4 OUTPUT RADIO RECEIVER FOR THE CONTROL OF RLC LOAD

Universal dimmer for the radio control of resistive, inductive, capacitive loads, LED and motors for fans.
4 output with 500W maximum power each at 230Vac or 250W each at 110Vac.

Power supply	Minimum power (each output)	Maximum power (each output)
230Vac 50/60Hz	25W (R) - 25VA (L,C) - 7W (Led)	500W (R) - 500VA (L,C) - 100W (Led)
110Vac 50/60Hz	12W (R) - 12VA (L,C) - 4W (Led)	250W (R) - 250VA (L,C) - 50W (Led)

Characteristics

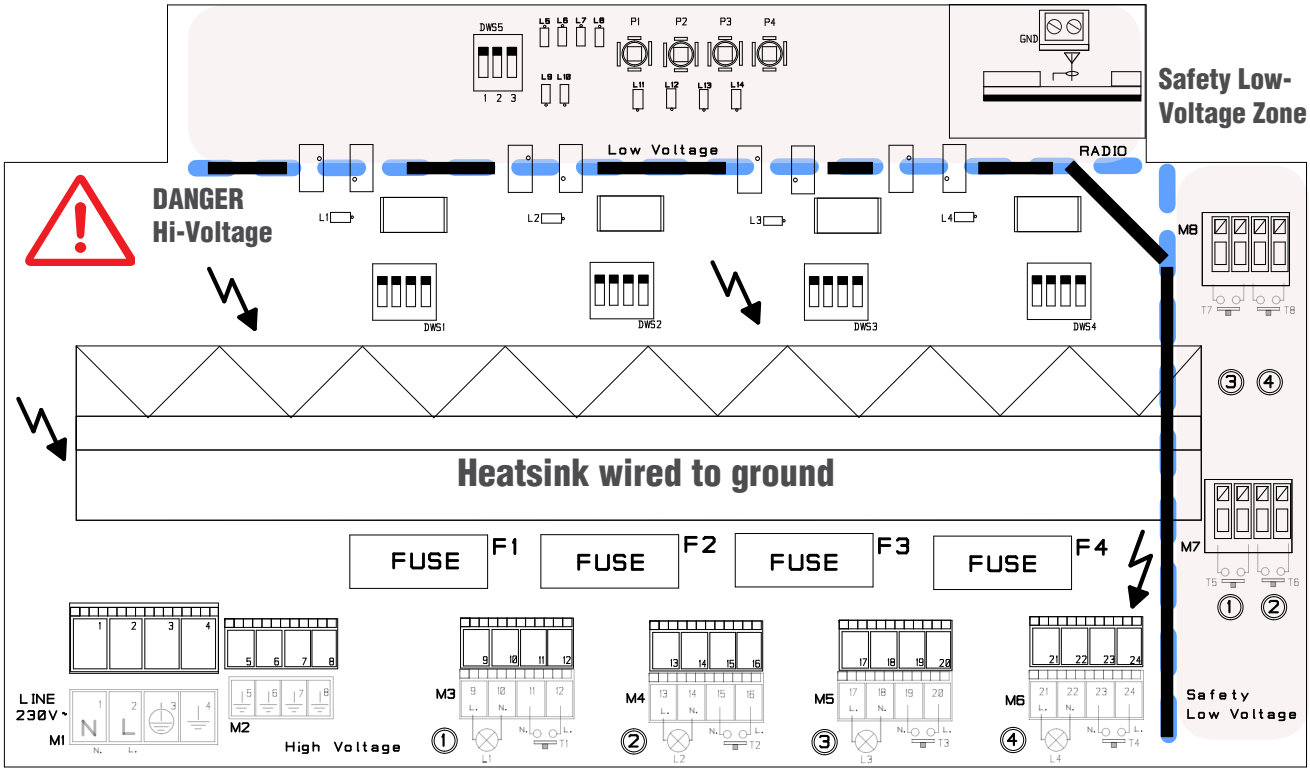
Suitable for any type of load, thanks to the manual or automatic configuration of the output

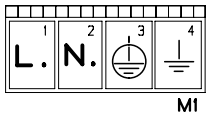
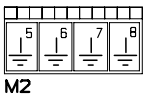
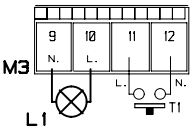
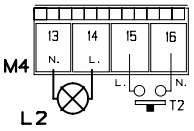
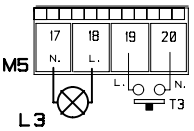
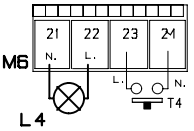
Controlled by transmitters or wired push-buttons with function ON/OFF and Dimming (0%-100%)

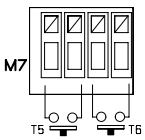
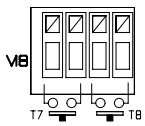
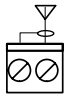
Controlled by wireless movement sensors

Compatible with Green Mouse, for the automatic control of the lights

Wiring diagram



Terminal	Contact	
M1	1: Line 2: Neutral 3: Main GND 4: GND	
M2	5: GND for L1 6: GND for L2 7: GND for L3 8: GND for L4	
M3	9-10: Load (L1) 11-12: wired input T1	
M4	13-14: Load (L2) 15-16: wired input T2	
M5	17-18: Load (L3) 19-20: wired input T3	
M6	21-22: Load (L4) 23-24: wired input T4	

Terminal	Contact	
M7	wired input T5 wired input T6	
M8	wired input T7 wired input T8	
ANT	aerial connection	

Attention:
High-Voltage board, risk of electric shock!
Never touch the board outside the safety zone.
The output are protected by **3.15A** fuses.
If not used, close cable glands with their caps.

The receiver has four wired safety low voltage input and four wired high voltage input with the same functions:

- **T1, T2, T3, T4**: ON/OFF and DIM the load
  Short pulse (<400mS) = ON/OFF
  Long pulse (>400mS) = adjusting upgrade or downgrade if the output set in dimming mode

- **T5, T6, T7, T8**: ON/OFF and DIM the load
  Short pulse (<400mS) = ON/OFF
  Long pulse (>400mS) = adjusting upgrade or downgrade if the output set in dimming mode

Note: it is possible to connect more push-buttons in parallel mode to the same input.

L9 ON = Received radio transmission
L10 ON = Powered

PIR SETTING DIP
Output 1, 2, 3, 4

(see p. 4)

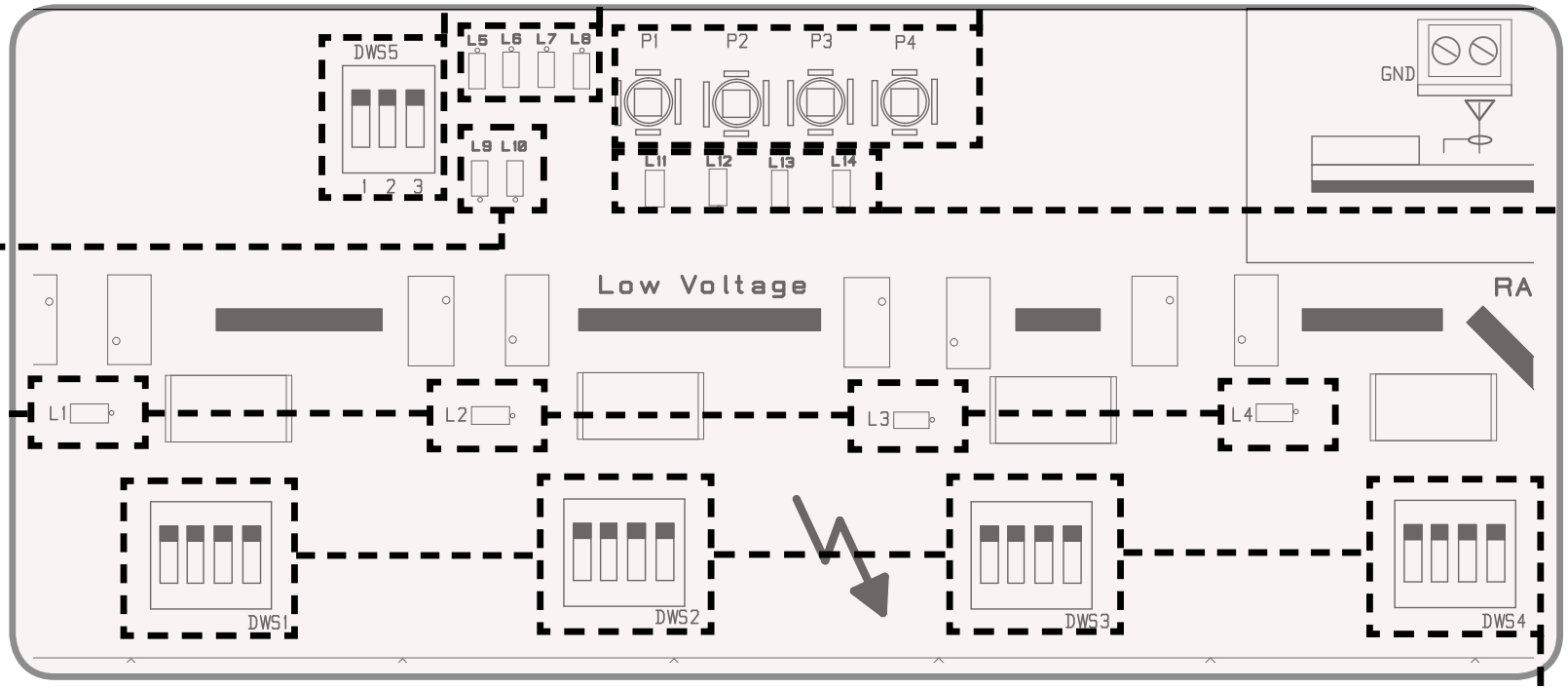
SELECTED OUTPUT
Output 1, 2, 3, 4

ON = output selected by means of P4 button or associated to the received radio transmission

P1: ON/OFF/Dim
P2: memorize TX
P3: delete TX
P4: output selection

SELECTED OUTPUT
Output 1, 2, 3, 4

ON = output selected by means of wired input



LED ERROR
Output 1, 2, 3, 4

- Fix: overload
- Blinking: overtemperature

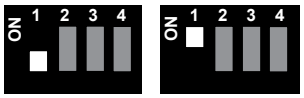
LOAD SETTING DIP
Output 1, 2, 3, 4

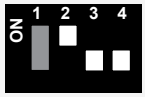
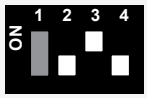
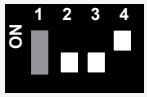
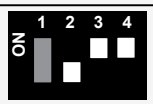
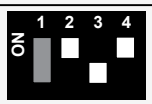
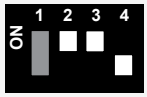
(see p. 4)

DIP-Switch configuration

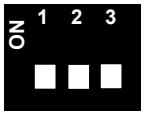
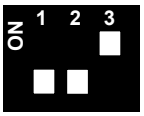
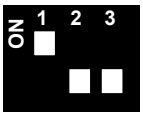
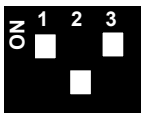
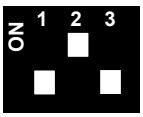
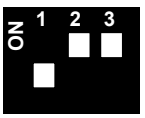
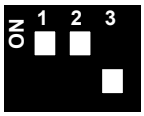
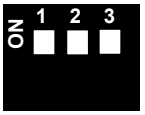
WARNING: Dip-switch connected to high-voltage (load setting) cannot be used if the power is ON!

Load setting dip-switch (high voltage)
*Setting is **NOT** possible when the power is ON*

	**FUNCTIONING MODE** **OFF** = switching mode **ON** = dimming mode *(default)*

	**Automatic identification of the load**	**Identification of the load** Before the first power-ON of the control unit, set the correct load type for each output, using the proper dip-switch. If the type of load is unknown, set the dip-switch for the **automatic identification of the load**: control unit will automatically adjust the settings, adapting to the connected load. If the functioning of the load is not satisfying, perform the procedure of **fine-adjustment** (see par. 3.3, page 13), keeping the dip-switch configuration as it is. In case of a later modification of the load type, it might be necessary adjusting the **minimum level** (see par. 3.2, page 13), or delete and memorize the associated trasmitters again.
	**Resistive load**	
	**Inductive load** *(in this case do not use STL001)*	
	**Capacitive load**	
	**AC motors for fans** *(in this case do not use STL001)*	
	**LED** *(default)*	
	**LED with STL001 circuit**	

PIR dip-switch (low voltage): set of the activation time of the load once activated by PIR sensor (valid for all the output).
Setting is possible when the power is ON

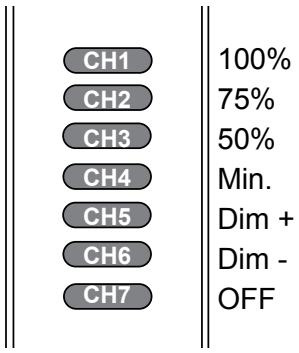
	**OFF**		**2,5 minutes**
	**15 seconds**		**5 minutes**
	**30 seconds**		**10 minutes**
	**60 seconds**		**20 minutes**

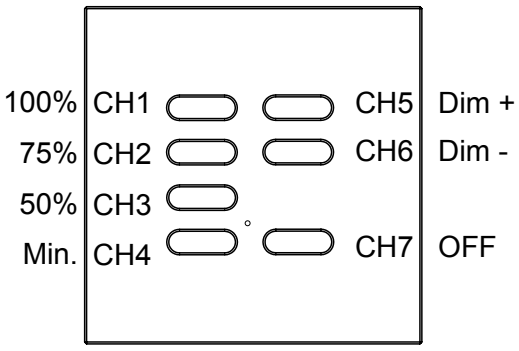
1 - Transmitters Memorization

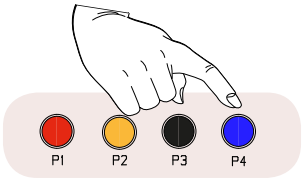
Before memorizing the transmitters select the output associated to the transmission channel by pressing the button P4 (blue). The selection is indicated by the relative LED on. It is possible to memorize the transmitter to one or more outputs.

1.1 - Memorization of 7/42 channel transmitters

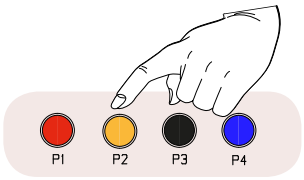
Short presses of the buttons **CH1..CH4** command the preset scenes. **CH5** and **CH6** adjust the level of the load (Dim UP and Dim DOWN). Short press of **CH7** turns OFF the output. All the buttons of the transmitter are automatically memorized.



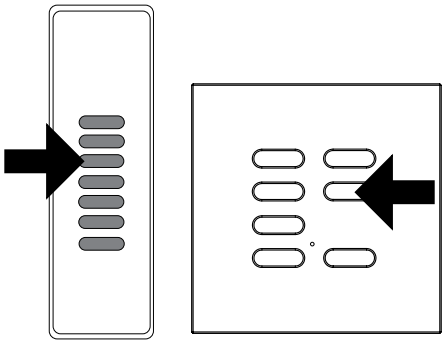




Press P4
to select the output



Press P2 once
and hold it down



1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).

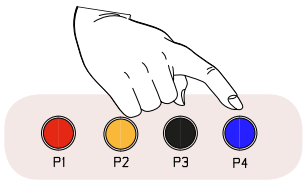
2- Press the button **P2 once** and hold it down; the buzzer will sound a continuous beep.

3- During the beep sound press any button of the 7/42 channel transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer.

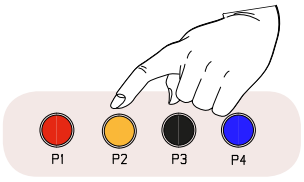
ATTENTION: if the load configuration is changed from INDUCTIVE to any other or viceversa, the presets relative to buttons **CH1..CH4** could be different as shown here above. In this case the associated transmitters must be deleted and memorized again.

1.2 - Memorization of one transmitter button with On/Off/Dim function

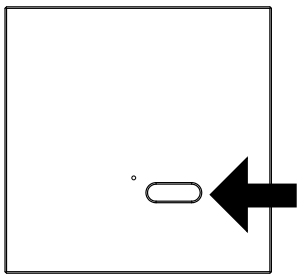
With short impulses turn the load on and off; keeping it pressed to dim UP or DOWN the load.



Press P4
to select the output



Press P2 twice
and hold it down



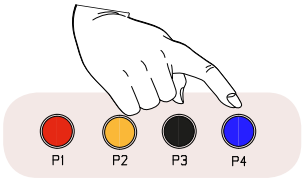
1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).

2- Press the button **P2 twice and hold** it down the second one, the buzzer will make a beep each time and then sounds continuously.

3- During the beep sound press the button of the transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer.

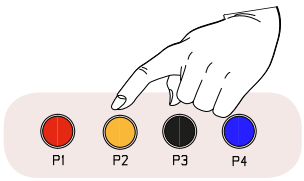
1.3 - Memorization of one transmitter button with ON function

The button memorized with On function turns on the control unit at the last output level.



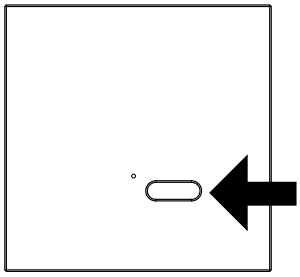
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



Press P2 three times
and hold it down

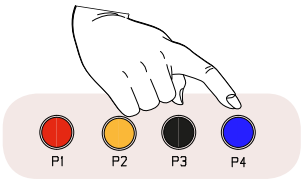
2- Press the button **P2 three times and hold** it down the third one, the buzzer will make a beep each time and then sounds continuously.



3- During the beep sound press the button of the transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer.

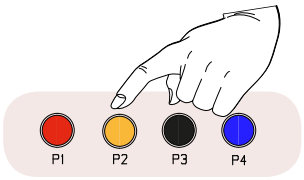
1.4 - Memorization of one transmitter button with OFF function

The button memorized with Off function turns off the load.



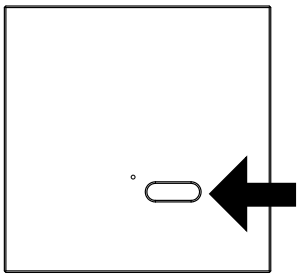
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



Press P2 four times
and hold it down

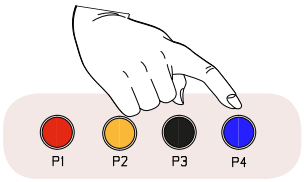
2- Press the button **P2 four times and hold** it down the fourth one, the buzzer will make a beep each time and then sounds continuously.



3- During the beep sound press the button of the transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer.

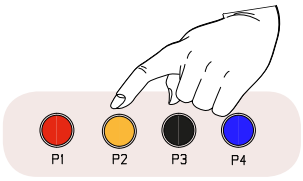
1.5 - Memorization of 3 channel transmitters

The buttons of the memorized transmitter will have the following functions:
CH5 dim UP, **CH6** dim DOWN and **CH7** turns ON/OFF the load.



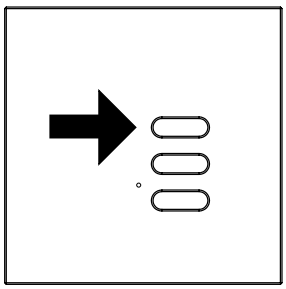
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



Press P2 five times
and hold it down

2- Press the button **P2 five times and hold** it down the fifth one, the buzzer will make a beep each time and then sounds continuously.

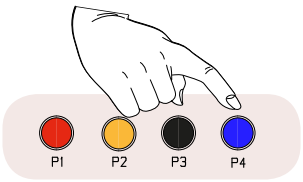


CH5: Dim +
CH6: Dim -
CH7: On/Off

3- During the beep sound press the button of the transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer. All the buttons of the transmitter are automatically memorized with a preset configuration as in the above drawing.

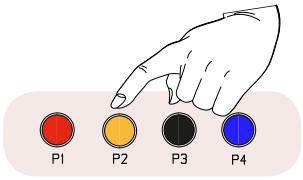
1.6 - Memorization of Green Mouse (ONLY for output set as dimming mode)

Green Mouse is a wireless transmitter for the automatic control of the light in a room.
The light level is automatically adjusted as the variation of the natural light, keeping the level configured by the user through the command buttons 2 and 3.
Note: during the normal functioning, Green Mouse is excluded from the receiver after each OFF command given by other transmitters or from external buttons. Green Mouse will resume the automatic adjustment of light at the next switching on of the receiver.
See the instruction manual of the product for further details.



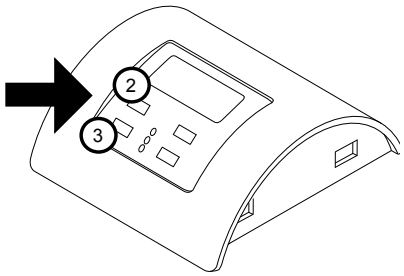
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



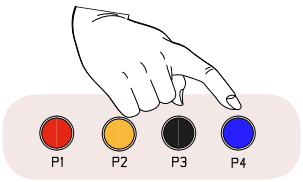
Press P2 six times
and hold it down

2- Press the button **P2 six times and hold** it down the sixth one, the buzzer will make a beep each time and then sounds continuously.



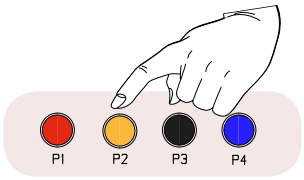
3- During the beep sound press button **2** or **3** of Green Mouse; the memorization is indicated by the intermittent sound of the buzzer.

1.7 - Memorization of 4 channel transmitters



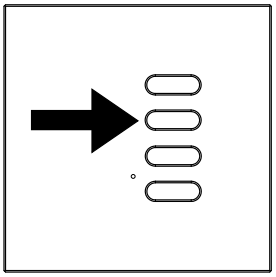
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



Press P2 seven times
and hold it down

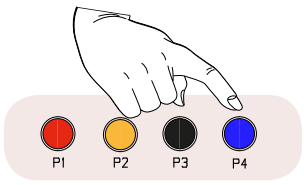
2- Press the button **P2 seven times and hold** it down the seventh one, the buzzer will make a beep each time and then sounds continuously.



3- During the beep sound press the button of the transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer. All the buttons of the transmitter are automatically memorized with a preset configuration as in the above drawing.

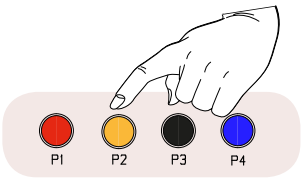
1.8 - Memorization of one transmitter button with ON-OFF function

With short impulses turn the load on and off.



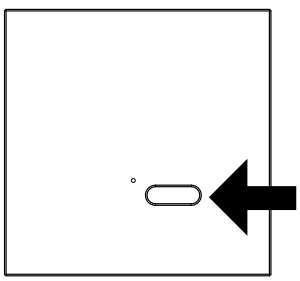
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



Press P2 eight times
and hold it down

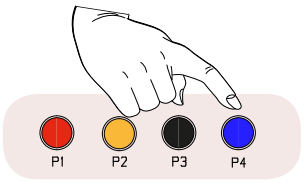
2- Press the button **P2 eight times and hold** it down the eighth one, the buzzer will make a beep each time and then sounds continuously.



3- During the beep sound press the button of the transmitter to memorize; the memorization is indicated by the intermittent sound of the buzzer.

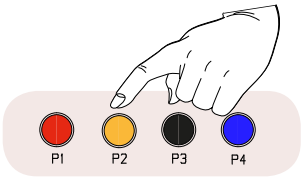
1.9 - Memorization of wireless PIR

The wireless movement sensors (PIR) can be used to automatically activate the load at 100%. In case the timer is active (see p.4) the load automatically returns to the previous level after the set time. It's possible to interrupt the automatic functioning at any time just using any memorized transmitter. Once pressed any button of a memorized transmitter, the PIR will be disabled for 60 seconds.



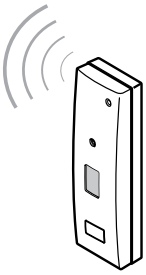
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).

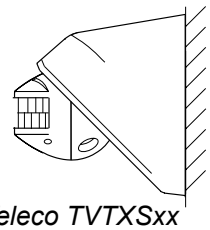


Press P2 nine times
and hold it down

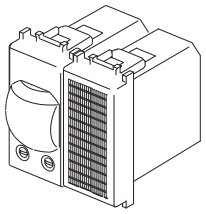
2- Press the button **P2 nine times and hold** it down the ninth one, the buzzer will make a beep each time and then sounds continuously.



3- During the beep sound activate the sensor; the memorization is indicated by the intermittent sound of the buzzer.



Teleco TVTXSxx



Teleco TVTXLR02x

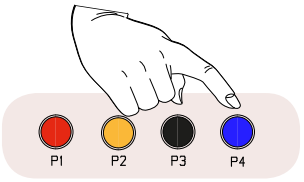
Other applications with PIR

- TRANSMITTER WITH TIMER: If a transmitter is memorized with this procedure, it will work as a PIR, activating the dimmer for the time set with the PIR dip switch (page 3).

- PIR WITH BOTH ON & OFF COMMAND: The movement sensor (PIR) **Teleco TVTXSxx** and the transmitter **Teleco TVTXLR02x** for standard movement sensors, transmit on 2 radio channels, which can be assigned to separate commands **ON** and **OFF** using the procedure at paragraph 1.3 and 1.4. In this application the dip switch for PIR settings will have no effect.

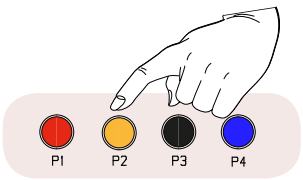
- PIR COMMANDING TWO PRESETS: the 2 channels of **TVTXSxx** and **TVTXLR02x** can be assigned to the preset values of activation (100% = recognized movement; 66% = NO movement) which are **CH1** and **CH2** of a 7 channel transmitter (see the procedure 1.1). In case the levels of the 7 channel transmitter used for the procedure have been modified, they will be copied in PIR instead of default preset values (see procedures 1.11 and 1.13).

1.10 - Disabling/enabling a single button of a 4 or 7/42 channel transmitter



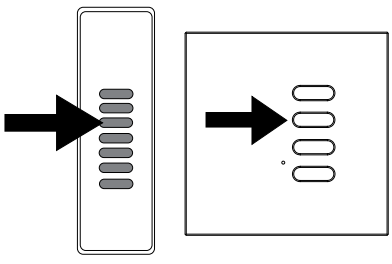
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



Press P2 ten times
and hold it down

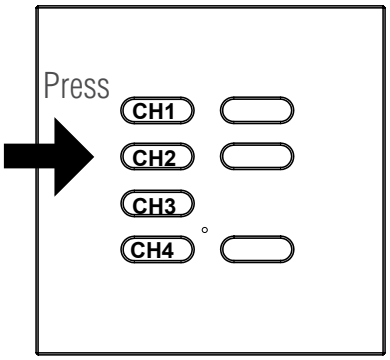
2- Press the button **P2 ten times and hold** it down the tenth one, the buzzer will make a beep each time and then sounds continuously.



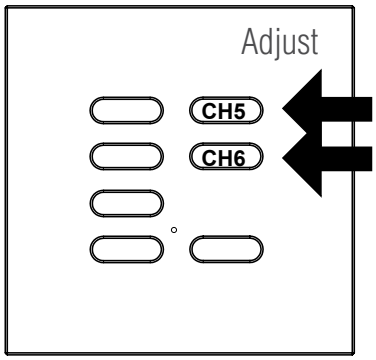
3 - During the beep sound press a button of the 4 or 7/42 channel transmitter which has to be disabled/enabled.
- 3 slow beeps: the button is **disabled**.
- Fast beeps: the button is **enabled**.

1.11 - Changing the preset scenes of a transmitter *associated to a single output*

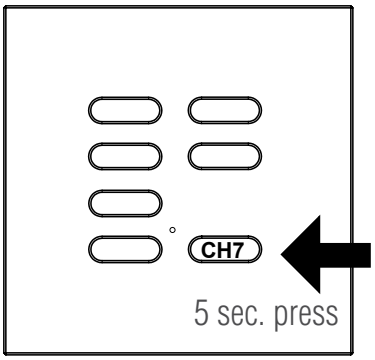
7/42 channel transmitter



1- Press the button relative to the scene to modify.



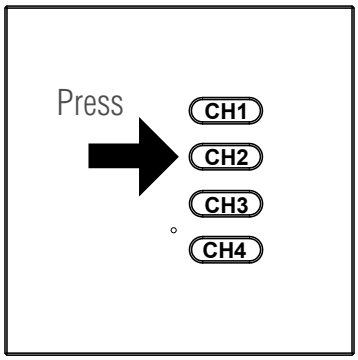
2- Adjust the new value with the buttons **CH5** and **CH6**.



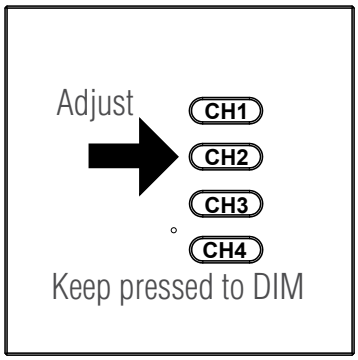
3- Hold down **CH7** button for 5 sec. At the end the load will turn on at the new value.

---

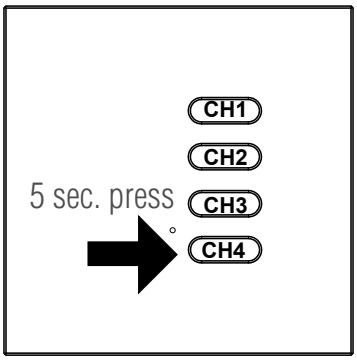
4 channel transmitter



1- Press the button relative to the scene to modify.



2- Adjust the new value keeping pressed the same button to modify.



3- Hold down **CH4** button for 5 sec. At the end the load will turn on at the new value.

1.12 - Changing the preset scenes of a transmitter *associated to more than one output*

In case a 4/7/42 channel transmitter is associated to more than one output, and each of them must have different values of intensity when a preset scene is commanded, it is necessary to clearly identify the output which relative preset will be modified.

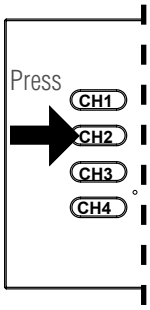
This is possible in different ways, according to the characteristics of each installation:

a. The transmitter is associated to more than one output. No other input available.

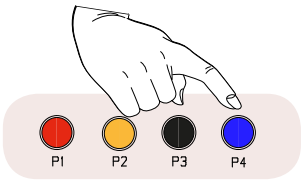
b. The transmitter is associated to more than one output and there are also wired safety low voltage input (T5 .. T8) to command the output.

c. The transmitter is associated to more than one output as MASTER device and there are also transmitters associated to the single output.

a. The 4/7/42 channel transmitter is associated to more than one output. No other input available.

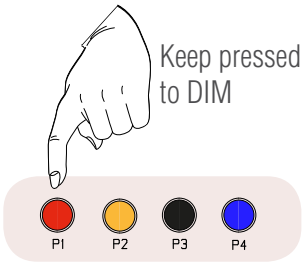


1- Press the button relative to the scene to modify. All the output associated to this transmitter will turn the load on at the preset value.

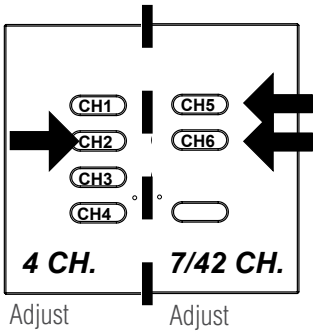


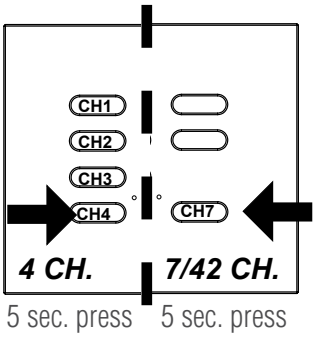
Press P4
to select the output

2- Press **P4** to select the output to modify (the selection will be indicated by the relative led ON). **ATTENTION:** the next steps must to be executed within 60 seconds!



OR





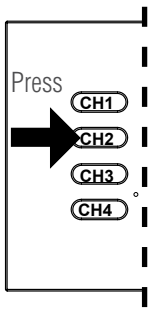
3- **Adjust** the new value:
- keeping P1 pressed to Dim UP/DOWN
- (***4ch.*** transmitters) keeping the button relative to the scene to modify pressed to Dim UP/DOWN
- (***7/42ch***. transmitters) use the buttons CH5, CH6 to Dim UP/DOWN

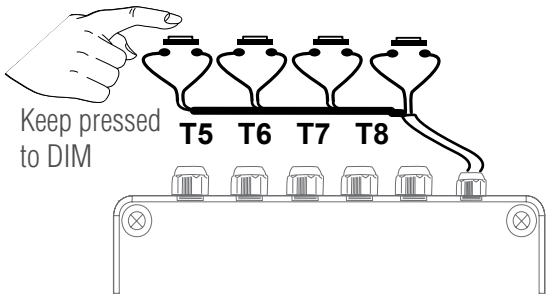
Only the selected output will change its intensity.

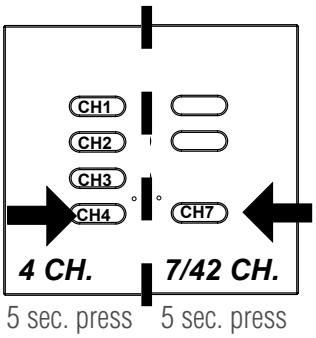
4- Hold down **CH4 or CH7** button for 5 sec. At the end only the load connected to the selected output will turn on at the new value.

---

b. The 4/7/42 channel transmitter is associated to more than one output and there are also wired safety low voltage input (T5 .. T8) to command the output.







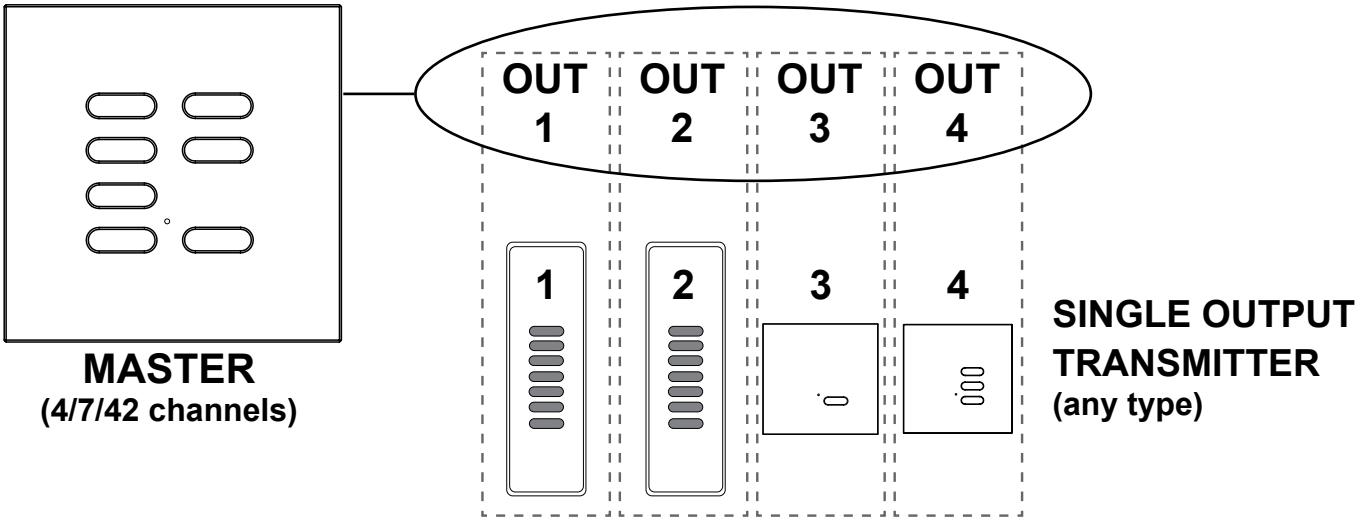
1- Press the button relative to the scene to modify. All the output associated to this transmitter will turn the load on at the preset value.

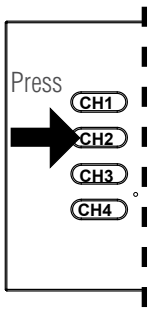
2- Adjust the new value with the wired button connected to the output to modify (T5 = OUT1, T6 = OUT2, T7 = OUT3, T8 = OUT4).

3- Hold down **CH4 or CH7** button for 5 sec. At the end only the load connected to the selected output will turn on at the new value.

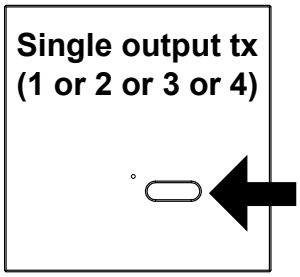
Note: *It's not possible to use the high voltage input for this procedure.*

c. The 4/7/42 channel transmitter is associated to more than one output as MASTER device and there are also transmitters associated to the single output.

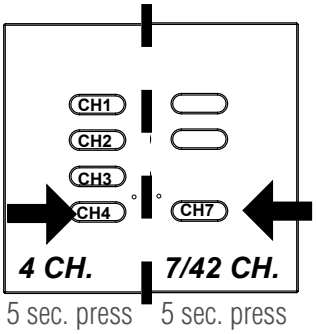




1- Press the button relative to the scene to modify. All the output associated to this transmitter will turn the load on at the preset value.



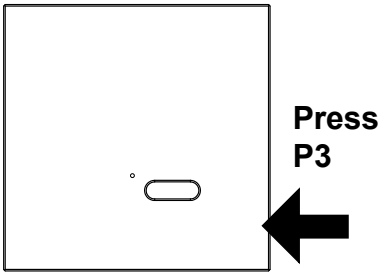
2- Adjust the new value with the transmitter associated ONLY to the desired output. Use the button with function Dim + and Dim -, or turn the output ON/OFF.



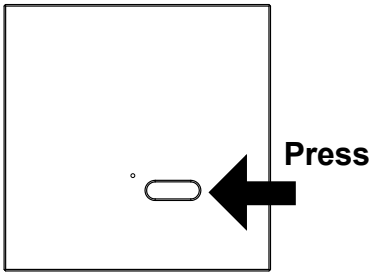
3- Hold down **CH4 or CH7** button for 5 sec. At the end only the load connected to the selected output will turn on at the new value.

1.13 - Copying the function of a transmitter to a new transmitter

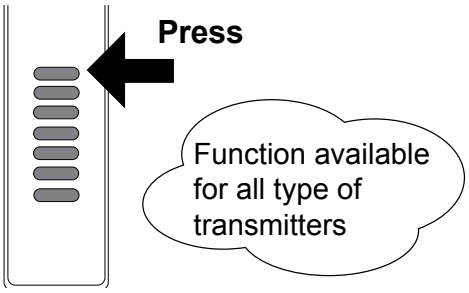
The button P3 is located inside the transmitter (see transmitter manual).
The new transmitter will have the same functions of the transmitter used for its memorization.



1- Press the button **P3.** The enabled receiver sounds continuously.



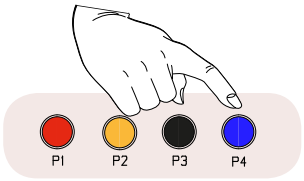
2- Within 5 sec. press a button of the **already memorized transmitter** of which the function has to be copied. The buzzer will interrupt the sound for 1 sec., and then carry on for 5 sec.



3- During the sound press the button of the **new transmitter** which has to be memorised; the memorization is indicated by the intermittent sound of the buzzer.

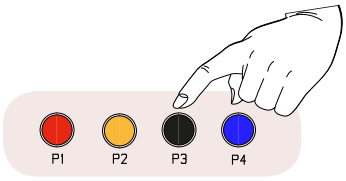
Attention: when a 4 or 7/42 channel transmitter is copied, also its preset levels will be copied into the new one.

2.1 - To delete a transmitter



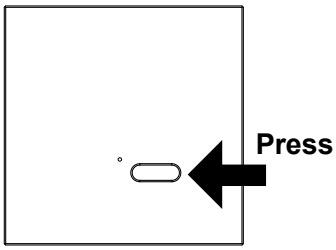
Press P4
to select the output

1- Select the output to associate by pressing the button **P4** (the selection will be indicated by the relative led ON).



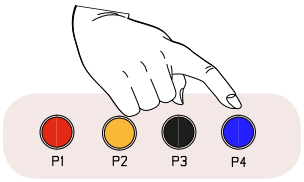
Press P3 once
and hold it down

2- Press the button **P3 once and hold** it down, the buzzer will sound slowly and intermittently.

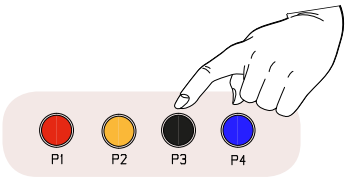


3- During the sound press the button to delete; the deletion is indicated by the continuous sound of the buzzer.

2.2 - To delete all transmitter from the selected output



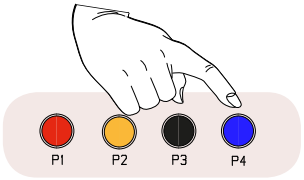
Press P4
to select the output



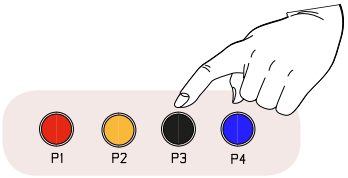
Press P3 twice
and hold it down for 10 sec.

1- Select the output using **P4**
2- Press the button **P3 two times and hold** it down for 10 sec., the buzzer will make one beep and then sound quickly and intermittently.
3- At the end the buzzer will sound continuously by indicating that all the transmitters associated to the output have been deleted.

2.2 - To delete all transmitter from the memory



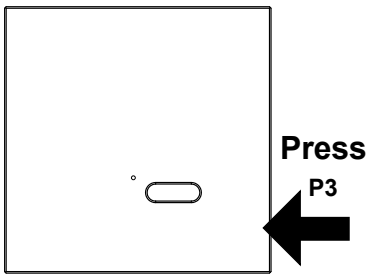
Press P4
to de-select the output



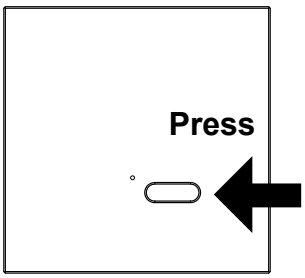
Press P3 twice
and hold it down for 10 sec.

1- Clean the output selection using **P4**. Output LED must be **all OFF**.
2- Press the button **P3 two times and hold** it down for 10 sec., the buzzer will make one beep and then sound quickly and intermittently.
3- At the end the buzzer will sound continuously by indicating that the whole memory has been deleted.

2.4 - To delete a transmitter from transmitter



1- Press **three times** the button **P3** placed inside of the transmitter. The buzzer will sound intermittently and slowly.



2- During the intermittent sound press the button which is to be deleted; the deletion is indicated by the continuously sound of the buzzer.

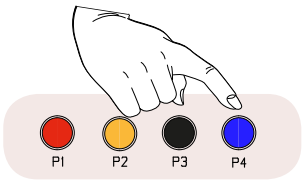
2.5 - Errors during the memorization or deletion

If the code hasn't been memorized it could be due to the following reasons: the code already exists in memory or the memory is full. If the code hasn't been cancelled the code doesn't exist in memory.

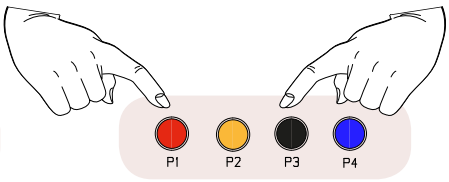
Memory full or empty: the buzzer will sound intermittently and slowly for 3 seconds each time it is switched on or during the memorization phase.

3.1 - Activation/Deactivation of the Memory of the last value of the Load

Activated: commanding the load with a short pulse, it will turn-on with the same values it had before the last OFF command.
Deactivated: commanding the load with a short pulse, it will turn-on always at 100%.



Press P4
to select the output



Press P1+P3 once
and hold them down

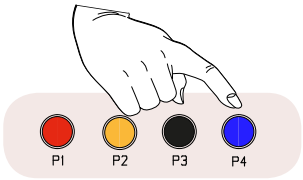
1- Select the output using **P4**
2- Press **P1 + P3** and hold them down.

- Fast beeps: the function is **activated**.
- 3 slow beeps: the function is **deactivated**.

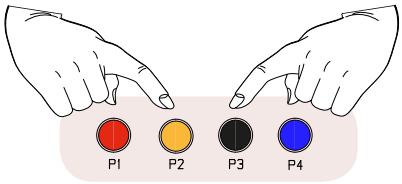
***NOTE**: after a power failure, the dimmer will turn on the loads at the same status before it.*

3.2 - To set the minimum level for the Load

This function allows to set the minimum level for dimming the load, only in case of <u>resistive loads</u> (DIP2 = ON).



Press P4
to select the output



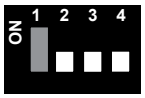
Press P2+P3 once
and hold them down

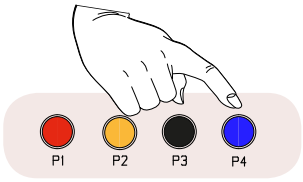
1- Adjust the minimum desired level of the load.
2- Press **P2 + P3** and hold them down.
The buzzer makes fast beeps.

To reset the level to the default value, press again **P2 + P3** and hold them down.
The buzzer makes 3 slow beeps.

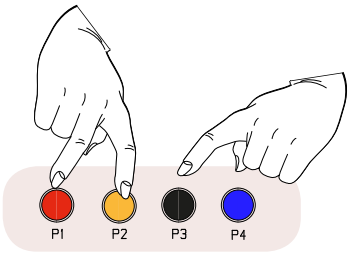
3.3 - Fine adjustment for load identification (see load setting at page 3)

This function modifies the settings of the control unit in the automatic identification of the load type. It's allowed only if the dip-switch 2, 3 and 4 are OFF (configuration corresponding to automatic identification).





Press P4
to select the output



Press P1+P2+P3 once
and hold them down

1- Select the output using **P4**
2- Press **P1 + P2 + P3** and hold them down.

- Fast beeps: the function is **activated**.
- 3 slow beeps: the function is **deactivated**.

Warnings

IMPORTANT! READ THIS INSTRUCTIONS CAREFULLY BEFORE INSTALLING AND COMMISSIONING THE PRODUCT. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

PRODUCT INSTALLATION

The product at issue must be installed, commissioned and maintained only by licensed and authorised people, respecting the laws concerning the electrical installations. Not conforming installations, wrong adjustments or product alterations may cause fire, electric shock, or personal injuries. The manufacturer is not responsible for any damage due to wrong installation or improper use. **Attention:** at the power-on the device resumes the status it had before the turning-off.

MOUNTING LOCATION AND MODALITY

The product must be mounted applying the following indications carefully:

- **it must be** fixed on surfaces which cannot be damaged by the high temperature.
- **it must be** placed in a well ventilated location. It cannot be hermetically closed.
- **it must be** fixed vertically, with cable glands downward.
- connection cables **must be** protected against any accidental impacts, using proper pipes.
- **do not cover** the product.
- **do not** use or store flammable materials close to the product.

ELECTRICAL CONNECTIONS

All the connections must be rated for a single-phase 110/230Vac power supply, with the relative Earth connection. For the disconnection from the power line, use an all-pole switch with contacts having a dimension of at least 3,5mm. Arrange **all the necessary safety devices** and use only materials complying with the standard of electrical installations. Signal and power voltage wiring (110/230Vac) must be separated one from the other. The cable must have a section properly rated according to the load connected and a nominal temperature range (T) up to 90°C. The following table reports (roughly) the resistance values and the maximum current of a copper wire, according to its length:

Section (mm2)	R (ohm/Km)	Max. current (A)
1	19.5	5
1.5	13.3	10
2.5	7.98	16

WARNING: If any cable is damaged, it must be immediately replaced by a qualified person in order to avoid any hazard.

SAFETY INFORMATION

This appliance is not intended for use by people (including children) with reduced physical, sensory or mental capabilities, or not properly informed about the product's characteristics or the possible hazards it can cause. Children should be carefully supervised when they are in the area of the product. Do not touch the electronic board with wet hands, any metallic or flammable objects. Do not operate in the high voltage area of the electronic board, when it is supplied. Do not touch the heatsink, for at least 15 minutes after the switching off of the product. Use the product only in combination with devices which can guarantee a safe extended time functioning. **The radio signal reception of the device could be disturbed by the presence of electrical disturbances being transmitted by other appliances working on the same frequency or if the product is somehow shielded by metal parts.**

PRODUCT DISPOSAL

At the end of this product's useful life, it must not be disposed of as domestic waste, but must be taken to a collection centre for waste electrical and electronic equipment. It is the user's responsibility to dispose of this appliance through the appropriate channels at the end of its useful life.

Hereby Teleco automation s.r.l. declares that the product complies with the essential requirements and other relevant provisions, established by the Directive 1999/5/EC. The declaration of conformity can be consulted on the web site: *www.telecoautomation.com/ce*. In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice.

TECHNICAL SPECIFICATIONS

- Power supply 110/230Vac 50/60Hz

- Max Output Power 2000W (500W for each output) at 230Vac~
1000W (250W for each output) at 110Vac~

- Reception frequency 868.3 MHz (TVDMM868A05)
916 MHz (TVDMM916A05)

- Operating temperature range -20° / +45°C

-The maximum number of memorizations is 64.