

2/4 Functions Radio External Receiver

PLUTO2

CE REV 0



FOLLOW THIS INSTRUCTIONS CAREFULLY !! This manual contains important instructions for installation and use of this radio external receiver mod. 'MINIPLUTO2'. Don't install before reading this manual, the product's security depends on a correct installation. The installation must be done by qualified technicians. The external receiver must have a special box to protect from water infiltration or damp. The external receiver mustn't be exposed to sources of heat or electromagnetic fields. Install the external receiver in airy place and far from inflammable material. The producing company declines any responsibility in case of a not correct installation or improper use.

SYMBOLS

	IMPORTANT !!
	IMPORTANT for safety installation

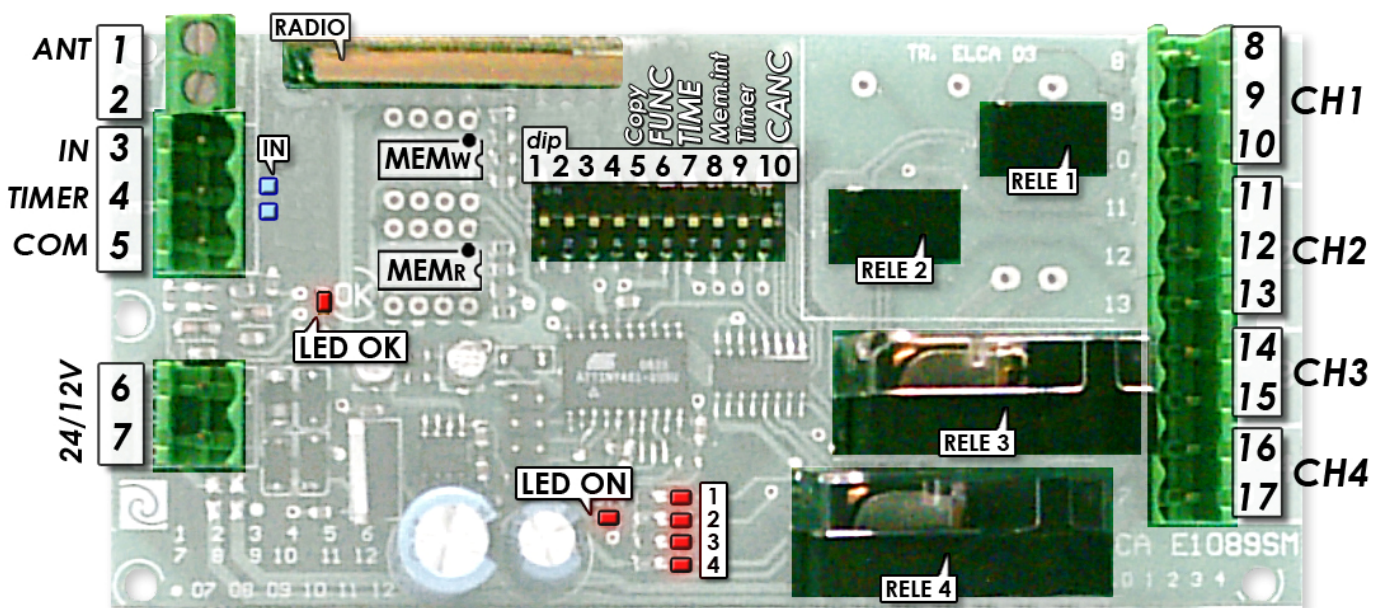


FIG.1

PLUTO2 radio external receiver:

The radio external receiver mod. PLUTO2 has n. 2 or 4 functions free voltage contact.

- It's easy installation. It has a **BASE factory program** (see pag.3).
- It has a lot of functions, it's suitable for every installation.
- It's possible to connect a **TIMER** (see pag.6).
- The memory: n. 77 standard-codes and n. 29 rolling-codes. it's possible to have n. 5325 standard-codes or n. 1997 Rolling-codes with a removable memory (see pag.7).

! IMPORTANT

RADIO EXTERNAL RECEIVER CONNECTION

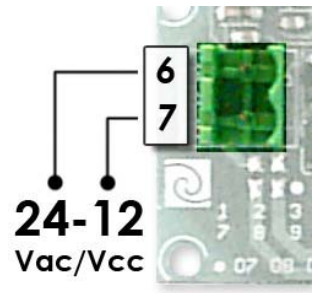


ATTENTION !!!

All the wiring connections must be done after to have disconnected the main alimentation !
DISCONNECT THE GENERAL BUTTON before every connection !!

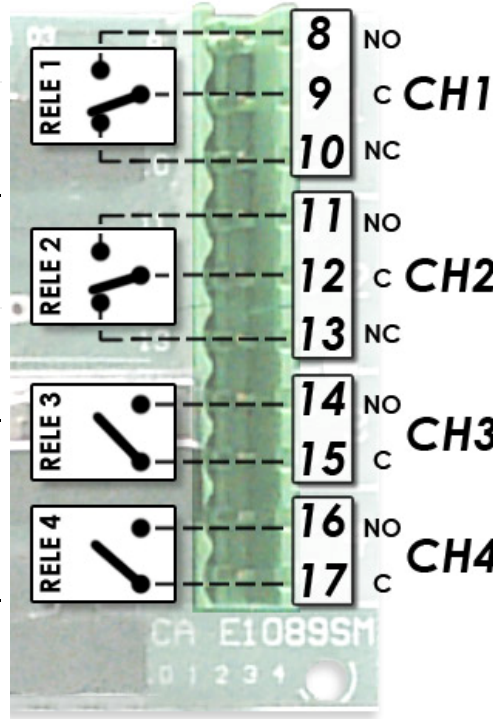
The radio external receiver mod. PLUTO2 is 12 - 24 Vcc/Vac. tension. Respect the max and min. tension values and check the connection's polarity in case of direct current.

ALIMENTATION	TERMINALS' CONNECTION
24-12VAC	Connect to terminal: 6 e 7
24-12VCC	Connect to terminal: 6 e 7 <i>it is not necessary to respect the polarity</i>



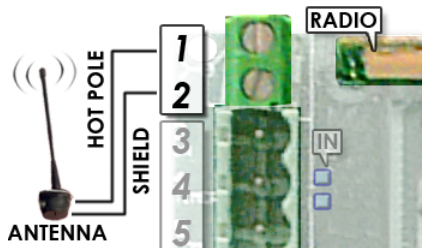
OUTPUT CHANNELS CONNECTION

CHANNEL	TERMINALS' CONNECTION
CH1 N.O. and N.C. free voltage contact MAX: 100V 1A	For the N.O. contact: Connect to terminal 8 and 9 For the N.C. contact: Connect to terminal 9 and 10
CH2 N.O. and N.C. free voltage contact MAX: 100V 1A	For the N.O. contact: Connect to terminal 11 and 12 For the N.C. contact: Connect to terminal 12 and 13
CH3 N.O. free voltage contact MAX: 240V 5A	Connect to terminal 14 and 15
CH4 N.O. free voltage contact MAX: 240V 5A	Connect to terminal 16 and 17

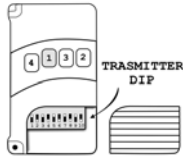







CONNECTION FOR EXTERNAL ANTENNA

ACCESSORY	TERMINALS' CONNECTION
EXTERNAL ANTENNA With shielded wire It improves the radio reception of receiver. The antenna must be installed high 2m and far from electromagnetic interferences.	The SHIELDED WIRE must be connected to terminal 2 . The HOT POLE must be connected to terminal 1



RADIO EXTERNAL RECEIVER PROGRAMMING

BASE PROGRAM	OUTPUT FUNCTION:	Manual
	BASE RADIO CODES:	Standard transmitter 53200
The radio external receiver has a BASE program (factory code). You can have the base program every time you make a RESET procedure.		Button n. 1 Dip code: 1,3,5,7,9 in ON position 2,4,6,8,10 in OFF position
		

RESET PROCEDURE	PROCEDURE	PICTURES
<p>The RESET procedure allows to come back to the base program and erase all programs memorised and radio codes.</p> <p> <i>With the Reset procedure you can back to the Base program (factory code) (Standard transmitter 53200, button 1, dip 1,3,5,7,9 in OFF position and dip 2,4,6,8,10 in ON position)</i></p>	1) Turn off the external receiver and set the dip 10 [CANC] and 6 [FUNC] in ON position.	TURN OFF THE BOARD 
	2) Turn on the external receiver. The OK led flashes fast signalling the RESET procedure .	TURN ON THE BOARD 
	3) When the OK led flashes slowly , set the dip 10 and 6 in OFF position.	FLASH OK 
	4) When the OK led turns off it means that the RESET procedure is finished.	LED OFF 

RADIO COMMANDS The external receiver's memory has n. 77 standard-codes and n. 29 Rolling-codes, if you add an external memory you have n. 5325 standard-codes and n. 1997 Rolling-codes (see pag.7). The Base code is (standard 53200, button 1, dip 1,3,5,7,9 in ON position and dip 2,4,6,8,10 in OFF position) . The Base code is automatically erased with the first code memorised.



ROLLING-CODES !. If the first code memorised is type Rolling-code , the reception of standard-codes 53200 (10 dip) is excluded.

If you want the standard-codes 53200 you have to make the reset procedure (see pag.3).

TRANSMITTERS PROGRAMMING ! When you program radio codes you have to respect a distance of 50cm between transmitter and receiver.

PERSONAL CODE ! If you use the transmitters with standard-codes (10-dip) you have to choose a code, changing the 10 dip position as you want on the transmitter. When you have chosen a code you have to memorise on the receiver . When you have memorised on receiver you CAN NOT change the code transmitter !



ATTENTION !

During the procedure of programming or erasing codes , the outputs of relays are active.

If the active outputs could be created danger situation you have to :

DISCONNECT THE GENERAL BUTTON

- **Disconnect the output** (terminal from n°8 to n°17)
- Turn on the external receiver

After the programming you can reconnect the output!

RADIO CODES PROGRAMMING

Radio code for CH1, CH2, CH3, CH4 output

PROCEDURE

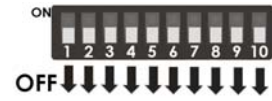
PICTURES



During this procedure the external receiver activates the output relays . If the output activation gives problems , disconnect the output before programming (see pag.3)

1) Turn off the radio external receiver mod. PLUTO2 and set all dip in OFF position.

TURN OFF THE BOARD



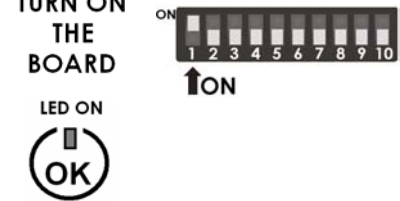
2) Turn on the radio external receiver and set in ON position ONLY the dip that you want to program:

dip1 in ON position >> prog.CH1
dip2 in ON position >> prog.CH2
dip3 in ON position >> prog.CH3
dip4 in ON position >> prog.CH4

The OK led signals for 2 sec the active function (see pag.5)
Then it turns on fixed.

TURN ON THE BOARD

example for CH1



3) Send the radio code that you want memorise..



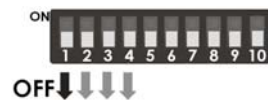
4) The OK led flashes fast 1 time if the code is memorised or it flashes slowly 1 time if the code is just in memory.
(If the OK led flashes 3 times, it means that the memory is full and you can't memorised other radio codes)



1 fast flash: the code is memorised

1 slow flash: the code is just in memory

5) If you want to memorise other radio codes SS repeat from point 3 or set the dip (1,2,3,4) in OFF position.



TO ERASE A RADIO CODE

This procedure erases a single radio code.



TO ERASE ALL RADIO CODES.

It's possible to erase all radio codes in memory making the Reset procedure, see pag 3.

PROCEDURE

PICTURES

1) Set the dip 1,2,3,4 in OFF position and then the dip10 in ON position.
The OK led OK turns on.



2) Send the radio code that you want erase.



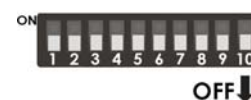
3) The OK led flashes 3 time if the radio code has been erased or it flashes slowly 1 time if the radio code is NOT in memory.



3 fast flash: the code is memorised

1 slow flash: the code is just in memory

4) If you want erase other radio codes , repeat from point 2 or set the dip 10 in OFF position



TO ERASE A GROUP RADIO CODES

This procedure erases a group radio codes.

You can erase the following group radio codes:

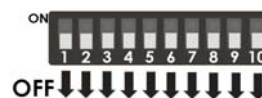
- CH1 group
- CH2 group
- CH3 group
- CH4 group

PROCEDURE

1) Turn off the external receiver mod. PLUTO2 and set all dip in OFF position.

PICTURES

TURN OFF THE BOARD



2) Turn on the external receiver and set the dip 10 in ON position. The OK led turns on

TURN ON THE BOARD



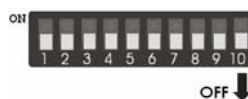
3) Active the dip of group radio codes that you want to erase.

CH1 group: set the dip 1 in ON position
 CH2 group: set the dip 2 in ON position
 CH3 group: set the dip 3 in ON position
 CH4 group: set the dip 4 in ON position

3) The OK led flashes , the erasing procedure is done.



4) Set the dip 10 and the dips (1,2,3,4) in OFF position. The OK led turns off



FUNCTIONS

The external receiver mod. MINIPLUTO2 has 3 kinds of output :

MANUAL : The output is active when the transmitter's button is pushed

SINGLE-STABLE: The output is active every time you send a radio code.

FLIP-FLOP : Every time you push a transmitter's button, the output is ON or OFF.

PROCEDURE

1) Turn off the external receiver mod. PLUTO2 and set all dip in OFF position.

TURN OFF THE BOARD



2) Turn on the radio external receiver and set in ON position ONLY the dip that you want to set (1,2,3 or 4)
 The OK led signals for 2 sec the active function and then it turns on fixed.

TURN ON THE BOARD

example for CH1



The OK led flashes for 2 sec.

FAST FLASHES



manual

FIX ON



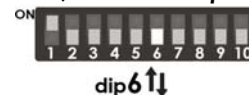
single-stable

SLOW FLASHES



flip-flop

To change the function set the dip 6 in ON position, then in OFF position



dip 6 ↑↓

3) To change the function set the dip 6 in ON position then in OFF position. Every time you set the dip 6 in OFF position the OK led flashes for 2 sec.

4) Repeat the point 3 until the OK led signals the function you want.

5) When you have the function set the dip (1,2,3,4) in OFF position.



When you change the function DON'T SEND radio-codes. If you send radio codes they will in memory.

TIME FOR SINGLE-STABLE OUTPUT

Whit this procedure you can chose the time for the single-stable function.

The time can be programmed from 1sec to 30min.

Every channel has an independent time. We can program for every channel a different time.

PROCEDURE

1) Turn off the external receiver mod. PLUTO2 and set all dip in OFF position.

PICTURES

TURN OFF THE BOARD



2) Turn on the radio external receiver and set in ON position ONLY the dip that you want to set (1,2,3 or 4)

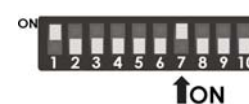
The OK led signals for 2 sec the active function and then it turns on fixed.

TURN ON THE BOARD

example for CH1



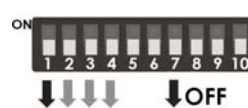
3) Set the dip7 in ON position. The OK led flashes to signal that the receiver is memorising the time for the single-stable function



4) Wait for the time that you want to memorise




5) Set the dip7 in OFF position. The OK led turns on fixed. Set the dip1 in OFF position. The OK led turns off.



BLOCK FUNCTION

Whit this function the technician can enable or disable the programming function.

The technician can memorise a radio code to block/unlock the external receiver.

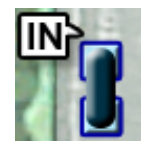
 To disable this function: turn off the receiver, no solder the bridge [IN] and open the contact between the terminal 3 – 5, then turn on the receiver.

PROCEDURE


1) Turn off the external receiver and sold the bridge [IN], otherwise close the contact at the terminal 3 [IN] and 5[Com]

PICTURES

TURN OFF THE BOARD



2) Turn on the external receiver and program a radio code (see pag.4)

 ONLY the first code memorised has the block function

TURN ON THE BOARD



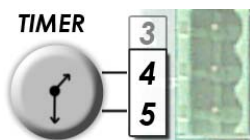
Radio code programming

When you send the block code the OK led flashes:
3 SLOW flash . . . DISABLE PROG.
3 FAST flash ENABLE PROG.



TIMER

The external receiver mod.PLUTO2 allows to do a simple security system with an external timer
Connect the free voltage contact of timer at the terminals 4 [Timer] and 5[Com] .



Follow this procedure to program 2 radio codes groups:

-GROUP WITH TIMER: These codes work ONLY if the timer's contact is close.

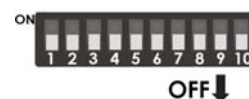
-GROUP WITHOUT TIMER: These codes work always.

PROCEDURE

1) The GROUP radio codes WITHOUT TIMER are normally programmed. Make the "radio codes programming" procedure (pag.4) with the timer's contact open (terminals 4-5) and set the dip9 in OFF position.

PICTURES

PROGR. **GROUP WITHOUT TIMER:**
timer's contact open and dip9 in OFF




Radio code programming

2) If you want the GROUP radio codes WITH TIMER, follow the "radio codes programming" (pag.4) with the timer's contact closes (terminals 4-5) or set the dip9 in ON position.

PROGR. **GROUP WITH TIMER:**
timer's contact closes and dip9 in ON



Radio code programming

 In standard function the dip9 must be in OFF position. and the timer must be connected to the terminal 4 and 5

PROGRAMMING BY RADIO

You can program a radio code by the transmitter without setting any switch on the receiver

If you want memorise more codes you have to repeat the procedure .



This function is possible only with Rolling-Codes

The procedure doesn't function if there is the block function (see pag.6).

PROCEDURE

You can use this procedure only with rolling-codes

1) Send rolling-code by Iris RC transmitter that is **just in memory**.

2) Within 8 sec. push together the buttons 1 and 3 of IRIS RC transmitter used at the point1

The external receiver is in program.

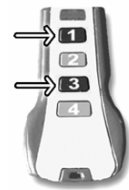
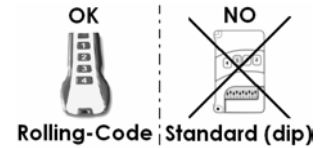
3) Within 8 sec. send a NEW CODE (type rolling-code).

If you don't send any new code the external receiver exits from the program after 8 sec.

4) Check the new code memorised is correct or repeat the procedure.

The new memorized transmitter (to the point 3) it will have the same function of the transmitter used for entering in program (to the point 1).

PICTURES



MEM << new transmitter



EXTERNAL MEMORY

If you add an external memory on the receiver , the radio codes memory became

- From n. 77 standard –codes to n. 5325 standard-codes
- From n. 29 Rolling-codes to n. 1997 Rolling-codes

The external memory [MEM R] excludes the internal memory it means that the radio codes just in memory don't function anymore.

If you want the same codes just in memory follow the procedure INT >> EST, see pag {7}.

PROCEDURE

1) Turn off the board and put the external memory 8 pin on the socket [MEM R] , pay attention to:

YOU MUSTN'T:

Keep in contact the external memory with water

Fell down the external memory

Keep in contact the external memory with electromagnetic fields or high temperature

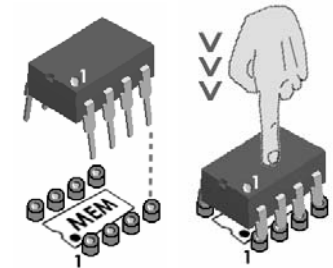
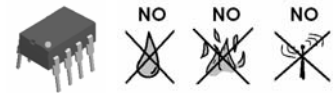
Respect the component's polarity .
See the figure.

2) Put the external memory on the receiver, socket [MEM R] .

Pay attention to the memory's pin.
Don't bend the pin

Before to memorise the new radio codes , make the copy from the internal memory to the external (see pag 7).or erase all radio codes (see pag 3).

PICTURES



MEMORY'S COPY INT. >> EST

You can use this function only if there is an external memory [MEM R].

This procedure allows to recover the codes memorised on the internal memory.

PROCEDURE

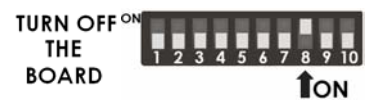
Turn off the receiver and set the dip8 in ON position.







Turn on the receiver. The OK led flashes fast.

Wait that the led has a fixed light (60sec)

Turn off the board, set the dip8 in OFF position.
The memory's copy is finish.







PICTURES



MEMORY'S COPY	PROCEDURE	PICTURES
EST. >> EST. This function allows the back-up of the external memory [MEM R] and the copy in the second memory [MEM W].	Turn off the external receiver and put the memories on socket. The memory with the radio codes must be put on [MEM R], the empty memory where you want copy the radio codes must be put on [MEM W]. Set the dip 5 in ON position	 <p>TURN OFF ON THE BOARD</p>
 ATTENTION !! <i>The memory with the radio codes that you want to copy must be put on socket [MEM R], while the empty memory where you want to copy the radio codes must be put on socket [MEM W].</i>	Turn on the external receiver. The OK led flashes fast.	 <p>TURN ON THE BOARD</p>
	Wait until the OK led flashes fixed. (60sec)	  <p>WAIT</p>
	Turn off the external receiver. Set the dip5 in OFF position. The copy is finished, now the memory [MEM W] has the same radio codes of the memory [MEM R]. Take off the memory [MEM W] and then turn on the board.	 <p>TURN OFF ON THE BOARD</p>

LED

The PLUTO2 has 6 led. The led are important to check in fast way if the connections are wrong or if there are faults .

LED	STANDARD CONDITION	FUNCTION
ON	ACCESO 	It signals the alimентация. If it's turn off means the receiver has not alimентация
1	SPENTO 	It signals the CH1 output. When the output relay is active , the OK led turns on.
2	SPENTO 	It signals the CH2 output. When the output relay is active , the OK led turns on.
3	SPENTO 	It signals the CH3 output. When the output relay is active , the OK led turns on.
4	SPENTO 	It signals the CH4 output. When the output relay is active , the OK led turns on.
OK	SPENTO 	When the receiver turn on it flashes 1 time. In standard function it flashes when receives a radio code. When you change the dip position , it flashes 1 time fast to confirm. If the OK led is always turns on or it always flashes that means it's making the programming (dip 1, 2, 3, 4, 5, 6, 7, 10 in ON position) (see page from 3 to 8).

WARRANTY

ELCA devices and accessories are guaranteed for a period of 24 months after production, whose date is printed on each items. ELCA will replace or repair its devices, provided that they are returned to our plant. In order to check the actual functioning of the returned pieces, they will remain the property of manufacturer. The warranty does not include damages due to any incorrect use, such as : non fulfilment of the instructions detailed for each device. Moreover, warranty does not cover damage due to wrong tension supply and any other reason for which the manufacturer cannot be made responsible. Any device returned must be delivered to ELCA with carriage paid and will be sent back with freight collect.

Warranty validity ceases in case of the customer's non fulfilment of payment.

ELCA declines all responsibility for the non observance of the safety rules by part of the installer.

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