WIRELESS ROUTER
type **VIT02**
Instruction Manual 05-VIT02-12-12

GENERAL DESCRIPTION

The router is designated to expand the range of the Fire Alarm System VIT, transmitting the signals between the fire detectors and the other routers or the Control Panel in the system. Communication between them is based on a high-frequency radio emission. The router has one monitored output for fire condition, which is intended to control external for the system devices. If the output is assigned to a zone, then on the relative fire phase, the output is activated and the router switches to "Fire condition" Mode.

The router consists of power supply unit, attached to a metal frame (pos.3, fig.2), and a radio module with external antenna (pos.2, fig.2), mounted into a plastic box with base (pos.5, fig.2) and cover (pos.7, fig.2). Under the radio module, on the right side, are located the monitored output terminals, for connection with external devices (pos.2, fig.3).

Built indication, green (pos.1, fig.1), yellow (pos.2, fig.1) and red (pos.3, fig.1) LED provides status information to the router:

- "Network Connection" Mode – Red and yellow LEDs are lights up continuously. The router scans all frequency channels. Upon recognition of a Control Panel or another router, it submits a request for connection to the network. If the request is confirmed, the router is registered in the configuration of the Control Panel and switches to "Service" Mode. The router may switch back to "Network Connection" Mode in case of failed radio connection between it and another router (The Fire Control Panel);

- "Service" Mode – Green LED, flashing up with different frequency, proportional to the established quality of the connection with the Control Panel or another router. Upon significant attenuation of the radio signal, the green LED changes to red flashing up LED. This mode checks the quality of the strength signal between the router and the Control Panel or another router. From the menu of the panel can be adjusted and reviewed the network parameters of the router;

- "Duty" Mode – Green LED lights up continuously. The router periodically checks the status of the mains supply and the back up battery supply and sends the status to the Control Panel;

- "Fire condition" Mode – Red LED lights up continuously and output is activated. The router remains in that condition until it receives a fire restart command from the Control Panel and deactivates the output;

- "Fault condition" Mode – Yellow LED lights up continuously. The router keeps its network functions, but there exist one of the following fault conditions, displayed on the screen of the Control Panel:

  • Interrupted mains or back up battery supply;
  • Fault condition in output for power supply (24V);
  • Fault in monitored output - short circuit or interruption;

- "Registration" Mode – On the Control Panel is displayed the status of the relative router. This mode is autonomous for the router and operates in combination with "Service" mode mentioned above. It allows Enable/Disable the registration of new devices through the router and on the same time set router in "Service" mode;

TECHNICAL DATA

Supply voltage:
- • Mains supply — 220/230V (50/60Hz)
- • Back up battery
  - - Back up battery type — lead, gel electrolyte
  - - Nominal voltage/capacity C_{20} of the back up battery — 12 V/1,2 Ah
  - - Discharged battery voltage — 9 V DC
  - - Charge battery voltage — 14 V DC
  - - Consumption on back up battery supply in Duty Mode peak value at 12 V — < 60mA

Power supply output — 1 pc.
- • Voltage — $(24\ ^{+2}/_{-4})$ V DC
- • Maximum current value — 400 mA

Monitored output for fire condition: — 1 pc.
- • Type — potential
- • Electrical characteristics — $(24\ ^{+2}/_{-4})$ V DC
- • Maximum current value — 400 mA

Indication of the registered events:
- • Light indication — LED (yellow, green and red LED)

Cross section of the connecting wires — $(0,8 – 1,5)\ mm^2$
Response time — 30 sec.
Degree of protection — IP50
Operating temperature range — minus $10^{\circ}C$ до $55^{\circ}C$
Relative humidity resistance (no condensation) — ≤ 95%
Overall dimensions (excluding the antenna) (width / depth /height) — 130x170x80 mm
Weight, excluding the back up batteries, not more than — 0,400 kg

Fig.1

MOUNTING AND PUT INTO OPERATION

The device is mounted on a wall indoors and the distance from the tip of the antenna to the ceiling must be at least 20 cm.

1. Manufacturer recommendations
1.1 Routers should not be installed in locations distant by more than one barrier (wall) from the Control Panel or another routers. Exceptions to this rule are permitted in approved working capacity of the team.
1.2. In premises, where there is other devices operating in the frequency range of 2.4GHz, it is necessary to scan and detect the channel of operation of these devices. This ensures that the Fire Alarm system we use will occupy a channel that will be shared only by its devices.
2. Evaluation of the signal strength
Before proceeding to installation of the router, the place chosen by the installer needs to be carefully evaluated for the signal strength depending on the previous router or the Control Panel. The "Mainstay" of the wireless fire alarm system is build by the Control panel VIT 01 and router VIT 02.
Evaluation of the signal strength of router shall be performed as follows:
2.1. Provide a Control Panel VIT01 or another router VIT02, connected to Control Panel VIT01.
2.2. Set the device into Mode "Registration" (See Instruction Manual of VIT01).
2.3. Join the antenna.
2.4. Dismantle the cover (pos.7, fig.2) from the base (pos.5, fig.2) by developing the four screws (pos.1, fig.2). Fit the battery (pos.6, fig.2) and join the wires to the terminals thereof. Red wire to (+) and to blue (-) battery. Yellow LED lights (mains supply). The router booster scans all channels. Allow registration of the control panel.
2.5. An assessment of the patency of the signal in the "Service" of the router to the installation site without the device is permanently mounted on the wall. This allows, if necessary, to choose a suitable place for installation.
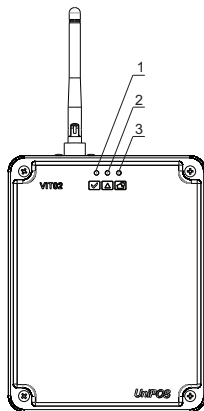
3. Installation
3.1. If necessary dismantle the cover (pos.7, fig.2) from the base (pos.5, fig.2) by developing the four screws (pos.1, fig.2).
3.2. Remove the battery (pos.6, fig.2) and remove the antenna (pos.2, fig.2).
3.3. Dismantle the chassis (pos.3, fig.2) from the base (pos.5, fig.2) by developing the four screws (pos.4, fig.2).
3.4. Four drilling holes in the bottom of the base (the exempt purpose for seats) for mounting to the wall.
3.5. Based on drill hole to bring the mains power supply cables and output.
3.6. The wires are passed inside the box. Basis (pos.5, fig.2) is attached to the wall using appropriate fixings, keeping the place chosen in accordance with the detailed design and the assessment of patency of the signal.
3.7. The base (pos.5, fig.2) is mounted chassis - kit (pos.3, fig.2) by four screws (pos.4, fig.2)
3.8. Remove the fuse (pos.1, fig.3) and join the wires of the mains power supply and monitored output (pos.2, fig.3) (where the output will be used). When delivered, the controllable output terminals are terminated with 5.6kΩ resistor.
3.9. Mount the antenna (pos.2, fig.2).
3.10. Fit the battery (pos.6, fig.2) and join the wires to the terminals thereof. Red wire to (+) and to blue (-) battery.
3.11. Place the fuse (pos.1, fig.3). The device is powered from power supply.
3.12. Mount the cover (pos.7, fig.2) to the base (pos.5, fig.2) by four screws (pos.1, fig.2).
3.13. Change the mode of router in mode "Duty" (see Instruction Manual VIT 01).
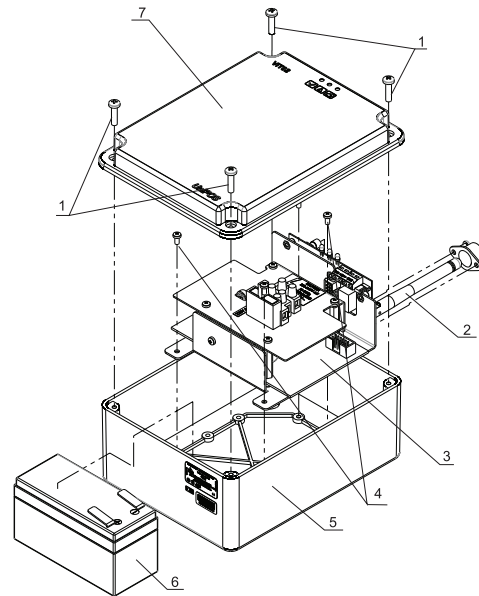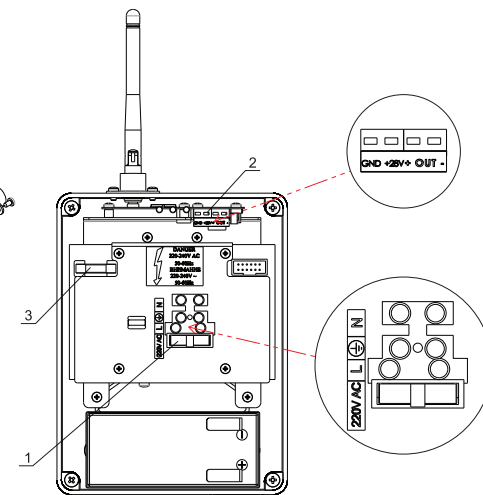

Fig.2

Fig.3

TESTING
The router is to be tested after installation as a part of the Fire Alarm System of the premise or after service schedule in the following sequence:
1. Check the activation of the output by a command from the Control Panel – up to 5 seconds the red LED will flash up and the output will be activated. Up to 15 seconds after the command is send from the panel, the output should go back to its initial condition and red LED turn off.
2. Check the perception of fault conditions in the power supply – interrupted mains or back up battery supply. Yellow LED must be illuminated up to 20 sec. After the interruption is registered, a message for fault condition will be sent to the panel. Status and the quality of the connection of the router can be monitored from the menu of the Control Panel.

SERVICE SCHEDULE
Service schedule shall be performed by an authorized person and includes:
1. Inspection for visible physical damage — – monthly.
2. Satisfactory operation test in real conditions of activating the output for fire condition — – monthly.

CONTENTS OF DELIVERY
Router VIT02 — - 1 pc.
Antenna — - 1 pc.
Instruction manual — - 1 pc.
Fuse 2A — - 1 pc.
Fuse 4A — - 1 pc.
Resistor 5.6kΩ/0.25W — - 1 pc.
Jumper 2.54mm — - 1 pc.

WARRANTY OBLIGATIONS
The warranty period is 12 months from the date of the purchase.
The manufacturer guarantees the normal operation of the product, providing that the requirements set at the Instruction Manual herein have been observed.
The manufacturer does not bear warranty liabilities for damages caused through accidental mechanical damage, misuse, adaptation of modification after production. The manufacturer bears warranty liabilities of the product caused through manufacturer's fault only.