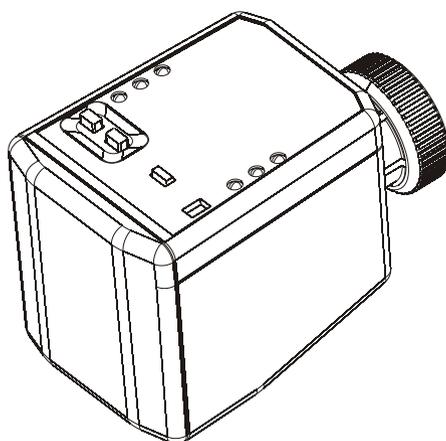


# ELECTRONIC ACTUATOR WITH RADIO RECEIVER FOR RADIATOR VALVES

## INSTRUCTIONS FOR THE USER



**Battery powered device equipped with command for the valve controlling water flow rate in central heating radiators in installations with wireless thermoregulation systems.**

### PERFORMANCE DATA

- Indicator LEDs and/or audible signals to communicate fault status due to the absence of transmission or due to insufficient power of the actuator battery and/or the associated transmitter battery.
- Automatic setting of valve to the closed position before battery is completely discharged.
- Indicator LEDs and/or audible signals to communicate actuator-radiator valve compatibility problems.
- Automatic descale operation performed on weekly basis.
- Highly reliable communications thanks to **dual data transmission**.
- LED and/or audible indication, on three levels, of TEST signal to check the presence and range of the transmission signal (VMETER).
- "RESET" command.

**ENGLISH**

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## ⚠ IMPORTANT NOTES ⚠

Read this instruction manual thoroughly and keep it in a safe place for future reference. The manufacturer reserves the right to make any technical and stylistic changes deemed necessary without prior notice.

**Metal walls and cupboards between the actuator and the transmitter (thermostat and/or timer thermostat) may affect the proper functioning of the system. This system is also incompatible with other items of radio equipment that operate on the same frequency (868.35 MHz) on a permanent transmission basis.**

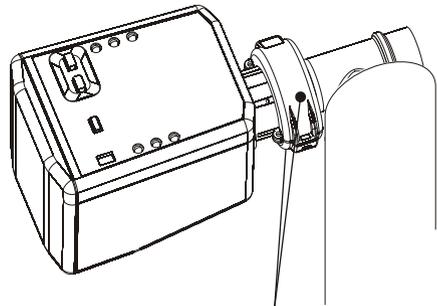
**IMPORTANT! When the installer finishes installing and programming the electronic actuator, a KEYPAD LOCK activates to prevent the user accidentally modifying actuator settings and compromising the security of the system. The KEYPAD LOCK does not prevent you performing the user operations described in this manual.**

**The installer can also choose to fit the actuator with various anti-tamper devices:**

### **Ring nut lock collar**

This collar is fitted over the ring nut that secures the actuator to the radiator valve.

The plastic parts of the lock collar have interlocking teeth that stop the ring nut being unscrewed and that break if forced.

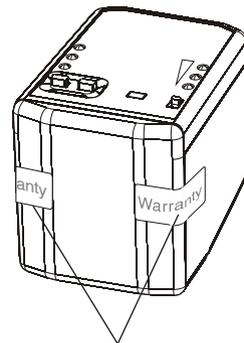


Ring nut lock collar

### **Anti-tamper seals (Warranty)**

These labels are applied between the battery compartment and actuator body.

**If these labels are fitted, all servicing, including battery replacement, MUST BE PERFORMED BY AUTHORISED PERSONNEL.**



Battery compartment anti-tamper seals

# 1 - INSTRUCTIONS FOR THE USER

## 1.1 - SIGNALS AND COMMANDS LEGEND

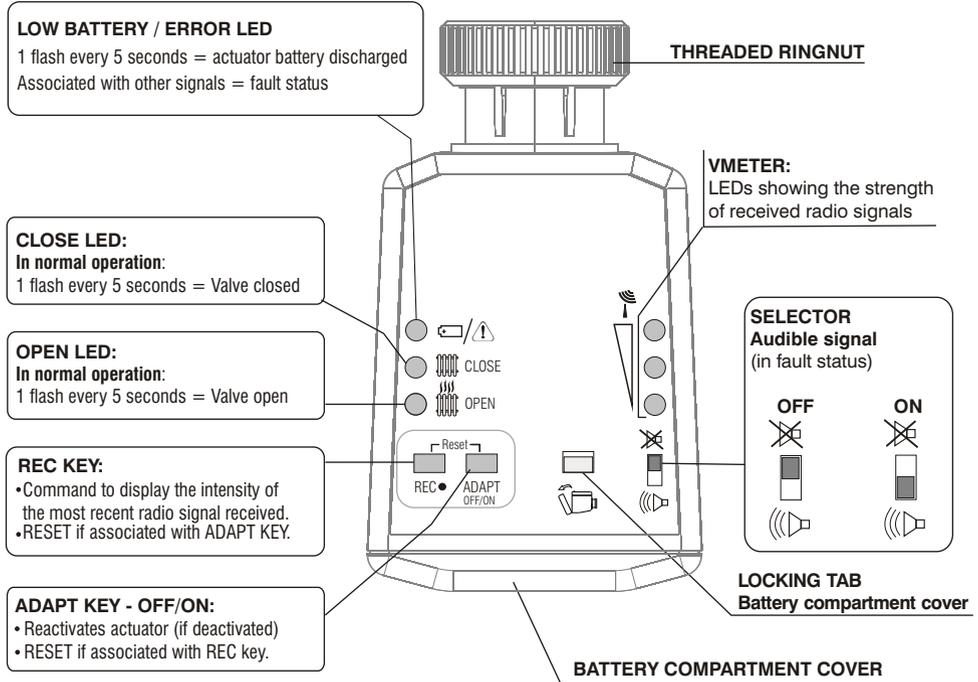


Fig. 1

## Explanation of the LED and audible signals

LED	Appearance of LED signals
	Steadily off
	flashing (t on = 50 ms) every 3 seconds
	flashing (t on = 50 ms) every 1/2 second
	flashing (t on = t off) every second
	1 prolonged impulse (duration indicated on a case by-case basis)
	Steadily illuminated

Audible signals	
	n° s
Short beep	Long beep

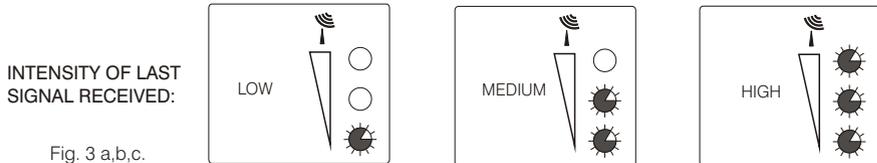
key controls	
key pressed	key not pressed

Fig. 2

## 1.2 - CHECKING THE STRENGTH OF THE RECEIVED RADIO SIGNAL - VMETER

The strength of the most recent radio signal received can be checked in **"normal operation"** (the last signal is always stored):

- press the **"REC" key** and hold it down for approximately 2 seconds before releasing it: the **VMETER LEDs** will display the strength of the last signal received for 3 seconds.



## 1.3 - NORMAL OPERATION

The transmitter (thermostat or chronothermostat) controls thermoregulation and sends commands and control signals to the actuator, which implements them.

**IMPORTANT! When the transmitter sends a radio signal to open the valve, the open command is implemented after about 10 seconds. When the transmitter sends a signal to close the valve, the close command is implemented after a delay of 10 seconds or 5 minutes, as selected when the actuator was installed.**

The operational security of the control is assured by the dual transmission of commands, a short time apart, and by an efficient self-diagnostic system.

- "CLOSE" LED:** 1 short flash at 5 seconds intervals indicates valve closed status. Rapid flashing shows that the valve is closing
- "OPEN" LED:** 1 short flash at 5 seconds intervals indicates valve open status. Rapid flashing shows that the valve is opening.
- VMETER LEDs:** brief illumination of 1, 2 or all the LEDs at each radio signal received.

### Transmitter in OFF status

If the transmitter is set to **OFF** (system switched off) the actuator will assume the **"CLOSE"** position and will not perform thermoregulation functions.

In this status the actuator can perform the weekly descale procedure (heading 1.5), receive transmitter signals, and it retains any fault signals in the memory.

### Transmitter in SUMMER mode

If the transmitter is set to **SUMMER** mode the radiator valve will be closed.

In this status the actuator can perform the weekly descale procedure (heading 1.5), receive transmitter signals, and it retains any fault signals in the memory.

## 1.4 - RESET

If the actuator malfunctions, proceed as follows to perform a **RESET**:

- Hold down the **"REC"** and **"ADAPT"** keys simultaneously until all the **LEDs** illuminate together for 2 seconds while an audible tone is emitted.
- The actuator performs a self-test routine and maintains the all self-learning, adaptation, and valve closure delay settings in memory.

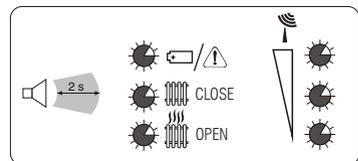


Fig. 4

**Note: Resetting the actuator does not cancel the KEYPAD LOCK**

## 1.5 - AUTOMATIC WEEKLY DESCALE OPERATION

To prevent harmful limescale deposits in the radiator valve, which could impair its correct operation, if the valve is not operated for one week a valve closing and opening cycle is activated automatically.

During movement of the valve the relative LED (OPEN or CLOSE) will flash.

This function is enabled also if the "ACTUATOR POWER-OFF FOR BATTERY POWER SAVING" function is active.

## 1.6 - ACTUATOR POWER-OFF FOR BATTERY POWER SAVING

(e.g. during the summer months)



**This operation is not possible if the keypad lock is active.**

To disable the keypad lock temporarily, remove the batteries, wait 5 seconds, then replace them.



**IMPORTANT!** In systems in which the actuator is protected by anti-tamper seals between the battery compartment cover and actuator body, the actuator must only be deactivated by authorised personnel.

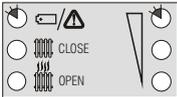
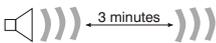
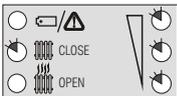
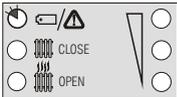
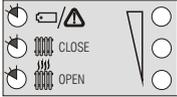
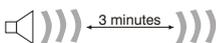
Press the **"ADAPT" key** and hold it down for 10 seconds; a series of short beeps will be emitted to indicate that the device is about to be powered off; hold down the key for a further 3 seconds until you hear a long beep to confirm that it has been powered off.

The radiator is CLOSED and the receiver is disabled: from this time on the actuator can only perform the weekly automatic descale operation. In addition, in this condition only the low battery warning signal is available.

To restore normal operation (EVEN WITH THE KEYPAD LOCK ACTIVATED) hold down the **"ADAPT" key** for 10 seconds: all the LEDs will illuminate (self test) and the actuator is reactivated.

## 1.7 - FAULT OR ANOMALY SIGNALS

**IMPORTANT:** in the case of fault or anomaly signals you can activate or deactivate the audible tone by means of the selector switch on the front of the actuator.

ANOMALY TYPE	VALVE	LED SIGNAL	AUDIBLE SIGNALS (if relative selector is enabled)	SOLUTION
Transmitter battery low	Operating	every 5 seconds 		Replace the batteries in the transmitter (thermostat or timer thermostat)
No transmitter signals > 30'	Closed	every 5 seconds 		Make sure that the transmitter is switched on.
Actuator battery low	Operating	every 5 seconds 		Replace the batteries in the actuator (see section 1.8).
Actuator no longer adapted	Blocked	every 5 seconds 		Reset the actuator.

## IMPORTANT!

If you have followed all the troubleshooting steps (if authorised to do so) but the error condition remains, contact your installer or system service centre.

## 1.8 - FITTING AND CHANGING THE BATTERIES

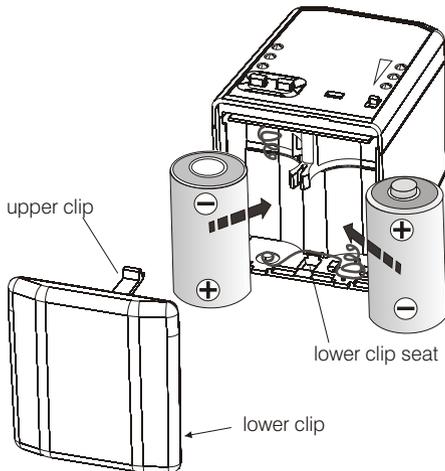


**IMPORTANT!** In systems in which the actuator is protected by anti-tamper seals between the battery compartment cover and actuator body, the batteries must only be replaced by authorised personnel.

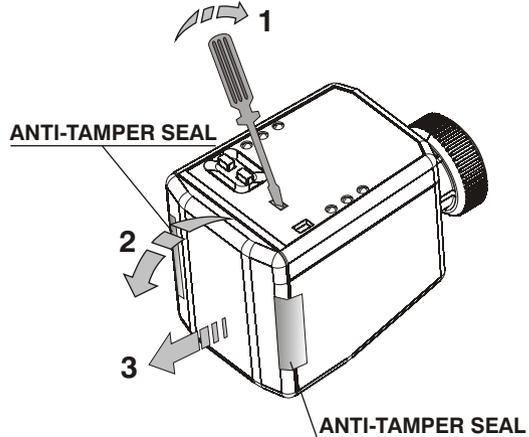
With the aid of a screwdriver release the upper clip of cover (1), rotate cover (2) and remove it (3).



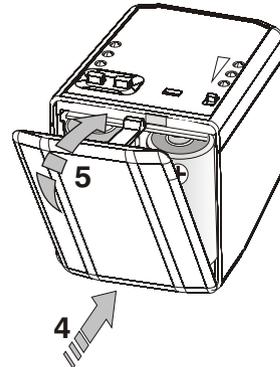
Spent batteries must be discarded in specific sorted waste collection containers or otherwise disposed of in compliance with environmental legislation.



Close the battery compartment by fitting the cover: first fit the lower clip into its seat (4) and then close the cover, pressing it until the upper clip (5) clicks into place.



Use 2 1,5V MN1400 alkaline batteries - Size C (LR14) (**Duracell or Energizer batteries are recommended**) Fit the 2 batteries taking care to observe the polarity shown in the figure.



**IMPORTANT:** there are no time limits for the battery changing procedure. If the batteries are discharged or not present the device will anyway retain the following information: self-learning data, last position of the radiator valve detected and radiator valve adaptation data and the valve closure delay setting made when the actuator was activated.

When the batteries are refitted the product starts a self-test routine in which all the LEDs are illuminated simultaneously and a 2-second beep is emitted. The valve actuator maintains the setting that was active before power off.



**WARNING:** after the actuator **low batteries signal** (see chapter 1.7), when the battery voltage drops further until reaching a factory-set value, **the device automatically assumes the closed position and all the functions and indications are disabled** (actuator OFF). **The actuator remains switched off until the new batteries are fitted** (closure of the radiator valve and actuator power-off occurs approximately 15 days after the first appearance of the low batteries indication).



**Contact details of installer of system service centre**