or if there is not much depth available – or both – then DORMA Automatic bi-folding doors may well be the ideal application. They ensure maximum utilisation of structural widths – with structural opening widths of almost the same dimension. They do not swing out when opened and their depth is only a quarter of the clear passage width.

The DORMA Automatic range of bi-folding doors includes not only FFT standard doors but also FFT-F doors with approval for application in emergency exits and escape routes. The system offers a wide range of sizes to ensure maximum cost-efficiency for various fields of application. The doors are supplied ready-to-install and may be installed and commissioned by a DORMA team if desired.

### Convenient, reliable and safe

The electronically-controlled ES 90 and ES 90 FST operators are fully reliable to ensure smooth and fast opening and closing cycles. Furthermore, by continuously monitoring the passage area,

they also ensure maximum user safety. Thus the door panels remain stationary during user presence and are automatically stopped at the merest contact with an obstruction. Integrated seals provide effective protection against heat loss and draught. The jam-free hinges operate free of noise. No floor guide is required for doors with clear passage widths below 1,500 mm.

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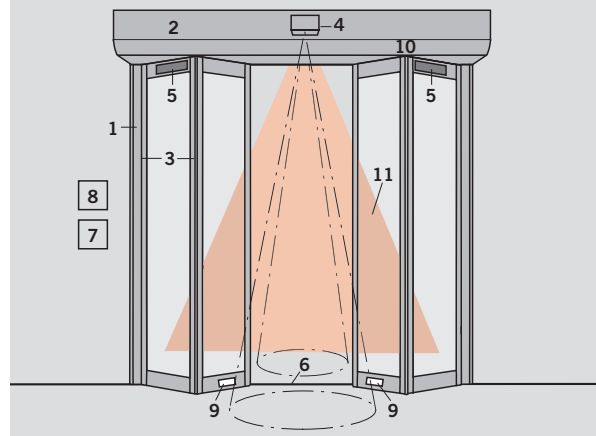
### For emergency exits and escape routes

Under the designation FFT-F DORMA Automatic offers bi-folding doors equipped with an electronic expansion module (EM 5), a redundant operator system and a special radar motion detector. These doors have the German type approval (according to DIN 18650) for application in emergency exits and escape routes with opening widths from 900 to 2,000 mm.



DIN 18650

## Construction and scope of delivery

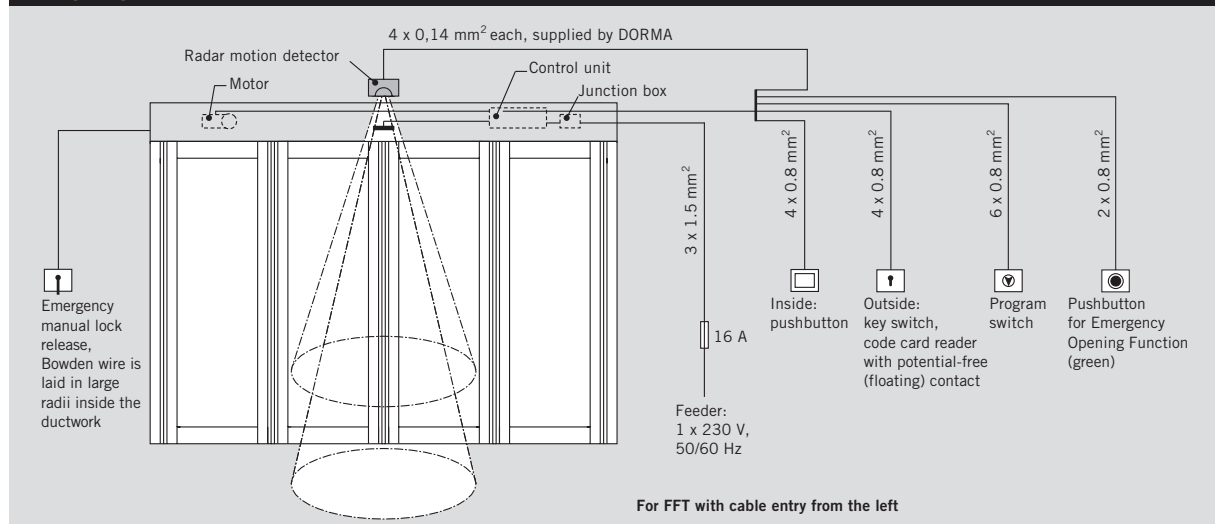


- |   |   |
|---|---|
| 1 Door frame with mounting profile  | sage widths > 1,400 mm  |
| 2 Fully-enclosed operator with integrated electronic control unit             | 6 Floor guide (recommended for clear passage widths > 1,500 mm) |
| 3 Door panels with double-glazing (further glazings or panellings on request) | 7 Program switch  |
| 4 Activator, e. g. radar motion detector                                      | 8 Emergency manual lock release (optional)                      |
| 5 Infrared detector for FFT systems with clear pas-                           | 9 Floor locking device (optional)                               |
|   | 10 Bolt locking device  |
|   | 11 Light curtain to monitor the passage area                    |

## Features and benefits

- Perfectly suitable for narrow passages
- System requires almost no lateral space
- Easy to install and upgrade
- Jam-free profiles
- High safety standard
- Low-noise operation
- Door panels do not swing out
- Minimum space requirement while open
- Free floor area
- Very economical and reliable
- Quality-assured manufacture
- Also suitable for emergency exits and escape routes (FFT-F)

## Wiring diagram for DORMA FFT-F



Dimensions and versions	FFT	FFT-F
Clear passage width (LW)	800 – 2,000 mm	900 – 2,000 mm
Clear passage height (LH)	2100 – 2,500 mm	
Glazing thickness: 20 mm		
Safety double-glazing	x	
Adjustable floor guide		
– for LW < 1,500 mm	x	
– for LW ≥ 1,500 mm	x	
Operator dimensions		
– Height	200 mm	200 mm
– Depth	237 mm	260 mm
Operator cover with rounded edges	x	
Operator cover with square edges	x	
Fanlight	x	
Opaque panel	x	
Jam-free double-glazing profile system (G-Iso)	x	
Door panels with encapsulated bearings	x	

Drive and control unit	FFT	FFT-F
Operator	ES 90	ES 90-FST
Expansion module EM 4	x	–
Expansion module EM 5	–	x
Version with reinforced toothed belt	x	
Activation by intrinsically-safe activator in escape direction	–	x
Short-circuit proof switching power supply unit	x	
Microprocessor control	x	
Function programs		
– OFF	x	
– AUTOMATIC	x	
– PERMANENT OPEN	x	
– EXIT ONLY	x	
– Night-/Bank Function	x	
Connection for airlock control	x	–
Delayed opening for check/code card reader or key switch	x	
Self-learning	x	
Automatic reversing	x	
– Fail-safe	x	x
– Fail-secure	x	–
Connection for access control system	x	
Bell contact	x	
Door status indicator	x	

Optional equipment	FFT	FFT-F
Locking device		
– with electromechanical bolt locking device	x	x*
– with manual lock release	x	x*
Floor locking device		
– clear opening widths from 1,300 to 1,500 mm: strike plate	x	x*
– clear opening widths > 1,500 mm: strike plate, no floor guide rail	x	x*
Rechargeable battery pack	x	
USV emergency power supply unit	x	

\*As the use of the locking device disengages the escape route function, only authorised staff is allowed to lock the door.

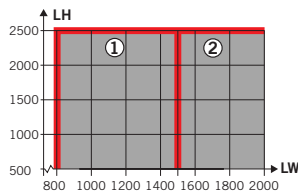
Technical specifications	FFT	FFT-F
Approval for application in emergency exits and escape routes	–	x
Continuously adjustable opening and closing force max. 150 N	x	
Parameter adjustment	x	
Continuously adjustable opening speed	100 – 600 mm/s	
Continuously adjustable closing speed	100 – 550 mm/s	
Continuously adjustable low (creep) speed	30 – 90 mm/s	
Continuously adjustable hold-open time	0 – 180 s	
Emergency opening via spring force	–	x
Supply voltage, frequency	230 V, 50/60 Hz	
Power consumption		
– max.	360 W	
– average	30 W	
Power supply for external components	24 V, 2 A	
Class of protection	IP 20	
Admissible humidity: 93 % relative humidity, non-condensing, adm. temperature:	–20 °C bis +50 °C	
TÜV type-approved	x	
Compliant with the low-voltage directive	x	
Manufactured to ISO 9000	x	

xstandard xoptional xalternatives

**Please note:** If the pressure inside and outside the building varies considerably, a technical check is required to ensure that all functions work properly.

Wall installation

FFT (double-panel version)



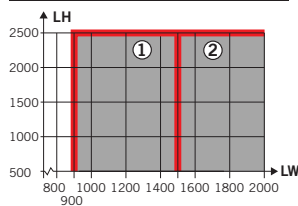
Glazing:

◆ LW = 800 – 1500 mm  
2 x LSG, each 6 mm  
(3 + 3) / 8 / (3 + 3)  
(float glass)

◆ LW = 1500 – 2000 mm  
2 x TSG, each 4 mm  
4/12/4 mm

In accordance with DIN 18650, doors with a clear passage width of more than 1400 mm are equipped with sensors at the door panels

FFT-F (double-panel version)




Glazing:

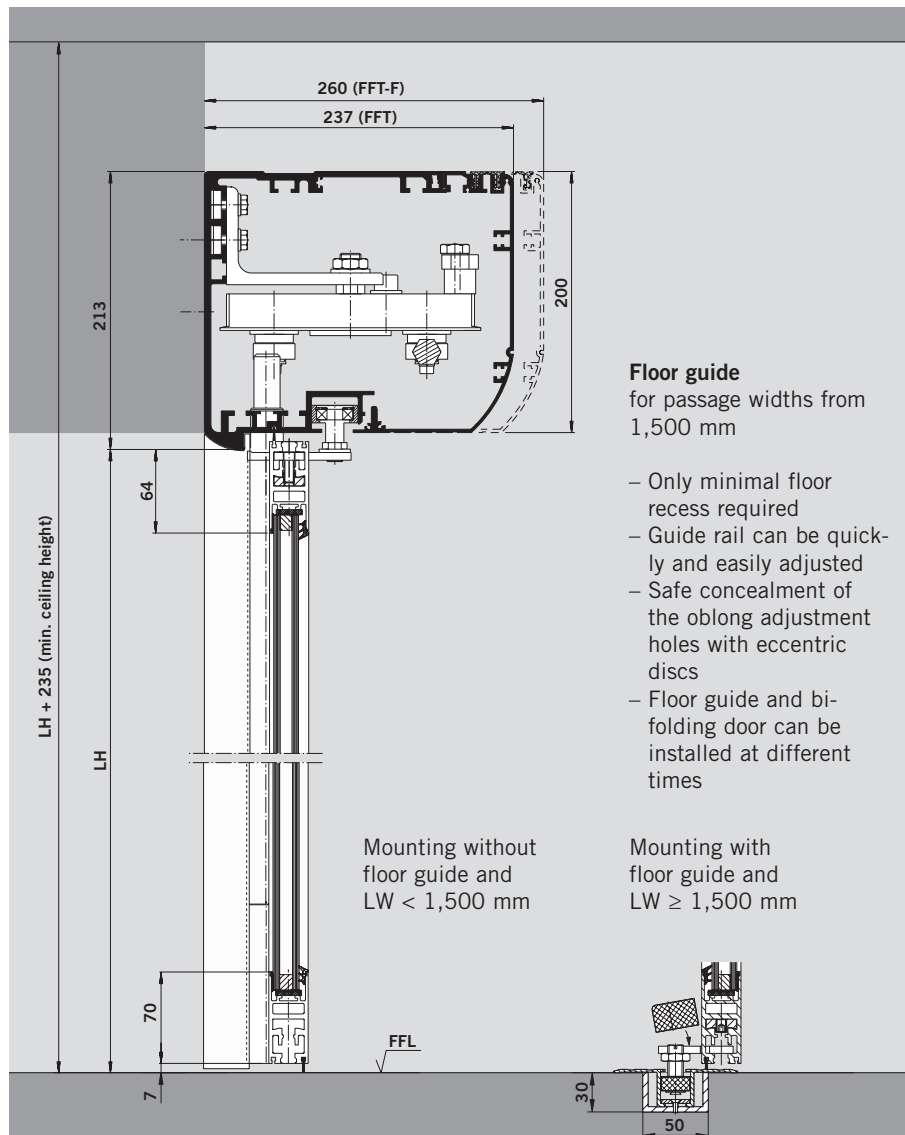
◆ LW = 900 – 1,500 mm  
2 x LSG, each 6 mm  
(3 + 3) / 8 / (3 + 3)  
(float glass)

◆ LW = 1500 – 2000 mm  
2 x TSG, each 4 mm  
4/12/4 mm

In accordance with DIN 18650 always without sensors at the door panels

 FFT-F for emergency exits and escape routes

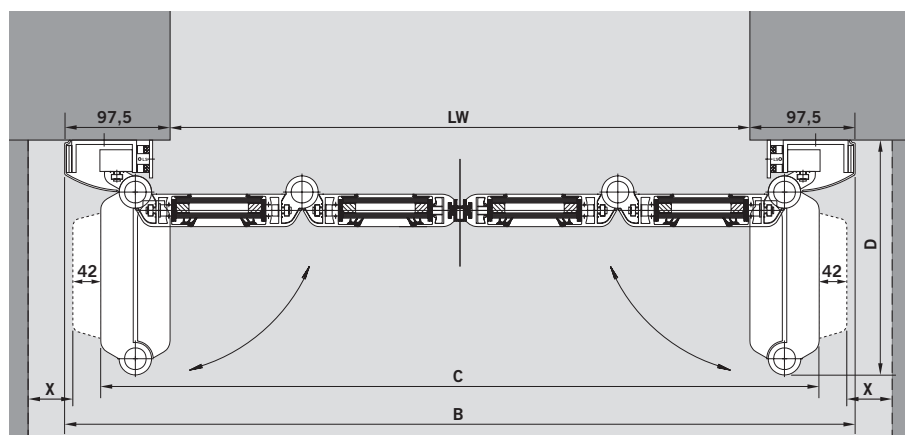
- LW = Clear passage width
- LH = Clear passage height
- B = System width
- C = Overall distance between open, folded door panels
- D = Depth of open, folded panels
- X = Minimum distance to IR-sensor: 250 mm



- Floor guide**  
for passage widths from 1,500 mm
- Only minimal floor recess required
  - Guide rail can be quickly and easily adjusted
  - Safe concealment of the oblong adjustment holes with eccentric discs
  - Floor guide and bi-folding door can be installed at different times

Mounting without floor guide and LW < 1,500 mm

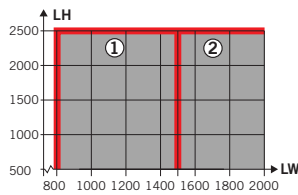
Mounting with floor guide and LW ≥ 1,500 mm



Wall installation FFT			FFT-F											
LW		800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
B	B = LW + 220	1020	1120	1220	1320	1420	1520	1620	1720	1820	1920	2020	2120	2220
C	C = LW + 144	944	1044	1144	1244	1344	1444	1544	1644	1744	1844	1944	2044	2144
D	D = LW/4 + 87	1287	1312	1337	1362	1387	1412	1437	1462	1487	1512	1537	1562	1587

### Corridor installation

#### FFT (double-panel version)



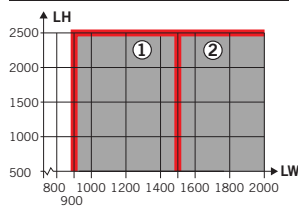
#### Glazing:

◆ LW = 800 – 1,500 mm  
2 x LSG, each 6 mm  
(3 + 3) / 8 / (3 + 3)  
(float glass)

◆ LW = 1500 – 2000 mm  
2 x TSG, each 4 mm  
4/12/4 mm

In accordance with DIN 18650, doors with a clear passage width of more than 1400 mm are equipped with sensors at the door panels

#### FFT-F (double-panel version)



#### Glazing:

◆ LW = 900 – 1,500 mm  
2 x LSG, each 6 mm  
(3 + 3) / 8 / (3 + 3)  
(float glass)

◆ LW = 1500 – 2000 mm  
2 x TSG, each 4 mm  
4/12/4 mm

In accordance with DIN 18650 always without sensors at the door panels

FFT-F for emergency exits and escape routes

LW = Clear passage width

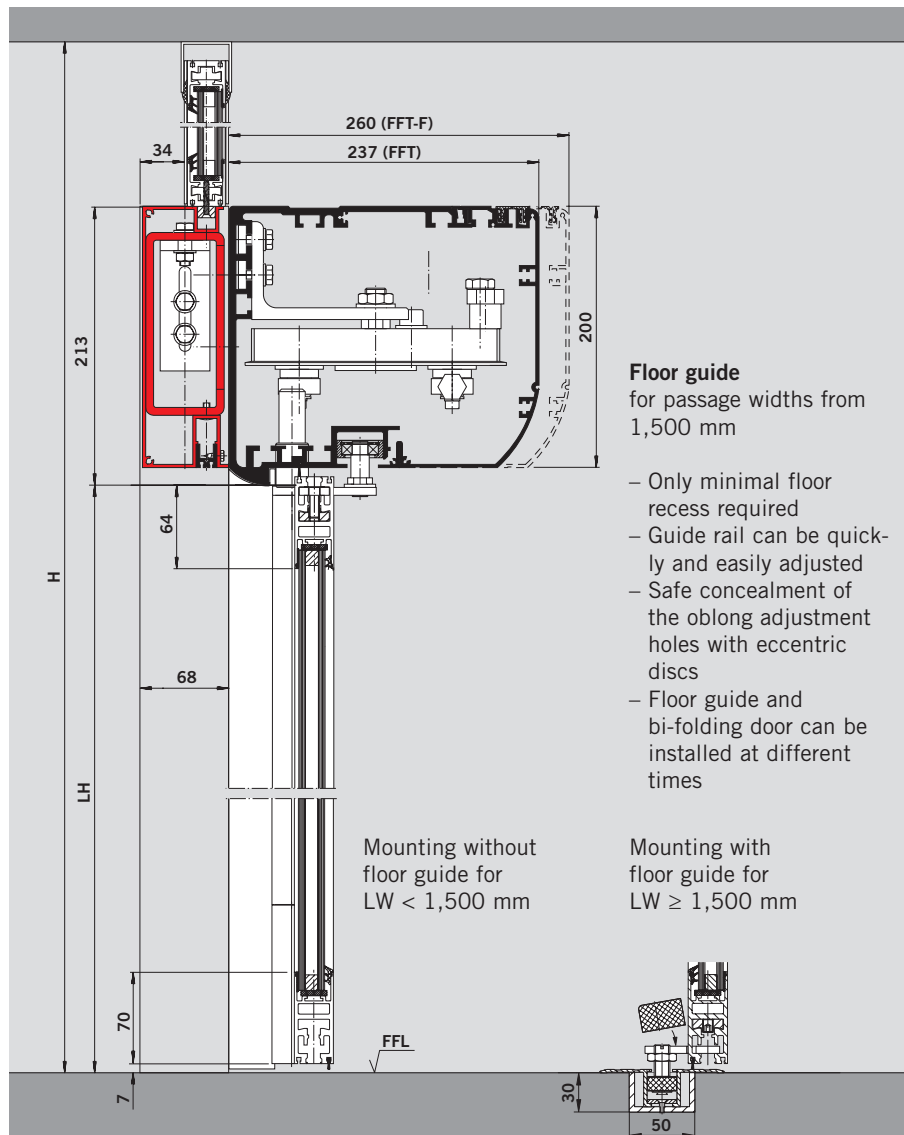
LH = Clear passage height

B = System width

C = Overall distance between open, folded door panels

D = Depth of open, folded panels

X = Minimum distance to IR-sensor: 250 mm



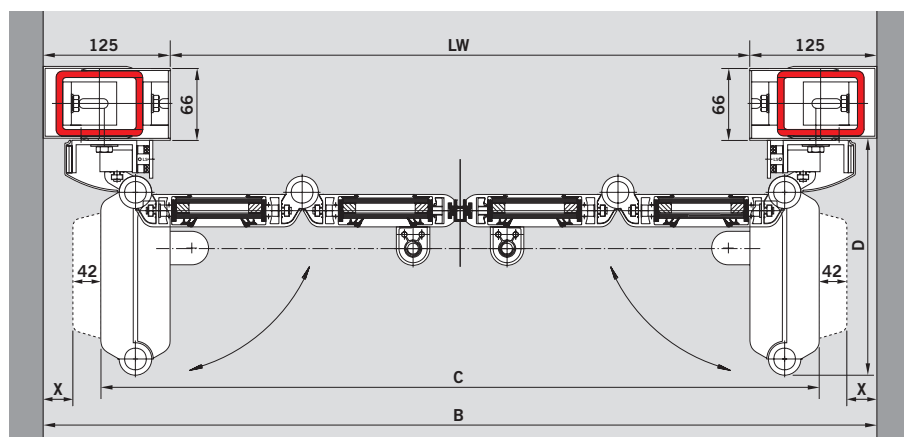
#### Floor guide

for passage widths from 1,500 mm

- Only minimal floor recess required
- Guide rail can be quickly and easily adjusted
- Safe concealment of the oblong adjustment holes with eccentric discs
- Floor guide and bi-folding door can be installed at different times

Mounting without floor guide for LW < 1,500 mm

Mounting with floor guide for LW ≥ 1,500 mm



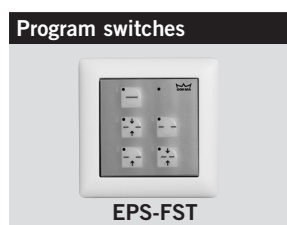
Corridor installation FFT			FFT-F											
LW		800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
B	B = LW + 250	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250
C	C = LW + 144	944	1044	1144	1244	1344	1444	1544	1644	1744	1844	1944	2044	2144
D	D = LW/4 + 87	1287	1312	1337	1362	1387	1412	1437	1462	1487	1512	1537	1562	1587

## Program switches



### Program switches for sliding door operators

Designation	Specification	Installation system	Order No.
PG-S1	5-position, aluminium, white, flush-mounted version, 80 x 80 x 40 mm Gira S-Color		19135401150
EPS-S	Full-electronic program switch in System 55 design, 5-position, lockable via code or additional TL-ST S55 key switch, membrane keypad aluminium-coloured, white, flush-mounted version, 80 x 80 mm	System 55	16556901150



### Program switches for sliding door operators in emergency exits and escape routes (FST)

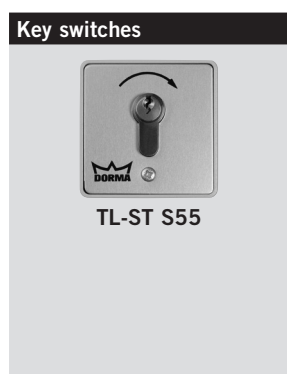
Designation	Specification	Installation system	Order No.
EPS-FST	Full-electronic program switch in System 55 design, 5-position, lockable via code or additional TL-ST S55 key switch, membrane keypad, aluminium-coloured, white, flush-mounted version, 80 x 80 mm	System 55	16556801150

## Pushbutton



### Palm pushbutton

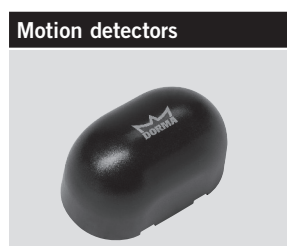
Designation	Specification	Installation system	Order No.
Palm pushbutton	Single-pole changeover contact, single-type frame, white, flush-mounted version	System 55	19144701170



### Key switches


Designation	Specification	Installation system	Order No.
TL-ST S55	Switch with single-pole changeover contact, for profile half-cylinder by others to DIN 18252, locking cam centre 30 – 32.5 mm, overall length 40.5 – 43,5 mm, locking cam position left (90°), incl. cover for System 55, not suitable for box for surface-mounting, not including profile half-cylinder, <b>not including frame</b>		
TL-ST S55 W	White	System 55	56330710
TL-ST S55 S	Silver-coloured	System 55	56330701
TL-ST S55 A	Anthracite	System 55	56330715

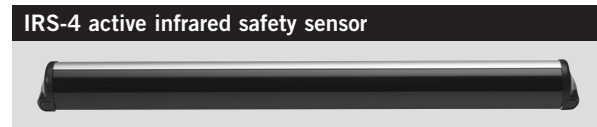
## Motion detectors



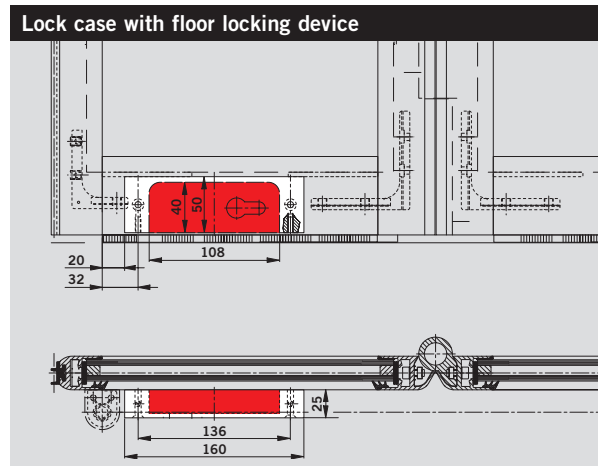
Designation	Specification	Order No.
Prosecure Easy Motion Stereo	Adjustable inclination angle, inclined field of view and field size, direction recognition, cross-traffic suppression, immunity, LED status indicator Ambient temperature –20 °C to 60 °C	
	Black	86011000
	Silver-coloured	86012000
	White	86013000

## Active infrared detector

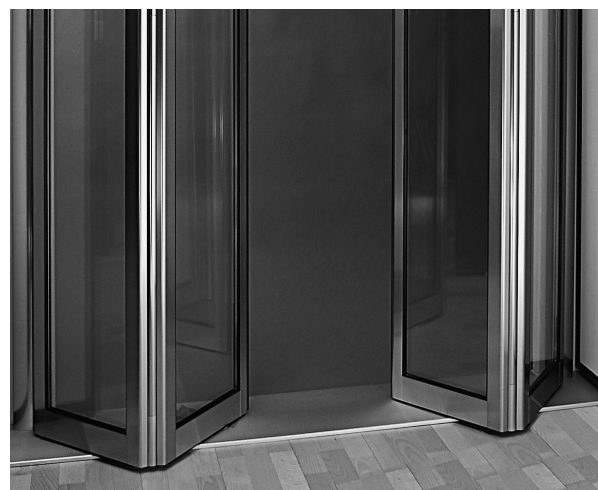
Active infrared detectors	Designation	Specification	Order No.
 Activ8 One on	Activ8 One on	With direction recognition, black	16576001170



**DORMA IRS-4-35**  
with one sensor,  
length: 350 mm  
German type approval in  
accordance with DIN 18650



- Reliable locking action;  
only for versions without  
floor guide rail





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