

## Linux-based arm9 Programmable Automation Controller

# PAC-5010



### Features

- Linux Kernel 2.6.14 OS with File System
- 64MB SDRAM and 16MB NOR Flash
- 16 x Opto-Isolated Digital Inputs
- 8 x Darlington-Pair Digital Outputs to Drive External Relays
- 2 x 10/100Mbps Ethernet Ports
- 1 x RS-232 Port, 1 x RS-485 Port
- 2 x USB 2.0 Host Ports for Add-On Functionality Expansion
- 1 x SD Memory Card Slot Included for Storage Expansion
- GNU C / C++ Toolchain for Linux / Windows Environment
- 9~40VDC Input Range

### ■ H/W Specifications

#### CPU / Memory

- CPU: ATMEL arm9 AT91RM9200 180MHz w/MMU
- Memory: 64MB SDRAM, 16MB NOR Flash

#### Network Interface

- Type: 2 x 10/100BaseT, RJ45 connector

#### TTY (Serial) Ports

- RS-485: One port, with screw-fixed wiring terminal  
Signals: Data+, Data-, GND
- RS-232: One port, with 10-pin header  
Signals: Tx, Rx, RTS, CTS, DSR, DTR, DCD, GND
- Console: One port, with 10-pin header  
Signals: Tx, Rx, GND

#### TTY (Serial) Port Parameters

- Baud Rate: Up to 921.6Kbps
- Parity: None, Even, Odd, Mark, Space
- Data Bits: 5, 6, 7, 8
- Stop Bits: 1, 1.5, 2
- Flow Control: RTS / CTS, XON / XOFF, None

#### USB Ports

- Host Ports: 2, USB 2.0 compliant, with 10-pin header
- Data Rate: Up to 12Mbps

#### Mass Storage

- 1 x Micro-SD socket (at bottom side)
- SD 2.0 Compliant, support SDHC

#### Isolated Digital Input

- No. of Channels: 16
- Logical High: 5~24VDC
- Logical Low: 0~1.5VDC
- Input Resistance: 1.2K ohms@0.5W
- Response Time: 20µs
- Opto-isolation: 5000Vrms

#### Digital Output

- No. of Channels: 8
- Source Driver: UDN2981A (Allegro MicroSystems)
- Source Voltage (VDD): 5~50VDC
- Output Current: 500mA max.

#### General

- Watchdog Timer: Yes, for kernel use
- Real-Time Clock (RTC): Yes
- Buzzer: Yes
- Power Input: +9~+40VDC
- Power Consumption: 12VDC@800mA
- Dimensions (W x H x D): 160 x 104 x 32mm (6.3x4.13x1.26in)
- Operating Temperature: 0~70°C (32~158°F)
- Regulation: CE Class A, FCC Class A

### ■ S/W Specifications

#### General

- OS: Linux, kernel 2.6.14
- Boot Loader: U-Boot
- File Systems: JFFS2, ETX2 / ETX3, VFAT / FAT, NFS

#### Protocol Stacks

- IPv4, ICMP, ARP, DHCP, NTP, TCP, UDP, FTP, TELNET, HTTP, PPP, PPPoE, CHAP, PAP, SMTP, SNMP V1 / V2, SSL, SSH 1.0 / 2.0

#### Pre-Installed Utilities

- Bash: shell command
- Tinylogin: login and user manager utility
- Telnet: telnet client program
- Busybox: Linux utility collection
- FTP: ftp client program

#### Daemons

- pppd: dial in / out over serial port and PPPoE
- snmpd: SNMP agent program
- telnetd: telnet server program
- inetd: TCP server program
- ftpd: ftp server program
- boa: web server program
- sshd: secured shell server
- iptables: firewall service manager
- amgrd: Artilla manager daemon

#### Toolchain for Linux

- GCC: C / C++ PC cross compiler for Linux, Cygwin
- GLIBC: POSIX Library

#### Device Drivers

- SD / MMC, UART, Real Time Clock, Buzzer, Digital I/O, Ethernet, Watchdog Timer

#### USB Host Drivers (Could Be Customized)

- Flash disk
- WiFi (IEEE-802.11)
- RS-232 adapters

### ■ Order Information

#### PAC-5010

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#### CB-F10M9-20 (91-0P9M9-001)

- Console Cable (10Pin Header to DB9 Male, 20cm)

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