

NPE-GPRS/EDGE - INDUSTRIAL COMPUTERS

Linux ARM9 32-bit RISC 180MHz 200MIPS CPU

- Built-in processor ARM9 RISC
- Built-in modem GSM/GPRS/EDGE Class 10
- Linux operating system
- Ethernet 10/100 BaseT
- RTC and SRAM with the power backup
- 2 x RS232, 1 x RS485
- 8 digital inputs, 6 digital outputs, 1 x Switch*
- Up to 4 analog input and 2 digital relay outputs*
- Free Linux programming tools
- DIN bus installation
- Customized versions for the individual needs

*depends on type



APPLICATION

Currently, the automation, telecommunication and supervision systems require the independent control or devices monitoring with the RS232 and RS-485 interfaces, or equipped with the standard interfaces, like the binary or analogue inputs-outputs. It becomes the real challenge, when it is necessary to use the autonomous solution, which enables the independent work with the devices with serial ports without loading the central computer. In such situations the industrial computer NPE-GPRS/EDGE is the perfect solution, which may independently perform most of activities, e.g. change data through the serial ports, perform the data analysis in the real time, buffer the collected information, communicate through IP and GPRS/EGPRS network, visualize the process through the Web site and many other functions, according to the user's needs.

Industrial computers from NPE-GPRS/EDGE series are equipped with the efficient processor RISC ARM9 with preinstalled in the Flash memory operating system Linux ver. 2.6. Depend on type computers are equipped with the Ethernet 10/100 BaseT port, modem GSM/GPRS/EGPRS, two RS-232 ports, RS-485 port, 8 binary inputs, 6 binary outputs, 4 analog input (0..10VDC), 1 analog input (0..70VAC), 2 digital relay outputs and SD cards reader. The NPE-GPRS/EDGE cover is especially adapted to the installation in difficult industrial conditions on the DIN bus, and assures quick and comfortable installation in the target location. The relatively small dimensions and the IP21 standard cover, no moving parts (fans, discs) assure the failure-free operation in the industrial objects as well as in various cabinets. Moreover, the NPE-GPRS/EDGE may be optionally produced in versions with enhanced operational temperature range (-25..70°C).

The NPE-GPRS/EDGE has been equipped with the Linux operating system in version 2.6. The programming method is almost identical as the software creation on the stationary computer, and includes three stages:

1. Program creation on the stationary computer.

2. Program compilation with the cross-compiler (included on the CD C/C++ compiler, enhanced with the libraries for the NPE-GPRS/EDGE input-output interfaces operation).
3. Copying of the compiled application to the FTP server, built in the NPE-GPRS/EDGE, or use the NFS service in the Linux system.

The NPE-GPRS/EDGE hardware configuration is based on ARM9 32-bit RISC CPU 180MHz processor, 32MB SDRAM, 8MB Flash disk. The NPE-GPRS/EDGE has the real time clock and SRAM memory, with the backup during the power supply failures, SD cards reader and the Watch Dog Timer, protecting the computer against hanging. As the input-output interfaces the computer has two RS-232 ports, RS-485 port, 8 binary inputs and six binary outputs with the allowable load 100 mA each. The NPE-GPRS/EDGE may be optionally equipped with more SDRAM or Flash memory, according to the user's requirements, and its producer, TechBase company offers the possibility of ordering the dedicated versions, equipped with non-standard interfaces and internal resources.

The NPE-GPRS/EDGE along with other computers from this family is the series of industrial built-in computers, characterized by: complete, ready platform (hardware + installed Linux operating system + freeware tools and programming libraries for C/C++), adapted to the operation in difficult environment conditions (temperature range even form -20°C to 70°C) and high operational reliability.

TECHNICAL PARAMETERS

Typ: NPE-9100-GPRS/EDGE

System

- CPU ARM9 32-bit RISC CPU, 180 MHz, 200 MIPS
- SDRAM 32 MB (max memory size 128 MB)
- Flash 8 MB (max memory size 16 MB)
- Card reader: SD x 1
- Operating system - Linux v 2.6
- RTC clock, SRAM 240 bytes, Watch Dog Timer

Modem GSM/GPRS/EDGE*

- Waveband GSM/GPRS/EGPRS 900/1800/1900 MHz
- GPRS/EGPRS Class 10, max. 236.8 kbps (downlink)
- Compatible with GSM phase 2/2+.
 - Class 4 (2W @ 900 MHz).
 - Class 1 (1W @1800/1900 MHz).
- Antenna connector: SMA (female)

Interfejs Ethernet

- Ethernet 10/100 Mbps (RJ45 connector)
- 1.5 KV magnetic isolation

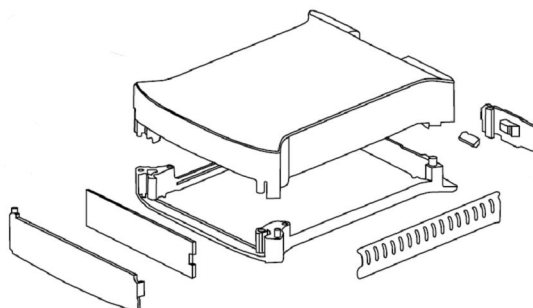
COM Ports

- 2 x RS-232, 1 x RS485, built in protection 15 KV ESD
- Data bits: 5, 6, 7, 8
- Stop bits: 1, 1.5, 2
- Parity: None, Even, Odd, Space, Mark
- Speed: 50 bps to 921.6 Kbps

LED controls, Keyboard, I/O

- LED: system x 1, user x 11
- LED link, LED 100Mbit (integrated with RJ45 connector)
- 1 x Switch (access from the front panel)
- 8 x DI, 6 x DO, liability 100 mA each*
- Up to 4 analog input and 2 digital relay outputs*

* depends on type



Power Requirements

- Direct current: 12 ~ 36 Vdc (optionally 12 ~ 48 Vdc – telecommunication range)
- Power draft: 7W max

Dimensions and Weight

- Dimensions (width x depth x height) 35 x 120 x 101 mm
- Weight 300g.
- Casing: ABS, DIN mounting

Storage and working conditions

- Working temperature: -10 ~ 60°C
wetness: 5 ~ 95% RH (without condensation)
optionally: -40 to 75°C (dla NPE-SERIES-E).
- Storage temperature: -20 ~ 80°C
wetness: 5 ~ 95% RH (without condensation)
optionally: -40 to 85°C (dla NPE-SERIES-E)