ECM M300 Series

EtherCAT Master Controller
Intel® Celeron® processor J6412 Quad Cord 2.6GHz

Main Features

- EtherCAT technology with NexECM, **Class A** EtherCAT Master
- EtherCAT communication cycle up to 250 µs
- Support high-level API for CiA 402 profile
- Powerful & flexible EtherCAT configuration tool NexECM Studio
- Support NexRTOS (A real-time verified Linux system)
- 4 × USB 3.0
- 1 × RS232, 1 × RS232/422/485 and 1 × 8bit GPIO
- 2 × 1GbE RJ45 port
- 1 × M.2 2242 B Key , 1 × Mini PCIe slot
- Typical 12 or 24V DC input with ±20% range
- Support -0~50 °C operating temperature

Product Overview

Powered by Intel® Celeron® processor J6412 (formerly codenamed "ElkHart Lake"), ECM M300 presents intelligent PC-based EtherCAT controller for machine automation. It integrates NexCOBOT's EtherCAT Master, NexECM, to perform real-time communication with cycle time up to 250 µs. ECM M300 also provides API for CiA 402 profile and built-in EtherCAT configuration tool to speed up development time for automation users.

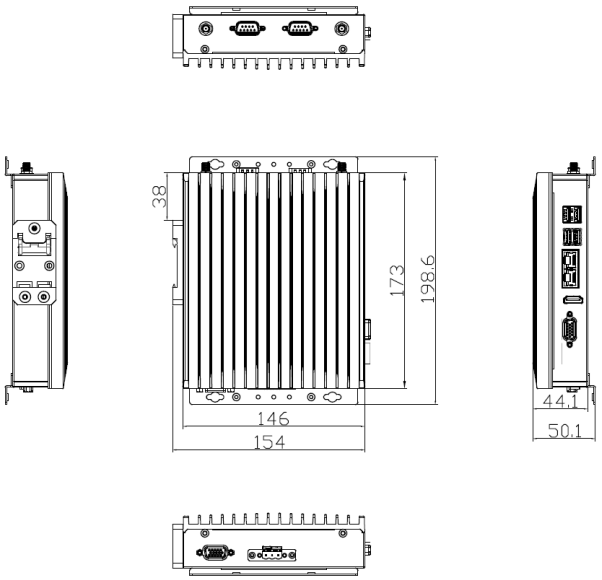
Software Specifications

Catalog	Specifications
EtherCAT Master Performance & Utility	■ EtherCAT Compliance : EtherCAT Standard Class A ■ Maximum Number of Slave Modules : Up to 64 ■ Cycle Time : As low as 250 µs ■ Protocol Support: Compliant with the CiA 402 standard protocol ■ EtherCAT Configuration Tool : NexECM Studio
EtherCAT Master Standard Function	■ Process data (PDO) ■ CoE / FoE ■ Distributed Clock (DC) ■ ESI / ENI file ■ Slave to Slave
EtherCAT Master Advanced Function	■ Cable redundancy ■ CiA402 servo stack ■ Hot connect ■ Remote control
INtime (ECM M300-I)	■ INtime7 : 7.1.24270

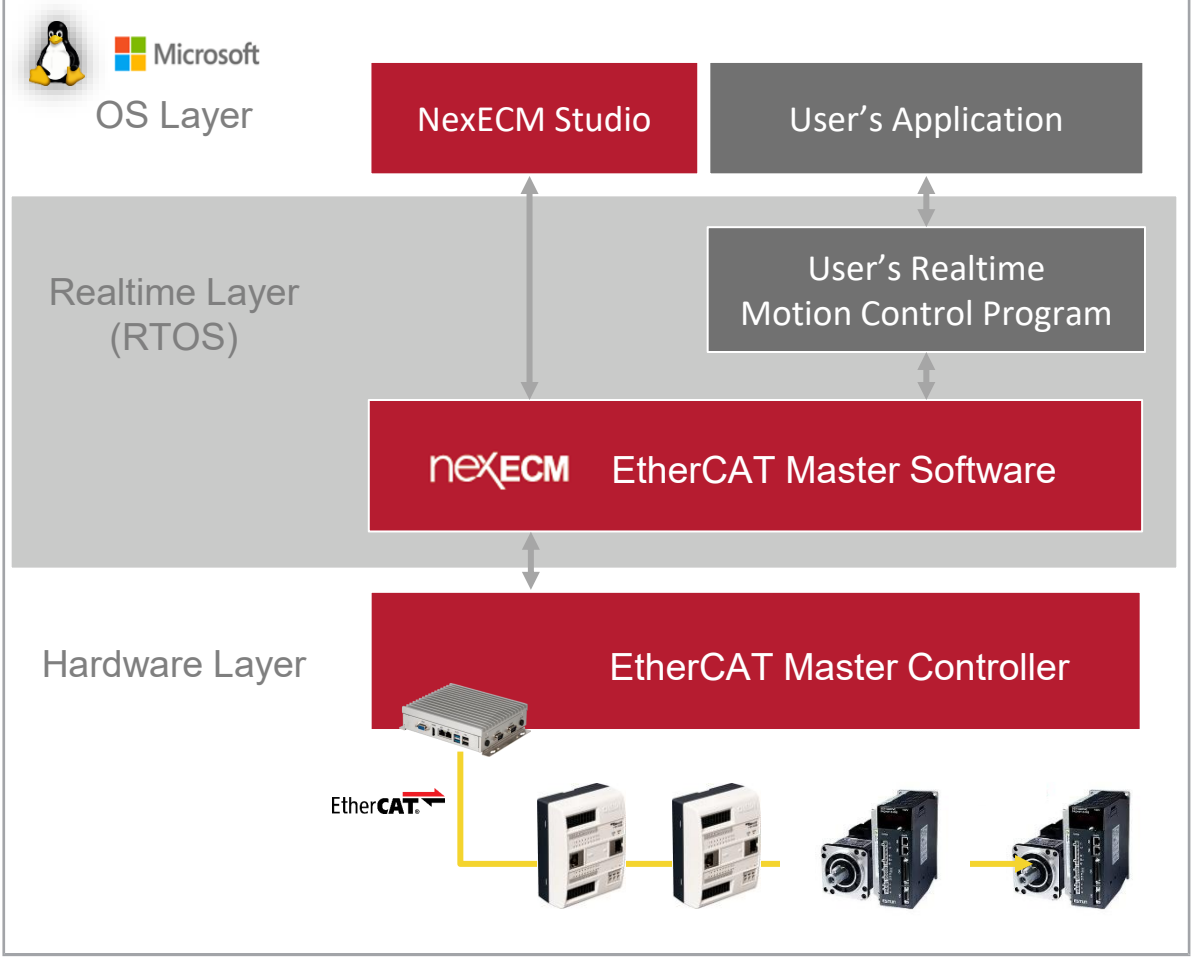
Hardware Specifications

Catalog	Specifications
CPU Support	■ Intel® Celeron® processor J6412 Quad Cord 2.6GHz,10W
Memory	■ DDR4 8GB
Storage	■ 1 × M.2 Key B 2242 128GB SSD, Support PLP.
I/O Interface-Front	■ 1 × VGA and 1 × HDMI display output ■ 1 × EtherCAT port, 1 × Intel® I210 GbE LAN port ■ 4× USB 3.0 ■ 2 × COM (1 × RS232/422/485, 1 × RS232) via DB9 ■ 1 × 8 bit GPIO (4IN/4OUT) via DB15 ■ 1 × 3-pic DC input, typical 12 or 24V DC input with ±20% range
Expansion Slot	■ 1 × mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/fieldbus modules
Power Requirement	■ Typical 12 or 24V DC input with ±20% range
Dimensions	■ 85mm (W) × 157mm (D) × 214mm (H)
Mounting	■ Wall mount ■ DIN rail (Optional)
Construction	■ Aluminum and metal chassis with fanless design
Environment	■ Operating temperature: Ambient with air flow: 0°C to 50°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14) ■ Storage temperature: -20°C to 80°C ■ Relative humidity: 10% to 95% (non-condensing) ■ Shock protection: ✓ SSD: 20G, half sine, 11ms, IEC60068-2-27 ✓ CFast: 50G, half sine, 11ms, IEC60068-2-27 ■ Vibration protection w/ CFast & SSD condition: ✓ Random: 2Grms @ 5~500Hz, IEC60068-2-64 ✓ Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-6
Certifications	■ CE ■ FCC Class A

Dimension Drawing



Software Architecture



Pre-Installed Software Package & Realtime Performance

- Operating System: **Win10 IOT 22H2**
- Real-Time Package: **INTime 7.x**
- EtherCAT Master: **NexECM**
- Realtime Performance **: Class A (< 50us)**

Ordering Information

ECM M300-I (P/N: 98EMM300I01XF)
EtherCAT Master Controller, NexECM bundle INtime 7.1 runtime. Intel® Celeron® J6412 With DDR4 8GB, 128G 3DTLC-PLP SSD, Win10 License, Without Adapter.

Optional Accessories
5040370004X00 **DIN RAIL Kit**