



Installation manual Optima+

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1. Description

The **Manusa** program switch enables the control of the automatic door and the receipt of feedback about the state of the door.

This data is transmitted via the **Manusa** bus.

The screen and its illuminated indicators, which are visible from a distance, enable the identification of the various states in an easy and intuitive manner. Its touch keypad removes the need for mechanical interaction to achieve maximum user-friendliness.

The reduced dimensions and discreet design enable the integration of the switch into diverse architectural environments or into the cover of the operator itself, producing a surface mechanism that is both simple and functional.

1.1 Technical specifications

Power supply	12 Vcc
Consumption	Ca. 45 mA / Inrush 140 mA
Connection to door	Manusa communication bus
Screen	Segments LED indicators, 49 x 16 mm
Working temperature range	De -15°C to 50°C
Dimensions	80 x 80 x 11 mm
Use	Inside only
Weight	36 g
Maximum cable length	100 m

Applicable norms

Low Voltage Directive	2014/35/CE
Electromagnetic Compatibility Directive	2014/30/CE
Construction Products Regulation	2011/305/CE
Machinery Directive	2006/42/CE
Power operated pedestrian doorsets - Safety in use - Requirements and test methods	EN 16005

1.2 Compatibility

Product	Visio+ electronics
Optima+	✓ By Cable Bus Manusa 1 m
	✓ By Cable Bus Manusa 5 m

1.3 Site

1.3.1 Physical and environmental requirements

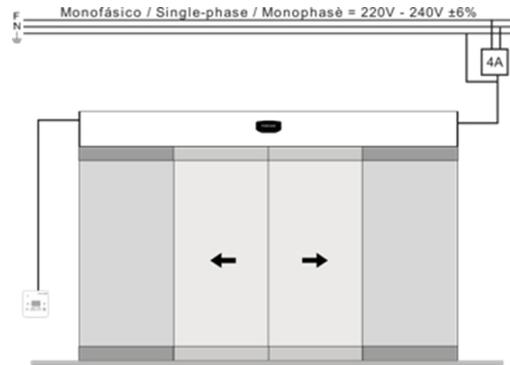
Automatic doors by **Manusa** are allowed to be installed only in places that meet the following requirements:

- Smooth, level and even floor
- Stable walls with sufficient load-bearing capacity
- Levelled partition profiles
- No vibrations and shocks in the vicinity of the door
- Operating temperature between -15°C and +35°C
- Relative air humidity: The electrical and electronic operating elements produced to work in tropical climates are given a surface treatment that protects them from the surrounding humidity.

1.3.2 Electrical preinstallation requirements

The assembly of a **Manusa** automatic door requires an electrical preinstallation comprising the following elements:

1. **Power supply:**
 - 16 mm corrugated tube
 - 3 x 1.5 mm² cables (phase, neutral, earth)
 - Bipolar magneto-thermal switch. min. 4A
2. **Radars:**
 - Cables supplied with the accessory
3. **Program switch**
 - 16 mm corrugated tube
 - 4 x 0.25 mm² shield sleeve



1.4 Safety instructions

The national and international provisions relating to the safety of doors must be taken into consideration. The assembly and commissioning of the sensor may be carried out only by authorised technical personnel. All interventions and repair work on the sensor may be carried out only by **Manusa**.

Any use of the device that does not correspond to the intended use shall invalidate the manufacturer's warranty. This device is allowed to be used only at safety extra-low voltage (SELV) with safe electrical insulation.

The correct installation of the sensor and safety elements on the door is the responsibility of the installing company. The manufacturer accepts no liability for incorrect installations or adjustments to the sensor made by anyone other than **Manusa**.

Exercise caution when handling the sensor to avoid impairing its function.

In accordance with EU Norm EN 16005, doors located along evacuation routes must open if the electricity supply fails. Furthermore, the operator must check the battery and ensure that it is sufficiently charged to open the door. In cases where the battery is not sufficiently charged to open the door, the door must remain open until the battery is sufficiently charged.



In the case of **Manusa**, the DDS-A monitoring radars indicate to the operator that the door in question is an emergency exit and, as a result, if the batteries are insufficiently charged, the door remains open in any mode other than "Closed". Some batteries that are totally flat achieve the minimum charge for opening the door in less than 12 hours, so we recommend connecting the operators to the power supply the day before an installation takes place in order to charge the batteries.

1.5 Training requirements for fitters

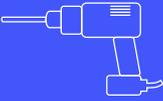
The installation of **Manusa** machines and any maintenance, regulation, adjustment work etc. must be carried out by technical personnel authorised by **Manusa**. The training process for authorised fitters takes the following objectives into account:

- To familiarise fitters with the use of maintenance and/or lifting equipment.
- To enable the correct handling of loads.
- To teach fitters to use the personal protection equipment.
- To teach fitters how to apply the provisions of the Low Voltage Directive.
- To impart solid technical knowledge about **Manusa** products.

2. Commissioning

2.1 Assembly

2.1.1 Tools required for the assembly

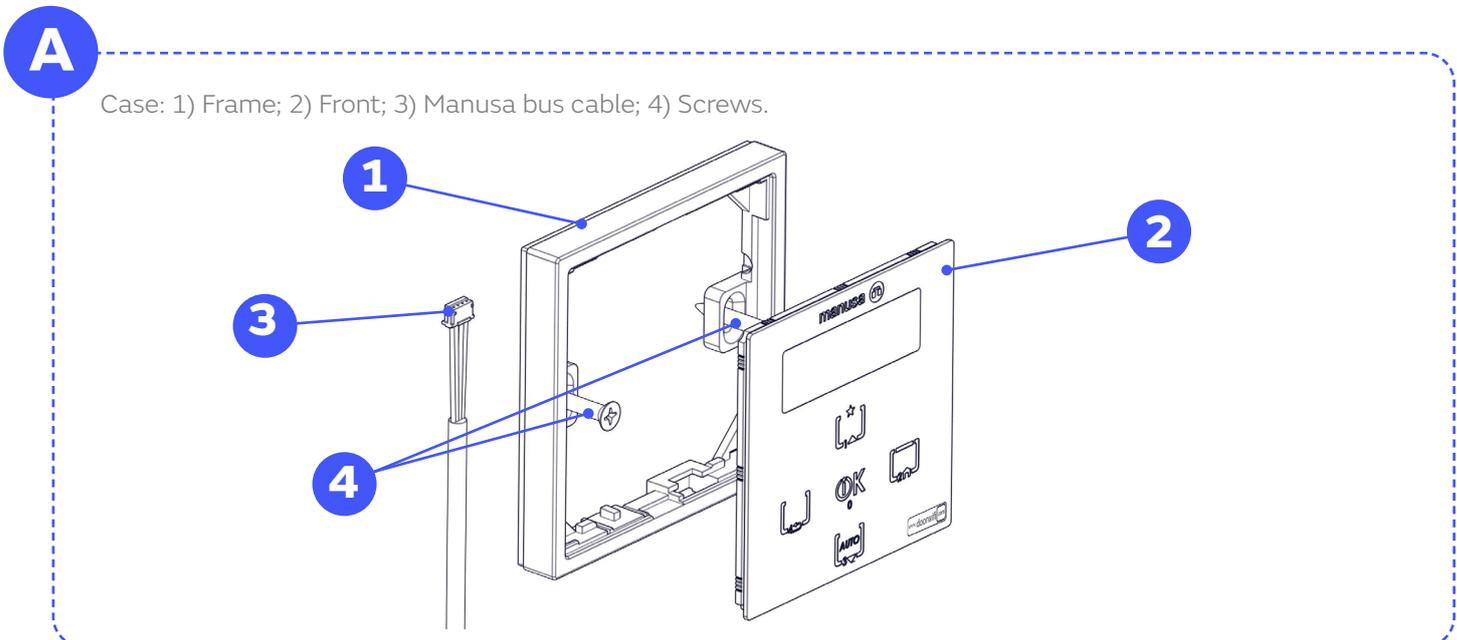
	Drill bit: Ø3 Ø6 Ø12		Spirit level
	Screwdriver		Rawlplugs S5x25
	Drill		Cloth

2.1.2 Description of symbols

Read the safety instructions below very carefully, as well as the installation and operation guide before using this product.

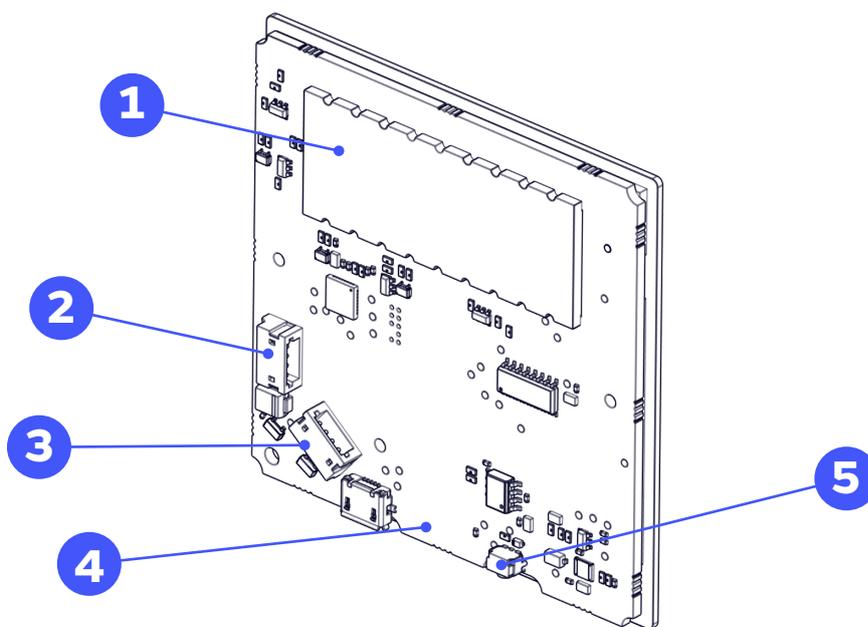
The symbols that appear in this manual and/or on the machine are as follows:	
	Risk of electric shock. Do not touch the inside of the machine if you have not disconnected the electrical supply to the machine first.
	Unspecified danger. Inadequate handling can cause injuries to persons and/or damage to the machine.
	Important note. You must comply with the instructions accompanying this symbol.

2.1.3 Identification of elements



B

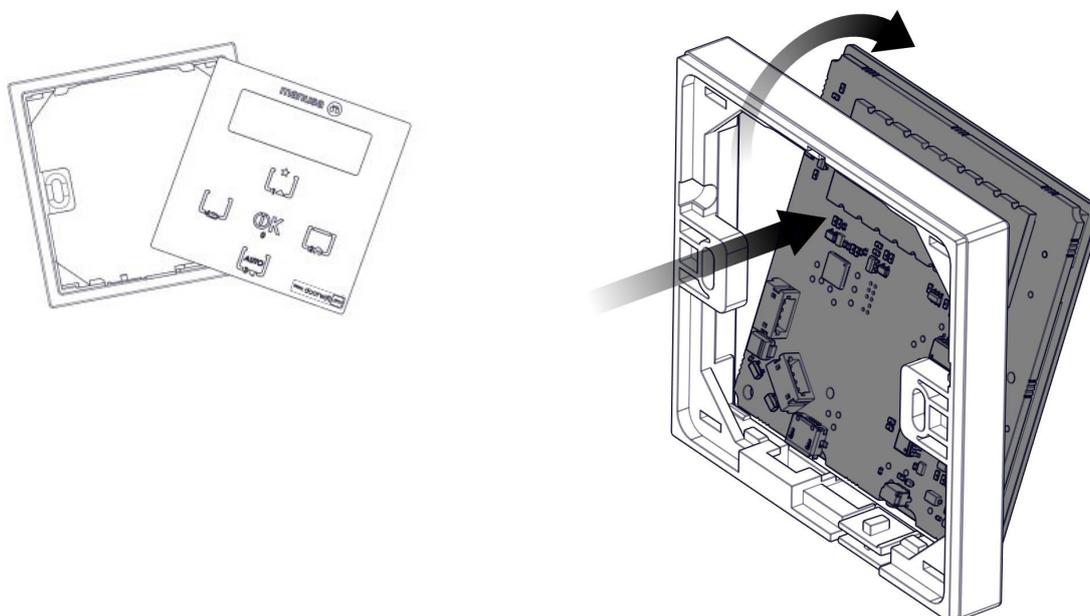
Electronics: 1) Screen; 2) Connector #1 Bus Manusa; 3) Conector #2 Bus Manusa; 4) PCA; 5) Button (Low battery).



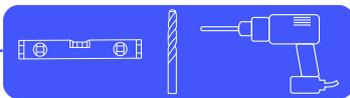
2.1.4 Installation

A

Detach the front from the frame.

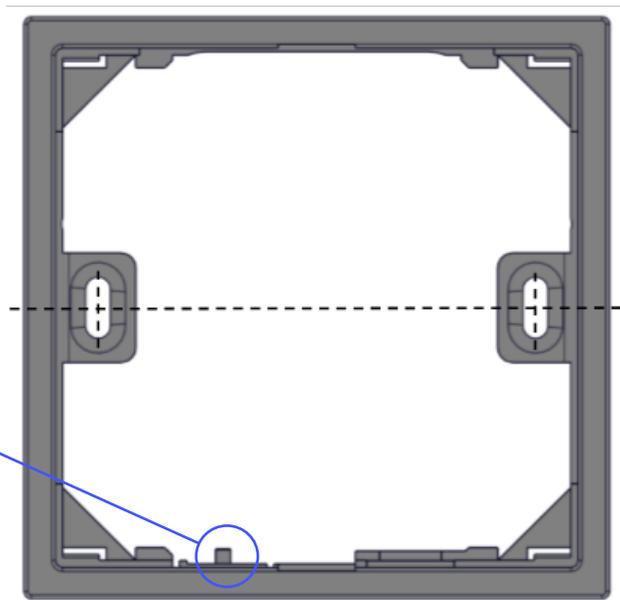


B

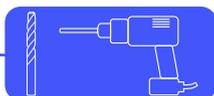


Position the frame as a template. Make holes as required for the installation.

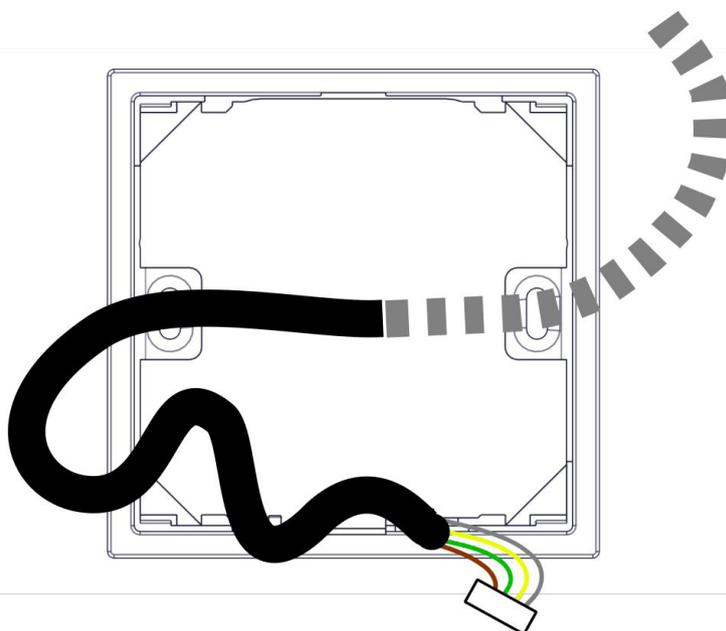
The notch down



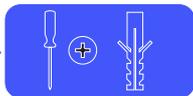
C



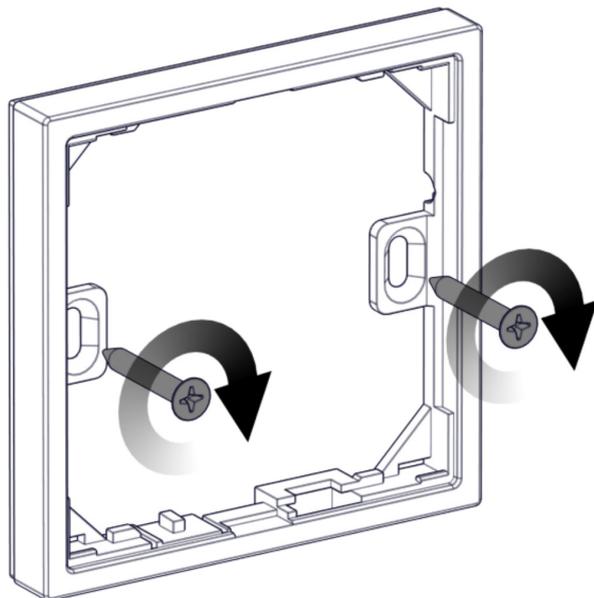
Check and enable the passage of the cable and connector through the indicated space.



D

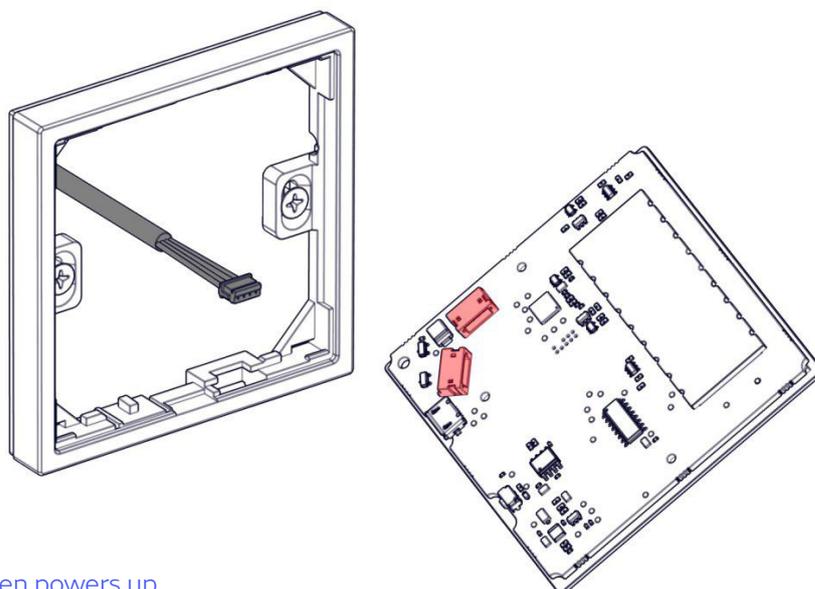


With the cable threaded through, screw the frame to the aluminium cover or to the lag bolts in the case of a wall installation. Use the supplied DIN 7982 screws.



E

Connect the cable to one of the Manusa bus contacts.

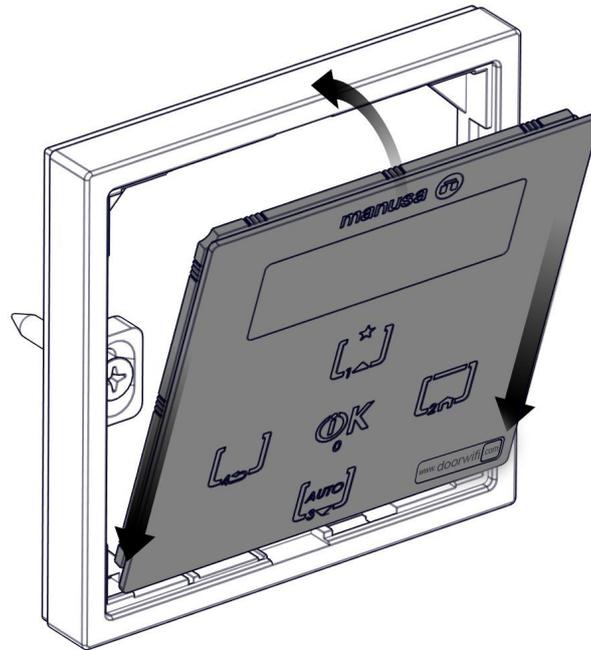


The indicator screen powers up.

F

Mount the front.

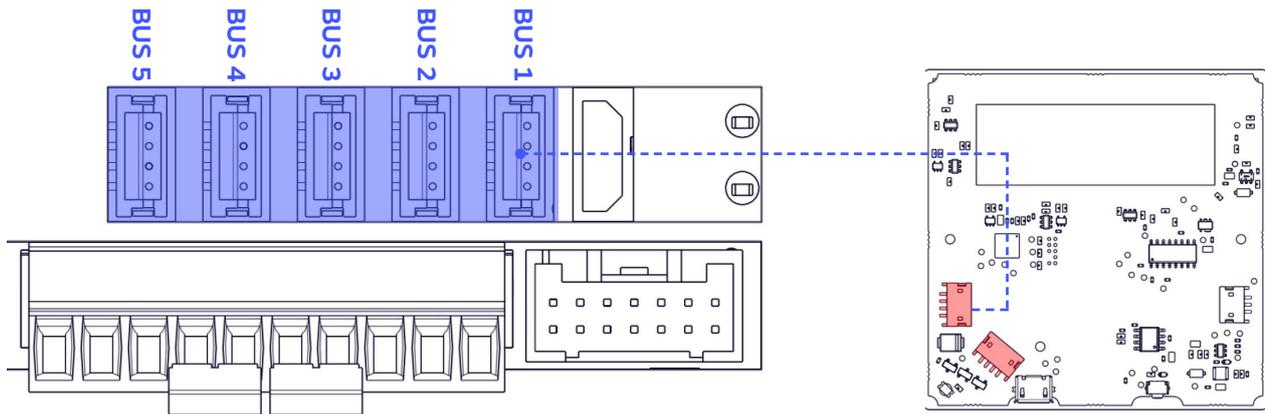
CLICK



2.2 Wiring

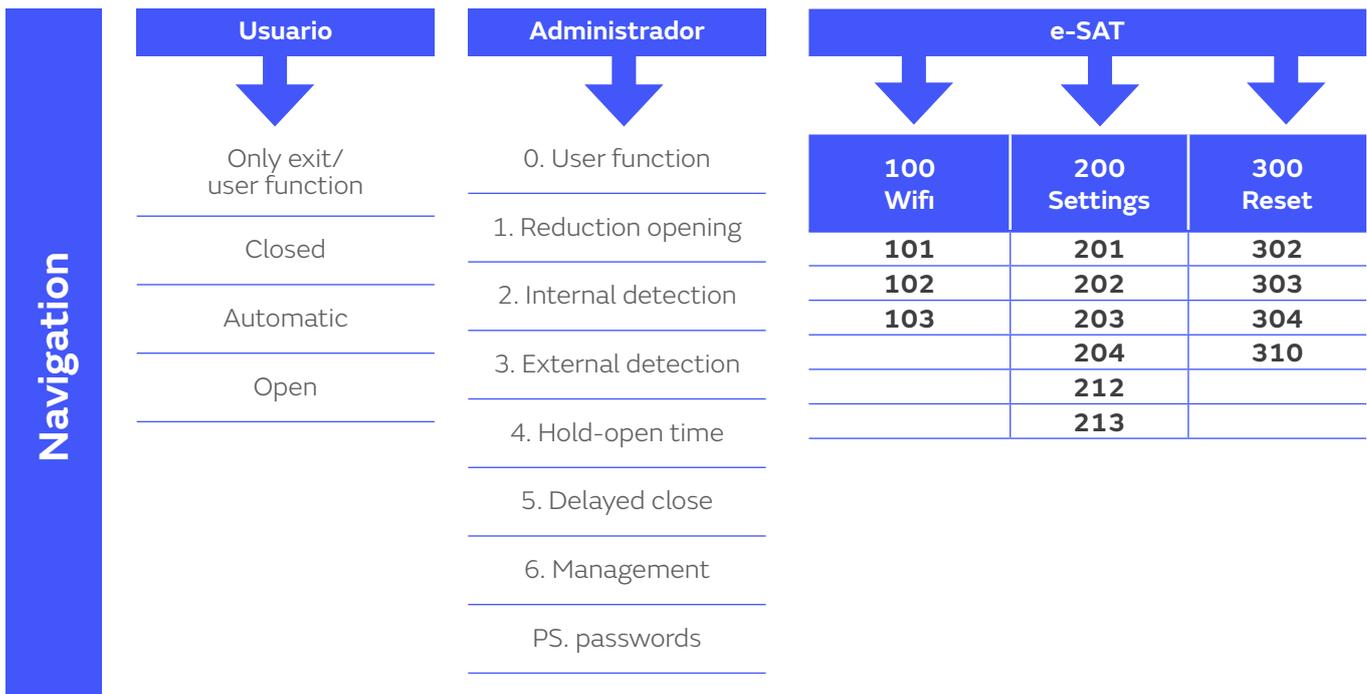
A

Wiring to the operator **Visio+ electronics**.



You can use any of the **Manusa bus** connectors of the program switch or the operator electronics.

2.3 Navigation map



2.4 HMI interface

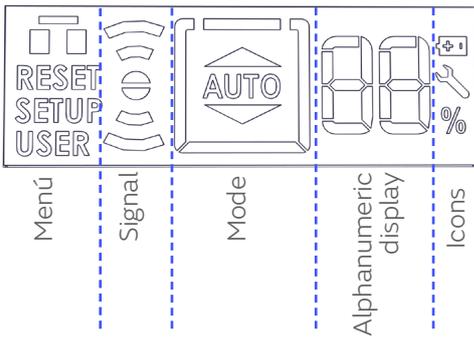
2.4.1 Interface elements

A



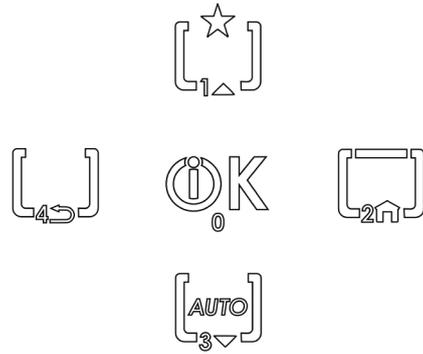
1. Screen

Menu, status, mode, and auxiliary icons.



2. Keypad

Navigation keypad and direct access to modes.



3. www.doorwifi.com

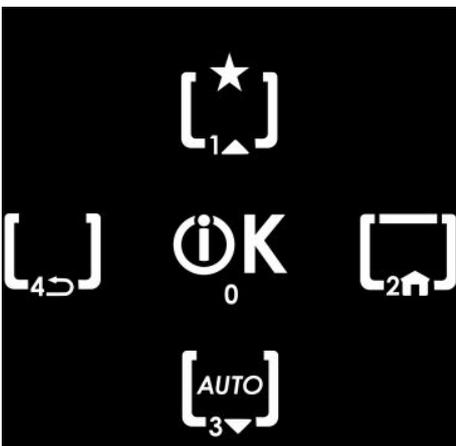
Illuminated wifi signal.



2.4.2 Navigation

A

The navigation keyboard is the control system that allows access to the different menus.



0. Button "OK"



1. Navigation button "UP"



2. Button "HOME"



3. Navigation button "DOWN"



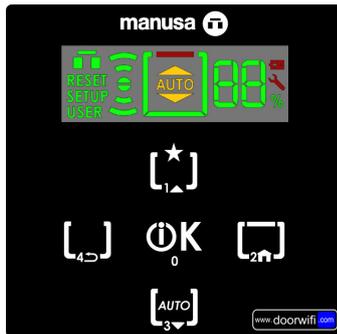
4. Button "BACK"

2.5 Menus

2.5.1 Menus

A

The user menu has five keys for the operation of its functions. Depending on how they are pushed, they can have one function or another:



[T0]		One click: menu "OK". 3 s: Access to menu (requires code. Default 9999).
[T1]		One click: Activates Exit only mode /Pushbutton mode, menu "UP". 3 s: Switch between reduction opening and maximum opening.
[T2]		One click: Activates closed mode, menu "HOME". 3 s: Lock/unlock keypad (requires code. Default 0000)
[T3]		One click: Activates auto mode, menu "DOWN". 3 s: Access to e-SAT functions.
[T4]		One click: Activates open mode, menu "BACK".

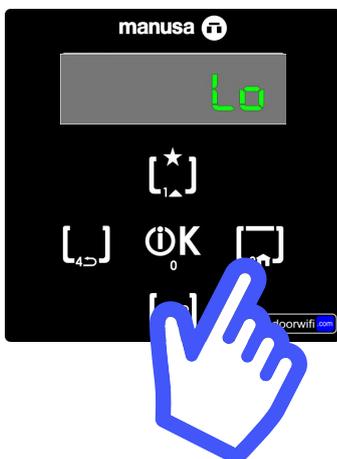


The long-press buttons that require a code, make access to the administrator menus, e-SAT.

2.5.2 Locking/unlocking the keypad

A

To lock the keypad, press the key [T2] for 3 seconds. To unlock it, long-press [T2] and enter the PIN (can be configured by the administrator).

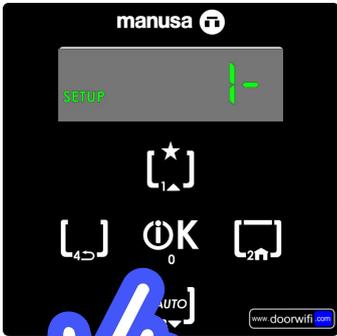


Menu	Keypad	Screen	Function
User	[T2] For 3 sec		Locking of keypad
.....	Any		Keypad inactive (disappears after a few seconds)
.....	[T2] For 3 sec		Unlock Enter PIN Default: [0 0 0 0]
.....	[T0] - [T1] [T2] - [T3] [T4]		Entry of sequence Position n [1 - 4] Key x [0 - 4] Automatic acceptance

2.5.3 Administrator menu

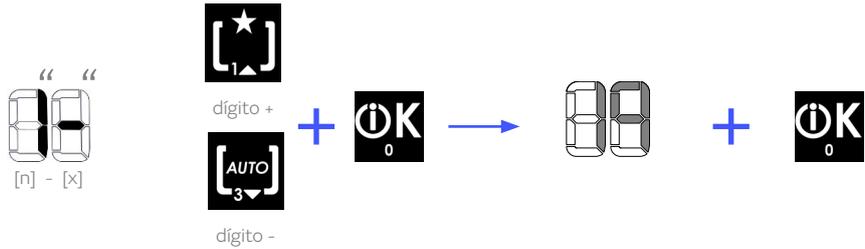
A

You access the **administrator menu** by pressing the key [T0]  for 3 seconds. You are asked to enter a PIN with [n] digits.



Enter PIN (default [9 9 9 9]):

The value of digits in “x” is increased or decreased by means of the keyboard arrows, each time the desired digit is selected, confirm with the OK key. With each confirmation the digit in “n” will increase in value, once the 4 PIN values have been entered, confirm with the OK key.



Example: 1 digit PIN entry sequence



- The PIN can be between 4 and 8 digits.
- If the error message appears, repeat sequence from the beginning.



B

Once you are in the administrator menu and its submenus, you use the keys [T1] and [T3] to navigate.



To confirm the menu or an option in the menu, choose the key [T0].



To go back one step, choose the key [T4].



To return to the menu [0], choose the key [T2].



C

Workflow:

Menu 0: User function



0.1 Sólo salir.



0.2 Modo pulsador



This menu defines the function of the configurable key [T1]:



Exit only mode. Menu 0.1:



The door opens only when the internal sensors actuate. In this mode, the door works with the lock activated. If this mode is set, the screen shows a flashing “Exit only” icon.

Pushbutton mode. Menu 0.2:



Actuates a single automatic opening/closing of the door. If this mode is set, the screen shows a flashing “Pushbutton” icon:

Workflow:

Menu 1: Reduction opening

1



1.1 Opening [1-9]



This menu defines the second function of the key [T1] (3-sec hold): 

By default, a *60% reduction opening is defined. This can be set between 1 and 9, whereby 1 represents 10% and 9 represents 90%. The digits [x - y] are shown on the screen; x = menu and y = the percentage of reduction opening (flashing).

80% reduction opening	*60% reduction opening	40% reduction opening
% 18	% 16	% 14

Menu 2: Internal detection

2



2.1 Short



2.2 Normal



2.3 Long



This menu defines the sensitivity of the internal detection sensor.

Short internal detection. Menu 2.1:

Sensitivity of sensor to microwaves deactivated.

The display shows the following graphic  intermittently until you confirm.

Normal internal detection. Menu 2.2:

Normal sensitivity of sensor to microwaves.

The display shows the following graphic  intermittently until you confirm.

Long internal detection. Menu 2.3 (default):

Maximum sensitivity of sensor to microwaves. This is the default factory setting.

The display shows the following graphic  intermittently until you confirm.

Menu 3: External detection

3



3.1 Short



3.2 Normal



3.3 Long



This menu defines the sensitivity of the external detection sensor.

Short external detection. Menu 3.1:

Sensitivity of sensor to microwaves deactivated. The presence sensor is used for the opening operation.

The display shows the following graphic  intermittently until you confirm.

Normal external detection. Menu 3.2:

Normal sensitivity of sensor to microwaves.

The display shows the following graphic  intermittently until you confirm.

Long external detection. Menu 3.3 (default):

Maximum sensitivity of sensor to microwaves. This is the default factory setting.

The display shows the following graphic  intermittently until you confirm.

Workflow:

Menu 4: Hold-open time



4.1 Hold-open time [0-9]



Allows you to control the amount of time that the door is held open. The value range is from 0 to 9, whereby 0 = 0 s and 9 = 9.9 s. By default, a *0 hold-open time is defined.

The digits [x - y] are shown on the screen.
x = menu and y = the value of the hold-open time (flashing).

*Hold-open time Min..	Hold-open time Max.
40	99

Menu 5: Delayed close



5.1 Closing [0-9]



Allows to control the closing time of the door. The value range is from 0 to 9, whereby 0 = 0 s and 9 = 99.9 s. By default, timing 0 is defined.

The digits [x - y] are shown on the screen;
x = menu and "y" = blinking timed shutdown value.

*Delayed close Min.	Delayed close Max.
50	99

Menu 6: Management



6.1 Door pairing mode



This menu enables the link between the door and the command.

Place door in pairing mode. Menu 6.1:

Pairing starts when you press OK once. At this point, the LED sequence starts.

The program switch sends a frame to the door (server) to place it into pairing mode until a command is found; if no command is found, it exits this state after a few seconds. The door is inoperable until it finds a command.

The display shows the door "SETUP" icon and a wave sequence moving outwards:



The wall program switch shows this until the pairing mode is exited.

Workflow:

Menu PS: Passwords

7



PS.1 - For open



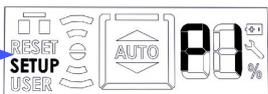
PS.1 - For closed



PS.1 - For open/closed



PS.1 - Deactivated



PS.2 - Administrator



The passwords are saved in the electronics. There are two levels:

PS1- User	Sequence of keys with 4 digits (T1, T2, T3, T4)
PS2- Administrator	Numeric code of between 4 and 8 digits

User password [N3]. Menu PS1 (default 0 0 0 0):

Sequence of a minimum of 4 keys that allows the user to unlock the program switch to access the door modes and to lock or unlock the keypad after holding down the following key [T2]



Once you are in the PS.1 menu, the screen shows the modes defining the security level to be implemented (red and flashing):

For open - For closed - For opened/closed - Deactivated (except on escape route)

twice to validate the entry. If you do not enter the correct sequence, the error management system will appear automatically (screen flashes "EE"). This takes you to the next menu level up where you can enter a new sequence until validation takes place correctly.



The confirmation of the mode "Deactivated" does not mean that the sequence is not activated for the locking/unlocking of the keypad.

Admin password [N2]. Menu PS2 (default 9 9 9 9):

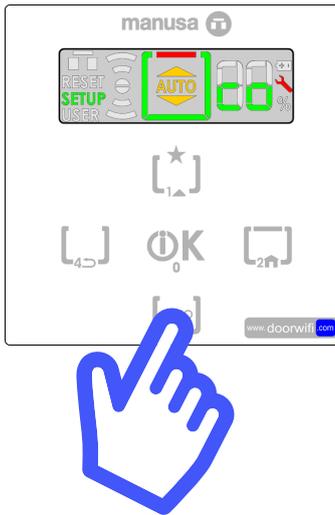
The definition of the admin password can include a minimum of 4 digits and a maximum of 8. With the confirmation of "-" by choosing the button "OK", you indicate that you do not wish to enter any more numbers in the code. If you have not entered the minimum of 4 digits, the confirmation of "-" has no effect.

To perform the validation, simply enter the code again. The error management system (screen flashing "EE") takes you to the next menu level up to enter a new code again until validation takes place correctly.

2.5.4 e-SAT menu

A

You access the e-SAT menu by pressing the key [T3]  for 3 seconds.



Menu	Keypad	Screen	Screen
e-SAT	3 sec 	SETUP  	Access to e-SAT menu
.....	SETUP  	Submenu 100 Enter sequence 1xx
.....	 +  	SETUP  	Submenu 200 Enter sequence 2xx
.....	 +  	SETUP  	Submenu 300 Enter sequence 3xx

B

Navigation in the e-SAT menus takes place directly using codes, so once you confirm the desired level, you enter the sequence associated with a specific function. For example:

$$\text{SETUP } \left[\begin{array}{c} \text{AUTO} \\ \text{AUTO} \end{array} \right] \text{ EE} + \left[\begin{array}{c} \text{OK} \\ 0 \end{array} \right] = \text{SETUP } \left[\begin{array}{c} \text{AUTO} \\ \text{AUTO} \end{array} \right] \text{ EE}$$

[Shown on submenu screen] + [key] = [shown on screen of confirmed submenu]

When the level digit flashes, you enter the sequence and confirm with the key [T0].

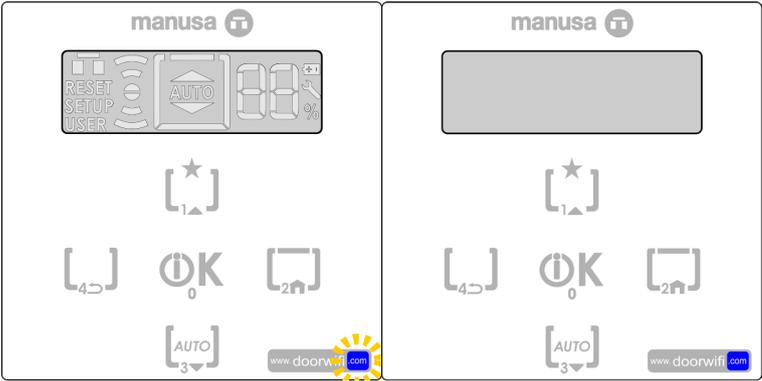
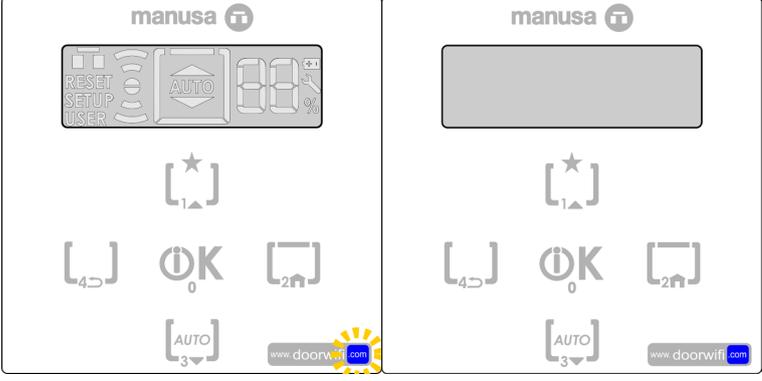
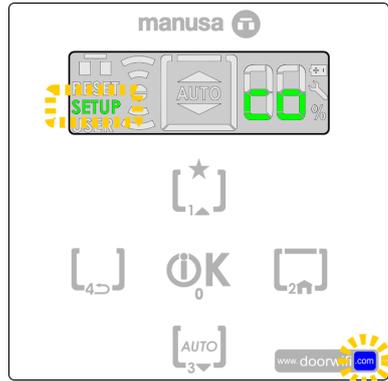
Example: [1 0 2] + OK

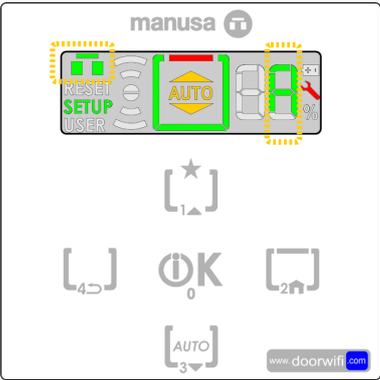
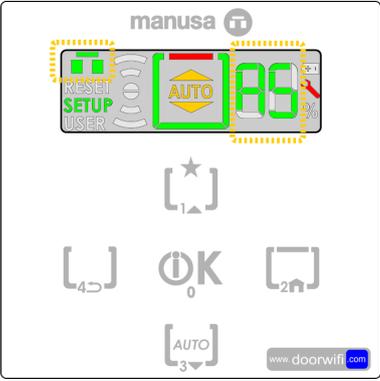
$$\left[\begin{array}{c} \star \\ 1 \end{array} \right] \left[\begin{array}{c} \text{OK} \\ 0 \end{array} \right] \left[\begin{array}{c} \text{2H} \\ \text{2H} \end{array} \right] + \left[\begin{array}{c} \text{OK} \\ 0 \end{array} \right] = \text{WiFi On}$$

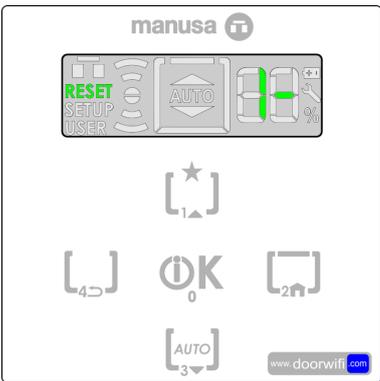
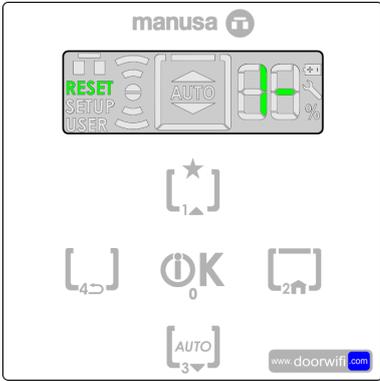


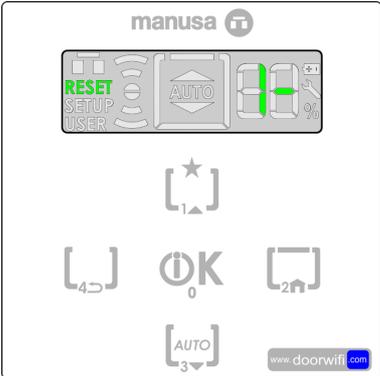
If the sequence is incorrect  appears on the screen and you return to the start of the relevant menu [c X].

C

Code	Function	Keypad
101	<p>WiFi-Off: Turns the wifi connectivity off. Once the sequence 101 has been validated, the icon goes out once there is no wifi connection.</p> 	
102	<p>WiFi-On: Turns the wifi connectivity on. Once the sequence 102 has been validated, the wifi icon lights up once there is a connection..</p> 	
103	<p>WiFi in e-SAT mode: Turns the wireless connectivity for e-SAT on. The wifi icon, the feature indicator [co] and SETUP flash slowly and finally light up permanently. The blue LED continues to flash in this mode.</p>  <p> SETUP flashes for the first 5 minutes when the door starts up.</p>	

Code	Function	Keypad
201	<p>Self-adjustment: Once the sequence 201 has been validated, the self-adjustment menu appears on the screen. After a few seconds, the self-adjustment starts, and the marked icons flash</p>  <p> When the self-adjustment has finished, the icons stop flashing. To exit the e-SAT menu, press the key [4]</p>	
202	<p>Safety self-adjustment: Once the sequence 202 has been validated, the self-adjustment menu appears on the screen. A password is required and is validated with the key [T0]. After a few seconds, the safety self-adjustment starts and the marked icons flash.</p>  <p> When the self-adjustment has finished, the icons stop flashing. To exit the e-SAT menu, press the key [2]. After a certain time, the program switch automatically exits the menu.</p> <p>The safety self-adjustment enables the visualization of the status of the radars and photocells:</p> <ul style="list-style-type: none">  Radar Ext.: You can check whether the exterior radar is working by moving objects or people towards the clear width: The indicator lights up or goes out.  Photocell Ext.: A correct visualization should indicate that there are active photocells both internally and externally.  Door  Photocell Int.: A correct visualization should indicate that there are active photocells both internally and externally.  Radar Int.: You can check whether the interior radar is working by moving objects or people towards the clear width: The indicator lights up or goes out. 	

Code	Function	Keypad
203	Disable warning 22: Lack of security when opening (Password required)	
204	Disable warning 23: Lack of security when closing (Password required)	
212	Disconnects auxiliary output	
213	Evacuation exits: It deactivates the opening of the door for 24 hours in case of error 11 (Password required)	
302	<p>Reset. passwords: Once the sequence 302 has been validated, the “Reset password” menu appears on the screen. (Pasword required)</p> 	
303	<p>Reset parameters (factory): Once the sequence 303 has been validated, the “Reset parameters” menu appears on the screen. A password is required and is validated with the key [T0]. After a few seconds, the Wifi reset function starts and the marked icons flash.</p> 	

Code	Function	Keypad
304	<p>Reset. Wifi: Once the sequence 303 has been validated, the “Reset parameters” menu appears on the screen. A password is required and is validated with the key [T0]. After a few seconds, the Wifi reset function starts and the marked icons flash.</p> 	
310	<p>Reset lack of maintenance: (Pasword required)</p>	

2.6 Warning messages

When the automatic door operator detects a malfunction in the door operation, the program switch screen will show a numeric code. The code interpretation is summarised in the following table:

	Warning	Possible cause	Corrective action
02	SOS	Emergency signal enabled.	Check position of folding leaves. Check emergency stop button.
03	Obstruction when Closing	Obstruction during the closing cycle.	Check that there are no obstructions during closure.
04	Outside key switch	The key has not be removed after 1 min	Remove the key from the outside key switch device.
05	Parameter error	Door parameter fault.	Inform the Manusa Technical Service.
06	Obstruction when Opening	Obstruction during the opening cycle.	Check that there are no obstructions in the opening area.
07	Photocell 1	Interior photocell blocked for more than 1 minute.	Clean the photocells. Should the malfunction persist, inform the Manusa Technical Service.
08	Photocell 2	Exterior photocell blocked for more than 1 minute.	Clean the photocells. Should the malfunction persist, inform the Manusa Technical Service.
09	Fire	Fire alarm signal triggered.	Check that it is not a false alarm. Should the malfunction persist, inform the Manusa Technical Service.
11	Batteries	Battery not overly charged.	If the door has been disconnected for a while, connect it and wait 24 hours for the batteries to charge. Should the malfunction persist, inform the Manusa Technical Service.
12	Interior Radar	Interior radar detection more than 1 minute.	Inform the Manusa Technical Service.
13	Exterior Radar	Exterior radar detection more than 1 minute.	Inform the Manusa Technical Service.
15	Auxiliary processor	Communications failure with auxiliary processor.	Should the malfunction persist, inform the Manusa Technical Service.
16	Side safety device	Detection of presence in the passage area leaves for more than 1 minute	Check that there are no objects within the detection radius of the sensor.
17	Lock	Fault when attempting to close the lock.	Inform the Manusa Technical Service.
22	Safety open	Safety open sensor not configured	Inform the Manusa Technical Service.
23	Safety close	Safety close sensor not configured	Inform the Manusa Technical Service.
24	Safety close	Safety close sensor fault.	Inform the Manusa Technical Service.
33	Current leakage	Motor insulation fault.	Inform the Manusa Technical Service.
34	Power module	Power module stoppage due to overcurrent or insulation fault.	Inform the Manusa Technical Service.
35	Encoder	Encoder error. One of the two channels of the encoder is faulty.	Inform the Manusa Technical Service.
36	Self-adjustment fault	Self-adjustment not completed correctly.	Inform the Manusa Technical Service.
49	Critical alarm	Possible general fault in the motor control microprocessor.	Inform the Manusa Technical Service.

2.7 Warning icons

Warning	Function
	<p>The battery icon lights up with error 11.</p>
	<p>The key icon illuminates whenever a warning message appears. The key icon illuminates when the door requires preventive maintenance.</p>

3. Maintenance

Maintenance of the **Manusa** sensors can only be carried out by authorized technical personnel. The maintenance tasks reserved to the user are exclusively those of order maintenance and cleaning in the door area.



We recommend cleaning whenever necessary - and at least once a year - with a slightly damp cloth.
Do **NOT** use aggressive cleaning products.



Perform proper waste management at the end of the sensor's life.

The tasks of installation, maintenance, adjustment and repair of the sensors are reserved to technical personnel authorized by **Manusa**.



Manusa is not responsible for sensors that have been manipulated by personnel outside **Manusa**.

The characteristics indicated in this manual are purely informative and are in no way binding.
The manufacturer reserves the right to make modifications without prior notice.



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