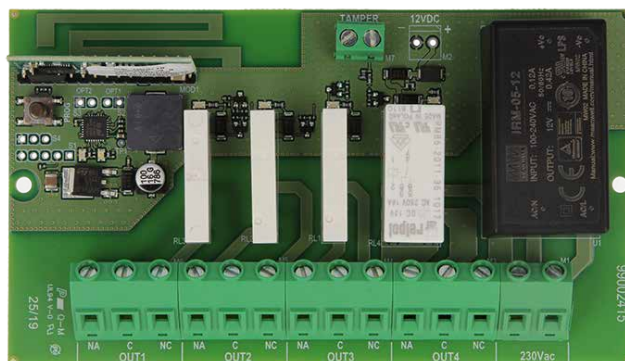


AT42K

NG-TRX wireless actuator with 1 × 16 A relay output and 3 × 6 A relay outputs



Addressee for this information: User | Installer

1 DESCRIPTION

AT42K is a wireless actuator that repeats the status of 4 outputs of the unit to which it is connected.

Note: on control units that manage less than 4 outputs, the number of outputs that AT42K can repeat will vary accordingly.

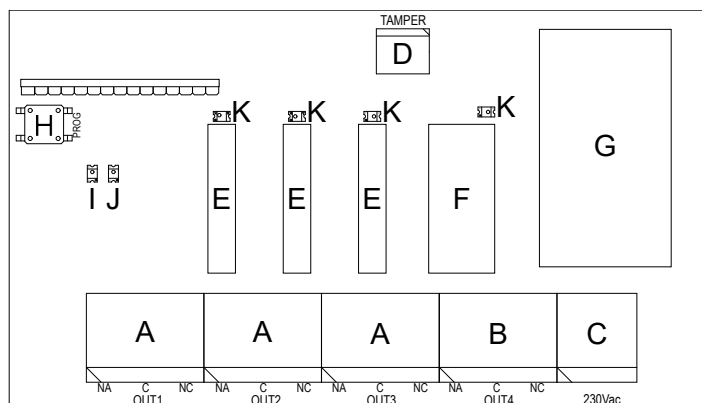
Can be programmed using the BrowserOne software. LEDs indicate outputs status, power supply status and setup status.

A tamper terminal allows wiring protections against box opening and removal from wall.

AT42K is compatible with devices that use the NG-TRX protocol, such as VIDOMO2K and GATEWAY2K.

Control unit	Firmware version
VILLEGGIO NG-TRX series	8.6.6 or above
PREGIO series	3.0.2 or above
PROXIMA series	1.0.2 or above

2 PCB



- A** Outputs 1–3 with electro-mechanical relays, max current 6 A
- B** Output 4 with electro-mechanical relays, max current 16 A
- C** Power input 230 Vac
- D** Tamper input
- E** Relay 6 A (outputs 1–3)
- F** Relay 16 A (output 4)
- G** Transformer
- H** Setup button
- I** Learning LED indicator
- J** Device status LED
- K** Outputs status LED

3 TECHNICAL DATA

Model		AT42K	
General features			
Operating voltage	Power supply	230 ±10%	Vac
	Frequency	50	Hz
Consumption at power voltage	Idle mode	80	mA
	Wireless range	nominal	1000 (1)
	maximum	2000 (1)	m
Transmission frequencies		868.120; 868.820; 869.525	
Max power in transmission mode		25	mW
Number of supported outputs (max)		4	
Dimensions		H 121 × W 167 × D 79,5	mm
Weight		130	g
Protection class		IP65	
Environmental class		II (general, indoor)	
Working temperature		-10 ÷ +55	°C
Humidity		95%	

(1) Ranges refer to the reception of 99% of the transmitted packets, with the devices in open field at 1.5 m height from the ground, respectively without and with the antenna oriented in the best direction.

Relay outputs have the following features:

6 A relay outputs			
ΔV_{MAX}	direct current	28	V
	alternate current	230	V
Max power		1000	W
Max load	resistive load @ 28 V _{DC} max	6	A
	resistive load @ 230 V _{AC}	6	A
Expected life	with 6 A load	6×10 ⁴	cycl.
	with 3 A load	3×10 ⁵	cycl.

16 A relay outputs			
ΔV_{MAX}	direct current	28	V
	alternate current	230	V
Max power		3000	W
Max load	resistive load @ 28 V _{DC} max	16	A
	resistive load @ 230 V _{AC}	16	A
Expected life	with 16 A load	10 ⁵	cycl.
	with 8 A load	5×10 ⁶	cycl.

Note: the use of a non resistive load may generate pulsed currents beyond the maximum value allowed by outputs, even with an average power consumption greatly below the value stated for the same outputs.

Parts supplied:

- technical manual

4 PRECAUTIONS BEFORE DEVICE MOUNTING

! General warnings are at the end of this manual.

! The electronic board of the detector may be damaged by electrostatic discharges. The installer must completely avoid any presence of electrostatic discharges.

- Install AT42K at 1 m height from the floor minimum.
- For AT42K we recommend surface mount, flush mount may affect its performance. Do not install it inside metal housings.

Environment limits

Please consider that the usage of some building materials may affect wireless signal range.

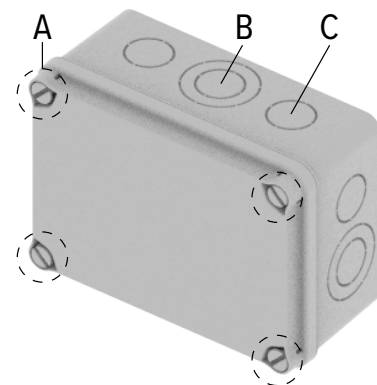
Example:

- plywood and honeycomb walls: 90-100% of full strength;
- solid / hollow brick walls 65-95% of full strength;
- concrete walls or metal sheet and plaster: 0-70% of full strength.

Metal gratings, large metal doors and gates, reinforced-concrete walls and mirrors may affect the operating range negatively.

5 DEVICE MOUNTING

- **Opening the housing**

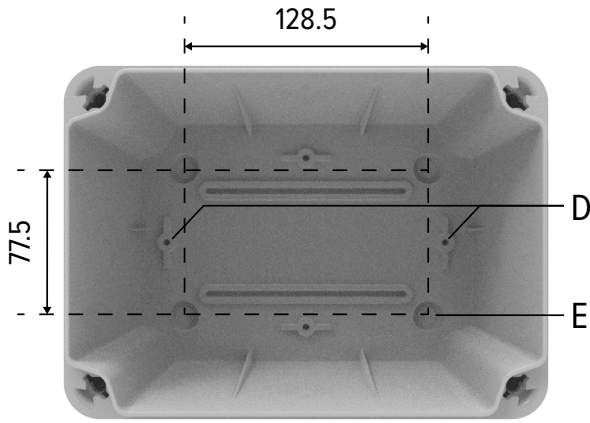


- unscrew cover fixing screw (A)
- remove the cover
- remove the material from pre-drilled holes (B and C) to let the cables inside the housing

Note: feed power cable through a separate hole, with no other cables

Note: keep power cables separate from low voltage cables

- **Base wall mount**



- fix the base to the installation surface using screws and inserts and central holes (E)
- fix the board to the base using holes D

- **Tamper protection**

From the mounting surface it is possible to install protections against opening and removal from wall.

- **Wirings**

Connect the terminals (see chapter 6 p. 3).

- **Device setup**

Proceed with device setup (see chapter 7 p. 4).

- **Closing the housing**

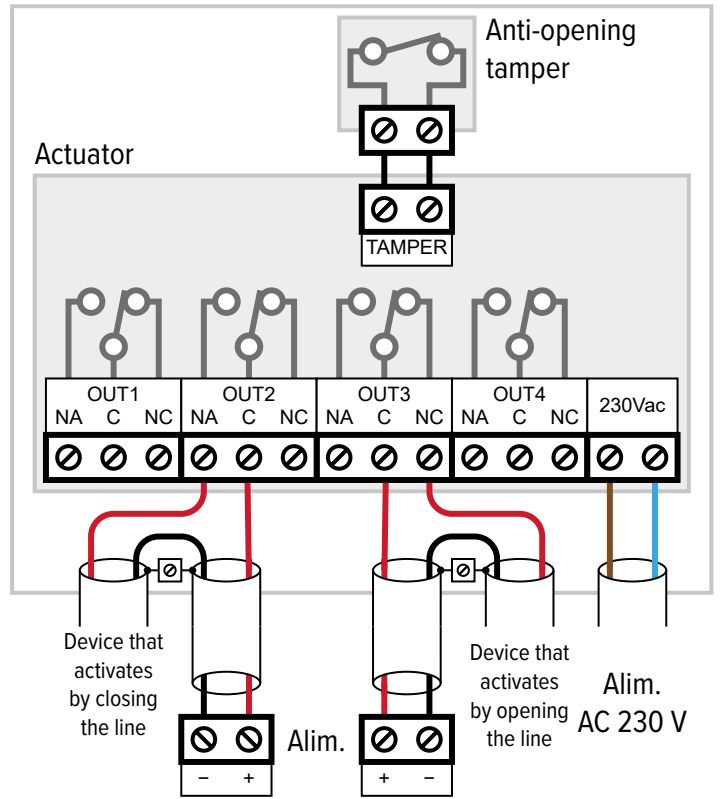
- position the cover on the base
- if a device against opening has been installed, verify the detection of the cover closing
- fix the cover with the screws

6 WIRINGS

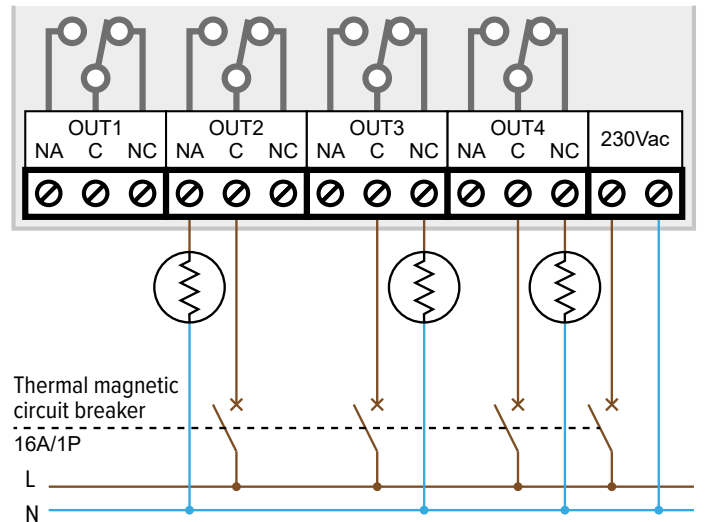
! AT42K is powered at 230 Vac and can control circuits working at 230 Vac. Make sure none of the circuits used for the installation is powered during installation or maintenance.

Use cables with the following section: $2 \times 0.75 \text{ mm}^2$ (power) + $2 \times 0.22 \text{ mm}^2$ (signal).

! Wire cables screens as indicated in the image.



The relay can work also with alternate current volts.



The example shows a magneto-thermal circuit breaker. In fact, it is possible that the controlled resistive loads are part of different lines and each has its circuit breaker.

- **Tamper input wiring**

- place a tamper against opening inside the box
- When the box contains also a tamper against removal, wire all tamper protections in series.

- **Power wiring**

- connect a 230Vac power cable

- **Outputs wiring**

These are non-supervised outputs each wired according to indications in the diagrams.

As an example, diagrams show an output wired with NO

contact and one wired NC contact.

All relays works with either direct current volts or alternate current volts.

For voltage and current use only maximum values indicated in chapter 1 p. 1.

7 STARTING THE DEVICE

7.1 Learning function

- on the actuator, press learning key until the yellow LED switches on
 - enter control unit setup menu
 - enter submenu TX ACTUATOR CODE
 - select the address to assign to the actuator
 - press the OK button of the keyboard
 - wait for the control unit to learn the actuator
- When the device is acknowledged, both the actuator and the unit will beep for confirmation.
- exit learning menu and confirm data saving when required

7.2 Setup via BrowserOne

AT42K can be set using BrowserOne 3.5.0 or above.

- load the latest module available for the control unit in use
- to start control unit connection select **Connect to...**
- select **Read setup** key to read control unit setup
- open or page according to control unit model
- select the grid row corresponding to AT42K
- select or tab according to control unit model

When setup is finished:

- to write the setup to control unit memory select **Write setup**

7.2.1 Management

Peripheral control

- set actuator name
- to delete an actuator from control unit memory press **Delete actuator**

General management

To change actuator code:

- press **Generate siren/actuator code again**
- to write the setup to control unit memory select **Write setup**
- repeat learning procedure (see chapter 7.1 p. 4)
- select **Read setup** key to read control unit setup

7.2.2 NG-TRX options

Use this section to set actuator parameters.

- ▼ **Supervision interval**
Set the interval for transmissions used to verify the presence and the correct working of AT42K.
- ▼ **Delay anomaly supervision**
Select the box to delay the signals caused by lack of supervision for a time equal to 6 times the supervision

interval set.

- ▼ **Buzzer activation**
It allows selecting the activation events of AT42K built-in buzzer.
- ▼ **Associated outputs**
It allows selecting control unit outputs to be repeated by AT42K.
The four repeated outputs shall be consecutive: select the first one.
The area on the side shows the four selected outputs.
- ▼ **Outputs with automatic reset**
Select an output box so the correspondent output will go back to its original status after **Automatic Reset Timeout**.
- ▼ **Automatic Reset Timeout**
Select the interval after which the outputs selected in **Outputs with automatic reset** menu will reset (in millisecond.)
All outputs share the same timer.
- ▼ **Outputs idle condition**
It allows selecting the output NO (OFF, default) or NC (ON) status.
- ▼ **Upload default settings**
It reset all parameters of this section to default values.
- ▼ **Copy setup**
It memorises parameters of this section to copy them on another device.
- ▼ **Paste setup**
Set all parameters of this section to the values copied from a different device.


7.2.3 Outputs with back-to-idle timer

If the control unit output is programmed to activate and to subsequently go idle after a certain time (e.g. to control a rolling shutter):

- set the corresponding AT42K output to **Outputs with automatic reset**
- set for this output an **Automatic Reset Timeout** equal or slightly higher than the control unit output's back-to-idle timer

This way, the well-timed return to the idle condition of the actuator's output will happen even in case of a radio communication delay, anomaly or fault.

8 OPERATING MODE

 *A disconnection from the power supply will set all outputs to the idle status as long as the disconnection lasts.*

When restoring the power supply, all outputs will align to the current status of the control unit.

8.1 LED indications

LED	OFF	Blinking	Steady light
Learning (yellow)	Standard operating mode	Power on in progress	Learning in progress
Device status (blue)	Device OFF	Wireless transmission in progress	Device ON
Outputs status (yellow)	Output not active	-	Output active

Outputs activation

Outputs status LEDs will activate when the corresponding output gets activated.

9 MAINTENANCE



9.1 Parts cleaning

Clean the product with a damp cloth, using non-corrosive cleansers suitable for electronic appliances.

Do not spray any liquid substance directly on the case.

EU DECLARATION OF CONFORMITY

Hereby, EL.MO. Spa declares that the radio equipment AT42K is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: www.elmospa.com – registration is quick and easy.



GENERAL WARNINGS



This device has been designed, built and tested with the utmost care and attention, adopting test and inspection procedures in compliance with current legislation. Full compliance of the working specifications is only achieved in the event the device is used solely for its intended purpose, namely:

NG-TRX wireless actuator with 1 × 16 A relay output and 3 × 6 A relay outputs.

The device is not intended for any use other than the above and hence its correct functioning in such cases cannot be assured. Consequently, any use of the manual in your possession for any purpose other than those for which it was compiled - namely for the purpose of explaining the product's technical features and operating procedures - is strictly prohibited.

Production processes are closely monitored in order to prevent faults and malfunctions. However, the components adopted are subject to an extremely modest percentage of faults, which is nonetheless the case with any electronic or mechanical product.

Given the intended use of this item (protection of property and people), we invite you to adapt the level of protection offered by the system to suit the actual situation of risk (allowing for the possibility of impaired system operation due to faults or other problems), while reminding you that there are specific standards for the design and production of systems intended for this kind of application.

We hereby advise you (the system's operator) to see that the system receives regular routine maintenance, at least in accordance with the provisions of current legislation, and also check on as regular a basis as the risk involved requires that the system in question is operating properly, with particular reference to the control unit, sensors, sounders, dialler(s) and any other device connected. You must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Work involved in the design, installation and maintenance of systems incorporating this product should be performed only by personnel with suitable skills and knowledge required to work safely so as to prevent any accidents. It is vital that systems be installed in accordance with current legislation. The internal parts of certain equipment are connected to the mains and therefore there is a risk of electrocution when maintenance work is performed inside without first disconnecting the primary and emergency power supplies. Certain products include batteries, rechargeable or otherwise, as an emergency backup power supply.

If connected incorrectly, they may cause damage to the product or property, and may endanger the operator (explosion and fire).

INSTALLER WARNINGS



Comply strictly with current standards governing the installation of electrical systems and security systems, and with the manufacturer's directions given in the manuals supplied with the products.

Provide the user with full information on using the system installed and on its limitations, pointing out that there are different levels of security performance that will need to suit the user's requirements within the constraints of the specific applicable standards. See that the user looks through the warnings given herein.

Work involved in the design, installation and maintenance of systems incorporating this product should be performed only by personnel with suitable skills and knowledge required to work safely so as to prevent any accidents. It is vital that systems be installed in accordance with current legislation. The internal parts of certain equipment are connected to the mains and therefore there is a risk of electrocution when maintenance work is performed inside without first disconnecting the primary and emergency power supplies. Certain products include batteries, rechargeable or otherwise, as an emergency backup power supply. If connected incorrectly, they may cause damage to the product or property, and may endanger the operator (explosion and fire).

USER WARNINGS



Check the system's operation thoroughly at regular intervals, making sure the equipment can be armed and disarmed properly.

Make sure the system receives proper routine maintenance, employing the services of specialist personnel who meet the requirements prescribed by current regulations.

Ask your installer to check that the system suits changing operating conditions (e.g. changes in the extent of the areas to be protected, change in access methods, etc...)

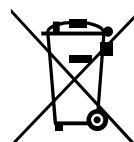
MAIN SAFETY RULES

The use of the device is forbidden for children and unassisted disabled individuals.

Do not touch the device when bare footed, or with wet body parts. Do not directly spray or throw water on the device.

Do not pull, remove or twist the electric cables protruding from the device even if the same is disconnected from the power source.

DISPOSAL WARNINGS



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In accordance with Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), please be advised that the EEE was placed on the market after 13 August 2005 and must be disposed of separately from normal household waste.