

New Single Board Computer for harsh operating conditions

Fastwel has announced its new CPU card for embedded systems, working in harsh operating conditions. Single board computer CPB902 should become an optimal solution for automation systems in transport, industry, on-board computers and many others.

Although CPB902 is very compact (only 110x150mm) it has a functionality of a desktop computer with advanced video system and feature-rich I/O ports.

The device is totally ready to use: processor, RAM and solid-state disk are soldered on board. The absence of additional components in board's slots ensures high shock and vibration steadiness. CPB902 withstands extreme temperatures, its CPU is able to operate at a temperature of +105°C! The functionality extension of the card can be achieved by using standard PC/104 or Fastwel I/O modules.

CPB902 is developed on industrial element base with a guaranteed long-term availability on the market. The heart of this board is a highly integrated x86-compatible VEGA processor from STMicroelectronics with MMX support and Pentium-II performance. The operation temperature range of this processor lies between -40°C to +105°C and its power consumption is only 1.85 W.

LynxEM+ graphical controller with a 4MB integrated video memory, consumes only 1W and is able to operate with two independent video interfaces (Dual Display support). Besides standard CRT monitors, it is compatible with flat TFT and DSTN displays, which makes the application system cost optimization done by system integrators significantly easier. Supported display resolution - up to 1024x768 pixels.

Depending on the version, CPB902 is available with soldered 32MB RAM or 128MB RAM and solid-state 16MB flash memory. This is more than enough for modern embedded operation systems support such as Windows CE, QNX Momentics and RTOS-32. In case more memory is needed CPB902 can support solid-state CompactFlash storage drives or standard form factor hard disk drives with IDE interface.

CPB902 carries many different I/O ports from traditional serial interfaces to high-speed modern channels. Six RS-232 ports, four of which support RS-422/485, allow the connectivity with a variety of low-level peripheral devices. High speed - up to 921 Kb/s - guarantees real-time data transfer. Two high-speed Ethernet 10/100 Mb/s ports allow integrating CPB902 into process automation network system with reservation of data flow channels. Two USB ports (1.1) make the connection with modern peripheral devices easier, and standard LTP, PS/2 and floppy disc interfaces allow compatibility with familiar to most developers equipment.

High reliability of CPB902 is supported by the range of measures both on hardware and software level. This board can react (hardware method or non-maskable interrupt) on contingencies, due to discreet input channel with optic isolation. Real-time clock along with two watchdog timers allow the system reset in case of accident program hang up.

PC104 slot allows adding functionality by third-party modules.

As an option there is a special case supplied for wall or DIN-rail mounting, as well as power supply, portable displays and matrix keyboard.

CPB902 is powered by one 5V rate and is remarkable for having ultra-low power consumption - less than 6 W. The board can withstand vibration up to 5G and shocks up to 50G. Operation temperature range of CPB902 lies between -40°C and +85°C.