



RS-Global system
RT-GPS object module

User manual

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General information

RT-GPS object module is a device, which is mounted on a vehicle for distant control of its systems and for locating vehicle's position.

Object's location (geographical coordinates) is determined with the help of **GPS** (Global Positioning System).

This information, along with information about controlled systems and object's parameters status transmits to user through **RS4000** retranslation system.

Device technical characteristics:

- 16-channel GPS-receiver with NMEA-0183 protocol;
- Use of GPRMC messages, to receive coordinates, date, time and speed;
- Built-in nonvolatile memory on 2600 route entries and for module configurations storage;
- Hardware switchable RS-232 port for exchange with computer, that allows to set **RT-GPS** module parameters and read module route memory (using GPS_READER program) in one mode, and in the other mode – receive on computer information directly from GPS-receiver (GPS-monitoring);
- RT-GPS** has three inputs, which can be used for sending alarm messages from object and one output for object status (armed/disarmed) transmitting;
- Adjustable new message transmitting algorithm; There is an opportunity to determine parameters, which affect new coordinate transmitting and input status; in that way it's possible to achieve optimal work mode: air load / message delivery efficiency;
- RT-GPS** has Watchdog timer, which restarts GPS-receiver, if in fixed time period there are no proper coordinates;
- Test sending – periodic transmission of the last coordinates and input status after fixed time;
- Module power supply is realized using vehicle's on-board 12-volt¹ circuit; ▪Input current in standby mode at 12 V power supply – 15 mA.
- Input current in transmitting mode at 12 V power supply, at most – 1,7A. ▪Transmitting session time – 127 ms.

¹ – To realize module backup power supply and power supply voltage range extension to 9–36 V, it's necessary to use **UPS**.

RT-GPS working features:

- Switching in «route reading» mode can be made on turned on **RT-GPS** module. To do so you have to connect Mode-pin with common wire (see Table № 1). Communication with computer COM-port will be in *9600-baud rate 8N1* format. If remove common wire from the Mode pin, than module will return into GPS-monitoring mode (*9600 baud rate 8N1*).
- To transmit it's inputs Z1 -Z4 status, **RT-GPS** module after turned on has to find correct coordinates. **Input status won't be transmitted until certain coordinates are received!**
- Every new message is transmitted few times. Number of transmissions depends on **RT-GPS** module settings.
- Module built-in memory can store more than 2600 route entries (Tracking Memory). When memory is full new entries is written over the oldest (first) entries. So in module memory always stored route's last section.

RT-GPS module appearance and cable description:

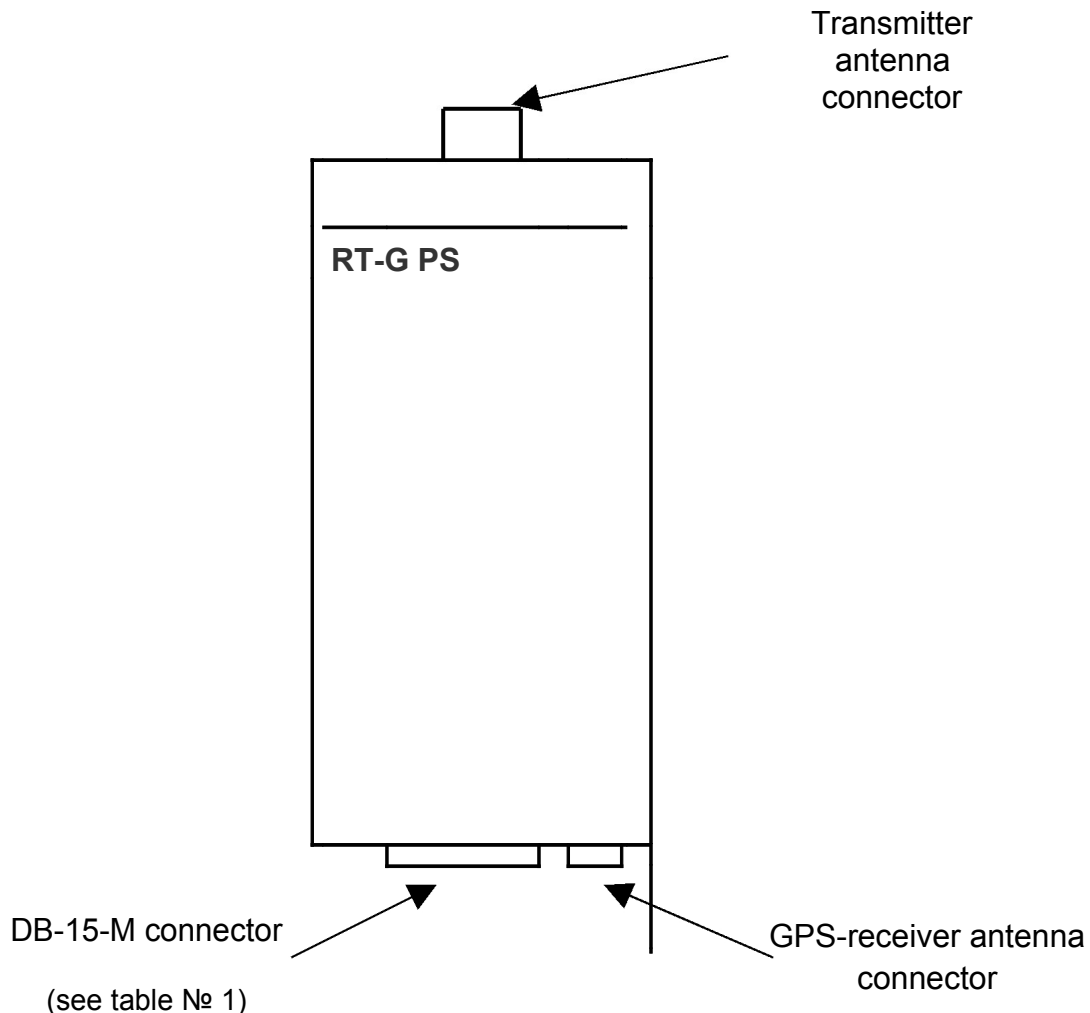


Table № 1

Pin	Name	I/O	Description	Comment
1,9	+ E	I	Voltage level (11 – 13 V); Maximum input current – 100 mA	+ 9 – 18V
2,1 0	- E	I		Common wire pin
3	MODE	I	Working mode selection: Programming – connected to common wire / GPS-monitoring – break)	Yellow cable RS-232
4	Not used			
5	IGNITION	I	Inner load on + 5 V (normal state, break, emergency state – connection to common wire)	Z1
6	ALERT	I		Z2
7	PANIC	I		Z3
8	ARM / DISARM	I	ARM – connection to common wire; DISARM – break	Z4
11	RXD	I	On DB9 COM-port 2 pin	Blue cable RS-232
12	TXD	O	On DB9 COM-port 3 pin	Red cable RS-232
13	TX_LED (+)	O	Transmitter led: blinks when message is send to control panel	Missing
14	PWR_LED (+)	O	Power supply led: ▪glows when power supply is connected ▪frequently blinks if module inoperative	Blue indication cable
15	COM_LED (+)	O	GPS-monitoring led: Blinks when correct coordinates are received from GPS-receiver	Red indication cable

Module wiring diagram

