ritm
SECURITY SOLUTIONS

Control panels

# Contact GSM-16
# Contact GSM-16 3G

## Data sheet

### Device identification number

## 1. General Information

Contact GSM-16 (3G) is designed to be operated as a control panel that can be used to control both Ritm radio channel detectors and third party wired detectors.

Arming and disarming of the protection system may be done using:

- wired and wireless keypads produced by Ritm;
- radio key fobs produced by Ritm;
- TM keys;
- monitoring software GEO.RITM (remotely).

Event messages are transmitted to the monitoring software, the monitoring station or a personal phone.

## 2. Manufacturer

**RITM Company**
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St Petersburg, Russia
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www.ritm.ru/en world@ritm.ru

## 3. Package Contents

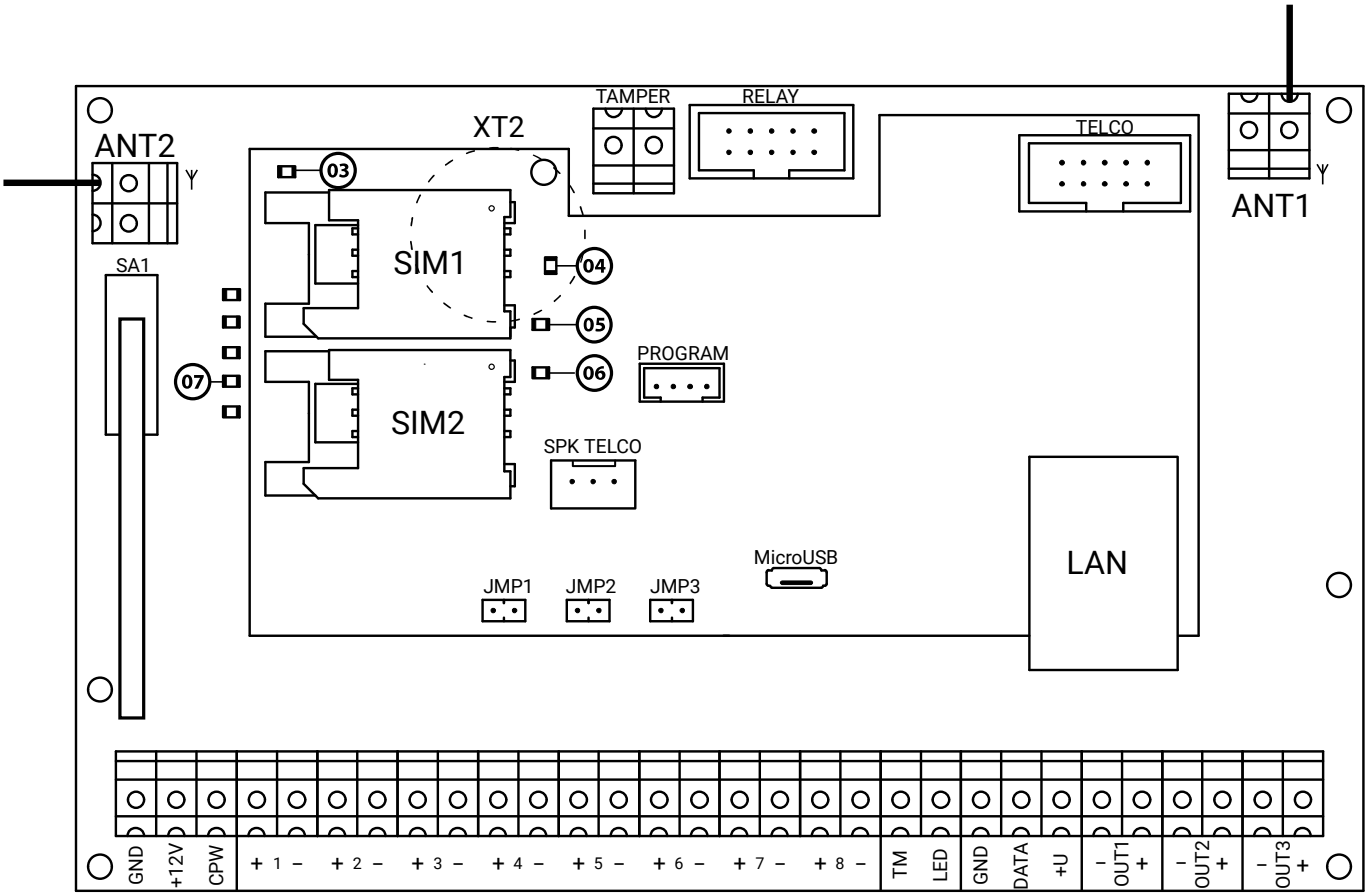
| | |
|---|---|
| Control panel Contact GSM-16 or Contact GSM-16 3G | 1 piece |
| GSM antenna | 1 piece |
| CR2032 battery | 1 piece |
| Radio channel whip antenna 433 MHz, 174 mm | 2 pcs |
| Output resistor, 5.1 kΩ | 10 pcs |
| Output resistor, 8.2 kΩ | 10 pcs |
| Output resistor, 2.4 kΩ | 10 pcs |
| Output resistor, 1 kΩ | 5 pcs |
| Output diode | 5 pcs |
| Board for connection of actuation devices SCK16-1 | 3 pcs |
| Fastening kit | 1 kit |
| Data sheet | 1 piece |
| Package | 1 piece |

## 4. Technical Specifications

| Specification | Value |
|---|---|
| GSM, MHz | 850/900/1800/1900<br>WCDMA 900/2100[1] |
| Communication channels for sending messages to a monitoring station | GSM network (GPRS, CSD, text messaging ContactID, text message to owner, DTMF[2]),<br>Landline phone network (PSTN)[3],<br>Ethernet |
| Communication channels in a network for sending messages to a mobile phone | Text messaging |
| Status monitoring of communication lines (on the monitoring station side) | + |
| Frequency range of a channel radio, MHz | 433.075-434.775 |
| Number of channels in the range, pcs | 7 |
| Signal encryption in the radio channel | + |
| Remote configuration via CSD channel | + |
| Transmitter radiated power, W | no more than 0.01 |
| Number of radio channel detectors in the radio system, pcs | up to 32 |
| Number of independent protection areas, pcs | up to 16 |
| Monitoring period of signaling device operation in radio system, min | Configurable |
| Maximum number of radio key fobs, pcs | 32 |
| Maximum number of wired keyboards, pcs | 5 |
| Maximum number of radio channel keyboards, pcs | 5 |
| Maximum number of TM keys, pcs | 128 |
| Outputs for connection of actuation devices with monitoring | 3 outputs, 12 V 450 mA |
| Event log, entries | 32768 |
| Supply voltage, V | DC 12±15% |
| Current consumption in standby mode, A | When using resistive ribbon cables not exceeding 0.45. When using ‘dry contact’ ribbon cables in the normally closed mode not exceeding 1 |
| Max. absorbed current, A | 1,5 |
| Main power supply availability monitoring | + |
| Power source[4], V | 12 |
| Battery discharge monitoring | + |
| Dimensions, mm | 160×100 |
| Weight, g | 180 |
| Operating temperature range, °C | −30...+50 |

[1] Only for Contact GSM-16 3G.
[2] Only for Contact GSM-16.
[3] Only while connecting a “Wired modem K16”.
[4] The device will switch on when a voltage is higher than 12 V (factory settings). You can change it in configuration software.

## 5. Designation of Elements




| Element | Designation |
|---|---|
| **CPW, +12V, GND** | Power supply terminals. Connect the wire from the CPW terminal to the secondary winding of the power source transformer. |
| **1…8** | Terminals for connecting wired input loops. Up to 8 “dry contact” wired input loops may be connected to the control panel (magnetic contact sensor, tamper, panic button, etc.) or 16 resistive wired input loops. |
| **TM, LED, GND** | Terminals for connection a TM/Mifare reader and/or a temperature sensor with 1-Wire interface:<br>• **TM** — input (positive) for connection of TM/Mifare signaling wire and temperature sensor yellow wire;<br>• **LED** — output for connection of Touch Memory indicator;<br>• **GND** — common for connection of Touch Memory reader black and blue (and/or black-blue) wire and temperature sensor black and red wire. |
| **GND, DATA, +U** | Terminals for connection of an external keypad and/or a ‘smart relay card’.<br>• **DATA**: A signal (output) for connection of a keyboard and/or relay card;<br>• **+U**: A (positive) output for powering a keyboard and/or relay card;<br>• **GND**: Common. |
| **OUT1, OUT2, OUT3** | Output terminals with bare collectors for connection of actuation devices (sirens, relays, etc.). |
| **SIM1, SIM2** | SIM-card holders. |
| **TAMPER** | Input terminal for external tamper. |

| | |
|---|---|
| **ANT1, ANT2** | Terminals for connecting radio channel antenna. |
| **LAN** | Terminal RJ-45 for connecting UTP patchcord. |
| **RELAY** | Terminal for relay card. |
| **MicroUSB** | Terminal for MicroUSB cable. |
| **TELCO** | Terminal for Contact LINE for data transmission via PSTN. |
| **SPK TELCO** | Terminal for Evaluation kit #2. |
| **PROGRAM** | 4-pin connector for configuration cable. |
| **JMP1, 2, 3** | Jumpers (JMP2 и JMP3 is not in use). |
| **RS-485** | Terminal for RS-485 cable (is not in use). |
| **SA1** | Tamper. |
| **XT2** | Terminal for battery. |

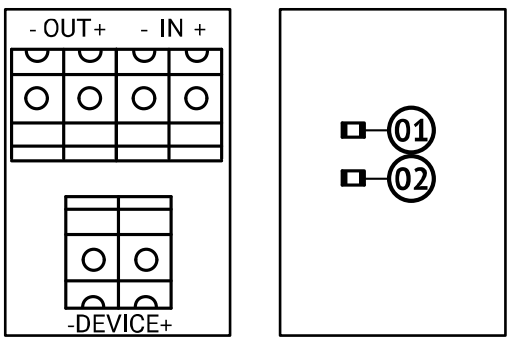
**Insertion of SIM cards into the device should always be performed with the power off!**

## 6. Visual indication

| Indicator | State | Value |
|---|---|---|
| **03** | Blinks very frequently | The device is connected to the monitoring server. |
| | Blinks frequently | Registration in GSM network. |
| | Blinks slowly | The device modem has successfully registered in the GSM network. |
| | Off | The device modem is switched off. |
| **04** | Always on | External power available. |
| | Off | Modem inactive. |
| **05, 06** | On | SIM card used. |
| | Off | SIM card not used. |
| **07** | Alternately light up | External power available. |
| | On | Power level below 10.7 V. The device is in "sleep" mode. |
| | Off | The device is off. |

## 7. Boards for connection of actuation devices SCK16-1

Boards for connection of actuation devices SCK16-1 are designed for simplifying the installation process of actuation devices on the device (to the outputs OUT1, 2, 3). SCK16-1 boards are installed near the connected actuation device.




Side A Side B

1. Connect the device output OUT with the SCK16-1 board input IN.
2. Connect the actuation device to the DEVICE output.

For the correct operation of the siren connect to the DEVICE output a 1 kΩ resistor in parallel with the siren.

3. Connect other actuation devices (of the SCK16-1 board) to the SCK16-1 board output OUT in parallel.

| Indicator | Designation |
|---|---|
| **01**<br>Red | The monitored output of the device is on, and the DEVICE terminals are energized. |
| **02**<br>Green | The monitored output of the device is off, and the DEVICE terminals are de-energized. |

## 8. Configuration and Getting Ready for Operation

1. To configure the device, connect to it using the most suitable way:
   - **Desktop configuration**. To connect use a Micro-USB cable and the configuration software ritm.conf or Ritm Configure.
   - **Remote configuration via digital GSM**[5]. To connect use a GSM CSD channel and the configuration software ritm.conf or Ritm Configure.
   - **Remote configuration via TCP/IP.** Using the GEO.RITM or RITM-Link software via a TCP/IP connection, if the used device modification features this setting and works in Online mode.

To use the configuration software ritm.conf or Ritm Configure download it from the website of the "Ritm" (www.ritm.ru/en) and install all the required drivers.

To connect via a digital CSD-channel make sure there is access to the digital data transmission service (CSD) and there are enough funds on the account of the SIM-card inserted into the device.

Remote configuration via CSD is only possible from the engineering phone numbers and only for device version without 3G.

2. Do not place the device in the vicinity of EMI sources, large metal objects and structures, power cable runs. The device installation location should have a strong GSM signal. We recommend configuring the device before it is installed on the site.
3. When using the main power source with voltage of less than 11.7 V, change settings in the "Device power" section of the device configuration software.
4. If necessary, insert the device into the enclosure (not supplied in the package).
5. Place the GSM antenna in a GSM reception area, where the signal is strong and stable enough.

To comply with electromagnetic compatibility (EMC), do not mount the GSM antenna next to the LAN connector of the device.

6. Connect circuits with actuation devices (sirens, displays) to terminals of the monitoring outputs OUT1–3.

[5] Only for Contact GSM-16.

7. If necessary, connect keyboards to the terminals DATA, GND, +U.
8. If necessary, connect the relay card to the RELAY connector.
9. If necessary, connect the TM/Mifare reader to the terminals TM, LED, GND.

Readers "Matrix-II" and "Matrix III" are not compatible with a wired temperature sensor and intelligent reader MIF0-1, developed by Ritm.

10. If necessary, connect the wired modem to a phone line using the TELCO connector.
11. If necessary, connect radio channel antennas to the terminals ANT1, ANT2.
12. Insert SIM cards into the device. Prior to inserting a SIM card into the device, insert it into a mobile phone. Turn off the PIN code entry feature, check availability of data links that are to be used, and check if the SIM card account balance is positive. Perform the same actions to the second SIM card (if used). Extract the SIM card from the phone and insert it into the SIM1 box (the second SIM card should be inserted into the SIM2 box). Insert SIM cards only when the device power is off.
13. Insert a CR2032 battery into the XT2 box.
14. Connect the power source to the terminals +12V, GND. Connect the wire from the CPW terminal to the secondary winding of the power source transformer. If the wire from the CPW terminal is not connected, the device does not monitor the main power (220 V). If the device is connected to a Ritm power supply, connect the wire from the CPW terminal to the CPW terminal on the power source board.
15. Turn on the power source.
16. Connect to the device using a MicroUSB/LAN cable or a CSD channel, and configure the device.
17. Add radio channel devices, wired keyboards, sensors, TM keys to the system using either of the two methods:
    - In the configuration software;
    - Using the jumper JMP1.
18. For more information on radio channel operating modes, please refer to device data sheets.
19. Close the enclosure cover (if available).

## 9. Control from your mobile device

The device supports remote control of areas (removal and arming) with the application Ritm Control (https://goo.gl/WZKj6z)[6]. Control is done using user codes that are defined in the program settings.

## 10. Maintenance and Safety Measures

At least once per month check SIM card accounts for funds.

All setup and maintenance activities applied to the device should be performed by duly qualified personnel.

[6] For sharing, the device and the mobile device must be on the same subnet.

## 11. Transportation and Storage

The device should be transported in packaging in closed vehicles. Storage premises should be free of current-conducting dust, acid and alkaline fumes, corrosive gases and gases harmful to insulation.

## 12. Manufacturer's Warranties

The manufacturer guarantees that the device complies to requirements of the technical specifications, provided the client ensures compliances to conditions of transportation, storage, installation and operation.

Although **the warranty period** is 12 months from the commissioning date, it may not exceed 18 months from the production date.

**The warranty storage period** is 6 months from the production date.

The warranty does not cover the battery.

The manufacturer shall not be responsible for quality of data links provided by GSM operators and Internet service providers.

The manufacturer reserves the right for modification of the device in any way that does not degrade its functional characteristics without prior notice.

## 13. Information on Claims

In case of a device failure or defect during the warranty period, please fill in a malfunction report specifying the dates of issue and commissioning of the device and nature of the defect and submit it to the manufacturer.