iRZ TG51

The sealed iRZ TG51 GSM/GPRS modem of the Protect series is designed to provide transparent interaction between the third-party software and an external device, connected to the modem via RS485/RS232 interface. Data is transmitted over GPRS using the TCP/IP protocol stacks.

The basic feature of iRZ TG51 is the IP68-sealed enclosure with protection against dust and continuous immersion in water, which extends the application range of the device. Such protection rating provides smooth operation of the modem in dirty medium with high concentration of dust and other air impurities in various dispersed phases as well as with high moisture concentration. Even continuous immersion in water under pressure cannot affect the operability of iRZ TG51!

The modem is encased in an impact-resistant industrial thermoplastic (polycarbonate) housing. It is a high density material less susceptible to thermal stress. The joints of the housing parts are filled with the silicon sealant which ensures reliable protection of internal components against dust and moisture. The modem is supplied with three IP68 cable glands to pass cables through the enclosure. Access to the circuit board connectors is gained via the housing window made of transparent thermoplastic.

iRZ TG51 automatically (without AT commands) connects to the GPRS network and establishes connection to the specified server. The modem is fitted with 1 GPO, 2 GPIOs to control the connected devices.

Dual SIM card support provides backup connectivity. The modem supports switching to the backup server both at the loss of connection to the main server and on the signal from the modem GPIOs or on SMS command.

The sealed enclosure, extended range of operating temperature (-40°C to +65°C) and input voltage make the iRZ TG51 modem indispensable for various needs requiring wireless communications and device high fault tolerance in harsh environments.

Various automatic process control systems in manufacturing, construction, and mining sites, research investigations and many other scopes can be examples of such deployment.

DUAL-BAND	GSM	GPRS CLASS 10
iRZ COLLECTOR	DUAL-SIM	TCP/IP CONNECTIVITY
INDUSTRIAL INTERFACES	WATCHDOG TIMER	EXTENDED TEMPERATURE RANGE
IP68		
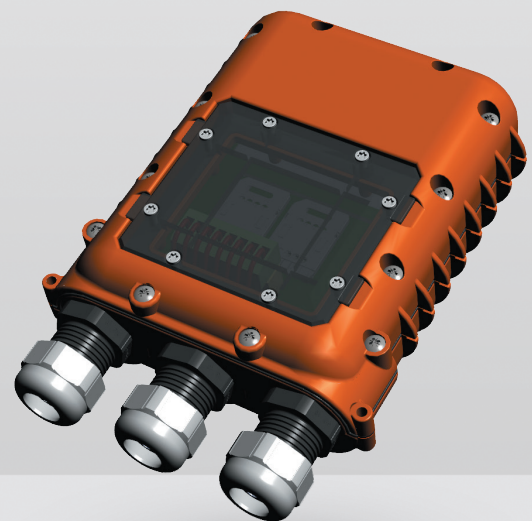
Key Functions and Features

• support for client and server modes;
• transparent TCP/IP-to-COM mode;
• Modbus RTU, ASCII mode;
• simultaneous operation with four servers;
• support for operation with the backup IP address of the server or the backup server;
• support for backup operation via CSD;
• dual SIM card support;
• sending SMS to a specified number at the loss of connection to the server;
• various modes of operation with the server (permanent connection, connection on schedule, on call or on SMS command);
• automatic status tracking of the GSM module and two types of watchdog timers for protection against hang-up;
• RS485/232, 2 GPIO, 1 GPO interfaces;
• GPIO control via SMS commands or GPRS;
• sending SMS to a specified phone number on GPIO signals;
• easy configuration of multiple modems with similar settings using the Protect Protocol software;
• support for the iRZ Collector specialized server software;
• remote configuration and updating of the firmware when working with iRZ Collector;
• sealed housing (IP68 protected).

Hardware Features

• GSM/GPRS module - BGS2
• Communication interface - RS485/RS232
• 1xGPO, 2xGPIO
• Dual SIM card support
• 3G support (optional)
• Support for SIM chip installation (optional)

Frequency Bands

• 900/1800 MHz
• 850/900/1800/1900 MHz (optional)

GSM Module Transmitter Output Power

• at frequency of 1800/1900 MHz - 1 W
• at frequency of 850/900 MHz - 2 W

Physical Specifications

• Sealed plastic housing
• Protection rating - IP68
• Dimensions (with cable glands), maximum - 146×99×46 mm (L×W×H)
• Weight, maximum - 150 g
• Operating temperature: -40°C to +65°C
• Storage temperature: -50°C to +85°C

Power Supply

• Power supply voltage: 7 to 40V (DC)
• Current consumption in GPRS mode, maximum:
- at power voltage of +12V - 250 mA
- at power voltage of +24V - 125 mA
• Current consumption in the waiting mode, maximum:
- at power voltage of +12V - 60 mA
- at power voltage of +24V - 30 mA
• GPIO 1 and GPIO 2 in the "input" mode:
- Programmable pull-up resistor - 10 kΩ;
- Programmable pull-down resistor - 47 kΩ;
- Maximum "0" level voltage (low level) - 0.8 V
- Minimum "1" level voltage (high level) - 2.0 V
• GPO 3 in the "output" mode:
- Output type - open collector to power voltage
- Output impedance, maximum - 2 Ω
- Maximum output current - 500 mA