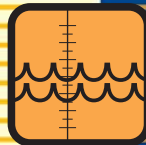


APPLICATIONS

Spark GPRS terminal has its own IP address (fixed or dynamic) so every device, with terminal connected, may become part of TCP/IP computer network. It is enough to change part of terminal's software for communication with that device and to adapt it according to special customer's demands.

The fact that the terminal communicates with various devices located in remote locations where there aren't any common telephone lines, expands possible implementation areas:

- ❑ Security services
- ❑ Controlling and monitoring of various measuring devices
 - UPS (Uninterruptible Power Supply)
 - Temperature regulators
 - Flow controllers
 - RFID readers
- ❑ Retail trade
 - Cash registers
 - Fiscal printers
- ❑ Emergency systems
- ❑ Environmental monitoring in meteorology
- ❑ Gambling devices
- ❑ Lottery machines



Geneko Spark GPRS terminal is designed to provide wireless access to any manageable device and enables automatic data management and monitoring of all devices in IP customer network. The terminal can be applied for various M2M solutions. A control system, which is based upon the quad band Spark GPRS terminal, solves the problem of everyday updating of data included in large number of the devices located in the distant places. Automatic data transmission between devices and central server is ensured by communicational software and the terminal's features themselves. In fact, Spark is completely programmable, manageable and operating in real time with data storage internal memory.

Spark is able to download and write data into device automatically and to read and upload reports to customer's server automatically as well. Direct communication with these devices can be done by various interfaces and data transfers over mobile telephone GSM network using GPRS, CSD and SMS services.

It is possible to establish Internet dial up connection with Spark terminal acting as GPRS modem. The current release of Spark terminal is able to connect to all networks. In this case Spark enables customer's PC or PDA to connect to Internet from any location using GSM network.

ADVANTAGES

- Universal usage – GPRS terminals can manage with all devices conducted by various hardware interfaces
- Constant and simultaneous connection of central computer with all devices regardless of their number
- Communication with the devices located in the whole area covered by the mobile phone operator
- The possibilities of access by using any PC or PDA connected on Internet or by mobile phone, which has GPRS and wap browser
- Safe data transfer – Central server and the devices belong to the protected network
- Independent work – GPRS terminals can be timely arranged for accomplishing demanded activities (e.g. reporting)
- Very simple and quick installation and easy to use



MAIN FUNCTIONS

- ❑ Wireless connection between customer's central server and large number of its remote devices
- ❑ Two-way data transfer over GSM network
- ❑ Automatic control and data input into the device (e.g. updating database) and automatic reading and uploading of report to customer's server through GSM network and internet
- ❑ Centralized management and monitoring of all devices in the whole customer's IP network



TECHNICAL SPECIFICATIONS

GSM/GPRS module	Quad band GSM 850/900/1800/1900MHz
GPRS standard	Multi-slot class 12, CS-1, CS-2, CS-3, CS-4
Transmission	up to 56.3 Kb/s
Interfaces	2 RS-232, 1 RJ12 for optional interfaces
Indicators	4 LED
External antenna	2 dB
Power supply	230 V+10%/ -15%, 50 Hz
Dimensions	102 74 28 mm
Weight	100 g

Geneko SPARK GPRS terminal, type GP

- CSD: V.110, RLP, non-transparent; 2.4, 4.8, 9.6, 14.4kbps
- SMS: Point-to-point MT and MO, Cell broadcast, Text and PDU mode
- Fax: Group 3, Class 1

Java Virtual Machine

- Java platform JDK Version 1.4.2_09
- APIs for AT Parser, Serial Interface, Flash File System and TCP/IP Stack
- 1.7 MB of the flash file system
- 400kB RAM

AT commands set

- AT-Hayes GSM 07.05 and 07.07
- Siemens AT commands for RIL compatibility (NDIS/RIL)
- AT commands for TCP/IP stack access

- Firmware update over port A and B and over the air
- Two serial 4-wire interfaces on port A and port B
 - Fixed bit rates: 300 bps to 115000 bps
 - Autobauding: 1200 bps to 115000 bps
 - RTS/CTS and XON/XOFF flow control
- Port C options: I2C bus, ADC, GPIO, voltage output 3V/50mA
- 1 x GPIO connected to external tactile switch on front side of case
- 4 status LED
 - 1 x power on/off and data transfer indication LED
 - 3 x LED fully controllable by AT commands
- Hardware Watch-dog reset and start-up in configurable periods
- Automatic switch-off in case of critical temperature and voltage conditions
- Real time clock with RTC battery
- Ambient operating temperature: -30°C to +65°C, restricted to

CE certified

Schematic diagram

