

Linux-ready Arm9 Industrial IoT Gateway

Matrix-512



Features

- Linux 2.6.14 compatible computing platform
- 64MB SDRAM and 16MB NOR Flash
- 2 x 10/100Mbps Ethernet ports
- 4 x 921.6Kbps RS-232 / 422 / 485 TTY ports
- 2 x USB 2.0 host ports for add-on functionality expansion
- 1 x SD memory card slot inside for storage expansion
- 21 x CMOS / TTL-level digital I/Os (GPIO)
- GNU C / C++ toolchain for Linux / Windows environment
- Ultra-low power consumption, less than 3 Watts

■ H/W Specifications

CPU / Memory

- CPU: ATMEL AT91RM9200 180MHz (Arm9, w/ MMU)
- Memory: 64MB SDRAM, 16MB NOR Flash

Network Interface

- Type: 2 x 10/100BaseT, RJ45 connector
- Protection: 1.5KV magnetic isolation

TTY (Serial) Ports

- 4 x RS-232 / 422 / 485 ports, software select
- Port 2: Supports full modem signals
- Connector: DB9 male connector

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 Host Ports

- No. of Ports: 2
- Speed: USB 2.0 compliant, supports low-speed (1.5Mbps) and full-speed (12Mbps) data rate

Digital I/Os (GPIO)

- No. of Pins: 21
- Signal Level: CMOS / TTL compatible
- Each pin can be programmed as input or output

Mass Storage

- 1 x SD 1.0 compliant socket inside

General

- Watchdog Timer: Yes, for kernel use
- Real-Time Clock (RTC): Yes
- Buzzer: Yes
- Power Input: +9~+40VDC
- Power Consumption: 12VDC@300mA
- Dimensions (W x H x D): 160 x 104 x 32mm (6.3 x 4.0 x 1.26in)
- 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: Artila 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-802.11b/g)
- RS-232 adapters

■ Ordering Information

Matrix-512

- Linux-ready Arm9 Industrial IoT Gateway with 16MB on-board Flash

CB-DB2CON-100 (91-DBCON-100)

- Console Cable (DB9 Female to DB9 Female, 100cm)

DK-35A (36-DK35A-000)

- DIN RAIL Mounting Kit