Linux-ready Cortex-A5 Industrial IoT Gateway

Matrix-710

Features

- ATMEL ATSAMA5D35 536MHz Cortex-A5 CPU
- Linux kernel 5.4.x with file system
- 512MB LPDDR2 SDRAM
- 16GB eMMC Flash and 8MB DataFlash for system backup
- Toolchain: gcc 9.3.0 + glibc 2.31
- 1 x Gigabit Ethernet and 1 x 10/100Mbps Ethernet
- 4 x USB host ports
- 4 x isolation RS-485 serial ports and 4 x RS-485 serial ports
- 2 x CAN ports
- 1 x full size miniPCIe socket inside
- Ultra-low power consumption

H/W Specifications

CPU / Memory

- CPU: ATMEL ATSAMA5D35 536MHz w/MMU
- SDRAM: 512MB, LPDDR2
- Flash: 16GB, eMMC
- DataFlash: 8MB, for system backup

Network Interface

- Type: 1 x Gigabit and 1 x 10/100Mbps Ethernet
- Connector Type: RJ45

TTY (Serial) Ports

- Port 1, 2, 3, 4: Isolated RS-485 (2500Vrms isolation)
- Port 5, 6, 7, 8: RS-485
- Direction Control: Auto, by hardware
- Connector: Terminal block

TTY (Serial) Port ParametersParameters

- 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

CAN Bus Ports

- Type: 2 x CAN bus 2.0 A/B compliant ports
- Speed: Up to 1Mbps
- Isolation: 2500Vrms
- CAN 1: 1~2 pin, CAN 2: 3~4 pin, GND: 5 pin

Console / Debug Ports

- Support microUSB console port
- Serial console port (inside the box)

USB 2.0 Host Interface

- Host Ports: 4
- Supports 480Mbps hi-speed mode

SD Slot

- 1 x Micro-SD socket
- SD 2.0 Compliant, support SDHC
- Storage capacity: support up to 128G

Expansion Slot

- 1 x miniPCIe socket
- Supports Full-size / half-size

General

- Watchdog: Yes
- Real-Time Clock (RTC): Yes, backup by super capacitor
- Buzzer: Yes
- Power Input Voltage: +9~+48VDC (terminal block)
- Typical Consumption: 12VDC@500mA
- Dimensions (W x L x H): 166 x 103 x 35mm (6.5 x 4.0 x 1.37in
- Operating Temperature: 0~70°C (32~158°F)
- Regulation: CE Class A, FCC Class A
- Installation: Wall mounting, DIN-rail mounting (with optional kit)

S/W Specifications

Operation System

- Linux kernel 5.4.x
- Supports bootup from eMMC or SD card
- Supports backup from SD card or USB device
- Boot Loader : Barebox
- File System : EXT4/ETX3/ETX2, VFAT/FAT, NFS

Software Development

- Toolchain: gcc 9.3.x + glibc 2.31
- Supports in-place C/C++ code compilation

Package Management

- Package repository: Artila self-maintained repository
- Command: Using standard apt-get command

Popular Packages

- Web server: Apache/Nginx/Lighttpd
- Database: MySQL/SQLite3/PostgreSQL
- Script Language: PHP/Python/Perl/NodeJS
- Text editor: vim/nano/sed
- Administration: Webmin

Ordering Information

Matrix-710

- Linux-ready Cortex-A5 536MHz Industrial IoT Gateway with 512MB SDRAM, 16GB eMMC Flash

DK-35A (36-DK35A-000)

- DIN RAIL Mounting Kit

PWR-12V-1A (31-62100-000)

- 110~240VAC to 12VDC 1A Power Adapter

Authorized Distributor

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