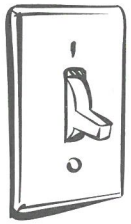
DETACH AND DELIVER TO THE CUSTOMER

Manual release instructions



POWER OFF

In the event of maintenance, malfunctioning or emergency, to disconnect the automation power supply, set the ON-OFF switch to OFF and move the door manually.
If the door does not have an electric lock, use the appropriate key to release it.

WARNING: carry out the door wing blocking and release with the motor switched off.

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Lodjursgatan 10
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IP2185EN - 2014-01-17

DITEC
SPRINT
24 V

IP2185IT - 2014-01-17

Entrematic Group AB
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Ditec SPRINT

Swing doors drive unit

(Original instructions)

IP2185 EN
Technical Manual

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Index

Caption

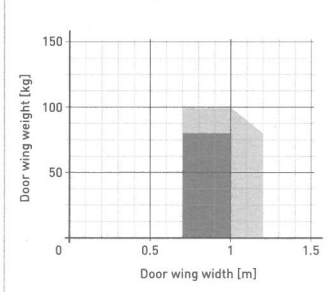
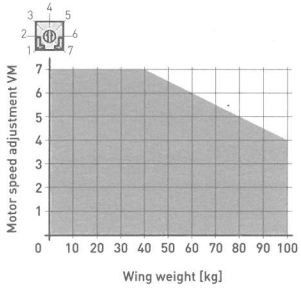
This symbol indicates instructions or notes regarding safety issues which require particular attention.

This symbol indicates informations which are useful for correct product function.

Factory settings

IP2185EN - 2014-01-17

3. Technical details

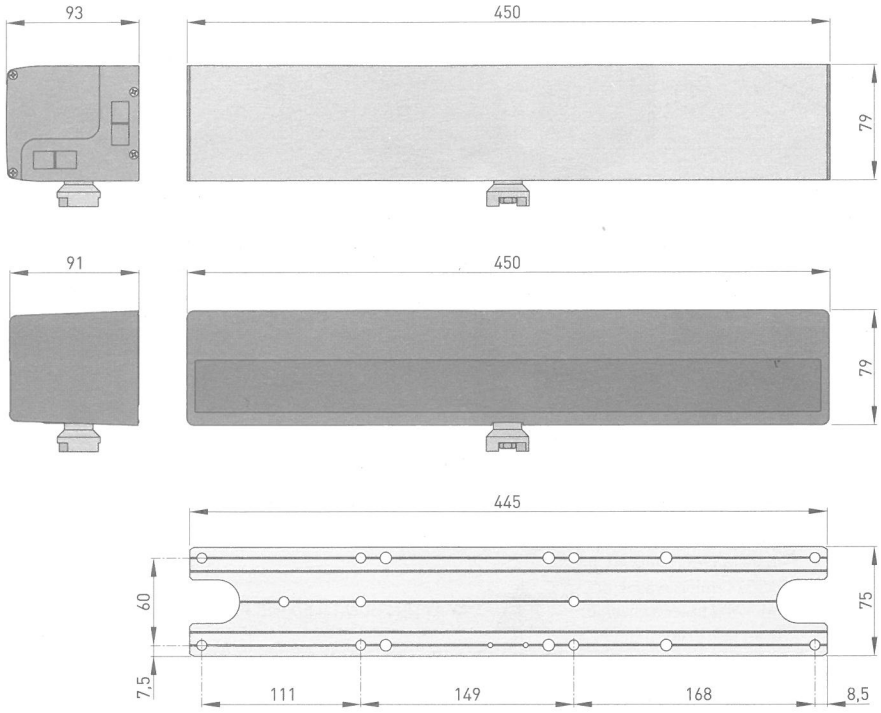
	SPRINT PN SPRINT P SPRINT V	SPRINT LN SPRINT L SPRINT LV	SPRINT PNJ SPRINT VJ
Power supply	230 V~ 50/60 Hz	24 V⎓ (to protect with external fuse)	120 V~ 60 Hz
Absorption	0,5 A	3 A	1 A
Power consumption	120 W	120 W	120 W
Torque	25 Nm	25 Nm	25 Nm
Insulation class	Class 2 ⧈	/	Class 2 ⧈
Opening time	min 3 s /90° max 6 s /90°	min 3 s /90° max 6 s /90°	min 3 s /90° max 6 s /90°
Closing time	min 4 s /90° max 7 s /90°	min 4 s /90° max 7 s /90°	min 4 s /90° max 7 s /90°
Service class	5 - VERY INTENSE	5 - VERY INTENSE	5 - VERY INTENSE
Intermittence	S3=80%	S3=80%	S3=80%
Operation type	Motor opening Motor closing	Motor opening Motor closing	Motor opening Motor closing
Maximum load (1 m wing)	100 kg	100 kg	100 kg
Maximum load (1.2 m wing)	80 kg	80 kg	80 kg
Temperature	min -20 °C max +55 °C	min -20 °C max +55 °C	min -20 °C max +55 °C
Temperature with batteries	min -10 °C max +50 °C	min -10 °C max +50 °C	min -10 °C max +50 °C
Degree of protection	IP30	IP30	IP30
Control panel	EL38	EL38	EL38
Feeder	AL05	/	AL05J
F1 fuse	F1A	/	F2A
Motor power supply	24 V⎓ 3,5 A	24 V⎓ 3,5 A	24 V⎓ 3,5 A
Accessories power supply	24 V⎓ 0,3 A	24 V⎓ 0,3 A	24 V⎓ 0,3 A
Operating instructions Recommended dimensions Limit dimensions Limit speed			

3.1 Operating instructions

Service class: 5 (minimum 5 years of working life with 600 cycles per day).
Applications: VERY INTENSE (for shared entrances with very intense pedestrian use).

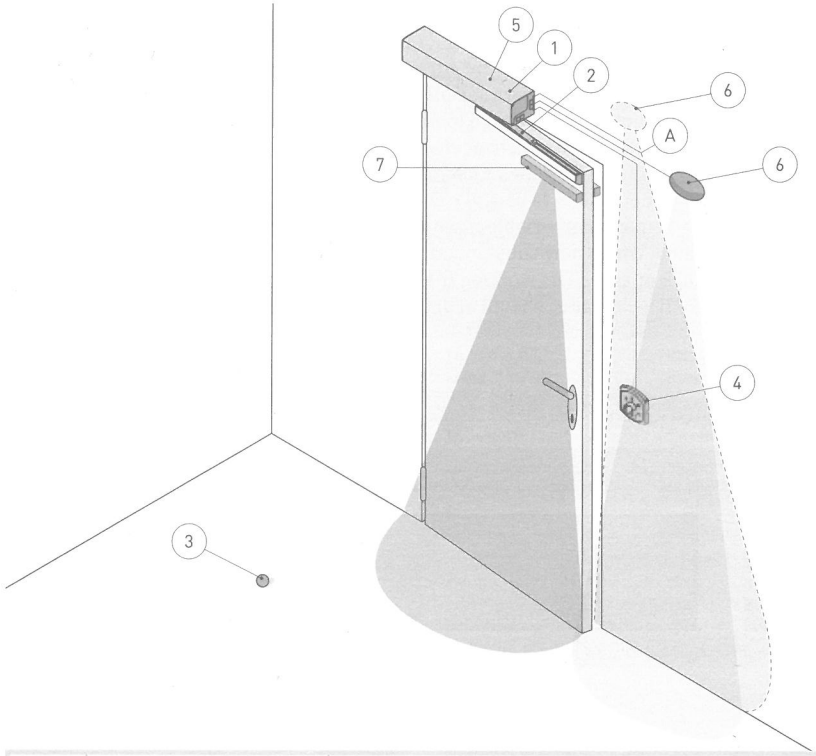
- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). When used with the maximum permissible weight a reduction in the above mentioned performance can be expected.
- Service class and the number of consecutive cycles are to be taken as merely indicative Having been statistically determined under average operating conditions, and are therefore not necessarily applicable to specifi c conditions of use.
- Each automatic entrance has variable elements such as: friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic entrance or curtail its working life or parts thereof (including the automatic devices themselves). The installer should adopt suitable safety conditions for each particular installation.

3.2 Dimensions



NOTE: unless otherwise specified, all measurements are expressed in millimetres (mm).

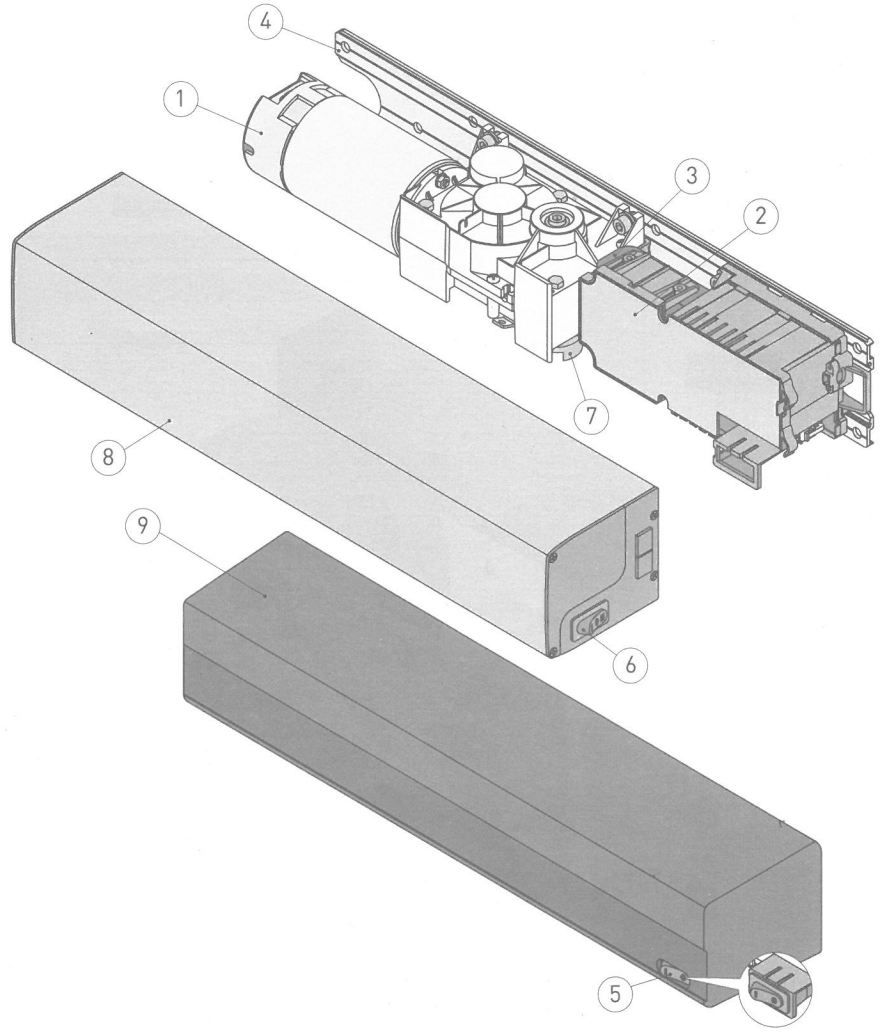
4. Standard installation



Ref.	Code	Description
1	SPRINT	Drive unit
2	SBA SBS SPRINTBRAS FBA	Articulated arm Sliding arm 3-lever articulated arm Doorstop for articulated arm
3		Floor doorstop
4	COMH - COMK	Function selector switch
5	SPRINTBAT	Battery kit
6	PASM24W (microwave), or PASM243 (microwave), or PASS24 (microwave), or PASS24W (microwave), or PASA (infrared)	Opening sensor ⚠ PAY ATTENTION TO FIXING POSITION
7	REM35 REM90 REM100	Safety sensor during opening and closing
A		Connect the power supply to an approved omnipolar switch with an opening distance of the contacts of at least 3mm (not supplied). The connection to the mains must be made via an independent channel, separated from the connections to command and safety devices.

NOTE: the given operating and performance features can only be guaranteed with the use of DITEC Entrematic accessories and safety devices.

5. Main components



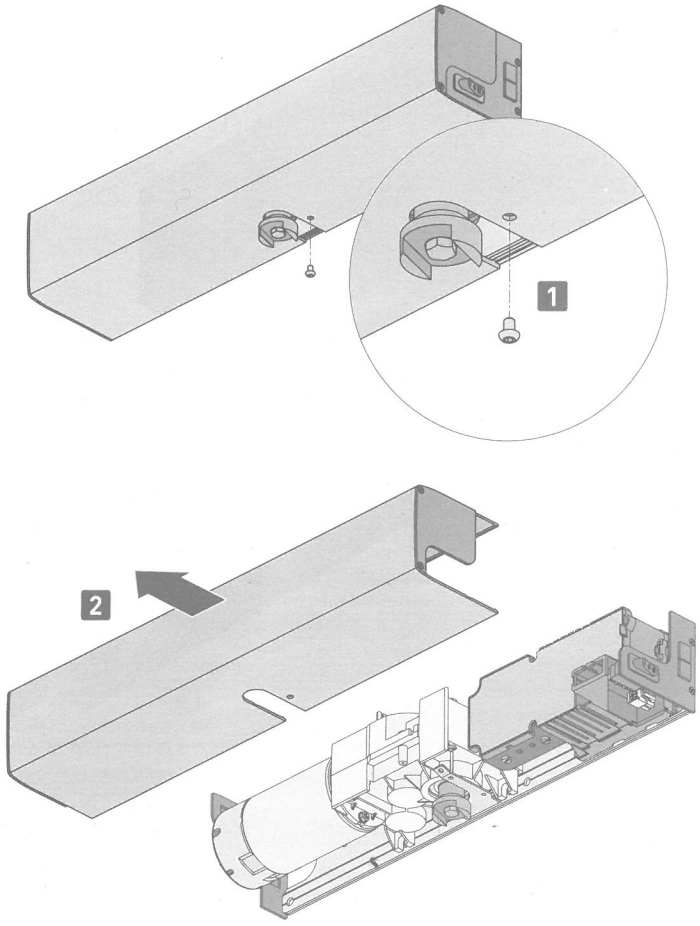
Ref.	Code	Description
1		24 V⎓ motor with encoder
2	EL38	Control panel
3	SPRINTBAT	Battery kit
4		Base plate
5		Switching on and off switch
6		Function selector switch
7		Arms support
8		Aluminium casing [SPRINT V-SPRINT LV-SPRINT VJ]
9		Grey plastic casing [SPRINTP-SPRINT L] Black plastic casing [SPRINT PN-SPRINT LN-SPRINT PNJ]

6. Mechanical installation

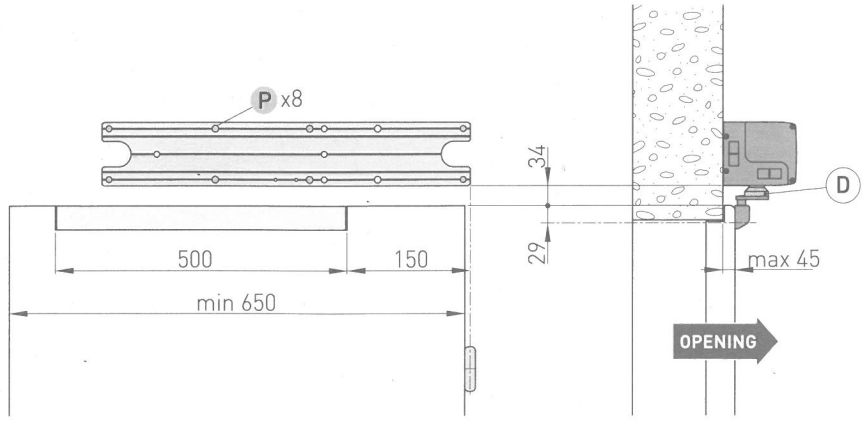
Check the stability, the weight of the door wing and the regularity of the movement, without friction (if necessary reinforce the frame).
Any "door check" must be eliminated or completely cancelled.

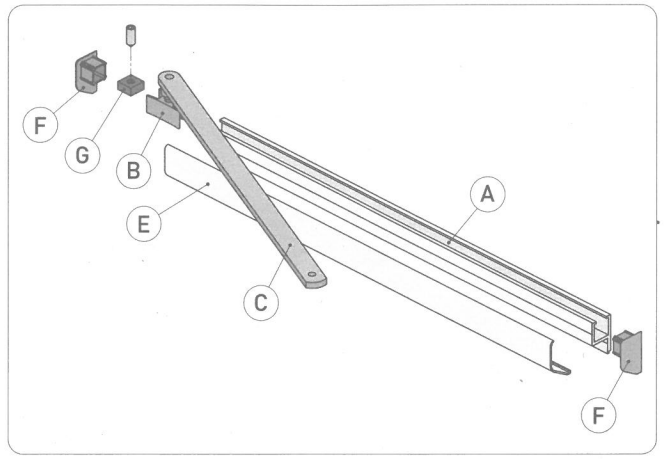
ATTENTION: check the correct working in the case of installation on doors that separate environments with different pressures.

6.1 Removing the cover



7. Installation with SBS sliding arm

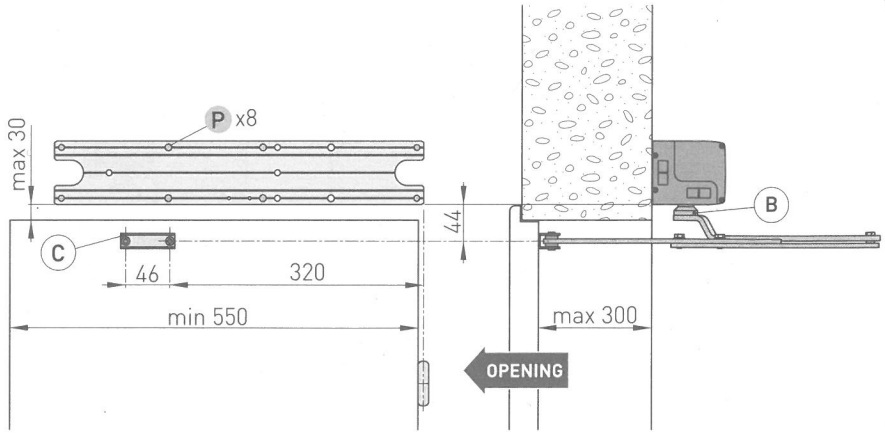


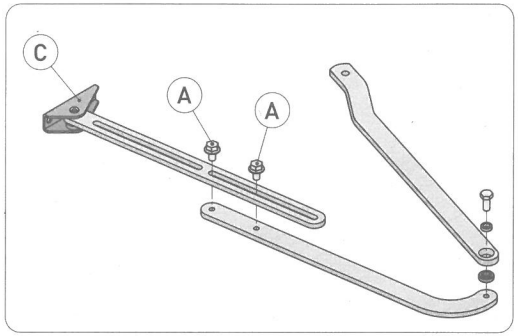


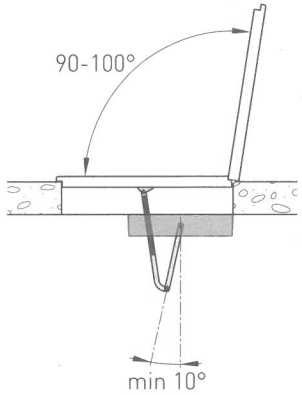
Use the SBS sliding arm for doors which open inward (view from automation side).

- Remove the casing and fasten the automation on the wall, where indicates (P) securely and make sure it is level, respecting the measurements indicated in the figure: refer to the hinge axis.
- Bore the guide [A] and fasten it to the door.
- Insert the sliding block [B] of the sliding arm in the guide [A]. Fasten the arm [C] to the automation, ensuring it is inserted in the housing of the arm support [D].
- Insert the lid [E] and the two heads [F].
- Adjust the inner stop [G] to the most suitable position.

8. Installation with SBA articulated arm



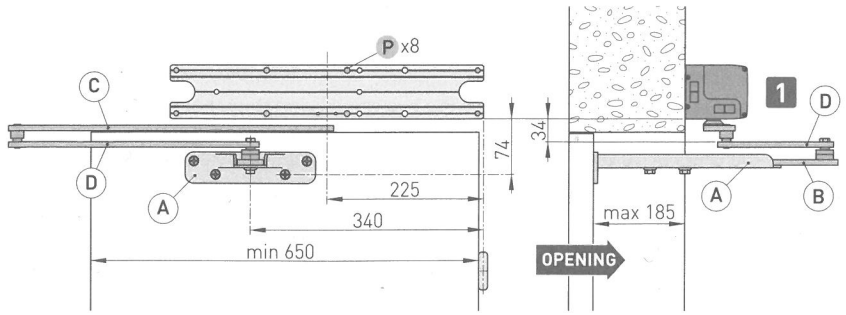


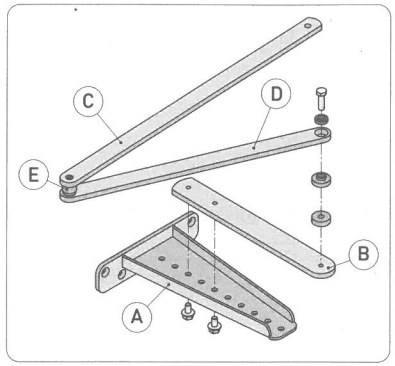


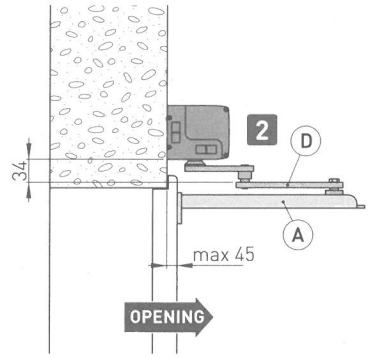
Use the SBA articulated arm for doors that open outward (view from automation side).

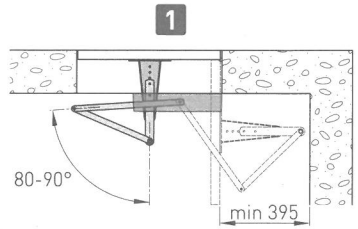
- Remove the casing and fasten the automation on the wall, where indicates (P) securely and make sure it is level, respecting the measurements indicated in the figure: refer to the hinge axis.
- Assemble the articulated arm, without tightening the sliding screws [A], and fasten it to the automation, ensuring it is inserted in the housing of the arm support [B].
- Fasten the bracket [C] to the door.
- With the door closed, adjust the arm and tighten the sliding screws [A].

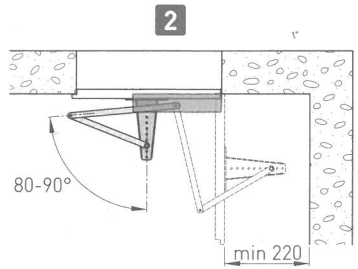
9. Installation with SPRINTBRAS 3-lever articulated arm











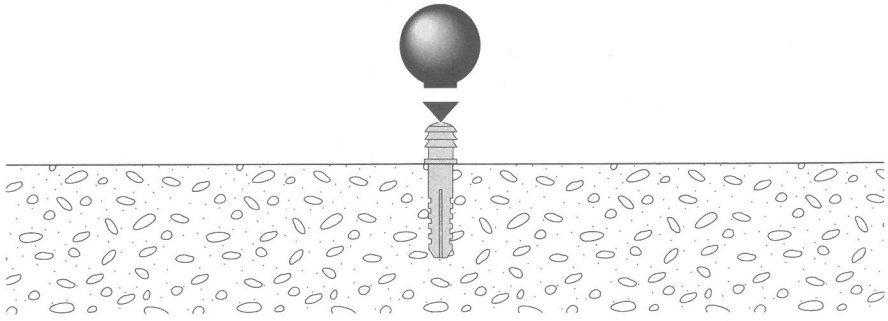
Use the SPRINTBRAS 3-lever articulated arm for doors which open inward (view from automation side).

- Remove the casing and fasten the automation on the wall, where indicates (P) securely and make sure it is level, respecting the measurements indicated in the figure: refer to the hinge axis.

WARNING: the fixing distance of the automation in relation to the door wing can be included between 185 mm and 45 mm.

- Adjust the length of the bracket [A] and arm [B] so as to form an angle of 80÷90° in relation to the arm [C], with the door closed.
  NOTE: the SPRINTBRAS articulated arm is assembled for door wings with left-hand opening; in case of door wings with right-hand opening, separate the arm [D] from the arm [C] by removing the plug [E] and reassemble the two arms by rotating them by 180°.
- For distances between 45 mm and 20 mm, remove the arm [B] and fasten the arm [D] directly to the bracket [A] with the spacer and the screw supplied, so as to form an angle of 80÷90° in relation to the arm [C].

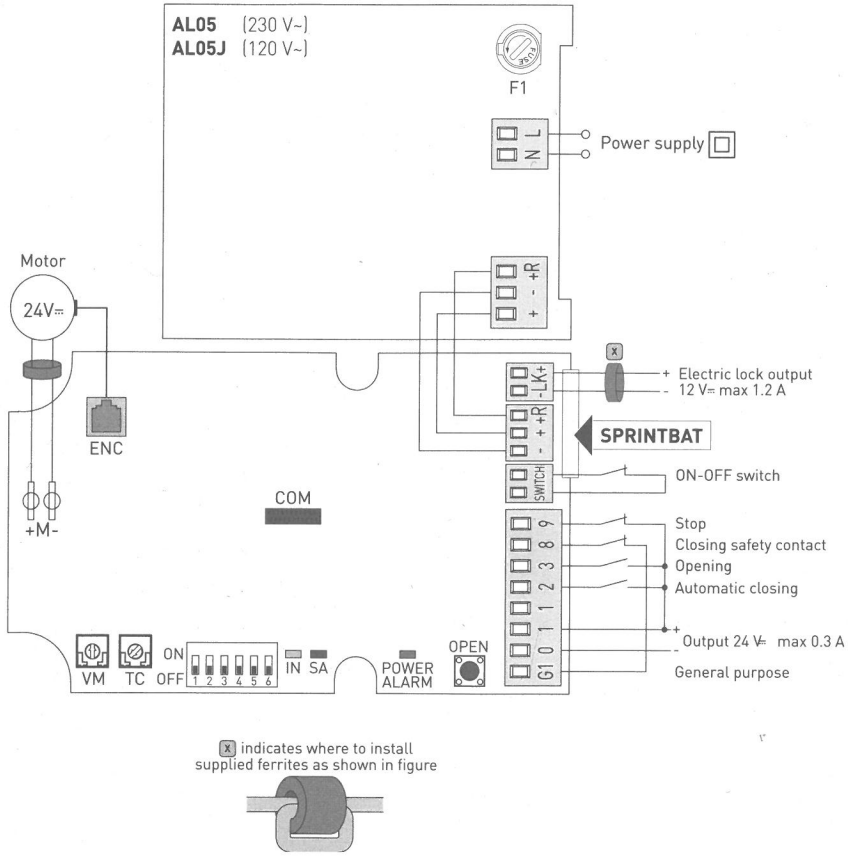
10. Installation of the floor doorstop



Fasten to the floor the floor doorstop as a mechanical stop in opening.

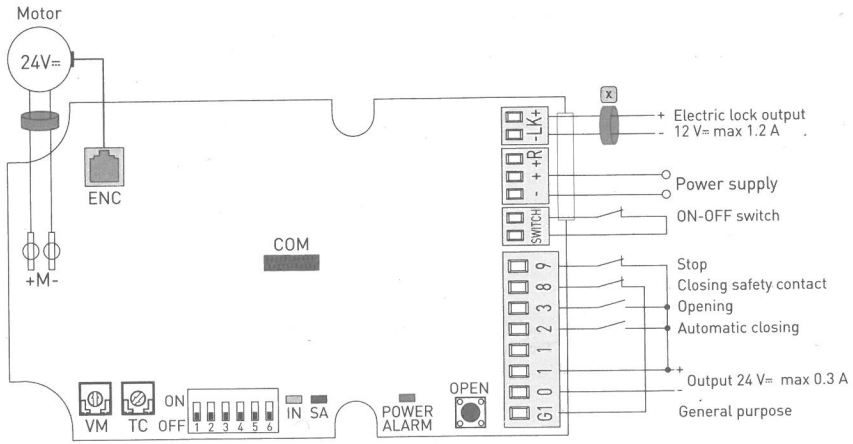
11. Electrical connections

11.1 Electrical connections for 230 V~ / 120 V~ power supply

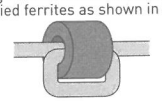


The figure shows the main connections of the control panel EL38.

11.2 Electrical connections for 24 V ⎓ power supply (to be protected with F5A external fuse, not supplied)



x indicates where to install supplied ferrites as shown in figure



12. Connection of power supply

Before connecting the power supply, make sure the plate data correspond to that of the mains power supply.
An omnipolar disconnection switch with minimum contact gaps of 3 mm must be included in the mains supply.
Check that upstream of the electrical installation there is an adequate residual current circuit breaker and a suitable overcurrent cutout.
Use a H05RN-F 2G1,5 or H05RR-F 2G1,5 type electric cable and connect to the terminals L (brown), N (blue) in the automation.
Secure the cable using the special cable clamp and remove the outer sheath near the terminal only.
Connection to the mains power supply, in the section outside the automation, is made with independent channels and separated from the connections to the control and safety devices.
Make sure there are no sharp edges that may damage the power supply cable.
Make sure that the mains power supply (230 V) conductors and the accessory power supply (24 V) conductors are separate.

13. Commands

Command		Function	Description
1 — 2	N.O.	CLOSING	The closing of the contact activates the closing operation.
		AUTOMATIC CLOSING	A permanent contact enables automatic closing.
1 — 3	N.O.	OPENING	The closing of the contact activates the opening operation.
G1 — 8	N.C.	CLOSING SAFETY CONTACT	With DIP6=OFF, the opening of the contact reverses movement (re-opening) during the closing operation.
1 — 9	N.C.	STOP	The opening of the contact stop all movements and excludes all normal or emergency operations.
OPEN	N.O.	OPENING	The opening operation is activated with a brief press.

WARNING: make a jumper for all the N.C. contacts if not in use. The terminals with the same number are equal.

13.1 Testable safety devices

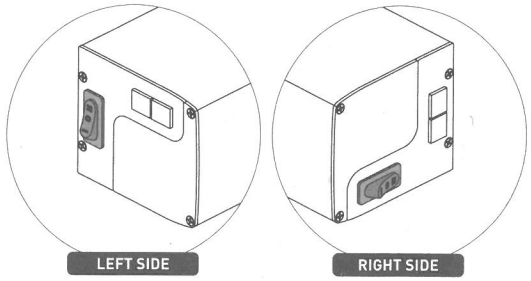
Command		Function	Description
1 — 8	N.C.	CLOSING SAFETY CONTACT	The opening of the contact reverses movement (re-opening) during the closing operation.
G1 ●		SAFETY TEST	With DIP6=OFF connect terminal G1 of the control panel to the corresponding test terminal on the safety device. Terminal G1 activates a test of the safety device on each cycle. If the test fails the SA led comes ON and the test is repeated.

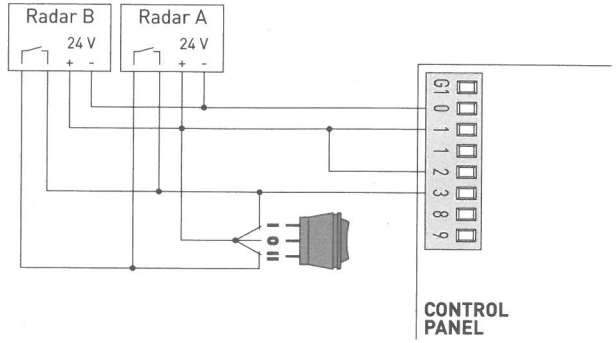
14. Outputs and accessories

Output	Value - Accessories	Description
0 1 - +	24 V⎓ 0,3 A	Accessories power supply. Power supply output for external accessories. NOTE: the maximum absorption of 0.3 A corresponds to the sum of all terminals 1.
-LK+	12 V⎓ 1,2 A	Electric lock. Output for electric lock or electric block. The electric lock power supply has an advance of 0.1 seconds and a duration of 1 second.
G1 0 + -	24 V⎓ 30 mA	General Purpose output. With DIP6=ON, the output supplies a positive pulse at the start of each opening operation. With DIP6=OFF, a test is activated on the safety sensor when each opening operation is completed. If the test fails the SA LED comes on and the test is repeated.
SWITCH		ON-OFF switch. Switch for activating/deactivating the power supply. When activating (ON), the first operation is carried out with the acquisition of the stop positions. When deactivating (OFF), the line power supply and the batteries (if present) are disconnected from the control panel. WARNING: make a jumper if not in use.
COM	SPRINTSET	This defines the G1 output function mode using the SPRINTSET customisation module. WARNING: the module must be inserted and removed with the power supply disconnected.
MOT + - ENC		Motor-encoder connection. Connect the motor and encoder to the control panel by means of the supplied cables.
	SPRINTBAT 1 x 12 V 1,2 Ah	Anti-panic battery kit. With the mains power supply off, the automation will carry out an opening operation at low speed. When the door is open, the power supply is disconnected from the control panel. To charge the batteries, connect the mains power and the battery kit at least 30 minutes before starting the system. WARNING: the batteries must always be connected to the control panel for charging. Periodically check the efficiency of the batteries.
		Continuous mode battery kit. With the mains power supply off, the battery kit will guarantee continuous operating. To charge the batteries, connect the mains power and the battery kit at least 30 minutes before starting the system. WARNING: the batteries must always be connected to the control panel for charging. Periodically check the efficiency of the batteries.

14.1 Funtion selector switch

SPRINTV





Rif.		Description
I	⌐ ⌐	Door open. 1-3 permanent opening command.
0	⌐—⌐	Door closed. Radar controls (A-3) are excluded. The door can be opened by control 1-3A or by pushing if the Push&Go function is enabled. Automatic door closing (1-2 contact).
II	↑↓	Bi-directional operating mode.

15. Electromagnetic emissions

WARNING: in accordance with Directive 2004/108/EC, the supplied ferrites must be installed as shown on page 44-45.

Pass the cable through the ferrite, make 1 turn and protect it from knocks by using heat-shrink sheathing or similar.
The ferrite must be secured to the cable near the terminal boards (approximately 50 mm).

16. Adjustments

16.1 Enabling procedure

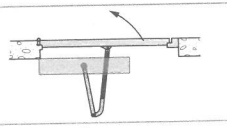
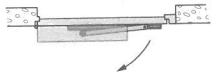
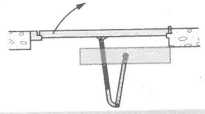
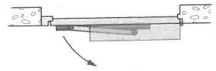
The trimmers and DIPs affect the force limiting safety function.
They must be set as instructed. If not, the modifications will not be accepted and the IN LED will flash.

- press the OPEN key for 4 seconds (IN LED flashes);
- set the trimmers and select the DIPs within a 5 minute time limit;
- to complete the procedure, press the OPEN key for 2 seconds or wait for the time limit to expire.

16.2 Dip-switch

Description	DIP1	DIP2
Doors with no electric lock and subject to strong winds. If the wind blows the door open, a closing force is triggered by the motor.	OFF	OFF
Doors with electric lock. When the door is closed a closing force is maintained by the motor.	OFF	ON
Push&Go doors without electric lock. Manual pushing of the door activates automatic opening. When the door is closed a closing force is maintained by the motor.	ON	OFF
Push&Go doors with electric lock. Manual pushing of the door activates automatic opening. When the door is closed a closing force is maintained by the motor.	ON	ON

	Description	OFF	ON
DIP3	LowEnergy function. Refer to chapter Doors requirements for disabled on page 51.	Disabled.	Enabled.
DIP4	Opening direction selection. The opening direction is intended by viewing the automation from the side being examined.	SEE FIGURE	SEE FIGURE
DIP5	Arm type selection.	SBA articulated arm. SEE FIGURE	SBS sliding arm BRAS articulated arm. SEE FIGURE
DIP6	Selecting the G1 output mode	Enable the test on the safety sensor.	Positive pulse at the start of each opening operation.

SBA Arm	DIP4	DIP5	SBS - BRAS Arm	DIP4	DIP5
	ON	OFF		OFF	ON
	OFF	OFF		ON	ON

16.3 Trimmer

Trimmer	Description
	Operation speed adjustment. Adjusts the automation operation speed. The closing speed equal to 2/3 of the opening speed. WARNING: set the correct operation speed and check that the operating force and contact force between the door wing and the obstacle is lower than that indicated in the EN 16005 standard.
	Setting automatic closing time. Adjust the time that passes between the end of the opening operation and the start of the automatic closing operation.

16.4 Signals

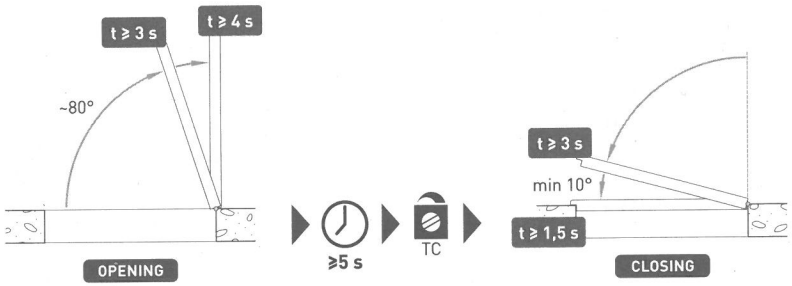
LED	On	Flashing
IN	Receipt of a command 1-3.	Change in status of a dip switch or command 1-2. Trimmer enabling procedure in progress.
SA	• The safety contact is open. • Safety test failure (DIP6=OFF)	/
POWER ALARM	Power supply on.	Encoder not working or automation fault.

17. Doors requirements for disabled

If the Ditec SPRINT automation is used on doors for the passage of disabled, adjust the VM trimmer so that the opening and closing times (excluding deceleration) are the same as, or greater than, those indicated in the table.

Door wing length [mm]	Door wing weight [kg] 50	60	70	80	90
750	3,0 s	3,0 s	3,0 s	3,0 s	3,5 s
850	3,0 s	3,0 s	3,5 s	3,5 s	4,0 s
1000	3,5 s	3,5 s	4,0 s	4,0 s	4,5 s
1200	4,0 s	4,5 s	4,5 s	5,0 s	5,5 s

Make the adjustments indicated in the figure:



18. Start-up

WARNING: Before performing any type of operation, make sure that the automation is turned off and the batteries are disconnected.
The operations in point 4 are performed without safety devices.
The trimmer can only be adjusted with the automation idle.

WARNING: to set adjustments, they must be enabled as described on page 49.

1- Select the operating force with DIP3 e select the correct opening direction with DIP4. Set DIP1 and DIP2 according to the type of installation.
2- Set TC trimmer to the minimum and VM trimmer halfway.
3- Make a jumper on the safety devices (1-8) and the stop (1-9).
4- Turn on the power (mains and batteries).
WARNING: the control panel performs an automatic POWER RESET on each start and the first opening or closing manoeuvre is performed at low speed allowing the automatic self-learning of the stop positions (acquisition).
Check that the automation is operating correctly with further opening and closing commands and set the desired speed using the VM trimmer.
5- Remove the jumpers and connect the safety devices (1-8) and the stop (1-9).
6- Adjust the automatic closing with the TC trimmer (enabled by command 1-2).
7- Set the Push&Go opening using DIP1 if required.
8- Connect any accessories and check they operate correctly.
9- If the automation encounters an obstacle during a closing operation, the movement is reversed.
If the automation encounters an obstacle during an opening operation, movement is stopped.
If the obstacle is detected twice consecutively, it is considered as the new stop until it is removed.

WARNING: check the operating force and that the contact force between the door and the obstacle is lower than that indicated by the EN 16005 standard.

NOTE: in the event of servicing or if the control panel is to be replaced, repeat the start-up procedure.

19. Troubleshooting

Problem	Possible causes	Remedy
The automation does not open or close.	No power. (POWER ALARM led off).	Check that the control panel is powered correctly.
	Short circuited accessories. (POWER ALARM led off).	Disconnect all accessories from terminals 0-1 (voltage must be 24 V ⎓) and reconnect one at a time.
	Blown line fuse. (POWER ALARM led off).	Replace F1 fuse.
	The stop contact is open.	Check terminal 9 of the control panel and the position of the function selector switch (if present).
	The automation is locked by bolts and locks.	Check that the door wings move freely.
	Safety contacts are open. (SA led on).	Check terminal 8 of the control panel.
	Safety devices are activated. (SA led on).	Check that the safety devices are clean and operating correctly.
	The radars are activated.	Check that the radar is not subjected to vibrations, does not make false readings or the presence of moving objects within its range.
	The automatic closing does not work.	Check jumper 1-2 and the position of the function selector (if present).
	Safety test failure (DIP6=OFF) - (SA LED ON).	Check the position of DIP6 and terminal 8 on the control panel.
The automation opens by itself.	The radars are instable or detect moving objects.	Check that the radar is not subjected to vibrations, does not make false readings or the presence of moving objects within its range.
The automation opens/closes briefly and then stops.	Encoder disconnected, false encoder contacts, encoder fault. (POWER ALARM led flashing).	Check that the encoder is connected correctly, clean the contacts by connecting and disconnecting the encoder plug on the contacts, replace encoder.
	Motor leads crossed. (POWER ALARM led flashing).	Check the motor leads.
	There is a presence of friction.	Manually check that the door wings move freely and adjust the door wing in height by lifting it.

20. Routine maintenance plan

Perform the following operations and checks every 6 months according to intensity of use of the automation.

Disconnect the 230 V~ power supply and batteries (if present) and turn the ON-OFF switch OFF:

- Clean and lubricate the moving components.
- Check that all securing screws are well tightened.
- Check all the electrical connections.
- Check battery efficiency.

Reconnect the 230 V~ power supply and batteries (if present) and turn the ON-OFF switch ON:

- Check the stability of the door and that the movement is regular and without friction.
- Check the condition of the pintles or hinges.
- Check that all control and safety functions are working correctly.

NOTE: for spare parts, see the spares price list.

For repairs or replacements of products only original spare parts must be used.
The installer shall provide all information relating to automatic, manual and emergency operation of the motorised door or gate, and provide the user with operating instructions.
The installer must prepare the maintenance log, which will indicate all the interventions of ordinary and extraordinary maintenance carried out.

Operating instructions

General safety precautions

The following precautions are an integral and essential part of the product and must be supplied to the user.
Read them carefully since they contain important information on safe installation, use and maintenance.
These instructions must be kept and forwarded to all possible future users of the system.
This product must only be used for the specific purpose for which it was designed.
Any other use is to be considered improper and therefore dangerous. The manufacturer cannot be held responsible for any damage caused by improper, incorrect or unreasonable use.
This product should not be used by people (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instructions concerning the use of the appliance by a person responsible for their safety.
Avoid operating in the proximity of the hinges or moving mechanical parts.
Do not enter within the operating range of the motorized door while it is moving.
Do not block the movement of the motorized door since this may be dangerous.
Do not allow children to play or stay within the operating range of the motorized door.
Keep remote controls and/or any other control devices out of the reach of children in order to avoid possible
involuntary activation of the motorized door.
In the event of fault or malfunctioning of the product, turn off the power supply switch, do not attempt to repair or intervene directly and contact only qualified personnel.
Failure to comply with the above may cause a dangerous situation.
All cleaning, maintenance or repair work must be carried out by qualified personnel.
To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and routine maintenance of the motorized door must be performed by qualified personnel.
In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.
All installation, maintenance and repair work must be documented and made available to the user.

For the correct disposal of electric and electronic equipment, waste batteries and accumulators, the user must take such products to the designated municipal collection facilities.

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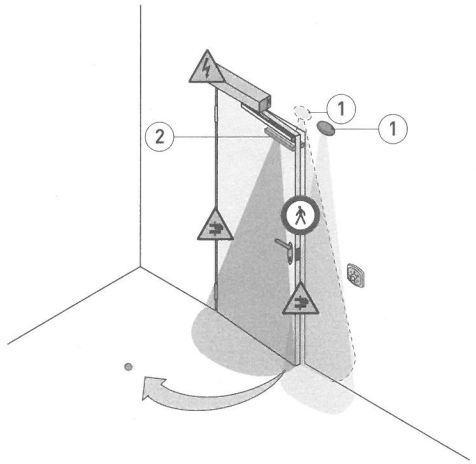
Technical data

	SPRINT PN SPRINT P SPRINT V	SPRINT LN SPRINT L SPRINT LV	SPRINT PNJ SPRINT VJ
Power supply	230 V~ 50/60 Hz	24 V⎓ (to protect with external fuse)	120 V~ 60 Hz
Rated power input	120 W	120 W	120 W
Service life	5 - VERY INTENSE	5 - VERY INTENSE	5 - VERY INTENSE
Temperature	min -20 °C max +55 °C	min -20 °C max +55 °C	min -20 °C max +55 °C
Temperature with batteries	min -10 °C max +50 °C	min -10 °C max +50 °C	min -10 °C max +50 °C
Degree of protection	IP30	IP30	IP30
Control panel	EL38	EL38	EL38
Line fuse	F1A	/	F2A
Accessories power supply	24 V⎓ 0,3 A	24 V⎓ 0,3 A	24 V⎓ 0,3 A



The following safety devices may be installed to protect the danger areas (according to EN 16005):

1	PASM24W (microwave), or PASM243 (microwave), or PASS24 (microwave), or PASS24W (microwave), or PASA (infrared)	Opening sensor
2	REM35 - REM90 - REM100	Safety sensor during opening and closing

For repairs or replacements of products only original spare parts must be used.
The installer shall provide all information relating to automatic, manual and emergency operation of the motorised door or gate, and provide the user with operating instructions.

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