

# GPS tracker **Voyager 2N**

Data sheet

Device identification number

## 1. General Information

Voyager 2N is a GPS tracker (hereinafter referred to as the device) suitable for connection of external devices and is designed for:

- Fuel level monitoring;
- Downloading the on-board computer readings;
- Connection of intrusion sensors;
- Mechanism operation monitoring.

Designed for installation in vehicles or other mobile objects with the 12/24 V on-board supply.

## 2. Manufacturer

**RITM Company**  
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Energetikov avenue, building 30, block 8,  
St Petersburg, Russia  
Tel.: +7 911 795 02 02  
[www.ritm.ru/en](http://www.ritm.ru/en)    [world@ritm.ru](mailto:world@ritm.ru)

## 3. Package Contents

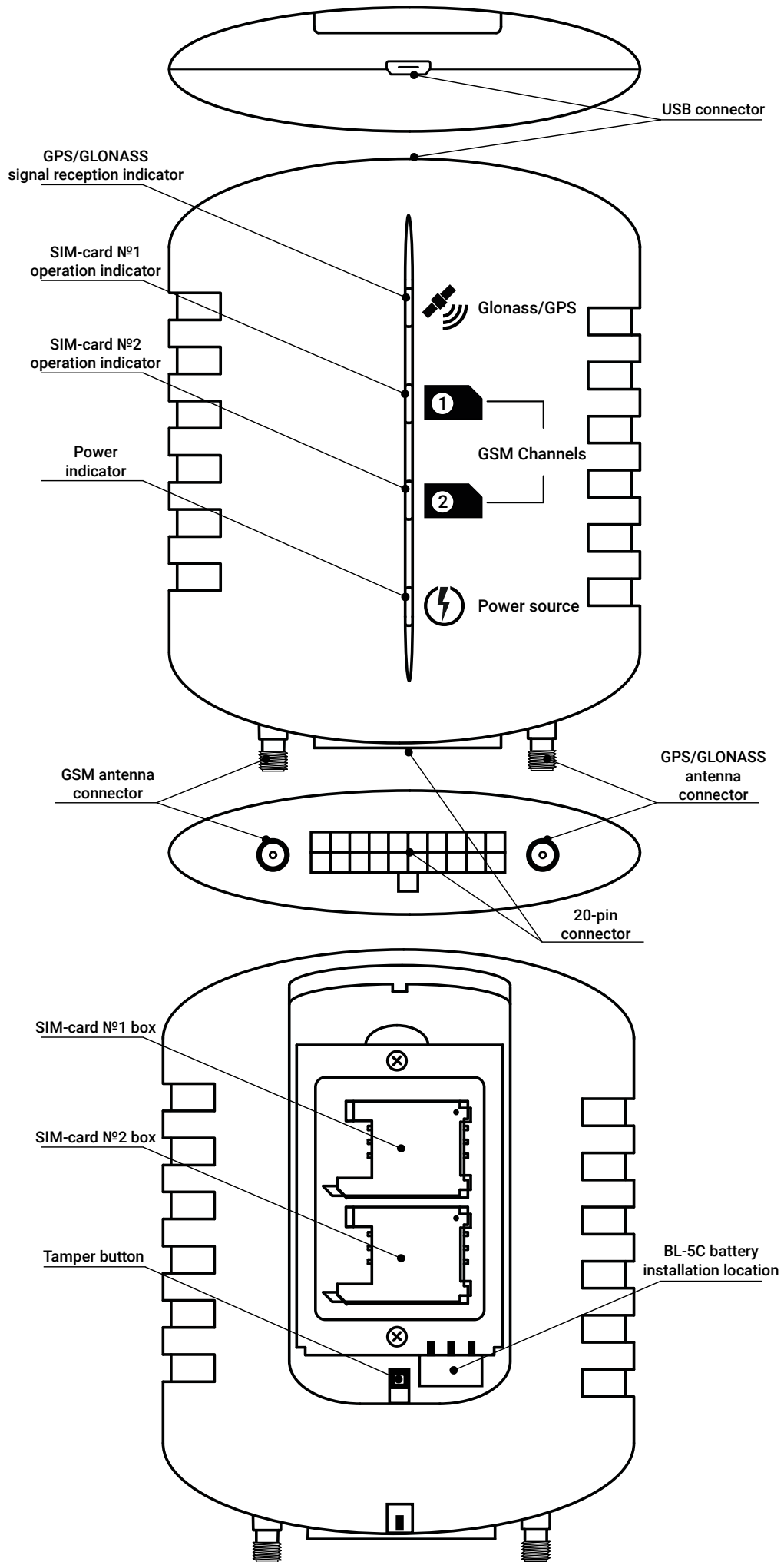
Voyager 2N GPS tracker	1 pc
Battery BL-5C	1 pc
GSM antenna	1 pc
GPS/GLONASS antenna	1 pc
Connection cable with 20-pin connector	1 pc
Fastening kit	1 kit
Data sheet	1 pc
Package	1 pc

#### 4. Technical Specifications

Parameter	Value
GPS	+
GLONASS	Optional
GPS/GLONASS antenna	External active
Enclosure tamper	+
Built-in motion sensor	+
Communication channels in the GSM network	CSD, GPRS
GSM antenna	External
EGTS protocol support	+
Configuring via SMS	+
SMS notification service	+
External indicators	"GPS/GLONASS Reception", "SIM1 Reception", "SIM2 Reception", "External Power"
Number of SIM cards installable, pcs	2
Non-volatile memory, MB	8
Non-volatile memory, No. of entries	150,000
Universal inputs (discrete/frequency/analog)	2
Discrete inputs	2
Outputs (about 1 A)	2
USB	1
CAN	1
RS232	1
RS485	1
TM	1
Control communications unit	1
Battery type	BL-5C
External supply, V	10-36
The average current consumption in "Online" mode, mA	120
Minimum current consumption in "sleep" mode, mA	30
Enclosure Protection Rating	IP52
Dimensions, mm	20×80×110
Weight, g	150
Operating temperature range, °C <sup>1</sup>	-40...+85

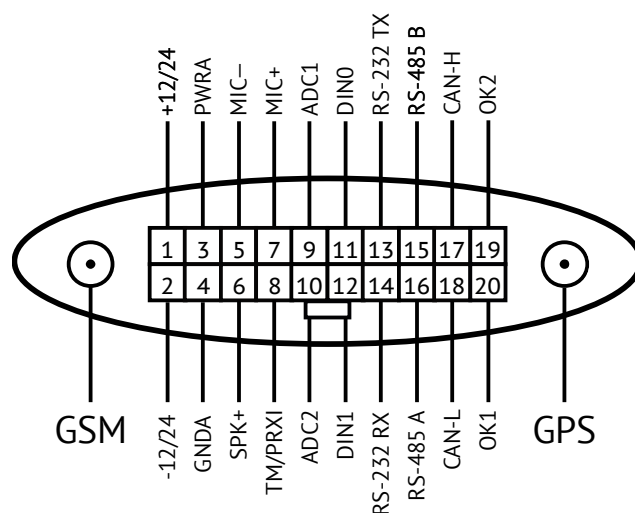
<sup>1</sup> Without regard to built-in battery characteristics.

# 5. Designation of Elements



Element	Designation
Tamper	When the battery compartment cover is opened, device operating indicators turn on for 30 minutes. When the cover is closed, the indicators turn off.
USB connector	For connection of programming cable.
20-pin connector	For connection of power supply and peripherals.

## 6. Pin table



Pin No.	Designation	Note
1	Power positive terminal	On-board mains connection
2	Power negative terminal	
3	Intercom power supply positive terminal	Connection of an intercom for two-way control communications
4	Intercom common terminal (GNDA)	
5	Intercom microphone negative terminal	
6	Intercom speaker	
7	Intercom microphone positive terminal	
8	Touch Memory	Connection of a Touch Memory key reader or a proximity card reader for driver identification
9	Input 3 (discrete/analog/frequency)	Universal input. Input type (discrete, analog, or frequency) is set up in the configuration software. The discrete input features a configurable polarity. The analog and frequency inputs can be connected to fuel consumption and level meters.
10	Input 4 (discrete/analog/frequency)	
11	Input 1 (discrete)	The discrete input features a configurable polarity
12	Input 2 (discrete)	
13	RS232 TX	Connection of devices with RS232 interface
14	RS232 RX	
15	RS485 B	Connection of devices with RS485 interface
16	RS485 A	
17	CAN-H	Connection to the vehicle board computer via CAN bus
18	CAN-L	
19	Output 2	Connection to actuation devices
20	Output 1	

## 7. Visual Indication<sup>2</sup>

Indicator	State	Designation
SIM-cards 1/2 operation indicators	Blinks frequently (5 times per second)	Registration in GSM network is in process
	Blinks slowly (2 times per second)	The device modem has successfully registered in the GSM network
	Single/double flashes (1 time in 5 seconds)	The device is connected to the monitoring server
GPS/GLONASS signal reception indicator	Blinks frequently (5 times per second)	Satellite search to determine location
	Blinks slowly (1 time per second)	Satellites found, coordinates defined
Power indicator	On	The device is powered from the main power supply
	Off	The device is switched off

## 8. Configuration

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.** 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](http://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.

<sup>2</sup> By default, the indicators are active the first 30 minutes after switch-on. You can choose another mode of operation of the indicators on the "Indication" section of configuration program.

## 9. Getting Ready for Operation

1. Configure the device prior to installation to a vehicle (hereinafter referred to as the vehicle). Enter valid APN settings.
2. Installation of the device should always be performed with the power off.
3. To install the device, choose an appropriate location, which is most protected against atmosphere effects, dirt, process fluids, physical impact, and prevents free access of unauthorized persons. Make sure the device is located at least 0.5 m from all EMI (generators, loudspeakers, etc.) sources. Fasten the device holder.
4. Connect a GPS/GLONASS antenna to the appropriate connector on the device enclosure. The antenna should be oriented upwards. We do not recommend to place the antenna in locations that inhibit satellite signals due to metal parts of the vehicle.
5. Connect a GSM antenna to the appropriate connector. Place the antenna in such a way that the signal is not inhibited by metal parts of the vehicle.
6. Connect pins of the connection cable to vehicle systems (see pin connection table). Connection points of the device main power supply to the vehicle's on-board system should be selected so as to provide device power supply when the ignition is switched off and the ground connection is de-energized (if necessary, directly from the vehicle battery). The cross-section of input leads should not be less than 0.5 mm<sup>2</sup>. Insulate unused leads. The device power supply circuit should be protected with a 3 A fuse.
7. 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 (CSD, GPRS), and check if the account balance is positive.
8. Open the device enclosure cover and insert the SIM card into the SIM card box No. 1 (if two SIM cards are to be used, repeat the actions described in Paragraph 7 for the second SIM card and insert it into the SIM card box No. 2).
9. Insert the BL-5C battery into the device.
10. Connect the connection cable with a 20-pin connector to the device.
11. The device is entering its operating mode during the minute after the power is supplied, which is indicated by each of the four indicators blinking with the same frequency. After the 1 minute long switch on period is over, indicators of the active SIM card and GPS/GLONASS signal reception begin blinking with their own individual frequencies. The external power indicator is continuously on.
12. Close the battery compartment cover. The indicators should go off.
13. Install the device into the holder.

## 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.

## 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.

Developer and manufacturer guarantees full operation of the device only with the monitoring software GEO.RITM. Not guaranteed to work with other monitoring services (the device works "as is").

Warranty repairs of the device are done throughout the life cycle. The manufacturer's warranty does not cover the battery.

**The device life cycle** is 6 years (provided the operating conditions are observed).

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.