

# Matrix-704



## Features

- ATMELOrteX-A5 ATSAMAD35 536MHz CPU
- Linux kernel 4.19.x with file system
- Toolchain gcc 8.2.0 + glibc 2.28
- 512MB LPDDR2 SDRAM
- 16GB eMMC Flash
- 1 x Gigabit Ethernet and 1 x 10/100Mbps Ethernet
- 1 x full size miniPCIe socket inside, 1 x Micro-SIM slot inside
- 2 x Antenna through SMA connector holes reserved
- 1 x Micro-SD card inside for data backup
- 4 x RS-485 serial ports with Surge protection
- Optional RS-485 with Isolation and Surge protection

## H/W Specifications

### CPU / Memory

- CPU: ATMELOrteX-A5 ATSAMAD35 536MHz w/MMU
- SDRAM: 512MB, LPDDR2
- Flash: 16GB, eMMC

### Network Interface

- Type: 1 x Gigabit and 1 x 10/100Mbps Ethernet
- Protection: 1.5KV magnetic isolation
- Connector Type: RJ45

### USB 2.0 Host Interface

- Host Ports: 1
- Supports 480Mbps hi-speed mode

### Console / Debug Ports

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

### TTY (Serial) Ports

- 4 x Surge-protected RS-485 (No isolation)
- Optional: 4 x Isolated / Surge-protected RS-485 (2500Vrms isolation)
- 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

### SD Slot

- 1 x microSD socket, support up to 128G storage capacity
- SD 2.0 compliant, supports SDHC

### Expansion

- 1 x miniPCIe Full-size socket
- 1 x micro-SIM card socket
- 2 x SMA type Antenna holes reserved

### Power Requirement

- Input Voltage: +9V~+48Vdc (terminal block)
- DC+12VDC (DC Jack)

### General

- Real-time clock(RTC): Yes
- Watchdog: Yes
- Dimensions (W x H x D): 140 x 119.5 x 35.2mm (5.5 x 4.7 x 1.38in)
- Operating Temperature: 0~70°C (32~158°F)
- Regulation: CE Class A, FCC Class A

## S/W Specifications

### Operation System

- Linux kernel 4.19.x
- Support bootup from eMMC or SD card
- Boot Loader : BareBox
- File System : ETX4

### Software Development

- Toolchain: gcc 8.2.0 + glibc 2.28
- 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-704

- Linux-ready Cortex-A5 536MHz Surge-protected Industrial IoT Gateway with 512MB SDRAM, 16GB eMMC Flash with four Surge-protected RS-485 serial ports

### Matrix-704I

- Linux-ready Cortex-A5 536MHz Industrial IoT Gateway with 512MB SDRAM, 16GB eMMC Flash with four Isolated / Surge-protected RS-485 serial ports

### CB-PHDF9-050 (91-PHDF9-050)

- Console Cable (Wafer Box to DB9 Female, 50cm)

### DK-35A (36-DK35A-000)

- DIN RAIL Mounting Kit

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

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