



Installer manual

## SW24.W

Control panel for swing gates 24 Vdc

**SW24.W**

---

<b>Contents:</b>	<b>Page</b>
Product features .....	1
System type .....	2
Description of the terminal blocks.....	2
Power supply connection.....	3
Connecting accessories .....	3
Programming the control panel .....	6
Diagnostics .....	21
Updating firmware .....	22
Control panel behaviour when loading settings.....	23
Control panel connection from Smartphone/Tablet .....	24

## SW24.W

### 1 - Product features:

Control panel for gear motors for 24Vdc swing gates. The control panel:

- is equipped with an integrated 433 MHz rolling code or fixed code receiver, storing up to 4032 codes
- is equipped with Wi-Fi connection and programming via Smartphone and Tablet using the EMC.W module and the By-gate Pro app
- is equipped with a back-lit display for programming and diagnostics  
is used to customise all gate movement control parameters (speed and slowdown spaces, motor force, obstacle sensitivity, reaction to obstacles, acceleration and deceleration ramps...)
- is equipped with fully configurable inputs and outputs  
is used to lock the control panel and receiver settings with a 4 digit password protection

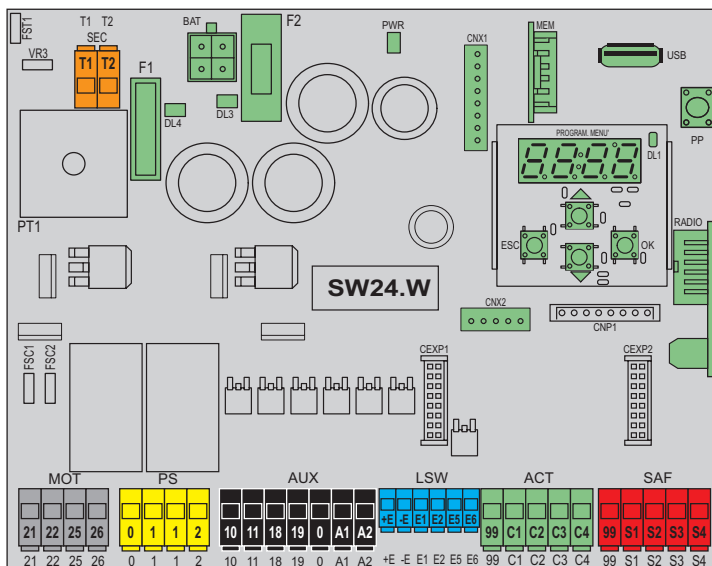
### Technical data:

Power supply	24 Vac
Motor supply voltage	24 V DC
Maximum motor power	80 W + 80 W
Flashing light output	24 V DC 35 W max
Electrical lock output	12 Vdc 15 VA
Accessories power supply	24 V DC 500 mA
Receiver memory	4032 Elvox rolling codes
Receiver frequency	433 MHz
Remote controls code	Rolling code or fixed
Fuse F1	ATO line protection 15 A

Fuse F2	Accessories protection 5x20 mm F 3.15A
Operating temperature	-10 to +50°C
Ports	MEM for memory module MEM.W connection (included) RADIO for radio module 433RAD.W connection (included) USB for firmware updating CNX1 for Wi-Fi EMC.W module connection CNX2 (not used)

### Controllable actuators

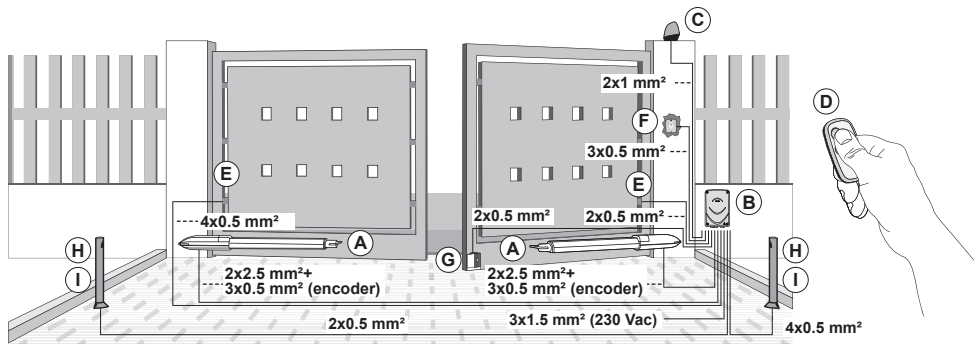
Ref.	Description
EAM2	EKKO 300D linear operator 24 V 3 m 300 kg
EAM3	EKKO 400D linear operator 24 V 4 m 250 kg
EIM1	HIDDY 200D underground operator 24 V 2 m 200 kg
EIM2.24	HIDDY 350D underground operator 24 V 3,5 m 200 kg



**SW24.W**

**2 - System type:**

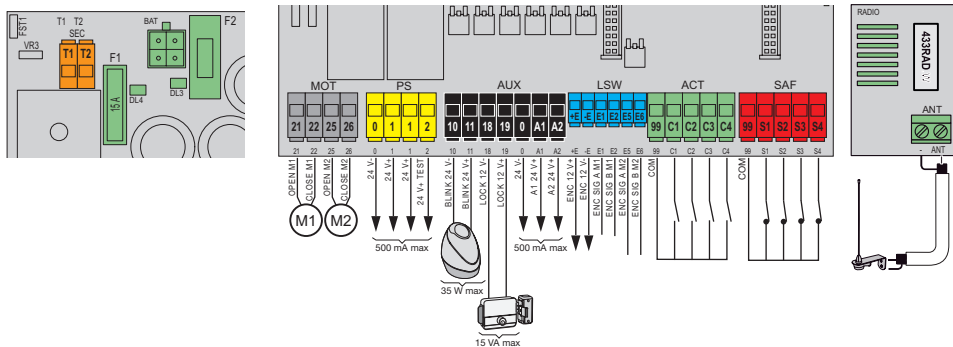
For the sizing of the cable routing, the required cross-sections of the cables are shown below.



**Components for implementing a complete system**

Main Components				Accessories (optional)	
Actuator	A	Remote control	D	Electric lock + cylinder	G
Control panel	B	Wall-mounted photocells	E	Post-mounted photocells	H
Blinking	C	Key selector	F	Posts	I

**3 - Description of the terminal block**



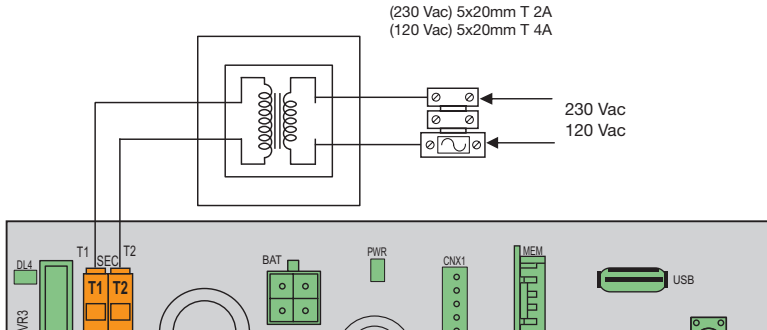
Block	Terminal	Description	Rated data
SEC	T1 T2	Secondary transformer	24 Vac
BAT	-	Battery pack rapid coupling	
MOT	21 22 25 26	Opening motor 1 Closing motor 1 Opening motor 2 Closing motor 2	24 V DC 80 W 24 V DC 80 W
PS	0 1 2	Accessory power supply negative Accessory power supply positive Accessories positive checked	24 V DC 500 mA
AUX	10 11 18 19 0 A1 A2	Flashing light negative Flashing light positive Electrical lock negative Electrical lock positive Accessories negative Configurable output 1 positive Configurable output 2 positive	24 V DC 35 W 12 V DC 15 VA 24 V DC 500 mA

Block	Terminal	Description	Rated data
LSW	+E	Encoder power supply positive	12 V DC
	-E	Encoder power supply negative	
	E1	Motor 1 encoder signal A	N.O.
	E2	Motor 1 encoder signal B	
	E5	Motor 2 encoder signal A	
	E6	Motor 2 encoder signal B	
ACT	99	Control common	N.O.
	C1	Configurable control 1	
	C2	Configurable control 2	
	C3	Configurable control 3	
SAF	99	Safety device common	N.C.
	S1	Configurable safety device 1	
	S2	Configurable safety device 2	
	S3	Configurable safety device 3	
	S4	Configurable safety device 4	
ANT	ANT	Aerial signal	
	-	Aerial earth	

**SW24.W**

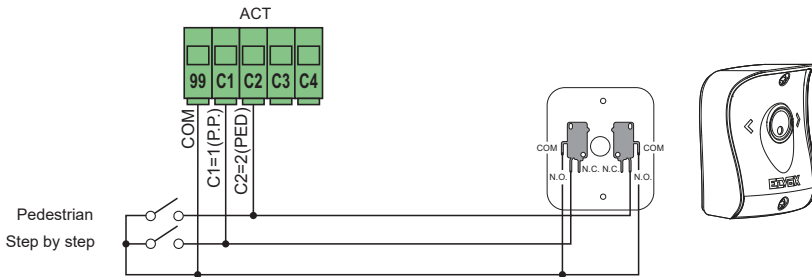
**4 - Power supply connection**

The control panel is powered at the SEC terminal with 24Vac and must be connected to the secondary terminal of a transformer for powering from the mains electricity. The transformer is supplied with the gear motor or control cabinet the control is fitted in and the secondary is pre-wired to the control panel. The primary terminal on the transformer is already wired to the fuse carrier, also supplied with the gear motor or the control cabinet, for connecting the fuse carrier to the electrical power supply refer to the image below:

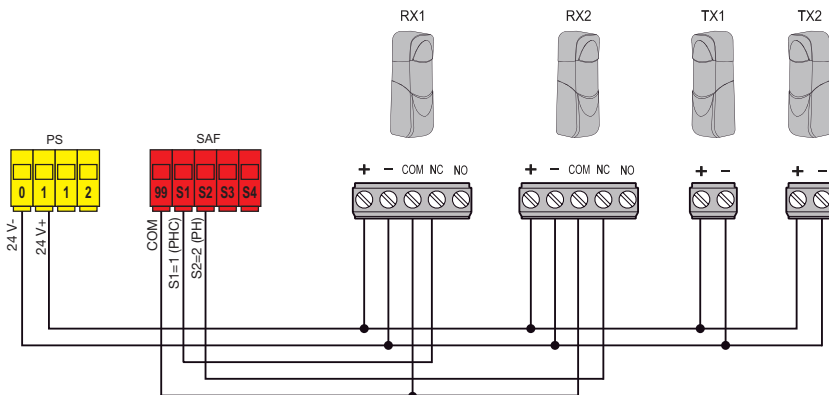


**5 - Connecting accessories**

**5.1 - Key switch and control device**

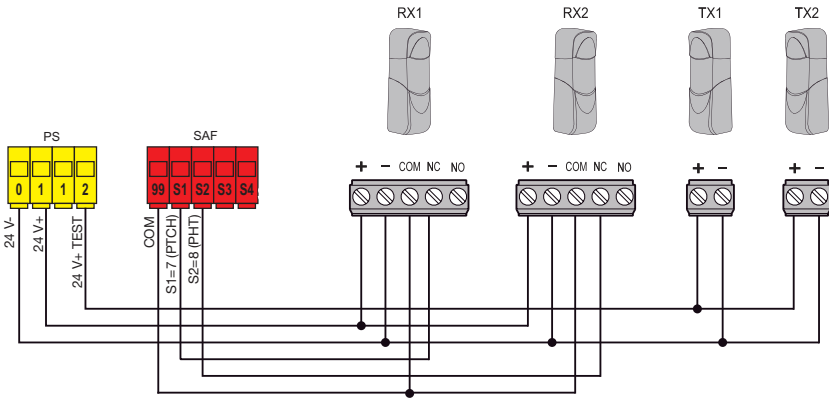


**5.2 - Key switch and control device**

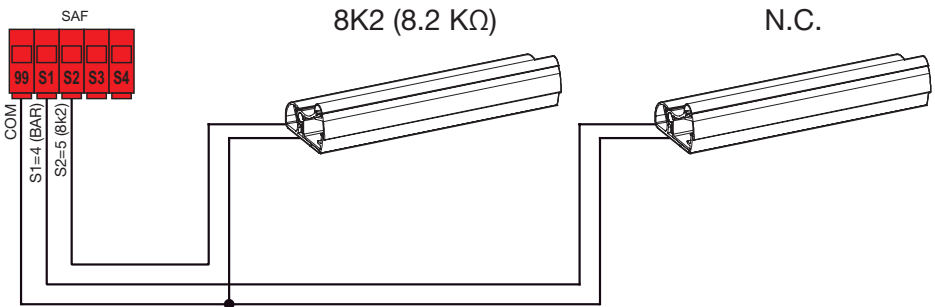


SW24.W

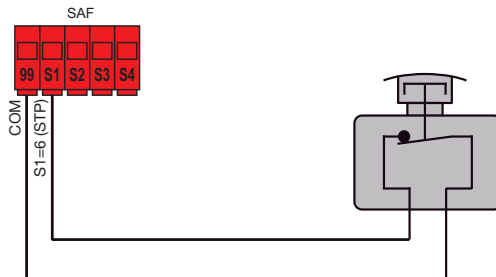
5.3 - Photocells and photocells in closing with photo-test on



5.4 - Sensitive edge



5.5 - Stop push button



**SW24.W**

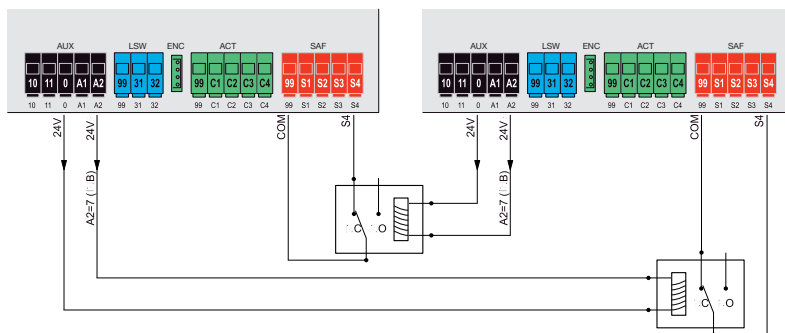
**5.6 - Connecting two control panels in interlocking mode, output A2 = 7 (INB)**

The interlocking connection involves 2 gates operating according to the following method:

- gate 1 opens only if gate 2 is closed
- gate 2 opens only if gate 1 is closed

When this mode is on, the safety input S4 is automatically configured without the installer selecting it as an interlock input (checking that the other gate is closed).

The two control panels operating in interlocking mode must be connected by interposing 2 relays as shown in the figure:

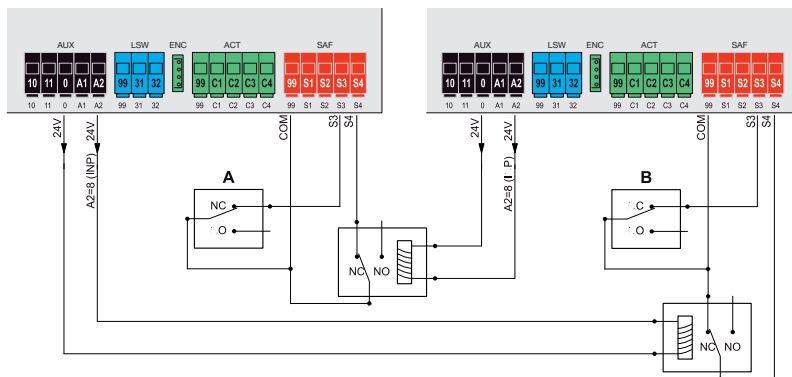


**5.7 - Connecting two control panels in interlocking mode with presence, output A2 = 8 (INP)**

The interlocking connection with consent to opening from presence signal involves 2 gates operating according to the following method:

- gate 1 opens only if gate 2 is closed
- gate 2 opens only if gate 1 is closed
- gate 1 opens only if there is a presence signal
- gate 2 opens only if there is a presence signal

When this mode is on, the safety input S4 is automatically configured without the installer selecting it as an interlock input (checks the state of closure of the other gate) and the safety input S3 is configured automatically as the presence input. The two control panels operating in interlocking mode must be connected by interposing 2 relays and using accessories which send the presence signals to the control panels (e.g. magnetic coils A and B) as shown in the figure:



## SW24.W

### 6 - Control panel programming:

#### 6.1 - Preliminary operations

To function correctly, the control panel requires some minimum and essential settings. There are two:

##### - Setting the motor type.

In its default configuration, the control panel is not associated to any type of motor. The type of motor associated to the control panel must be set.

##### - Gate travel calibration

The control panel must know some physical parameters of the gate in order to function correctly. The operation allowing the control panel to know these physical gate parameters is called travel calibration. If this is not done, the control panel may not perform slowdowns or detect obstacles correctly.

The instructions for these settings are given in the following paragraphs

#### 6.2 - Using the display

The control panel is programmed using the display and the navigation buttons on board or via Smartphone/Tablet (see paragraph "Wi-Fi connection to Smartphone/Tablet"). The control panel settings are shown on the display and can be edited using the menu navigation buttons as shown in the following table:

Buttons	Function	Pressure length
OK	Switching on the display Sub-menu entry Confirm value change and return to menu	Instantaneous
▲	Scroll up Increase parameter value	Instantaneous
▼	Scroll down Reduce parameter value	Instantaneous
ESC	Exit the menu Cancel value change and return to menu Switching off the display	Instantaneous
▲+▼	Resetting the card	3 s
▲+OK	Opening control	1 s
▼+OK	Closing control	1 s
ESC+OK	Display test (switches on each segment of the display and points individually in sequence)	3 s
ESC+OK	When the board is switched on the Firmware updating mode starts	3 s
PP	Step-step control	Instantaneous


#### 6.3 - Menu

The control panel programming is organised into menus and sub-menus used to access and edit the parameters and logics of the control panel. The control panel is equipped with the following first-level menus:

Menu	Description
MOT	Motor parameters setup
LRNT	Travel calibration procedure run menu
TRV	Travel parameter settings menu
OUT	Auxiliary output configuration menu
IN	Input configuration menu
LGC	Operating logic settings menu
RAD	Remote control management menu
STAT	Diagnostic and reporting menu
EXP	Expansion board management menu
LOAD	Default value restore menu
PASS	Protection level settings menu

All sub-menus are described in the following table



Motor parameters				
MOT	O1	<b>Type of gear motor used</b>  <b>Warning!</b> <b>The motor type parameter is set to OFF by default. When set to OFF, the control unit does not execute any command! It is necessary to set the motor type parameter according to the type of gearmotor with which the control unit is used.</b>		Default OFF
		OFF	The motor type parameter is set to OFF by default. When set to OFF, the control unit does not execute any command! It is necessary to set the motor type parameter according to the type of gearmotor with which the control unit is used.	
		1	Ekko 300D (EAM2) or Ekko 400D (EAM3)	
		2	Hiddy 200D (EIM1)	
		3	Hiddy 350D (EIM2.24)	
	O2	<b>Type of position control</b> Automatically set with the choice of gear motor. You are advised not to change the setting given by the type of gear motor.		Default 3
		2	Virtual encoder: the control panel calculates the gate position using the electric motor operating parameters	
		3	Encoder for Ekko 300D (EAM2), Ekko 400D (EAM3), Hiddy 200D (EIM1)	
	O3	<b>Type of limit switch on opening</b> Automatically set with the choice of gear motor. You are advised not to change the setting given by the type of gear motor.		Default OFF
		OFF	No limit switch on opening: the electric motor stops at the end of the working time	
		1	Stop limit switch on opening: the limit switch stops the motor	
		2	Limit switch in proximity opening: the limit switch allows the manoeuvre to continue at the approach speed set until it detects the mechanical stop	
O4	<b>Type of limit switch on closing</b> Automatically set with the choice of gear motor. You are advised not to change the setting given by the type of gear motor.		Default OFF	
	OFF	No limit switch on closing: the electric motor stops at the end of the working time		
	1	Stop limit switch on closing: the limit switch stops the motor		
	2	Limit switch in proximity closing: the limit switch allows the manoeuvre to continue at the approach speed set until it detects the mechanical stop		

Gate travel calibration				
LRNT	LRNE	<b>Rapid travel calibration.</b> The calibration is done fully automatically and sets: - The slowdown in opening and closing at 20% of the total travel - Offset in opening at 3 s and in closing at 6 s - Pedestrian opening at 30% of the total travel for the first leaf		
		<b>Pressing button</b>	<b>Msg on display</b>	<b>Phase description</b>
		-	PP	Wait for start of calibration procedure
		PP	CL 2	When button pressed: motor 2 closing and search for closing stop
		-	CL 1	Motor 1 closing and search for closing stop
		-	OP 1	Motor 1 opening travel measurement and search for stop
		-	OP 2	Motor 2 opening travel measurement and search for stop
		-	CL 2	Motor 2 closing travel measurement
		-	CL 1	Motor 1 closing travel measurement
		-	OPC1	Motor 1 opening current curve reading
		-	OPC2	Motor 2 opening current curve reading
		-	CLC2	Motor 2 closing current curve reading
		-	CLC1	Motor 1 closing current curve reading
		-	END	End of procedure

**SW24.W**

LRNT	LRNA	<b>Advanced travel calibration.</b>		
		Pressing button	Msg on display	Phase description
		The calibration allows the installer to choose: - Slowdown position in opening and closing - Offset for opening and closing - Pedestrian opening position		
		-	PP	Wait for start of calibration procedure
		PP	CL 2	When button pressed: motor 2 starts closing and searches for closing stop
		-	CL 1	Motor 1 starts closing and searches for closing stop
		PP	OP 1	Start opening motor 1 When button pressed: slowdown start position on opening setting.
		PP	OP 1	Continuation of motor 1 opening at slowing speed. When button pressed: end of travel position setting. No button pressed: continuation to the stop.
		PP	OP 2	Start opening motor 2 When button pressed: slowdown start position on opening setting.
		PP	OP 2	Continuation of motor 2 opening at slowing speed. When button pressed: end of travel position setting. No button pressed: continuation to the stop.
		PP	CL 2	Start closing motor 2 When button pressed: slowdown start position on closing setting.
		-	CL 2	Continuation of motor 2 closing at slowdown speed up to stop.
		PP	CL 1	Start closing motor 1 When button pressed: slowdown start position on closing setting.
		-	CL 1	Continuation of motor 1 closing at slowdown speed up to stop.
			OPED	Start pedestrian opening. When button pressed: pedestrian opening position setting
		-	CPED	Leaf closing from pedestrian opening position
		PP	DLOP	Start opening. When the offset time setting in opening button is pressed, motor 2 starts.
		PP	DLCL	Start closing. When the offset time setting in closing button is pressed, motor 1 starts.
		-	END	End of procedure

**Self-calibration**

If the gate travel parameter is changed, there is no need for the installer to run new calibrations, however, when changing the travel parameters, the control panel needs to learn the current curve again, thus disabling the obstacle detection only during the self-calibration manoeuvre.

Self-calibration is appropriately signalled:

- on the control panel display by the code AT
- by the light flashing at twice the normal frequency

The events generating self-calibration are:

- change in parameters: T24, T25, T26, T27, T28, T29, T30, T31, T32, T33, T34, T35, T40, T41.
- loading of settings from a MEM.W memory card
- reset/import of settings from the By-gate Pro

## SW24.W

Gate travel parameters			
TRV	T1	<b>Power of motor 1 (%)</b> Sets the value of the force given to motor 1 to push the leaf	Default <b>50</b>
		1	Minimum force
		100	Maximum force
	T2	<b>Power of motor 2 (%)</b> Sets the value of the force given to motor 2 to push the leaf	Default <b>50</b>
		1	Minimum force
		100	Maximum force
	T3	<b>First leaf to move</b>	Default <b>M1</b>
		M1	Motor 1
		M2	Motor 2
	T4	Direction. Sets the motor direction	Default <b>1</b>
		1	Standard (for a linear actuator, leaf closed with rod extended)
		2	Inverse (for a linear actuator, leaf closed with rod retracted)
		Note: Inverts both motors. If only one motor has an incorrect direction, invert the power supply wires on the motor with the incorrect direction.	
	T6	<b>Number of motors</b>	Default <b>2</b>
		1	Single-leaf gate
		2	2 leaf gate
	T7	<b>Choice of intervention method for obstacle detection</b>	Default <b>1</b>
		1	Overcurrent or leaf stopped: the obstacle is detected when the current threshold or the encoder slowdown threshold is exceeded
		2	Leaf stopped: the obstacle is detected only when the leaf slows down excessively
3		Overcurrent: the obstacle is detected when the current threshold is exceeded	
4		Overcurrent and leaf stopped: the obstacle is detected when the current threshold and the encoder slowdown threshold are exceeded at the same time	
T10	<b>Obstacle detection time motor 1</b> Time after which the current threshold or the encoder threshold trigger the obstacle detection on opening (adjustable at intervals of 100 ms)	Default <b>20</b>	
	10	100 ms (minimum time)	
	60	600 ms (maximum time)	
T11	<b>Obstacle detection time motor 2</b> Time after which the current threshold or the encoder threshold trigger the obstacle detection on opening (adjustable at intervals of 100 ms)	Default <b>20</b>	
	10	100 ms (minimum time)	
	60	600 ms (maximum time)	
T12	<b>Polling time</b> Time during which the motor pushes with maximum force to move the leaf (adjustable at intervals of 0.5 s)	Default <b>2.0</b>	
	0.5	0.5 s (minimum time)	
	5.0	5.0 s (maximum time)	
T13	<b>Pedestrian opening position</b> (% of total opening travel of first leaf)	Default <b>2.0</b>	
	10	Minimum space	
	100	Maximum space	
T14	<b>Disengagement space on obstacle</b> (inversion distance following the detection of an obstacle)	Default <b>50</b>	
	OFF	Not disengaged, stops only	
	1	Minimum inversion	
	10	Maximum inversion	

SW24.W

TRV	T15	<b>Stop approach force reduction distance motor 1</b> Indicates the distance from the mechanical stop starting from which the motor 1 force is reduced by half (used to adjust the impact of the leaf on the mechanical stop). This happens only when the control panel works with encoder and proximity limit switch or without limit switch.		Default OFF	
		OFF	Force reduction off		
		10	Minimum force reduction distance		
		100	Maximum force reduction distance		
	T16	<b>Stop approach force reduction distance motor 2</b> Indicates the distance from the mechanical stop starting from which the motor 2 force is reduced by half (used to adjust the impact of the leaf on the mechanical stop). This happens only when the control panel works with encoder and proximity limit switch or without limit switch.		Default OFF	
		OFF	Force reduction off		
		10	Minimum force reduction distance		
		100	Maximum force reduction distance		
	T17	<b>Easy release</b> Disengagement time after manoeuvre to reduce the motor pressure on the mechanical stop (adjustable at intervals of 100 ms) <b>Caution:</b> <b>Leave this parameter in OFF when there is an electrical lock.</b>		Default OFF	
		OFF	No disengagement		
		10	100 ms (minimum disengaging)		
		50	500 ms (maximum disengaging)		
	T18	<b>Offset time in opening</b>		Default 3	
		0	No offset		
		60	60 s		
	T19	<b>Offset time in closing</b>		Default 6	
		0	No offset		
		60	60 s		
	T24	<b>Normal speed when opening motor 1</b>		Default 90	
		1	minimum speed		
		100	maximum speed		
	T25	<b>Normal speed when opening motor 2</b>		Default 90	
		1	minimum speed		
		100	maximum speed		
	T26	<b>Normal speed when closing motor 1</b>		Default 90	
		1	minimum speed		
		100	maximum speed		
	T27	<b>Normal speed when closing motor 2</b>		Default 90	
		1	minimum speed		
	100	maximum speed			
T28	<b>Slowdown speed when opening motor 1</b>		Default 30		
	1	minimum speed			
	100	maximum speed			
T29	<b>Slowdown speed when opening motor 2</b>		Default 30		
	1	minimum speed			
	100	maximum speed			

## SW24.W

TRV	T30	<b>Slowdown speed when closing motor 1</b>		<b>Default 30</b>
		1	minimum speed	
		100	maximum speed	
	T31	<b>Slowdown speed when closing motor 2</b>		<b>Default 30</b>
		1	minimum speed	
		100	maximum speed	
	T32	<b>Slowdown distance when opening motor 1</b>		<b>Default 20</b>
		% of travel or total work time done at slowdown speed		
		0	No slowdown	
	T33	<b>Slowdown distance when opening motor 2</b>		<b>Default 20</b>
		% of travel or total work time done at slowdown speed		
		0	No slowdown	
	T34	<b>Slowdown distance when closing motor 1</b>		<b>Default 20</b>
		% of travel or total work time done at slowdown speed		
		0	No slowdown	
	T35	<b>Slowdown distance when closing motor 2</b>		<b>Default 20</b>
		% of travel or total work time done at slowdown speed		
		0	No slowdown	
	T36	<b>Acceleration time when opening motor 1</b>		<b>Default 0.5</b>
		Time during which motor 1 accelerates to reach the normal opening speed (adjustable at intervals of 0.1 s)		
		0	Maximum acceleration (0 s to reach normal speed)	
	T37	<b>Acceleration time when opening motor 2</b>		<b>Default 0.5</b>
		Time during which motor 2 accelerates to reach the normal opening speed (adjustable at intervals of 0.1 s)		
		0	Maximum acceleration (0 s to reach normal speed)	
T38	<b>Acceleration time when closing motor 1</b>		<b>Default 0.5</b>	
	Time during which motor 1 accelerates to reach the normal closing speed (adjustable at intervals of 0.1 s)			
	0	Maximum acceleration (0 s to reach normal speed)		
T39	<b>Acceleration time when closing motor 2</b>		<b>Default 0.5</b>	
	Time during which motor 2 accelerates to reach the normal closing speed (adjustable at intervals of 0.1 s)			
	0	Maximum acceleration (0 s to reach normal speed)		
T40	<b>Deceleration ramp motor 1</b>		<b>Default 30</b>	
	Deceleration ramp between normal speed and slowdown speed of motor 1			
	0	Steep ramp (maximum deceleration)		
T41	<b>Deceleration ramp motor 2</b>		<b>Default 30</b>	
	Deceleration ramp between normal speed and slowdown speed of motor 2			
	0	Steep ramp (maximum deceleration)		

## SW24.W

Auxiliary output configuration					
OUT	19	<b>Electric lock</b>		<b>Default 1</b>	
		OFF	Output off		
		1	Electrical solenoid lock		
		2	Electrical drop lock		
		3	Electrical magnetic lock (suction) on in closing		
		4	Electrical magnetic lock (suction) on in opening and closing		
	19T	<b>Electrical solenoid lock excitation time</b> (adjustable at intervals of 0.1 s)		<b>Default 1.2</b>	
		0.5	0.5 s (minimum time)		
		5.0	5.0 s (maximum time)		
	A1	<b>Terminal A1 output type</b>		<b>Default 1</b>	
		OFF	Output off		
		1	<b>Gate open warning light (SCA)</b> Operation as per SCA parameter setting		
		2	<b>Auxiliary Radio output (RAU)</b> Operation as per RAU parameter setting		
		3	<b>Courtesy light (LCO)</b> On during leaf movement and for the amount of time after the leaf stopping set in parameter LCO		
		4	<b>Zone light (LZO)</b> On during leaf movement		
		5	<b>Gate left open (OAB)</b> On if the gate remains open for a time longer than that defined by the open gate alarm logic (L16)		
		6	<b>Maintenance (MAN)</b> Output off when the number of maintenance signalling manoeuvres (MNPS) is reached in the diagnostics section		
		A2	<b>Terminal A2 output type</b>		<b>Default 2</b>
			OFF	Output off	
1			<b>Gate open warning light (SCA)</b> Operation as per SCA parameter setting		
2			<b>Auxiliary Radio output (RAU)</b> Operation as per RAU parameter setting		
3	<b>Courtesy light (LCO)</b> On during leaf movement and for the amount of time after the leaf stopping set in parameter LCO				
4	<b>Zone light (LZO)</b> On during leaf movement				
5	<b>Gate left open (OAB)</b> On if the gate remains open for a time longer than that defined by the open gate alarm logic (L16)				
6	<b>Maintenance (MAN)</b> Output off when the number of maintenance signalling manoeuvres (MNPS) is reached in the diagnostics section				
7	<b>Synchronization output, compass type interlock (INB)</b> Automatically configures input S4 as synchronization input without any choice by the user. The control panel consents to the gate opening only if the other gate is in the closed position				
8	<b>Synchronization output, compass type interlock (INP) with presence signal.</b> Automatically configures input S4 as synchronization input and S3 as presence input without any choice by the user. The control panel consents to the gate opening only if the other gate is in the closed position and the presence input is occupied				

## SW24.W

OUT	RAU	<b>Auxiliary Radio Output Configuration</b>		<b>Default 1</b>	
		Impulsive: the output is active for 1 s following the RAU command from the remote control			
		Timed: the output is active for the time set in the RAUT parameter following the RAU command from the remote control			
		Bistable: the output works in Step-Step ON/OFF mode			
	RAUT	<b>RAU output timing</b>		<b>Default 1</b>	
		1	1 s (minimum time)		
		600	600 s (maximum time)		
	LCO	<b>Courtesy light timer</b>		<b>Default 120</b>	
		1	1 s (minimum time)		
		300	300 s (maximum time)		
	SCA	<b>SCA output operating mode</b>		<b>Default 1</b>	
		1	Gate closed: off Gate open: on fixed		
		2	Gate closed: off Gate moving: intermittent Gate open: on fixed Indeterminate position: intermittent pause of 1 s every 5		
		3	Gate closed: off Gate opening slow intermittent Gate open on fixed Gate closing intermittent Indeterminate position: intermittent pause of 1s every 5		
		4	Gate stopped on fixed Gate moving off		
5		Gate closed off Gate moving on fixed			

Input configuration			
C1/C2/C3/C4 command input			
IN	C(X)	<p><b>1</b></p> <p><b>Step-step (PP)</b>            The step-step control:            - with the gate stopped and closed, opens the gate            - in opening, stops or closes the gate according to the step-step logic setting (L10)            - with the gate stopped after opening, closes the gate            - in closing, stops or opens the gate according to the step-step logic setting (L10)            - with the gate stopped after closing, opens the gate</p>	<b>Default C1</b>
		<p><b>2</b></p> <p><b>Pedestrian (PED)</b>            Opens the gate to the pedestrian position            It acts like a step-step if the command is given with the gate beyond the pedestrian position</p>	<b>Default C2</b>
		<p><b>3</b></p> <p><b>Open (OPEN)</b>            The open command:            - with the gate stopped and closed, opens the gate            - in opening is ignored            - with the gate open, resets the pause time            - with the gate stopped, opens the gate            - in closing, opens the gate</p>	<b>Default C3</b>
		<p><b>4</b></p> <p><b>Close (CLS)</b>            The close command:            - with the gate stopped and closed, is ignored            - in opening, closes the gate            - with the gate stopped, closes the gate            - in closing is ignored</p>	<b>Default C4</b>
		<p><b>5</b></p> <p><b>Timer (TIM)</b>            The timer command:            - when closed, opens the gate and keeps it open as long as the contact remains closed            - when the contact is released it closes the gate</p>	
		<p><b>6</b></p> <p><b>Pedestrian Timer (TIMP)</b>            Has the same function as the timer command but on the pedestrian position</p>	



		<b>S1/S2/S3/S4 safety input</b>		<b>Default S3/S4</b>
IN	S(X)	OFF	Off	
		1	<b>Photocell closing (PHC)</b> The closing photocell: - with the gate stopped, allows the gate to open - in opening does not intervene - with the gate open, does not allow it to close and when released will reset the pause time - in closing, reopens the gate immediately	<b>Default S1</b>
		2	<b>Photocell (PH)</b> The photocell: - with the gate stopped, does not allow the gate to open - during opening, stops the movement and when released proceeds to open the gate-with the gate open, it does not allow it to close and when released it resets the pause time - in closing stops the movement and when released reopens the gate	<b>Default S2</b>
		3	<b>Opening photocell (PHO)</b> The opening photocell: - with the gate stopped, allows the gate to open - in opening, recloses it completely - with the gate open, allows it to close and does not reset the pause time - in closing does not intervene	
		4	<b>Sensitive edge with NC clean contact (BAR)</b> - with the gate stopped, does not allow the gate to open - in opening disengages - with the gate open, does not allow it to close and when released will reset the pause time - in closing disengages	
		5	<b>8.2 K<math>\Omega</math> balanced sensitive edge (8K2)</b> Same behaviour as the NC sensitive edge	
		6	<b>Stop (STP)</b> - stops the gate Interrupts the automatic closing as per the logic stop setting from stop (L12)	
		7	<b>Photocell closing checked (PHC)</b> As per closing photocell but with check	
		8	<b>Photocell checked (PHT)</b> As per photocell but with check	
		9	<b>Photocell opening checked (PHC)</b> As per opening photocell but with check	
		10	<b>NC sensitive edge checked (BART)</b> As per K $\Omega$ NC sensitive edge but with check	
11	<b>8.2 K<math>\Omega</math> balanced sensitive edge checked (8K2T)</b> As per 8.2 K $\Omega$ sensitive edge but with check			

## SW24.W

<b>Control panel logic settings</b>				
LGC	L1	<b>Automatic closing</b>		<b>Default ON</b>
		OFF	Automatic closing off	
	ON	Automatic closing on		
	L2	<b>Pause time</b>		<b>Default 30</b>
		1	1 s (minimum time)	
		180	180 s (maximum time)	
	L3	<b>Pedestrian pause time</b>		<b>Default 20</b>
		1	1 s (minimum time)	
		180	180 s (maximum time)	
	L4	<b>State on power up</b>		<b>Default OP</b>
		CL	Gate in closed position: The first step-step command opens the gate.	
		OP	Gate in open position: The first step-step command closes the gate. If automatic closing is on, after the pause time the gate closes	
	L5	<b>Apartment block</b>		<b>Default OFF</b>
		OFF	Apartment block function off	
		1	Ignores closing and stop commands in opening	
		2	Ignores closing and stop commands in opening and in pause	
		3	Ignores closing and stop commands in opening, in pause and in closing	
	L6	<b>Rapid closing</b>		<b>Default OFF</b>
		OFF	Rapid closing function off	
		1	Rapid closing in gate mode: The control panel starts to count the clearance time (L7) from when the closing photocell is released, when the clearance time expires it closes again.	
2		Rapid closing in barrier mode: The control panel starts to count the clearance time (L7) from when the closing photocell is released, when the clearance time expires it closes again. If the closing photocell is occupied again, it does not command it to reopen but to stop. When released again it continues with closing. The closing photocell returns to normal operating after complete closure		
L7	<b>Clearance time (adjustable at intervals of 1 s)</b>		<b>Default 2</b>	
	Time after which the gate closes again if the rapid closing (L6) is on			
	1	Minimum clearance time		
	10	Maximum clearance time		
L8	<b>Pre-flash</b>		<b>Default OFF</b>	
	Flashing time of the flashing light before the gate starts to move			
	OFF	Pre-flash disabled		
	3	3 s pre-flash		
	4	4 s pre-flash		
	5	5 s pre-flash		
L9	<b>Manned</b>		<b>Default OFF</b>	
	OFF	Manned function off		
	1	Step-step command disabled, remote controls not working. The control panel accepts only open and close commands		
	2	Emergency manned. In normal standard operating conditions, with the safety devices occupied it works as manned.		

## SW24.W

<b>LGC</b>	<b>L10</b>	<b>Step by step</b>		<b>Default 4</b>
		2	Step-step command operates in 2 steps: open, close, open...	
		3	Step-step command operates in 3 steps: open, stop, close, open...	
		4	Step-step command operates in 4 steps: open, stop, close, stop, open...	
	<b>L11</b>	<b>Stop from step-step</b>		<b>Default ON</b>
		OFF	Automatic closing disabled when a stop command from step-step is given	
		ON	Automatic closing not disabled when a stop command from step-step is given	
	<b>L12</b>	<b>Stop from stop</b>		<b>Default ON</b>
		OFF	Automatic closing disabled when a stop command from stop is given	
		ON	Automatic closing not disabled when a stop command from stop is given	
	<b>L13</b>	<b>Hammering</b>		<b>Default OFF</b>
		Moves briefly in the opposite direction to that of its travel to facilitate the release of the electrical lock		
		OFF	Hammering off	
		1	On with gate closed	
		2	On with gate closed and open	
	<b>L14</b>	<b>Operation in battery</b>		<b>Default 1</b>
1		Standard operation		
2		Normal operation with flashing light disabled		
3		After a re-open command it stays open		
4		When the main power supply is cut off it opens and remains open		
<b>L15</b>	<b>Economy</b>		<b>Default OFF</b>	
	OFF	Standard operation		
	1	Economy operation on. With the gate closed, it switches off the accessory power supply on outputs 1 and 2. The outputs are powered again following a new command.		
<b>L16</b>	<b>Gate blocked open indicator</b>		<b>Default 30</b>	
	Number of minutes after which, with the gate partially or totally open, whatever the set pause time, an alarm signal is sent (on the display and output configured as OAB)			
	OFF	Indicator disabled		
	3	Minimum interval		
	60	Maximum interval		

## SW24.W

Remote control management		
RAD	PP	<b>Saving a button as step-step</b>
		0000   Waiting for code
		1001   Remote control 1 saved as step-step
		1055   Remote control 55 saved as step-step
	OPEN	<b>Saving a button as open</b>
		0000   Waiting for code
		2001   Remote control 1 saved as open
		2055   Remote control 55 saved as open
	PED	<b>Saving a button as pedestrian</b>
		0000   Waiting for code
		3001   Remote control 1 saved as pedestrian
		3055   Remote control 55 saved as pedestrian
	RAU	<b>Saving a button as Auxiliary Radio Output activation</b>
		0000   Waiting for code
		4001   Remote control 1 saved as Auxiliary Radio Output
		4055   Remote control 55 saved as Auxiliary Radio Output
	CLS	<b>Saving a button as close</b>
		0000   Waiting for code
		5001   Remote control 1 saved as close
5055   Remote control 55 saved as close		
STP	<b>Saving a button as stop</b>	
	0000   Waiting for code	
	6001   Remote control 1 saved as stop	
	6055   Remote control 55 saved as stop	
LCO	<b>Saving a button as Courtesy light on</b>	
	0000   Waiting for code	
	7001   Remote control 1 saved as Courtesy light on	
	7055   Remote control 55 saved as Courtesy light on	
CTRL	<b>Control of remote control memory position</b>	
	0000   Waiting for code	
	5001   Remote control button 1 saved as close	
	7099   Remote control button 99 saved as Courtesy light on	
	-030   Remote control button 30 not in memory	
	----   Remote control not in memory	
RE	<b>Remote control programming</b>	<b>Default 1</b>
	OFF	Remote programming of remote controls off
	1	Remote programming of remote controls on: used to programme remote controls from a remote control already in the memory, using the following procedure:
		- press buttons 1 and 2 on the remote control already in the memory at the same time
		- press the button on the remote control already in the memory to copy on the new remote control
		- press the button on the new remote control on which to copy the button just pressed on the remote control already in the memory
		Note: the button on the new remote control just saved inherits the function assigned to the button on the remote control already in the memory
	ERSA	<b>Total receiver memory deletion</b>
		0000   Press OK for 5 s Signals the deletion of the receiver memory on the display
	ERS1	<b>Deletion of single remote control from its position in the memory</b>
X   Use buttons ▲ ▼ to select the number of the remote control to delete Press OK to confirm		
ERSR	<b>Deletion of single remote control from the remote control code</b>	
	0000   Waiting for code Deleting remote control	

Diagnostics and reporting				
STAT	ALM	Alarm log reading		
		0	Most recent alarm	
		10	Oldest alarm	
	ALMA	Error signals		Default 1
		1	Only on display	
		2	On display and maintenance output	
	MNPC	Reading of number of manoeuvres since last maintenance		
		002	First 3 digits of the number of manoeuvres since last maintenance	
		3256	Last 4 digits of the number of manoeuvres since last maintenance	
		In the case described above, the gate has carried out 23,256 manoeuvres since the last maintenance		
	MNPS	Number of manoeuvres since last maintenance		Default OFF
		Number of manoeuvres generating a maintenance signal (in thousands of manoeuvres)		
		OFF	Maintenance signalling off	
		1	1,000 manoeuvres (minimum interval)	
		300	300,000 manoeuvres (maximum interval)	
	MNPA	Maintenance signalling		Default 1
		1	Signalling only on display	
		2	Signalling on display and maintenance output (MAN)	
		3	Signalling on display and flashing light (rapid flashing at end of manoeuvre)	
		4	Signalling on display, flashing light (rapid flashing at end of manoeuvre) and maintenance output (MAN)	
	MNPE	Reset manoeuvres since last maintenance counter		
		0000	Waiting press OK for 5 s to reset the counter to 0	
	MNTC	Total manoeuvres counter		
		012	First 3 digits of the number of manoeuvres since last maintenance	
		5874	Last 4 digits of the number of manoeuvres since last maintenance	
		In the case described above, the gate has carried out 125,874 manoeuvres in total		
	LIFE	Life counter (days of activity of the control panel)		
584		Reading of the number of days of activity of the control panel		
In the case described above, the control panel was active for 584 days				
PONC	Number of control panel power-ups counter			
	2547	Reading of the number of control panel power-ups		
	In the example shown above, the control panel was powered up 2547 times (it could indicate a poor quality mains electricity, with frequent power cuts)			
PONE	Reset number of control panel power-ups counter			
	0000	Waiting press OK for 5 s to reset the counter to 0		
RSTC	Number of self-reset counter			
	1123	Reading of the number of control panel self-resets		
	A self-reset is a reset of the microswitch by the control panel for safety reasons. Typically the control panel goes to self-reset when the minimum microswitch voltage threshold has been reached. An excessive number of self-resets could indicate a poor quality power supply, subject to strong voltage fluctuation.			
RSTE	Reset number of self-reset counter			
	0000	Waiting press OK for 5 s to reset the counter to 0		
TL	Installer telephone settings and display			
	Press OK briefly to view the saved number (use buttons ▲ ▼ to scroll)			
	3334	First 4 digits of the installer number		
	2548	Next 4 digits of the installer number		
	32	Last 2 digits of the installer number		
	In the example shown above the installer telephone number is: 3334254832			
INF	Control panel info display			
	SW24.W	Control panel name		
	1.13	Control panel firmware version		

## SW24.W

Connection module				
EXP	CNX1	Connection module on CNX1 connector		Default 1
		OFF	No module connected	
		1	Wi-Fi module EMC.W connected	

Restore default values and loading from memory card			
LOAD	DEF	Loading the default values	
		oooo	Waiting press OK for 5 s to load the default values.
		<b>Note:</b> Loading the default values then requires the travel to be calibrated again, LRNT flashes on the display until (rapid or advanced) calibration is done.	
	MEM	Loading the programming from memory card	
		oooo	Waiting press OK for 5 s to load the values from memory card.
		DONE	Loading from memory card completed OK
		EMEM	Loading from memory card error (e.g. no card)

Control panel protection level settings			Default OFF
PASS	Programming block not authorised		
	OFF	No protection	
	1	Protection of menus MOT, LRNT, TRV, OUT, IN, LGC, STAT, EXP, LOAD	
	2	Protection of menu RAD	
	3	Protection from connection IP (it is not possible to connect to the control panel from a smartphone)	
	4	Protection of menus MOT, LRNT, TRV, OUT, IN, LGC, STAT, EXP, LOAD and connection IP	
	5	Protection of menu RAD and connection IP	
	6	Complete control panel protection	
7	Protection of all board menus, IP connection available		

**Note:**

- The password must be entered in the control panel each time you wish to access a protected menu. If the password entered is incorrect access to the menu is denied.
- A new password must be saved in the control panel each time you change the protection level from OFF to any one of the 6 protected levels. The new password must be entered twice, the second time to confirm it has been entered correctly.
- Use buttons ▲ ▼ to change the password digits and OK to confirm and move to the next digit

## SW24.W

### 7 - Diagnostics:

#### 7.1 - Signalling

Signalling indications are shown on the display for events of interest to the installer concerning normal and anomalous operation. They appear on the display when the associated event occurs. These indications may signal a failure if some of the system components are not working (e.g. photocells).

The following table gives the list of indications shown to the installer:

Signal	Description
C1	Contact closed on command C1 input
C2	Contact closed on command C2 input
C3	Contact closed on command C3 input
C4	Contact closed on command C4 input
S1	Contact open on safety device S1 input
S2	Contact open on safety device S2 input
S3	Contact open on safety device S3 input
S4	Contact open on safety device S4 input
FO1	Opening limit switch position reached motor 1
FC1	Closing limit switch position reached motor 1
FO2	Opening limit switch position reached motor 2
FC2	Closing limit switch position reached motor 2
OB1	Obstacle detected motor 1
OB2	Obstacle detected motor 2
AF1	Motor in stop approach force reduction interval
AF2	Motor 2 in stop approach force reduction interval
MSO1	Mechanical stop reached in opening motor 1
MSC1	Mechanical stop reached in closing motor 1
MSO2	Mechanical stop reached in opening motor 2
MSC2	Mechanical stop reached in closing motor 2
BATT	"Operation with battery When this message is displayed it is followed by an indication of the battery operating voltage, e.g. 24.5V"
BT-	Battery almost flat (indication shown only when the gate is stopped)
BT--	Battery totally flat (indication shown only when the gate is stopped)
RX	Radio command received from saved remote control or from App
NX	Radio command received from unsaved remote control button
RD	Rolling/fix code decoding off
OAB	Gate left open
AT	Gate in self-calibration

#### 7.2 - Alarms

Alarms are generally indications on the display of operating failures which prevent the automation system from working. They appear on the display when the associated event occurs. The alarms generally signal wiring errors, but may also indicate control panel or gear motor failures.

The following table gives the list of alarms shown to the installer:

Alarm	Description
XXXX	Reset card
MNP	Manoeuvre interval since last maintenance reached alarm
F0	Error motor not selected
F1	Motor 1 cables inverted error
F2	Motor 2 cables inverted error
F3	Reversed limit switch error
F4	Both open limit switch alarm
F5	Opening limit switch malfunction error motor 1
F6	Closing limit switch malfunction error motor 1
F7	Opening limit switch malfunction error motor 2
F8	Closing limit switch malfunction error motor 2
F9	Communication error with expansion card
F10	Error alarm motor 1 not connected

**SW24.W**

F11	Error alarm motor 2 not connected
F12	Motor 1 encoder error alarm
F13	Motor 2 encoder error alarm
F14	Microswitch undervoltage (check power supply and outputs)
F15	Safety test 1 failed
F16	Safety test 2 failed
F17	Safety test 3 failed
F18	Safety test 4 failed
F19	Motor 1 manoeuvre length/timeout alarm
F20	Motor 2 manoeuvre length/timeout alarm
F21	Motor 1 mosfet short alarm
F22	Motor 2 mosfet short alarm
F23	Blocked rotor alarm motor 1
F24	Blocked rotor alarm motor 2
F25	Overlapping leaf in closing alarm
F26	5th obstacle in closing alarm
F27	Overcurrent alarm motor 1
F28	Overcurrent alarm motor 2
F29	Radio memory full alarm
F30	Faulty radio memory alarm
F31	Short flashing alarm
F32	Gate open light short alarm
F33	No memory card alarm
F34	FW checksum alarm
F36	Board temperature alarm

**8 - Updating Firmware:**

The control panel is equipped with a USB port that is used to update the control panel Firmware or the Wi-Fi EMC.W communication module Firmware

**Caution:**

If the firmware updating procedure is not carried out properly it may damage the control panel or the Wi-Fi communication module, make sure not to interrupt the mains power supply during the update.

To perform the Firmware Update, consult the instructions provided with the Firmware



**SW24.W****9 - Control panel behaviour when loading settings:**

On full uploading of the settings, some parameters are loaded, others maintained and others again are reset.

According to the type of loading, it may be necessary to calibrate the gate travel again.

To know which parameters the control panel loads, which are maintained and which are reset, refer to the table below:

Action	Data	Control panel behaviour
RESET (control panel reboot)	Fixed counters	No variation
	Resettable counters	
	Motor parameters	
	Gate travel data	
	Installer settings	
	Password	
	Remote controls	
Firmware Updating	Fixed counters	No variation
	Resettable counters	
	Motor parameters	
	Gate travel data	
	Installer settings	
	Password	
	Remote controls	
LOAD MEM (loading from memory card)	Fixed counters	No variation
	Resettable counters	No variation
	Motor parameters	<b>Importing data from a MEM.W memory card</b>
	Gate travel data	<b>Self-calibration on first manoeuvre</b>
	Installer settings	No variation
	Password	<b>Importing data from a MEM.W memory card</b>
	Remote controls	No variation
Reset/Import control panel data from By-gate Pro app	Fixed counters	No variation
	Resettable counters	No variation
	Motor parameters	<b>Importing data from By-gate Pro app</b>
	Gate travel data	<b>Self-calibration on first manoeuvre</b>
	Installer settings	<b>Importing data from By-gate Pro app</b>
	Password	No variation
	Remote controls	No variation
LOAD DEF (loading default values)	Fixed counters	No variation
	Resettable counters	No variation
	Motor parameters	No variation
	Gate travel data	<b>Travel data reset, new LRNE or LRNA calibration required</b>
	Installer settings	<b>Restored to DEFAULT</b>
	Password	No variation
	Remote controls	No variation
ERSA (deletion of receiver memory)	Fixed counters	No variation
	Resettable counters	
	Motor parameters	
	Gate travel data	
	Installer settings	
	Password	
	Remote controls	<b>Complete deletion</b>
Reset/Import receiving data from By-gate Pro app	Fixed counters	No variation
	Resettable counters	
	Motor parameters	
	Gate travel data	
	Installer settings	
	Password	
	Remote controls	<b>Import of remote control list from By-gate Pro app</b>

**SW24.W****10 - IP control panel connection**

The control panel may be programmed/controlled directly from a Smartphone/Tablet with no need to interact through the panel display and buttons both locally and remotely.

Requirements for establishing the connection:

- an SL24.W or SW24.W control panel
- an EMC.W Wi-Fi connection module
- an Android device with at least version 4.4 or iOS minimum version 8.0 with the By-gate Pro App installed (downloadable from Google Play or App Store)
- service access credentials (supplied by Vimar Spa)
- for the remote connection: a Wi-Fi network connected to the internet.

To enable the connection check that the EMC.W module is connected to the CNX1 connector and that the parameter EXP-> CNX1 is set to 1.

Follow the instructions given in the EMC.W module instructions to establish the connection.

Using the By-gate Pro app all the configurations which can be done using the control panel buttons can also be done from the Smartphone both locally and remotely. The By-gate Pro App uses full descriptions to make the meaning of the parameters immediately understandable.

In addition to connection to the control panel for more immediate and easy configuration, the By-gate Pro App can be used to save/restore the control panel configuration data on/from a Cloud-based database which can be managed from the Web portal by accessing the page:

**<https://by-gate.vimar.cloud>**

The installation database management web portal access credentials are the ones used to access the By-gate Pro App. Here it is possible to manage the records of the saved installations and the access authorisations for the collaborators of the account holder.

Note: the configuration data of the saved control panels and receivers are not visible from the web interface, they are physically saved on the cloud but can be retrieved from the cloud and exported onto the control panels only using the By-gate Pro App.

With the control panel connected to the internet, all diagnostics and programming operations can be performed remotely as if you were on site.

With the control panel connected to the internet, the end user can operate the gate and receive notifications from it (ex. gate open) also remotely through the specific end user By-gate App.

**REACH (EU) Regulation no. 1907/2006 – Art.33.**

The product may contain traces of lead.

## EC DECLARATION OF CONFORMITY

(Declaration of incorporation of partly completed machinery annex IIB 2006/42/EC

No.: ZDT00744.00

The undersigned, representing the following manufacturer

**Vimar SpA Viale Vicenza 14,  
36063 Marostica VI Italy**

declares under his own responsibility that the products

### Electronic control unit

Trade mark	Type ref.	Cat. ref.	Description EN *
Elvox	SL24.W	SL24.W	Control card Wi-Fi 24V sliding gates
Elvox	SW24.W	SW24.W	Control card Wi-Fi 24Vswing gates

\* See [www.vimar.com](http://www.vimar.com) for the full description of the products.

when installed with the appropriate accessories and/or enclosures for devices are in conformity with the provisions of the following EU directive(s) (including all applicable amendments)

Machinery Directive 2006/42/CE EN 60335-2-103 (2015)

LV Directive 2014/35/EU

R&TTE Directive 1999/5/CE EN 301 489-3 (2013), EN 301 489-17 (2012) EN 300 220-2 (2012),  
EN 300 328 (2015)

EMC Directive 2014/30/EU EN 61000-6-2 (2007), EN 61000-6-3 (2007) + A11 (2011)

Further hereby declares that the product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of Directive 2006/42/EC, where appropriate.

Declares that the relevant technical documentation is compiled by Vimar SpA and in accordance with part B of Annex VII of Directive 2006/42/EC and the following essential requirements of this Directive are applied and fulfilled:

1.1.1, 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.2, 1.2.6, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.7, 1.3.8, 1.3.9, 1.4.1, 1.4.2, 1.5.1, 1.5.2, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.5.8, 1.5.9, 1.6.1, 1.6.2, 1.7.1, 1.7.2, 1.7.3, 1.7.4.

I undertake to make available, in response to a reasoned request by the national authorities, any further supporting product documents they require.

Marostica, 6/3/2017

The Managing Director

**Note:** The contents of this declaration correspond to what declared in the last revision of the official declaration available before printing this manual. The text herein has been re-edited for editorial purposes. A copy of the original declaration can be requested to Vimar SpA



SW24.W installer EN 09 1911



**VIMAR**

Viale Vicenza, 14  
36063 Marostica VI - Italy  
[www.vimar.com](http://www.vimar.com)