SYNCLUX

MODULE FOR THE MANAGEMENT OF LIGHTS AND SYNCHRONIZATION OF TWO BOOM GATE OPERATORS

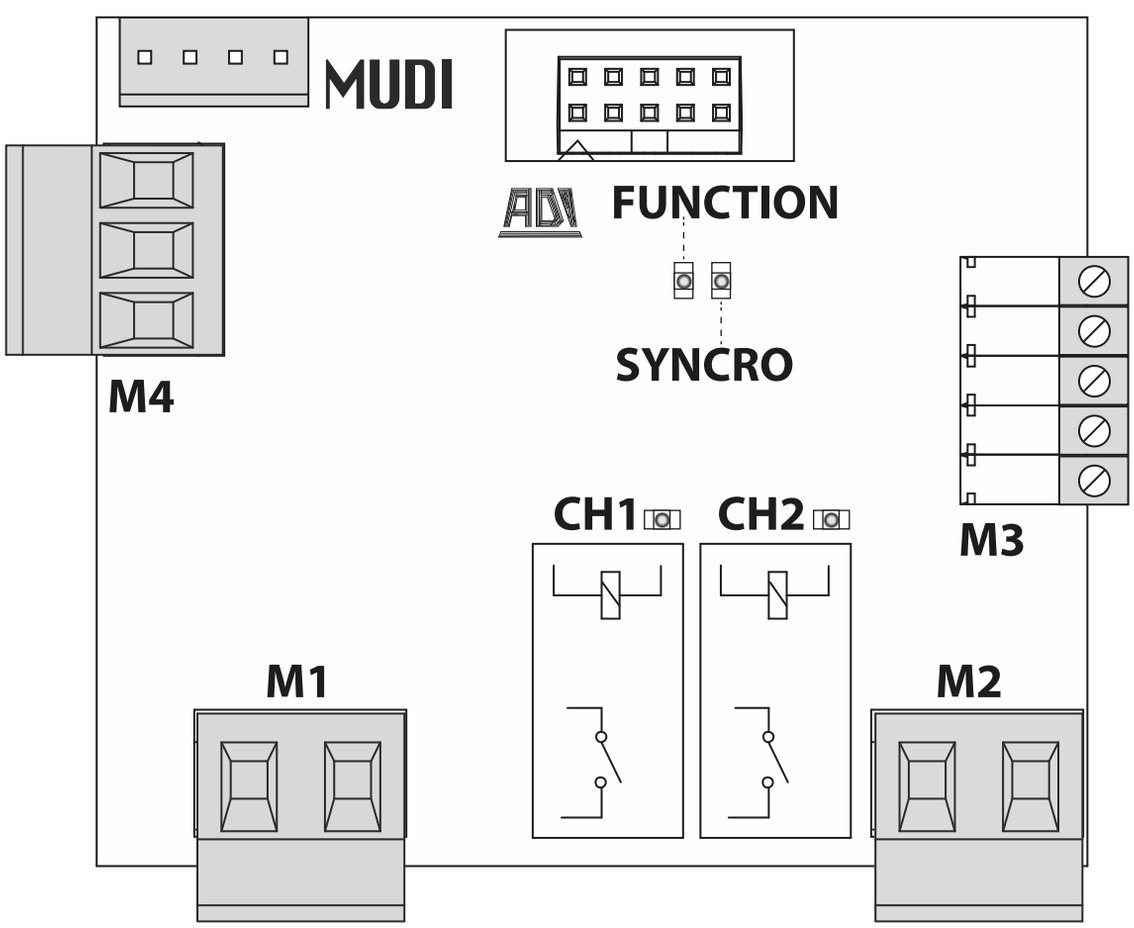


Fig. 1

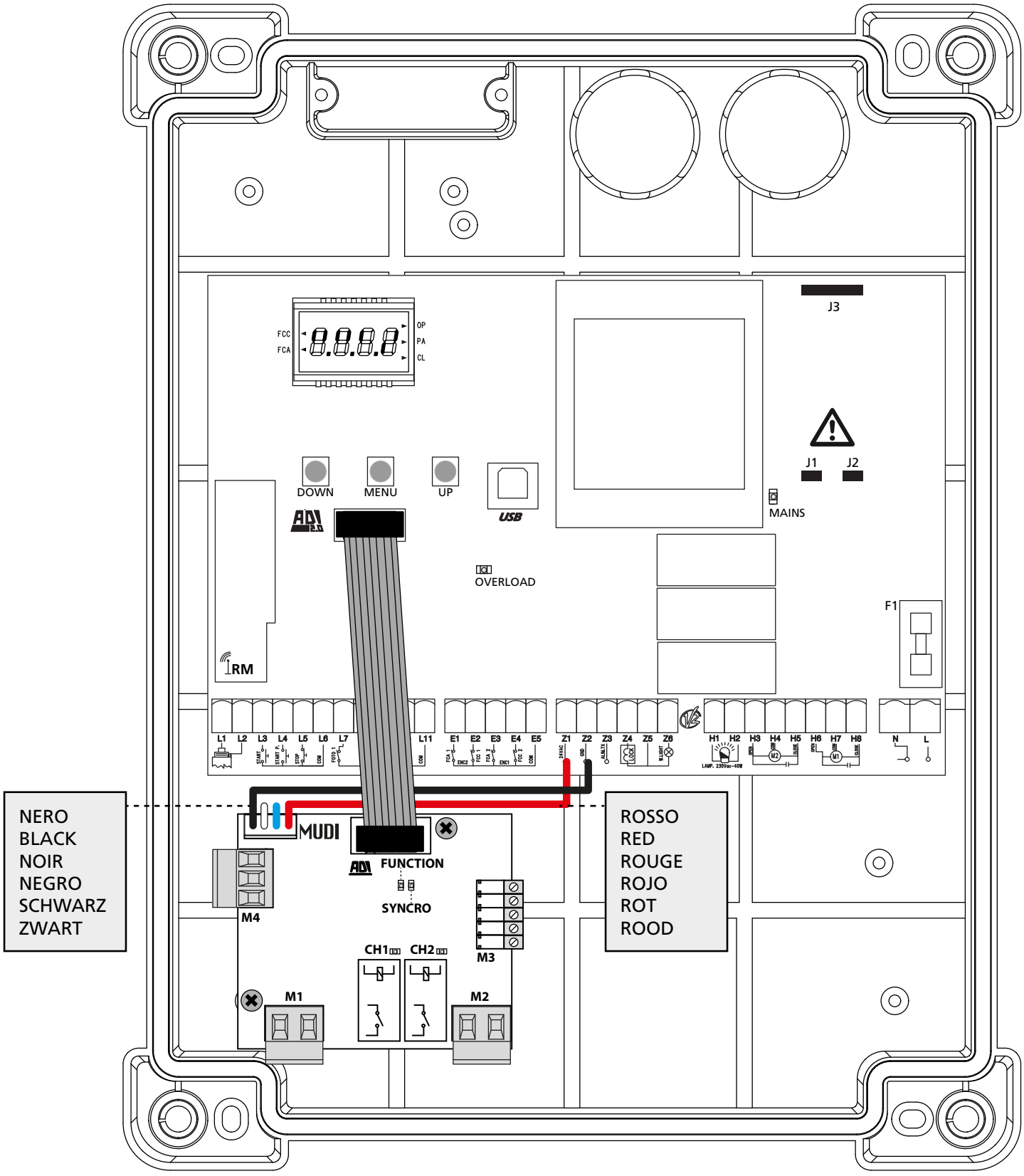

NERO
BLACK
NOIR
NEGRO
SCHWARZ
ZWART
ROSSO
RED
ROUGE
ROJO
ROT
ROOD
FCC
FCA
OP
PA
CL
J3
J1
J2
DOWN
MENU
UP
USB
MAINS
OVERLOAD
F1
RM
L1 L2 L3 L4 L5 L6 L7 L11
E1 E2 E3 E4 E5
Z1 Z2 Z3 Z4 Z5 Z6
H1 H2 H3 H4 H5 H6 H7 H8
N L
MUDI
FUNCTION
SYNCRO
M4
M3
M1
M2
CH1
CH2

Fig. 2

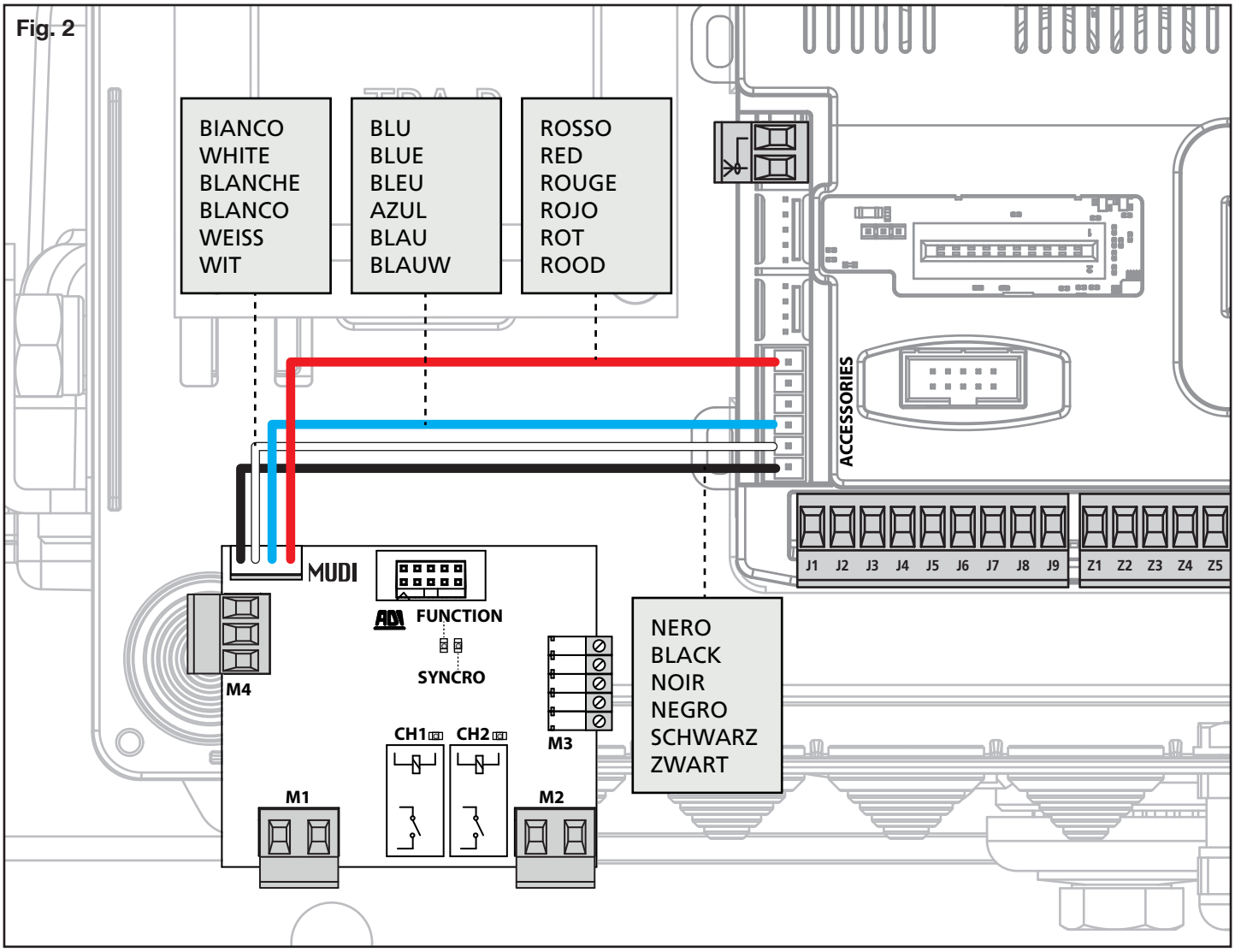
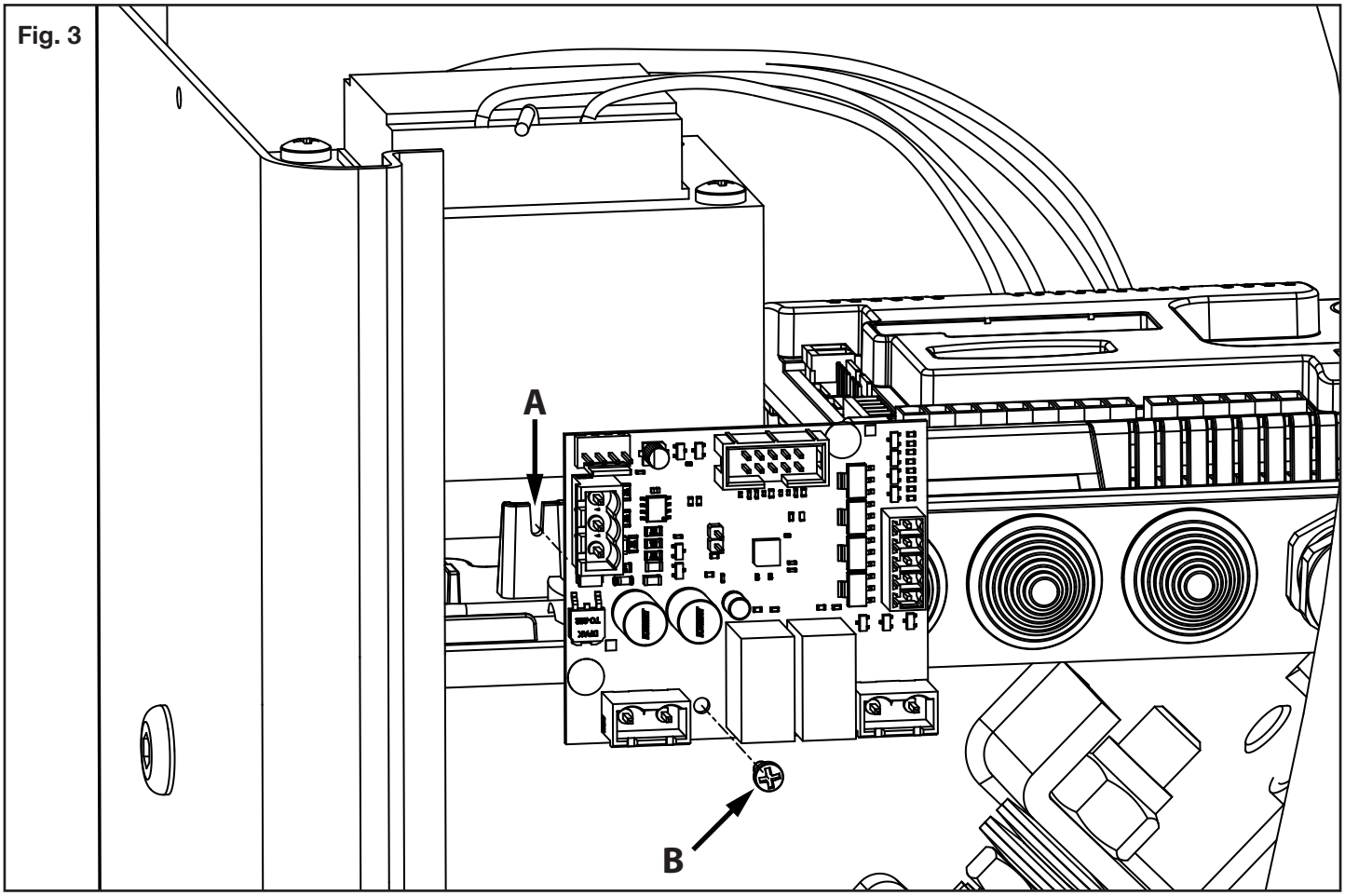

BIANCO
WHITE
BLANCHE
BLANCO
WEISS
WIT
BLU
BLUE
BLEU
AZUL
BLAU
BLAUW
ROSSO
RED
ROUGE
ROJO
ROT
ROOD
ACCESSORIES
J1 J2 J3 J4 J5 J6 J7 J8 J9
Z1 Z2 Z3 Z4 Z5
MUDI
FUNCTION
SYNCRO
M4
M3
CH1
CH2
M1
M2
NERO
BLACK
NOIR
NEGRO
SCHWARZ
ZWART

Fig. 3


A
B

IMPORTANT REMARKS

For any installation problem please contact our Customer Service at the number +39-0172.812411 operating Monday to Friday from 8:30 to 12:30 and from 14:00 to 18:00.

V2 has the right to modify the product without previous notice; it also declines any responsibility to damage or injury to people or things caused by improper use or wrong installation.

- This instruction manual is only for qualified technicians, who specialize in installations and automations.
- The contents of this instruction manual do not concern the end user.
- Every programming and/or every maintenance service should be done only by qualified technicians.
- The installer must provide for a device (es. magnetotermical switch) ensuring the omnipolar sectioning of the equipment from the power supply. The standards require a separation of the contacts of at least 3 mm in each pole (EN 60335-1).
- After making connections on the terminal board, use one hose clamp to fix dangerous voltage wires near the terminal board and another hose clamp to fix safety low voltage wires used for accessories connection; this way, in case of accidental detachment of a conducting wire, dangerous voltage parts will not come into contact with safety low voltage ones.
- The plastic case has an IP55 insulation; to connect flexible or rigid pipes, use pipefittings having the same insulation level.
- Also the automation upstream electric system shall comply with the laws and rules in force and be carried out workmanlike.



DISPOSAL

As for the installation operations, even at the end of this product's life span, the dismantling operations must be carried out by qualified experts.

This product is made up of various types of materials: some can be recycled while others need to be disposed of. Find out about the recycling or disposal systems envisaged by your local regulations for this product category.

Important! – Parts of the product could contain pollutants or hazardous substances which, if released into the environment, could cause harmful effects to the environment itself as well as to human health.

As indicated by the symbol opposite, throwing away this product as domestic waste is strictly forbidden. So dispose of it as differentiated waste, in accordance with your local regulations, or return the product to the retailer when you purchase a new equivalent product.

Important! – the local applicable regulations may envisage heavy sanctions in the event of illegal disposal of this product.

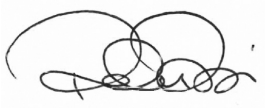
DICHIARAZIONE UE DI CONFORMITÀ

The manufacturer V2 S.p.A., headquarters in Corso Principi di Piemonte 65, 12035, Racconigi (CN), Italy

Under its sole responsibility hereby declares that the products:
SYNCLUX

comply with the following directives:
2014/30/EU, RoHS-3 2015/863/EU

Racconigi, 01/03/2023
Legal representative, V2 S.p.A.
Roberto Rossi



INSTALLATION

The SYNCLUX model can be installed both in the control units with ADI port (CITY1EVO, CITY2+, PD19, PD20, ETC) and control units with MUDI interface (KB24, etc.)

In the first case, the module should be connected to the control unit using the ADI port and also the 24 Vac power supply via the red and black cables if the LIGH or EWN (FIG1) functions are used.

For connection to the KB24 control unit, there is no need to connect the module to the ADI port of the control unit, but the connector of the MUDI port will be connected to the accessories connected of the KB24 control unit via the RED BLACK BLUE WHITE wires (FIG 2)

The outputs are programmable with the different functions using the programming menu of the command control unit:

I.Ad1 Command control units with ADI interface

-EJC Command control units with MUDI interface

⚠ **ATTENTION: installation of the device must be carried out with the power supply of the command control unit disconnected.**

FASTENING:
If the SYNCLUX module must be used with a CITY digital control unit, fasten the module inside the container of the control unit using the two screws supplied (Fig. 1).
If the SYNCLUX module must be used inside a NUUR barrier, fasten the module on the bracket using one of the two screws supplied (Fig. 3).

Then, connect the two ADI connectors / ACCESSORIES (SYNCLUX and command control unit) using the cables supplied (Fig. 1-2).

Power the command control unit: the yellow led on the SYNCLUX module starts to flash to indicate the device is on.

Proceed with programming of the operating parameters.

ELECTRICAL CONNECTIONS

The device has 4 terminal boards and 2 doors for the interface with the control units:

TERMINAL BOARDS

M1 → output relay 1

M2 → output relay 2

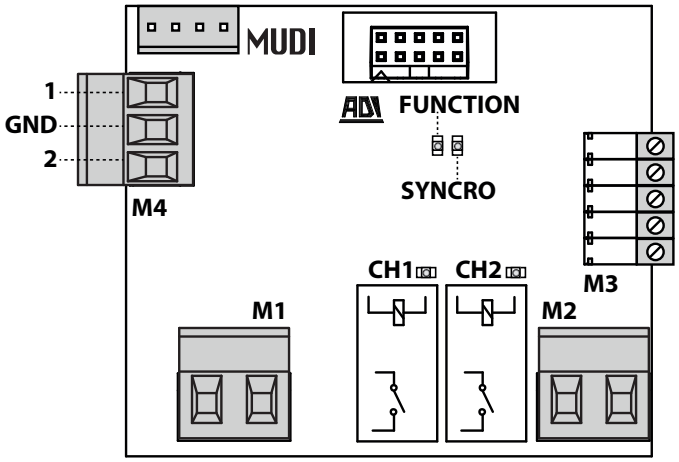
M3 → output for traffic light and barrier lights

M4 → output to synchronise two devices (master and slave)

PORTS:

ADI → ADI interface

MUDI → MUDI interface



LED

The device has 4 signalling leds:

FUNCTION: yellow led that flashes when SNCLUX is on

SYNCRO: in the event of synchronised installation, it flashes green when the two MASTER and SLAVE devices are working correctly. It turns fixed red when the two MASTER and SLAVE devices do not communicate.

CH1: red led that switches on when the relay 1 output is enabled

CH2: red led that switches on when the relay 2 output is enabled

USE OF THE PROGRAMMING KEYS ON THE CONTROL UNIT

The programming of the functions is performed by means of a configuration menu, accessible via the 3 keys ↑ (UP), ↓ (DOWN) and OK beneath the display of the control unit.

Below is a table that describes the functions of the keys:

OK	Press and release the key **OK / MENU**
↑	Press and release the key ↑ **/ UP**
↓	Press and release the key ↓ **/ DOWN**

PROGRAMMING

Start the programming procedure of the command control unit and select the menu i.Adi or -EJC

1. Access the SYNCLUX programming menu:
   - on the control units with ADI interface, enter programming, select the i.Adi menu and the item Si and press **OK**
   - on the digital control units with MUDI interface, keep the menu key pressed and release it when the display shows -EJC Then, the display shows SYnL
     NOTE: to display the firmware version of the device, press the **OK** key
2. Using the ↑ and ↓ keys select the function (rEL1 / rEL2 / LiGh / tWin) whose operating logic you want to program and press **OK**
3. If the output rEL1 or rEL2 is selected, use keys ↑ and ↓ to select the parameter you want to program:

   AUJC Auxiliary Channel: the relay output is controlled by a transmitter stored on channel 4 of the receiver embedded in the control unit. The relay output can be programmed with different operation logic

   LAM Flashing light. According to the programmed logic the relay output is activated in an intermittent manner during the gate opening / closing / pause stages

   Crt.L Courtesy light. According to the programmed logic the relay is activated when the control unit receives a START command.

   StA.L Status light. The relay output is opened or closed based on the settings of the various phases of the operating cycle (gate stopped and closed, gate opening, gate closing, gate stopped, gate paused)

   LSW Limit switch signal. The relay output is used to signal the achievement of the limit switches of the leaves.

   E.brA Electric brake. The relay output controls the electric brake of the motor, by opening or closing when the motor is operated.

4. If the LiGh function is selected, use keys ↑ and ↓ to select the parameter you want to program:

   rd.Gr ENTRANCE / EXIT Traffic light

   PEd VEHICLE / PEDESTRIAN Traffic Light

   rGb RGB barrier lights

   S.rGb RGB barrier lights (maximum length 3 metres total)

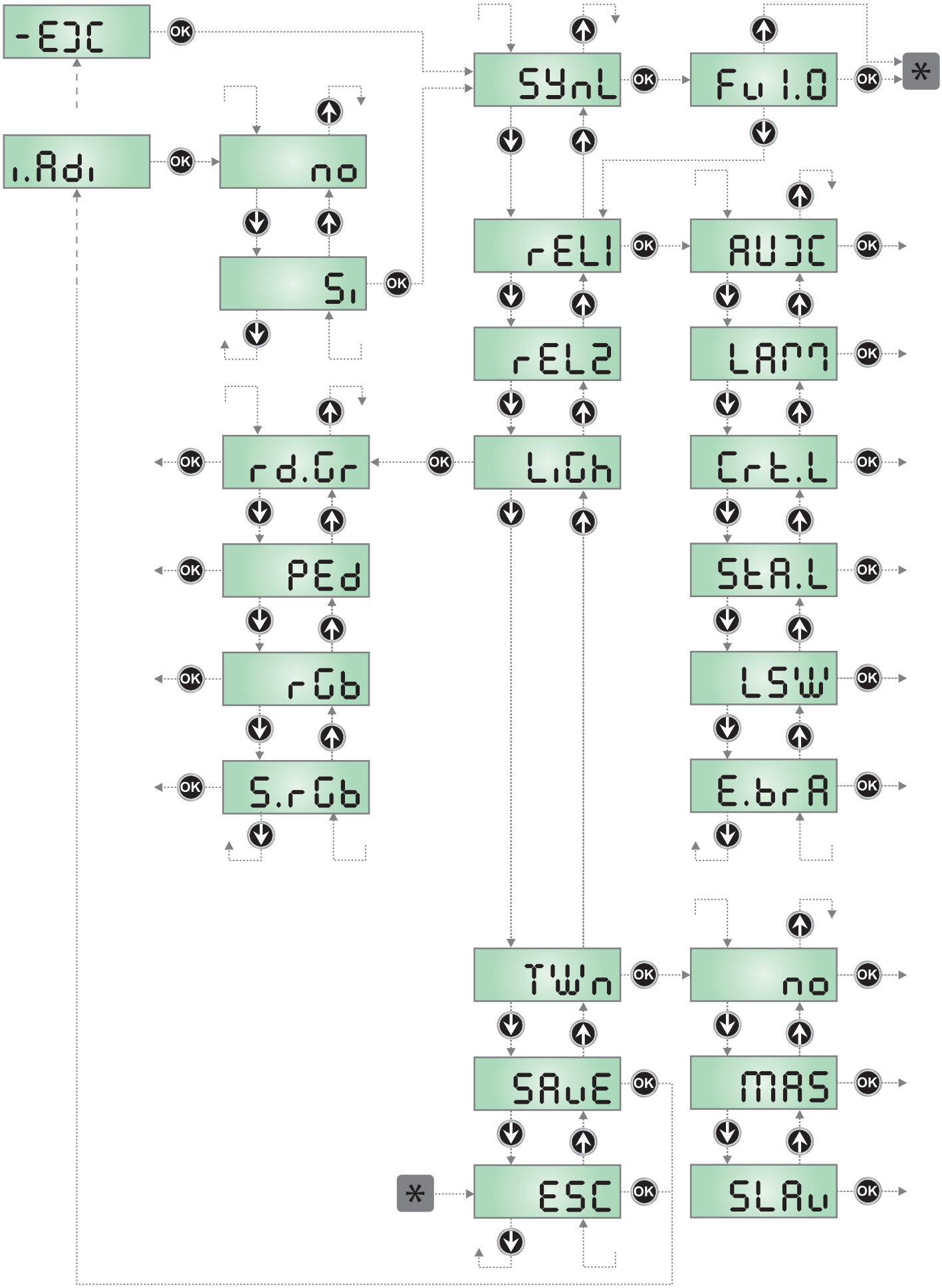
5. If the tWin function is selected, use keys ↑ and ↓ to select the parameter you want to program:

   no MASTER/SLAVE not enabled

   MAS MASTER/SLAVE function enabled, MASTER control unit

   SLAu MASTER/SLAVE function enabled, SLAVE control unit

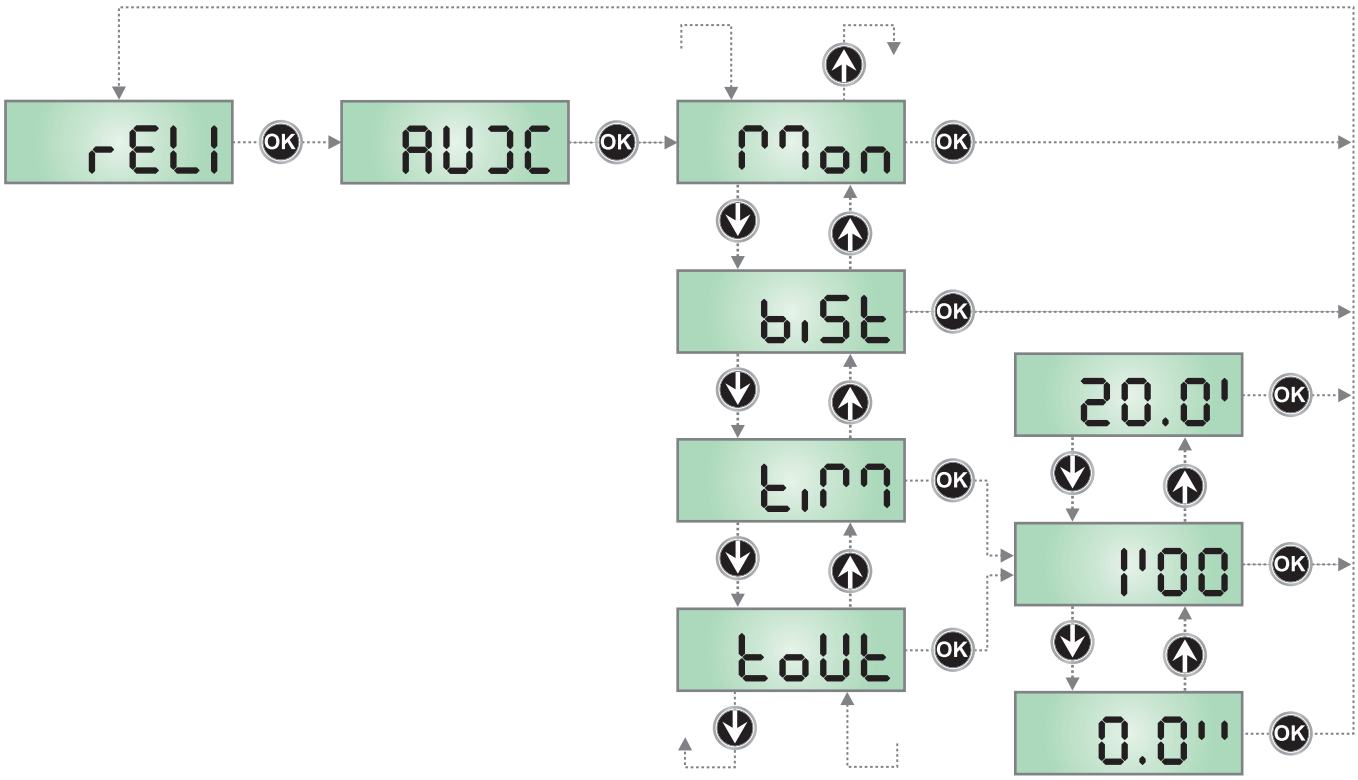
6. After programming the parameters, select the item SAVE to save the settings and the item ESC to exit the programming menu


-EJC
OK
i.Adi
no
Si
SYnL
Fu 1.0
rEL1
AUJC
rEL2
LAM
LiGh
rd.Gr
CrE.L
PEd
StA.L
rGb
LSW
S.rGb
E.brA
TWn
no
SAvE
MAS
ESC
SLAv

AUXILIARY CHANNEL

The relay output is controlled by a transmitter stored on channel 4 of the receiver.
The relay output can be programmed with different operation logics:

- **Mon** Steady state: the relay output is closed for the duration of the transmission of the remote control.
  Releasing the button on the remote control the relay output is opened.
- **bi St** Bistable: the state of the relay output switches each time a transmission is received from the remote control.
- **ti M** Timer 1: the relay output is closed when the transmission is received from the remote control and opened after the set time. If another transmission is received during activation, the timer is reset.
- **toUt** Timer 2: the relay output is closed when the transmission is received from the remote control and opened after the set time. If another transmission is received during activation, the relay output is opened.



FLASHING LIGHT

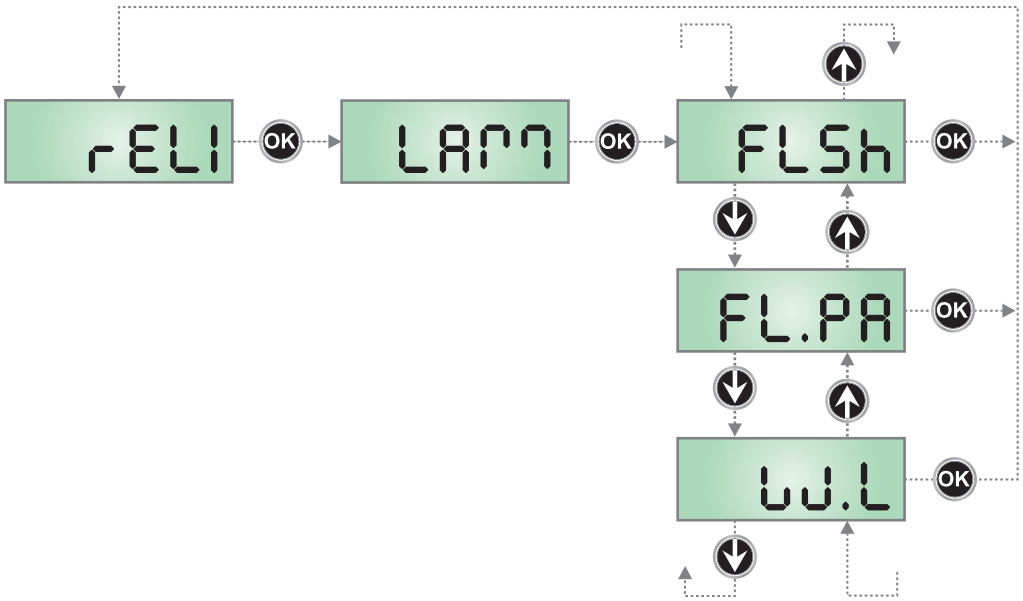
According to the programmed logic the relay output is activated in an intermittent manner during the opening and/or closing stages of the gate.

FLSh Flashing 1: the relay output is operated intermittently at 2 Hz when the gate is moving, including any pre-flashing stage prior to departure

FL.PA Flashing 2: the relay output is operated intermittently at 2 Hz when the gate is moving, during any pre-flashing stage and with open, paused gate

W.L. Warning light: indicates the real time status of the gate, the type of flashing indicates the four possible conditions:

- GATE STOPPED light off
- GATE PAUSED light steadily on
- GATE OPENING the light flashes slowly (2Hz)
- GATE CLOSING the light flashes quickly (4Hz)

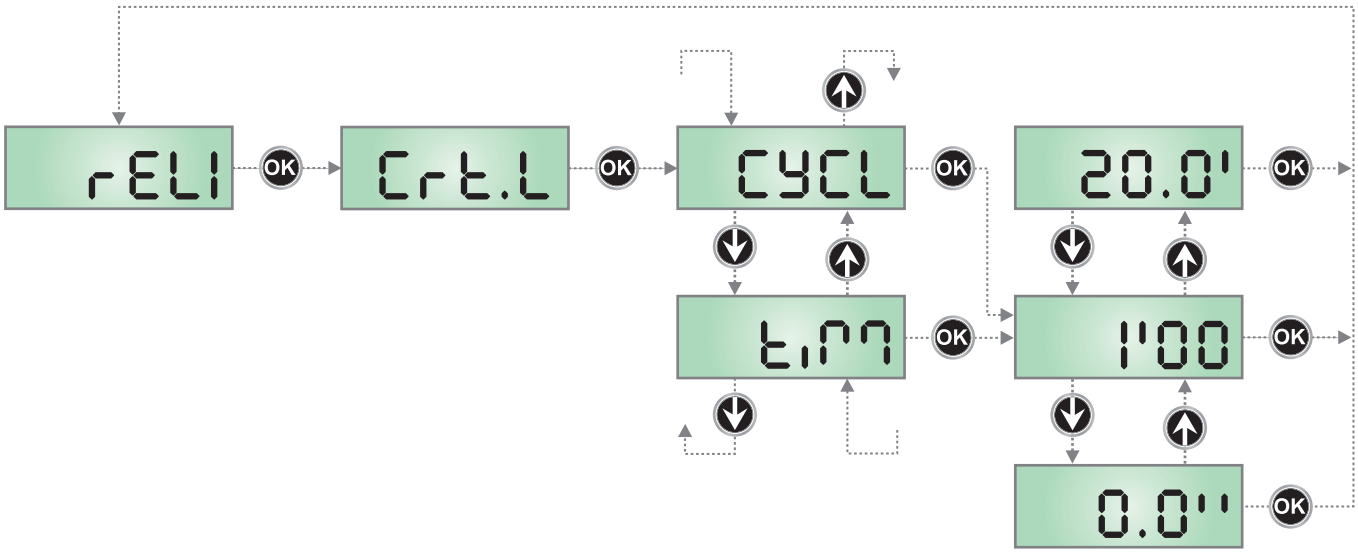


COURTESY LIGHT

According to the programmed logic the relay is closed when the control unit receives a START command.

CYCL The relay output is closed when the control unit receives a START command. When the gate closes the relay output still remains closed for the set time, then opens.

t.m The relay output is closed when the control unit receives a START command and opened after the set timer.
If another START command is received during activation, the timer is reset.



STATUS LIGHT

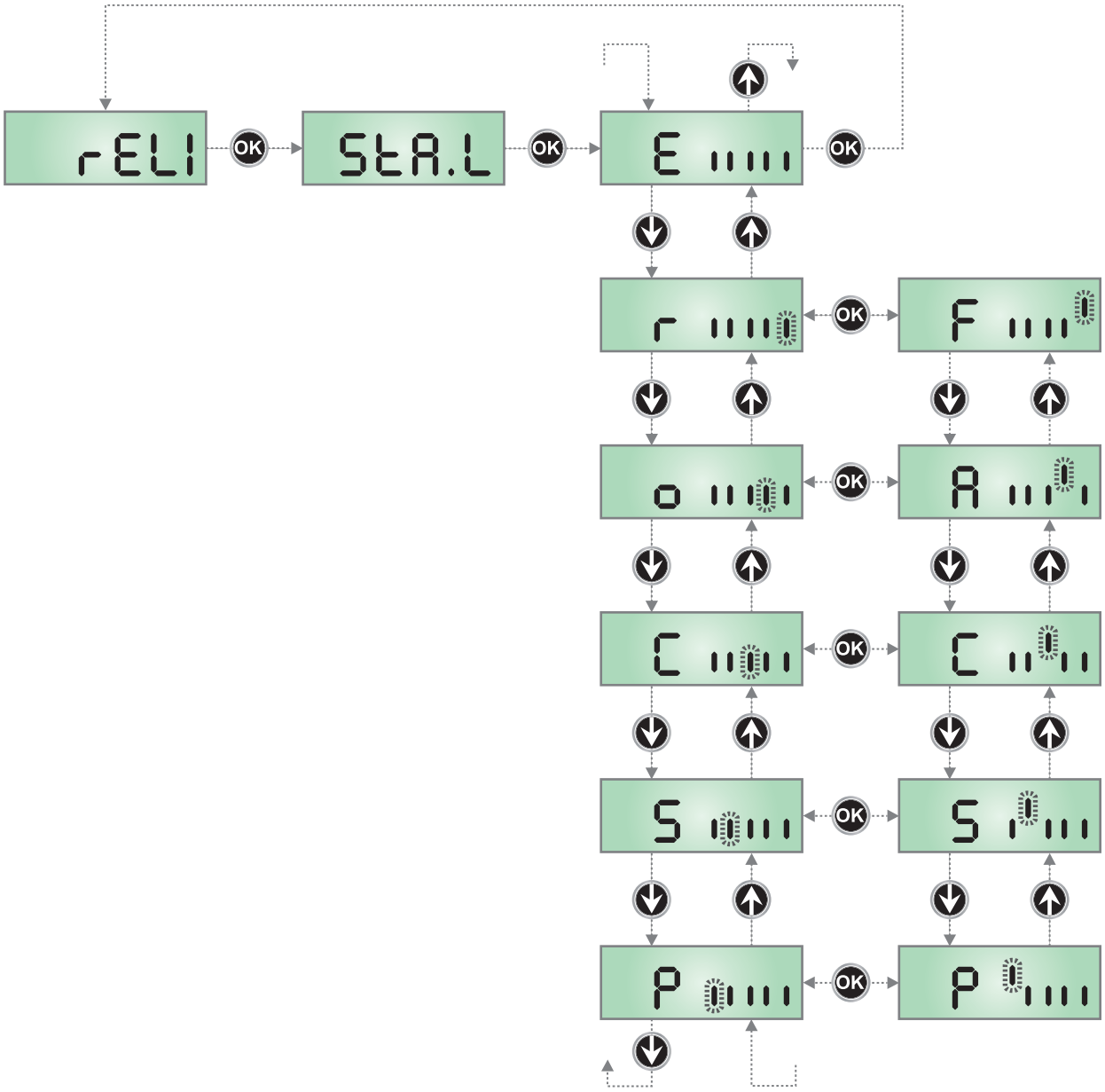
The relay output is closed or opened depending on the settings of the different stages of the operation cycle.

Each stage of the operation cycle is identified by a letter:

- E exit from the menu
- r gate stopped and closed
- o gate opening
- C gate closing
- S gate stopped (stopped not closed)
- P open, paused gate

The state of the output relay is defined by the flashing segment:
OPEN: the BOTTOM segment flashes
CLOSED: the TOP segment flashes

1. Using the keys ↑ and ↓, select the different stages of the operation cycle and pressing the **OK** button select the status of the relay output
2. When you are finished with the settings, select the menu E to exit and press the **OK** key to confirm



LIMIT SWITCH SIGNAL

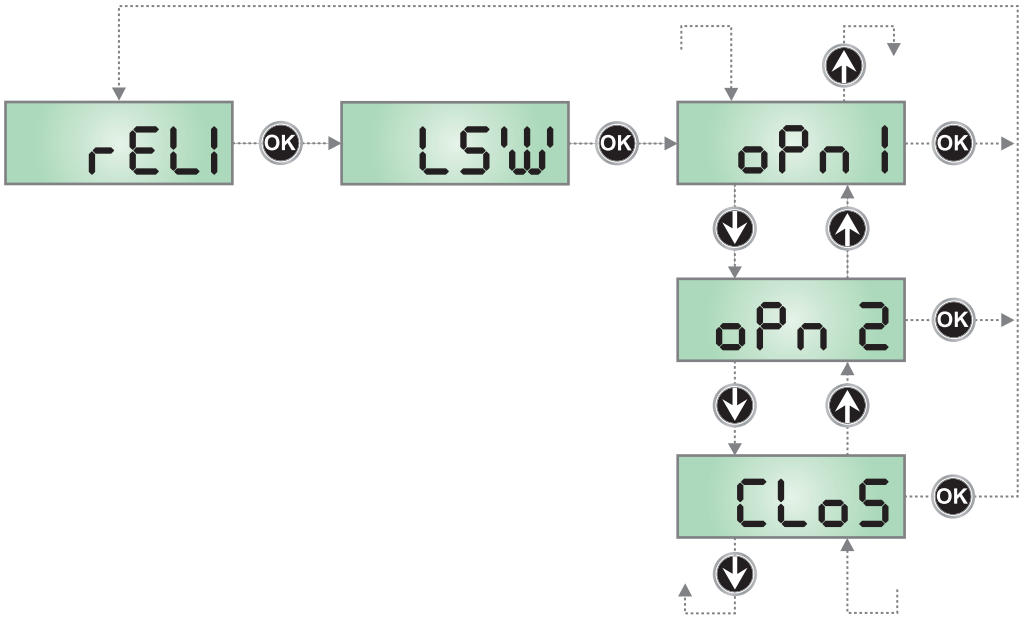
The relay output is used to signal the achievement of the limit switches of the leaves:

oPn1 The relay output is closed when the leaf 1 is fully open

oPn2 The relay output is closed when both leaves are fully open

CLoS The relay output is closed when both leaves are fully close

NOTE: if the gate has only one leaf, select the option oPn1; if it has 2 leaves, select the option oPn2



ELECTRIC BRAKE

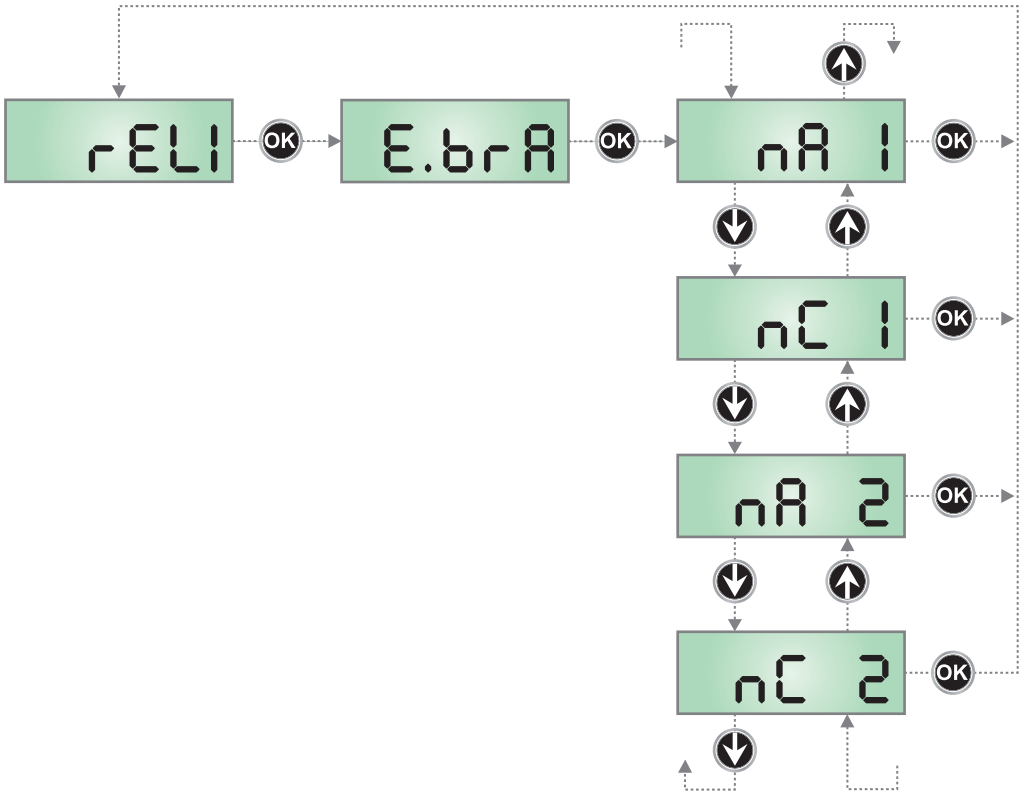
The relay output controls the electric brake of the motor, by opening or closing when the motor is operated.

nA1 the relay output is open when the motor 1 is at rest, and closed when it is actuated

nC1 the relay output is closed when the motor 1 is at rest, and open when it is actuated

nA2 the relay output is open when the motor 2 is at rest, and closed when it is actuated

nC2 the relay output is closed when the motor 2 is at rest, and open when it is actuated



ENTRANCE / EXIT TRAFFIC LIGHT

NOTE: this function is only compatible with the latest generation KB24 and KB230 control panels

Selecting the rd.Gr parameter, you can connect two traffic lights for ENTRANCE or EXIT management of the vehicles using a road passage.

Connect the traffic lights to the SYNCLUX module as indicated on the screen.

The operating logic depends on the Strt parameter setting.

⚠ **ATTENTION**: Absorption of the traffic lights will be subtracted from the 12W max available from the dedicated output of the control unit. Refer to the control panel manual for further information.

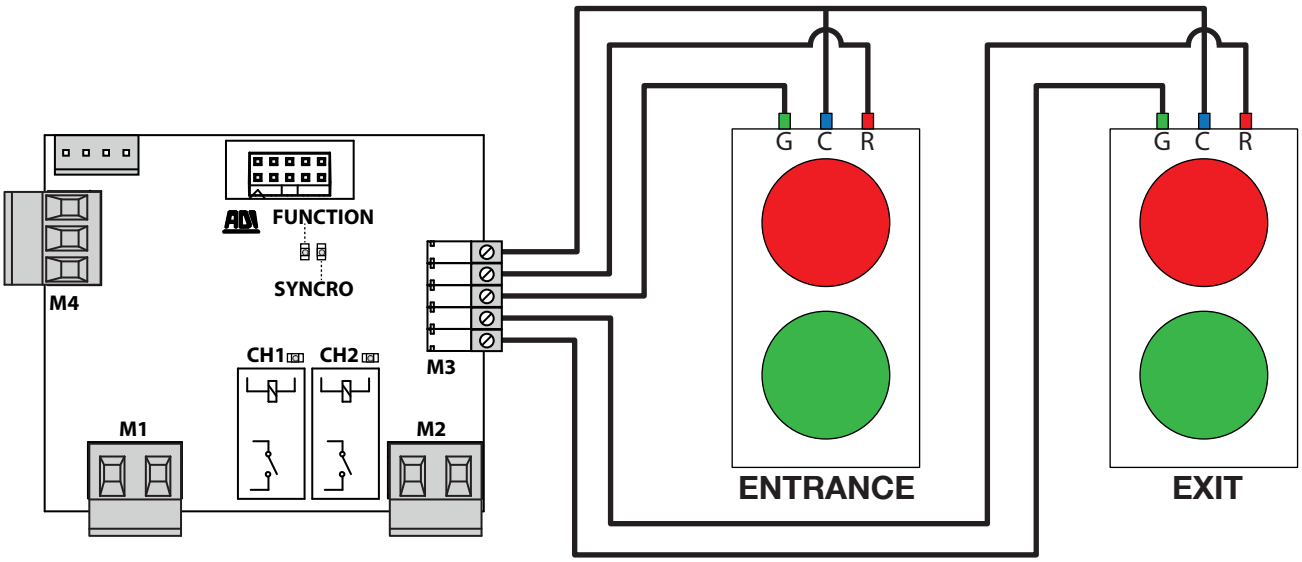
Strt = in.out

- AUTOMATISM IN STANDBY OR CLOSING: entrance or exit traffic light red.
- AUTOMATISM OPENING OR OPENED : green traffic light in direction in which opening was controlled, red in other direction.

Strt = altri valori

NOTE: this setting includes the exit traffic light always red.

- AUTOMATISM IN STANDBY OR CLOSING: entrance traffic light red.
- AUTOMATISM OPENING OR OPENED: entrance traffic light green.



VEHICLE / PEDESTRIAN TRAFFIC LIGHT

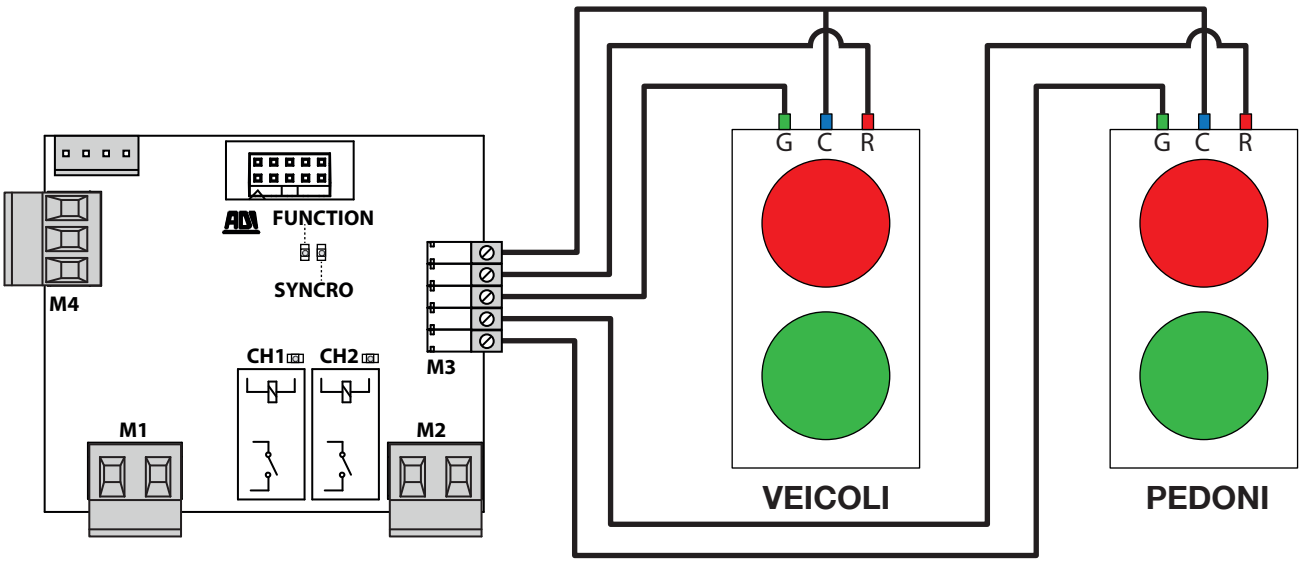
Selecting the PEd parameter, you can connect two traffic lights for transit of VEHICLES management using a road passage or PEDESTRIANS using the pedestrian crossing.

Connect the traffic lights to the SYNCLUX module as indicated on the screen.

⚠ **ATTENTION:** Absorption of the traffic lights will be subtracted from the 12 W max available from the dedicated output of the control unit. Refer to the control panel manual for further information.

The operating logic will be as follows:

- STANDBY: red vehicle traffic light and green pedestrian traffic light
- OPENING OR CLOSING: vehicle and pedestrian traffic light red
- OPEN: green vehicle traffic light and red pedestrian traffic light



RGB BARRIER LIGHTS

Connect the RGB barrier lights in compliance with the colours indicated on the table.

⚠ **ATTENTION:** this function is only available on KB24 control units. For absorption of the leds, refer to the table below. Absorption of the leds will be subtracted from the 12 W max available from the dedicated output of the control unit. Refer to the control panel manual for further information.

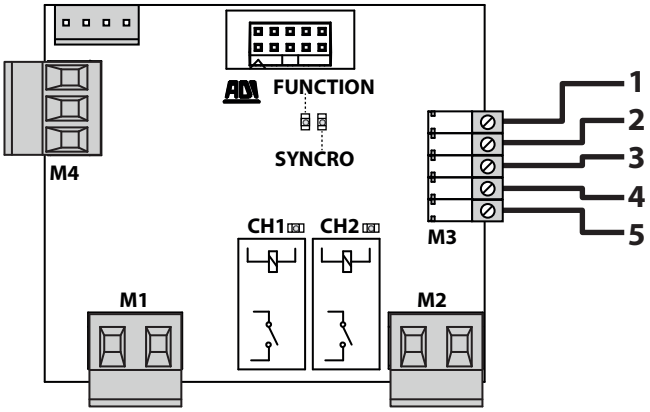
RGB LIGHTS LENGTH	CONSUMPTION
4 metres	3 W
6 metres	6 W
8 metres	10 W
12 metres	12 W

Selecting the rGb parameter, the barrier lights switch on according to the following logic:

- BARRIER IN STANDBY: red flashing light (in first 3 seconds the light is fixed on)
- BARRIER OPENING: yellow light flashing
- BARRIER OPEN: green light flashing
- BARRIER CLOSING: red light flashing
- ALIGNMENT: purple light flashing

If the RGB strip is less than 3 metres long you can select the S.rGb parameter to have the following operating logic:

- BARRIER IN STANDBY: red light fixed
- BARRIER OPENING: yellow light flashing
- BARRIER OPEN: green light fixed
- BARRIER CLOSING: red light flashing
- ALIGNMENT: purple light flashing



	Colour of RGB light cable
1	BLACK
2	BLUE
3	RED
4	GREEN
5	NO CONNECTION

SYNCRO FUNCTION

The SYNCLUX device can be used to synchronise operation of two motors if the control unit includes this function in the programming menu.

Install a SYNCLUX module in each motor and connect the two M4 terminal boards together respecting the position of the terminals.

NOTE: for better immunity against disturbance, use is preferred of a twisted cable for terminals 1 and 2.

Control units with ADI interface:
Programming using SYNCLUX menu (tWn):

tWn = no Function disabled
tWn = MAS Function enabled, main control unit
tWn = SLAu Function enabled, secondary control unit

Control units with MUDI interface:
Programming using control unit menus (SYnC):

SYnC = MAS on the main control unit
SYnC = SLAu on the secondary control unit

