CSB-BR
CSB-SP
(3.2)

SINCERT CERMET SISTEMA DI GESTIONE CERTIFICATO Reg. n. 308 UNI EN ISO 9001:2008

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- AZIENDA CERTIFICATA UNI EN ISO 9001:2008
COMPANY WITH QUALITY SYSTEM CERTIFIED UNI EN ISO 9001:2008

Società soggetta ad attività di direzione e coordinamento di SOMFY S.A.
Company subject to management and coordination activities by SOMFY S.A.

DICHIARAZIONE "CE" DI CONFORMITA'
"CE" DECLARATION OF CONFORMITY

Il costruttore: O&O Srl
The manufacter:

Indirizzo: Via Europa 2 - 42015 Correggio (RE)
Address:

DICHIARA CHE IL SEGUENTE APPARATO
DECLARES THAT THE FOLLOWING EQUIPMENT

Descrizione: Apparecchiature elettroniche per barriere automatiche
Description: Control units for automatic barriers

Modello: *Model:*	CSB-BR	CSB-SP
Codice: *Code:*	040387	040390

- Risulta conforme con quanto previsto dalle seguenti Direttive Comunitarie, comprese le ultime modifiche e con la legislazione nazionale di recepimento:
Is in conformity with the provisions of the following Community Directives, including the latest modifications and with the assimilating national legislation:

2004/108/CEE; 93/68/CEE (EN55014-1; EN55014-2)
Compatibilità Elettromagnetica • *Electromagnetic Compatibility*

2006/95/CEE; 93/68/CEE (EN60335-1)
Bassa tensione • *Low voltage*

99/5/CEE (ETSI EN 301 489-3 (2002) + ETSI EN 301 498-1 (2005); ETSI EN 300 220-2 (2006))
Apparecchiatura radio • *Radio set*

La O&O S.r.l. garantisce detta conformità esclusivamente nel caso in cui le apparecchiature vengano utilizzate come unità di comando/ gestione delle barriere automatiche O&O della serie NIGHT&DAY-3, NIGHT&DAY-5, NIGHT&DAY SPEED, NIGHT&DAY-6, NIGHT&DAY-8 nella configurazione tipica di installazione e con periferiche conformi alle Direttive Europe.
O&O guarantees such a conformity only if the control units are used as a control/management unit for O&O automatic barriers series NIGHT&DAY-3, NIGHT&DAY-5, NIGHT&DAY SPEED, NIGHT&DAY-6, NIGHT&DAY-8 in typical configuration of installation with peripherals which conform to the European Directives).

Correggio, 10/05/10

Il Rappresentante legale - The legal Representative
Giancarlo Bonollo

cod. 050207 ver.0

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EN

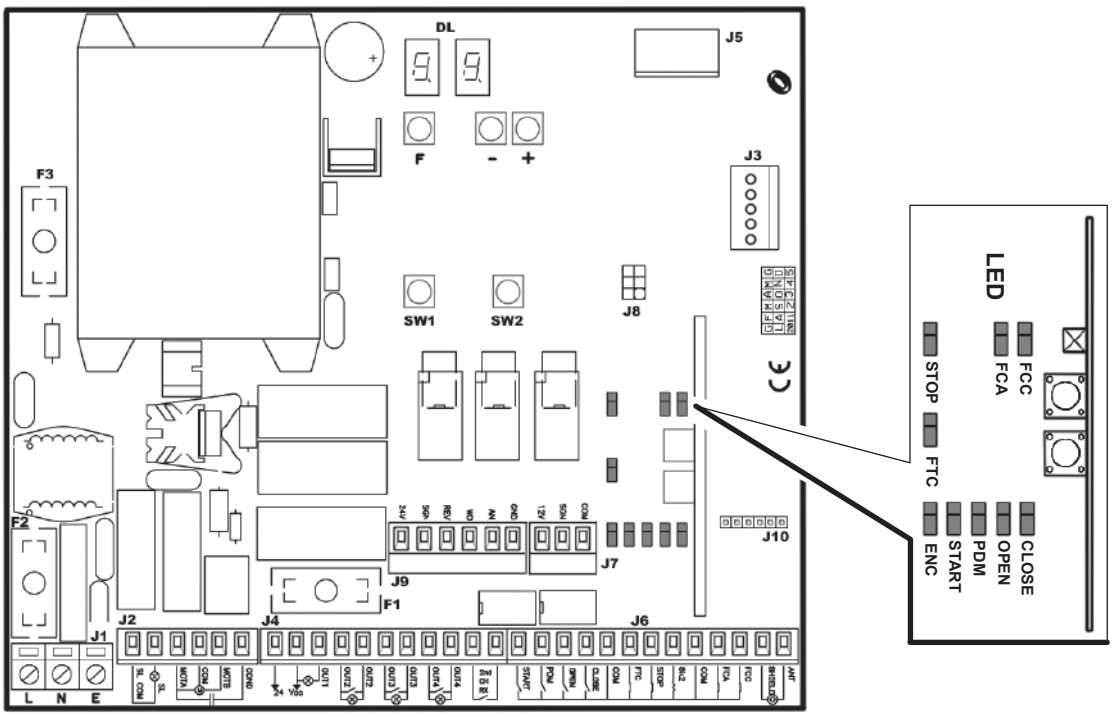
Instructions for installation and use

1. INTRODUCTION

The CSB-BR control unit has been developed to control automatic single-phase barriers.

2. MAIN CHARACTERISTICS

- Microprocessor logic
- LEDs displaying input status
- Integrated radio receiver 433Mhz
- Plug-in radio connector
- 2-digit display
- Configurable outputs
- DOMINO connector



J1: 230Vac terminal board
J2: Flashing light/motor terminal block
J3: Plug-in radio connector
J4: Outputs/accessories power supply terminal block
J5: Not available
J6: Antenna/Inputs terminal block
J7: Reverser terminal block
J9: Inverter plug-in (only for CSB-SP)
J10: DOMINO connector
DL: 2-digit display
SW1: "START" control button
SW2: "PDM" control button
F1: Accessories and outputs fuse: 5x20 1A T
F2: Line fuse: 5x20 6.3A F
F3: Low voltage fuse: 5x20 250mA T
F,+,-: Programming push buttons

3. TECHNICAL SPECIFICATIONS

- Power supply: 230Vac +-10%, 50/60Hz
- Motor output (only for **CSB-BR**): 230Vac; 3A max
- Traffic light: 230Vac; 40W
- Accessory output: 24Vac; 1A max

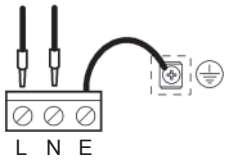
4. INSTALLATION SAFETY

In order to reach the level of safety required by current regulations, read the following prescriptions carefully.

1) Make all the connections in the terminal block after carefully reading the instructions given in this manual and observing the general rules and technical standards governing electrical systems.
2) Upstream from the installation, fit an omnipole miniature circuit breaker with a contact gap of at least 3 mm.
3) If there isn't one already, install a residual current device with a threshold of 30 mA.
4) Check the effectiveness of the grounding system and connect to it all the parts of the automation fitted with a terminal or grounding cable.
5) Fit at least one external warning device, such as a traffic light or flashing light, along with a warning or danger sign.
6) Fit all the safety devices required by the type of installation, taking into consideration the risks it can cause.
7) Separate the power lines (min. sect. 1.5 mm^2) from the low-voltage signal lines (min. sect. 0,5 mm^2) in the ducts.

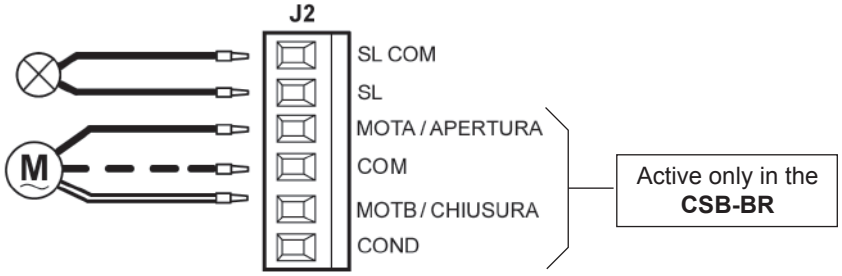
5. INPUT AND OUTPUT FUNCTIONALITY AND CONNECTIONS

5.1 POWER TERMINAL BLOCK J1



LINE 230V
230V 50Hz power supply with mov internal protection and 6,3A fuse (5x20).
Connect the phase and neutral as shown on the screen printing. Use a cable type H07RN-F 2x1.5+E min.
Connect the yellow/green wire of the power supply mains to the earth terminal of the appliance.

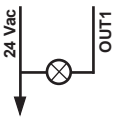
5.2 POWER TERMINAL BLOCK J2



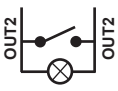
= **FLASHING LIGHT:** 230V 40W max.

5.3 OUTPUTS/ACCESSORIES TERMINAL BLOCK J4

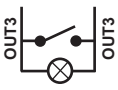
OUT24
Output 24Vac, 1A MAX



OUT1
Self-powered triac output. 24Vac, 1 00mA max



OUT2
Free contact relay output; 500mA max



OUT3
Free contact relay output; 500mA max

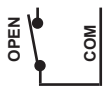
OUT4
Free contact relay output; 500mA max

2nd CH RX
N.O. output of the 2nd radio receiver channel, integrated and plugged in

5.4 ANTENNA/INPUTS TERMINAL BLOCK J6

START
N.O. input for controlling the automation according to the open, stop, close, open logic.

PDM INPUT
The signal can be repeated on an output configured to have a power contact



OPEN
N.O. input - opening only Connect clocks, daily timers or weekly timers here if wanted.
By keeping this input controlled, the automation performs the opening manoeuvre and will close automatically only when the input is freed.

CLOSE
N.O. input for closing. It allows the automation to be closed only if the safety devices have not triggered.

FTC
NC safety input (photocell). Enter the programme wanted by programming the “FT” parameter. It triggers only in the closing phase; it never triggers in opening.

STOP
N.C. safety input. When activated it stops the automation instantly and a subsequent start always cause reopening. During pause time (PAUSE trimmer) a stop command disables automatic reclosing, leaving the bar open waiting for commands.
NOTE: The hatch microswitch is already connected to this input and it is possible to connect the pushed bar kit as well as an accessory.

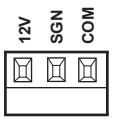
8k2
NOT ACTIVE

FCA
Limit switch N.C. input in opening. When activated the opening travel finishes.

FCC
Limit switch N.C. input in closing. When activated the closing travel finishes.

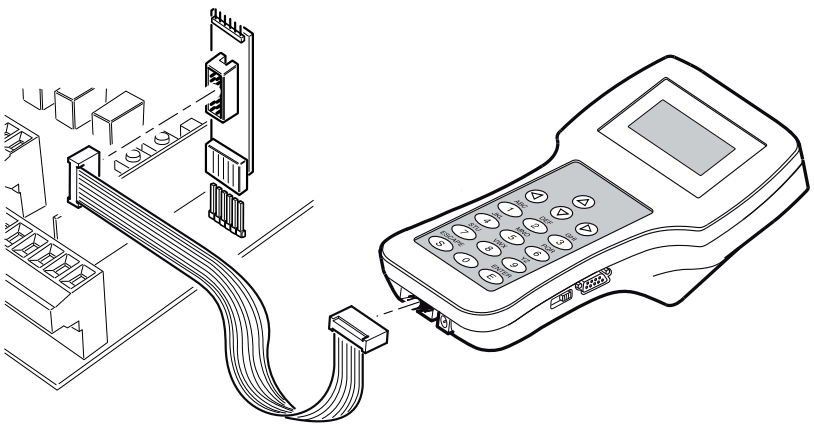
ANTENNA
Antenna connection for the integrated receiver

5.5 REVERSER TERMINAL BLOCK J7



REVERSER INPUT
It is supplied already wired and tested. The device triggers only in the closing manoeuvre, when the arm hits an obstacle. Enter the programme wanted by programming the “EC” parameter.

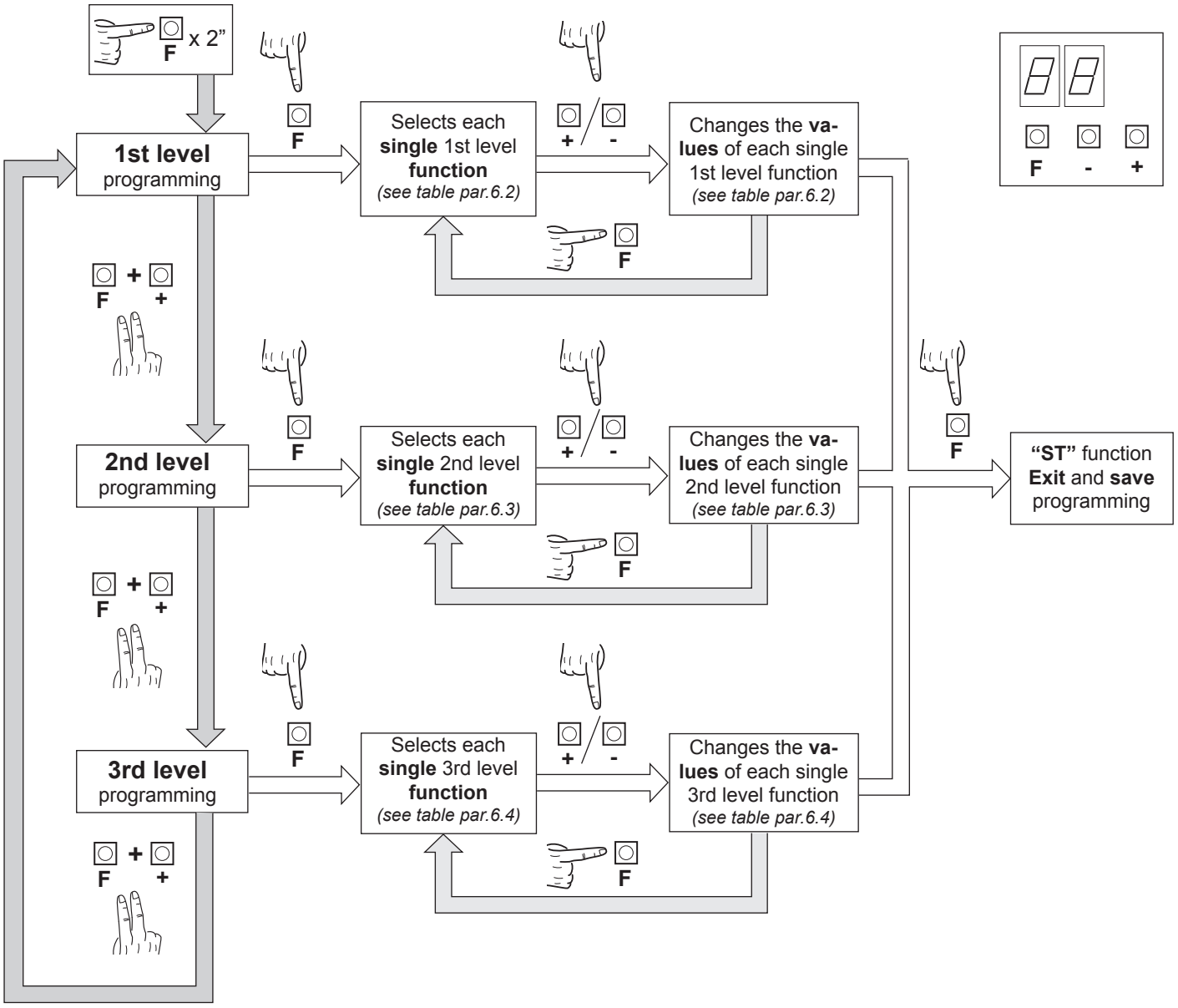
5.6 PROGRAMMER CONNECTOR J10



6. PROGRAMMING

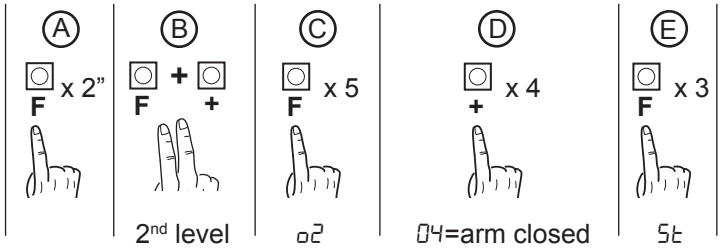
6.1 BASIC FUNCTIONS

To access programming, press button **F** for 2 seconds.
Programming is divided into 3 levels.
To go to the next level keep key **F** pressed and press the **+** key (Sequence 1-2-3-1.....).
After selecting the level wanted, press push button **F** to display the functions available in consecutive order. Each time F is pressed it corresponds to a function (Lo - CL - Ft - EC.....)
With the function set, use the ⊕ or ⊖ key to change the values of the parameters (⊕ : 00-01-02-03... / ⊖ : ...03-02-01-00).
The changes made to the parameters are active immediately but will be saved when exiting the menu, selecting the ST function with key **F**.
PLEASE NOTE: If there is a black out when programming, all changes will be lost.



Example:

Selecting Output2 on closed arm:



6.2 1ST LEVEL PROGRAMMING

The following table gives the 1st level functions and the single settable parameters.

Parameter	Function	Settable data	Default
Lo	Selects the functioning logic. *(see notes after the table)*	00: Hold-to-run	01
		01: Semi automatic	
		02: Automatic	
CL	Close input configuration *(see notes after the table)*	00: Standard close input	00
		01: Close-when-released input	
		02: The close command acts as a release closing and safety function.	
Ft	Photocells	00: When closing it stops and waits for disengaged photocell commands	02
		01: When closing it stops; reclosing after 1'' when the photocell is disengaged	
		02: When closing it reopens; reclosing after 1'' when the photocell is disengaged	
		03: When closing it reopens; reclosing after 5'' when the photocell is disengaged	
		04: When closing it reopens; reclosing when the photocell is disengaged	
		05: When closing it reopens and waits for disengaged photocell commands	
EC	Encoder	00: Excluded	03
		01: When closing it stops and waits for commands	
		02: When closing it reopens and waits for commands	
		03: When closing it reopens, reclosing after 5 seconds	
PF	Warning flash	00: Excluded	00
		01: Prior to each movement on a configured output (see parameters o2,o3,o4 in the 2nd level table)	
		02: Prior to each movement on a configured output and on the arm lights	
Lb	Arm lights	00: Flashing when moving, off when the arm is closed and open	00
		01: Flashing when moving and on when the arm is closed	
		02: Flashing when moving and with the arm closed, on when the arm is open and when stopped	
tP	Pause time (expressed in seconds)	1-99	10
dF	Resetting default parameters. *(see notes after the table)*	00: No resetting	01
		01: Resetting the default parameters.	
St	Exiting the menu/saving	Exit programming and view machine statuses *(see notes St automation statuses display)*	

Description of level 1 parameters

- Functioning logic (Lo)
  - Hold-to-run: The automation works when the commands are held down. The start command opens once and closes once.
  - Semi automatic: The automation works with jog commands, without automatic reclosing. Hence, when fully open, to control closing you need to act on the start or close command respectively.
  - Automatic: The automation works in jogs. When the opening manoeuvre is completed in the standard cycle, automatic reclosing is activated after the pause time set (parameter tP).
- Close configuration (CL)
  - 01: Close-when-released input
    This mode has been developed so the arm closes automatically only when the vehicle has completely passed by the photocell or magnetic detector (the most suitable accessories for this purpose). Connect the NO contact of the detector or photocell to the Close contact terminals.
    If the vehicle is on the detector or in front of the photocell it does not cause immediate closing but rather you have to wait for the signal to be released.
  - 02: The close command acts as a release closing and safety function.
    When closing, the close command engaging stops the automation. When disengaged the barrier resumes closing.

· Default (dF)
- To reset the default parameters, set parameter dF on 1 and exit the menu'.

· Automation statuses display (St)
- During operation, the control unit displays automation status so the installer is able to follow the logical flow of the board. The statuses are:

01: Idle
02: Opening
03: Stop opening limit switch
04: Stop opening
05: Closing
06: Stop closing limit switch
07: Stop closing
08: Not available
09: Stop due to photocell triggering
10: Opening due to photocell triggering
11: Photocell triggering pause
12: Stop due to encoder triggering
13: Opening due to encoder triggering
14: Pause due to encoder triggering
15: Maximum working time in opening reached
16: Maximum working time in closing reached

6.3 2ND LEVEL PROGRAMMING

The following table gives the 2nd level functions and the single settable parameters.

Parameter	Function	Settable data	Default
tL	Working time (seconds)	3-30	15
Sr	Request for assistance	00: disabled 01: active on the configured outputs 02: active on the configured outputs and the bar lights flash twice	00
nt	Programming assistance cycles in thousands	00-99	00
nL	Programming assistance cycles in millions	0.0-9.9	0.0
o1	Output 1	00: arm lights command	00
o2	Output 2	00: request for assistance 01: photocell triggering 02: reverser triggering 03: PDM contact actuated 04: arm closed 05: arm open 06: stop contact actuated 07: warning flash 08: Arm locking device	00
o3	Output 2	00: request for assistance 01: photocell triggering 02: reverser triggering 03: PDM contact actuated 04: arm closed 05: arm open 06: stop contact actuated 07: warning flash 08: Arm locking device	00
o4	Output 4	00: request for assistance 01: photocell triggering 02: reverser triggering 03: PDM contact actuated 04: arm closed 05: arm open 06: stop contact actuated 07: warning flash 08: Arm locking device	00
St	Exiting the menu/saving	*Exit programming and view machine Statuses (see notes St automation Statuses display after the 1st level table)*	

Description of level 2 parameters

· Request for assistance (Sr)
- 00: the request for assistance is not active.
- 01: at the end of the countdown, by means of counters nt and nL, one of the programmed outputs is activated (see parameter o2,o3,o4)
- 02: at the end of the countdown, by means of counters nt and nL, one of the programmed outputs is activated (see parameter o2,o3,o4) and the bar lights flash twice.

· Programming assistance cycles in thousands (nt) and millions (nL)
Thanks to the combination of the two parameters the countdown can be set after which a request for assistance is signalled.
Thousands can be set with the nt parameter, millions with the nL parameter.
Example: to set 275,000 assistance manoeuvres set nL on 0.2 and nt on 75.
The value displayed in the parameters updates along with the manoeuvres.

· Arm locking device configuration
To use the arm locking device, connect the enabling contact to OUT2, OUT3 or OUT4 and set the corresponding parameter o2,o3 or o4 to 08.

6.4 3RD LEVEL PROGRAMMING

The following table gives the 3rd level functions and the single parameters.

Parameter	Function	Settable data	Default
AS	NOT ACTIVE		
Pd	PDM dynamic input polarity	00: input NO	00
		01: input NC	
P2	Output 2 polarity	00: NO	00
		01: NC	
P3	Output 3 polarity	00: NO	00
		01: NC	
P4	Output 4 polarity	00: NO	00
		01: NC	
05	Opening speed (%)	60 - 99	99
CS	Closing speed (%)	60 - 99	80
SI	Speed selection input	01: Disabled	
		01: Enabled	
St	Exiting the menu/saving	*Exit programming and view machine statuses (see notes St St automation statuses display after the 1st level table)*	

Available functions only for **CSB-SP**

Description of level 3 parameters

· Output polarity: The outputs can be configured as NO or NC but, in the event of a blackout the contacts open anyway.

· Velocity selection input (SI)
By enabling this parameter bar speed can be adjusted via the PDM input.
If the PDM is activated and parameter SI enabled the barrier moves at a speed equal to 60% of maximum speed, both when opening and closing.
If the PDM input is not active, the barrier moves at the speed set in parameter o5 and CS.

7. RADIO RECEIVER

7.1 RECEIVER TECHNICAL SPECIFICATIONS

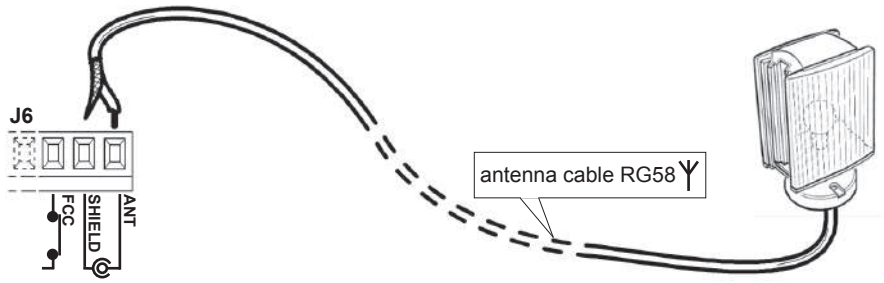
- Max. n° of radio transmitters that can be memorized:	64
- Frequency:	433.92MHz
- Code by means of:	Rolling-code algorithm
- N° of combinations:	4 billion

7.2 RADIO CHANNEL FUNCTIONALITY

Channel 1:	Start command
Channel 2:	Closes the relay contact on the terminal block J4 “2nd CH RX”

7.3 ANTENNA INSTALLATION

Use an antenna tuned to 433MHz. Connect the tuned antenna to the antenna terminals using RG58 coaxial cable.



7.4 MANUAL PROGRAMMING

In the case of standard installations where no advanced functions are required, it is possible to proceed to manual storage of the transmitters, making reference to programming table A and to the example for basic programming.

1) If you wish the transmitter to activate output 1, press pushbutton PR1, otherwise if you wish the transmitter to activate output 2, press pushbutton PR2.
2) When LED DL1 starts blinking, press hidden key on the transmitter, LED DL1 will remain continuously lit.
3) Press the key of the transmitter to be memorized, LED DL1 will flash quickly to indicate that it has been memorized successfully. Flashing as normal will then be resumed.
4) To memorize another transmitter, repeat steps 2) and 3).
5) To exit memorizing mode, wait for the LED to go off completely or press the key of a remote control that has just been memorized.

IMPORTANT NOTE: ATTACH THE ADHESIVE KEY LABEL TO THE FIRST MEMORISED TRANSMITTER (MASTER).

In the case of manual programming, the first transmitter assigns the key code to the receiver; this code is necessary in order to carry out subsequent cloning of the radio transmitters.

Hidden key

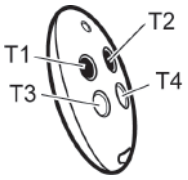
7.5 SELF-LEARNING MODE PROGRAMMING

This mode is used to copy the keys of a transmitter already stored in the receiver memory, without accessing the receiver.

The first transmitter is to be memorised in manual mode (see paragraph 8.4).

a) Press hidden key on the transmitter already memorised.
b) Press key T on the transmitter already memorised, which is also to be attributed to the new transmitter.
c) Within 10 s., press hidden key on the new transmitter to be memorised.
d) Press key T to be attributed to the new transmitter.
e) To memorise another transmitter, repeat the procedure from step (c) within a maximum time of 10 seconds, otherwise the receiver exits the programming mode.
f) To copy another key, repeat from step (a), having waited for the receiver to exit the programming mode (or after disconnecting the receiver from the power supply).

Hidden key



8. ATTENTION

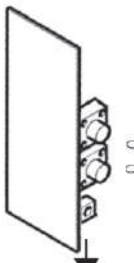
It is recommended to make an installation which has all the accessories necessary to ensure operation according to current provisions, always using genuine O&O devices.

This equipment must be installed and used in strict compliance with the manufacturer’s instructions. The manufacturer cannot be held responsible for any damage deriving from improper or unreasonable use.

O&O srl disclaims all liability for any inaccuracies contained in this booklet and reserves the right to make changes at any time without any prior notice whatsoever.

TABLE A

When pressing the key PR1 (for channel 1) or PR2 (for channel 2) for the first time, the receiver sets to the programming mode. Every time the key PR is pressed after that, the receiver switches to the configuration for the subsequent function, that is indicated by the number of flashings (see table).
At this stage, after selecting the channel (PR1 or PR2) and the desired function, the key T (T1-T2-T3 or T4) of the transmitter will be stored in the memory of the receiver as indicated in the table for programming.



PR1 for CH1output chanel

PR2 for CH2 output chanel

Standard Programming

Programming	Constant blinking. ... You will exit programming mode if no memorizing is performed for 10 s.	Press the hidden key on the transmitter until the LED remains lit, then press the T key (1-2-3 or 4) on the transmitter until it starts flashing again, wait for the LED to go off or switch off the power. The transmitter's T key is now memorized.
Automatic memory storage only trasmitter with impulse output	2 blinks followed by a pause of about 1 second. ... The key T1 of the transmitter is automatically stored on the output CH1 while the key T2 on CH2.	Press the hidden key on the transmitter until the LED remains lit, then press key T1 on the transmitter (if other keys are pressed, they are ignored) until it starts flashing again, wait for the LED to go off (10 s.) or transmit a key to exit. T1 and T2 are now automatically memorized on CH1 and CH2.

Advanced Programming

Step-by-step output	3 blinks followed by a pause of about 1 second. ... N.D.	Non-associated function
Timer output	4 blinks followed by a pause of about 1 second. ... N.D.	Non-associated function
Code elimination	5 blinks followed by a pause of about 1 second. ... N.D.	Non-associated function
Cancellation of the entire receiver memory	6 blinks followed by a pause of about 1 second. ... WARNING! This operation deletes all of the radiocontrols stored on channel 1 and channel 2 from the memory of the receiver.	While the LED is flashing, keep buttons PR1 and PR2 on the receiver held down together for longer than 10 sec. The LED flashes very quickly. By the time the LED goes off, all the transmitters are deleted and you exit programming mode.

LEGEND

FUNCTION	NUMBER OF LED DL1 BLINKING SIGNALS / FUNCTION DESCRIPTION	PROGRAMMING PROCEDURE

NOTE
NOTES
REMARQUES
ANMERKUNGEN
NOTAS

INSTALLATORE
INSTALLER
INSTALLATEUR
INSTALLATEUR
INSTALATOR

035378 ver.4 13/07/11

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