



Main Features

- Support 3rd generation Intel® Core™ i5-3610ME processor with Intel® QM77 PCH
- EtherCAT technology with NexECM, Class A EtherCAT Master
- EtherCAT communication cycle up to 250 μ s
- Support CoE protocol
- Support high-level API for CiA 402 profile
- Support DC (distributed clocks) technology
- Build-in full function EtherCAT application configurator
- Management of real-time task SDK
- I/O access API for Windows user mode and RTX subsystem

Product Overview

NET 3600E-ECM is an open real-time EtherCAT controller over Windows real-time extension, RTX, allowing integrating users' algorithm and I/O control with communication cycle up to 250 μ s. Not only does NET 3600E-ECM support CoE protocol, but provide advanced API for CiA 402 profile, enabling seamless integration with servo drivers. Distributed Clocks function support allows synchronization of all slave modules. In addition, NET 3600E-ECM offers comprehensive and easy-to-use application configurator for system development and debugging to speed up development period.

Specifications

EtherCAT Master

- Slave module no.: up to 64
- Cycle time: up to 250 μ s
- Synchronization error: \pm 50ns
- Support CiA 402 standard protocol

System

- Intel® Core™ i5-3610ME processor pre-installed
- 1 x 4GB DDR3 SDRAM, pre-installed
- 160GB or above HDD pre-installed
- 1 x EtherCAT port (Intel® 82574L)
- 1 x Intel® GbE LAN port
- 2 x DisplayPorts and 1 x VGA or 2 x DisplayPorts and 1 x DVI-D
- 4 x USB 3.0 & 2 x USB 2.0 ports
- 1 x CFast socket
- 5 x RS232 & 1 x RS232/422/485 with Auto Flow Control
- One PCIe x4 slot (10W max. per slot)
 - 169mm max. with HDD installed
 - 240mm max. without HDD installed

Power Requirements

- DC input range: +9 to 30V_{dc} input

Dimensions

- 216mm (W) x 270mm (D) x 93mm (H)

Environment

- Operating temperature:
 - Ambient with air flow: -5°C to 55°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection:
 - Random: 0.5Grms @ 5~500 Hz according to IEC68-2-64
 - Sinusoidal: 0.5 Grms @ 5~500 Hz according to IEC68-2-6

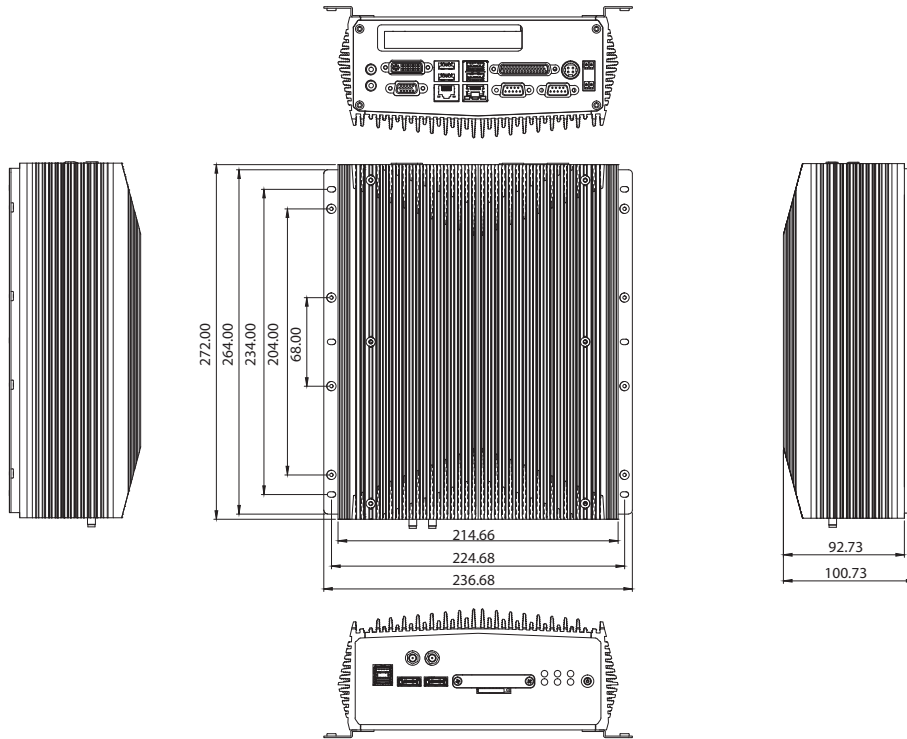
Certifications

- CE
- FCC Class A

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
 - RTX2012/RTX2016 for 32-bit OS
 - RTX2014/RTX64 3.0 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

Dimension Drawing



EtherCAT Support Table

Feature Name	Short Description	NexECMRtx
Basic Features		
Service Commands	Support of all commands	√
IRQ Field in Datagram	Use IRQ information from Slave in datagram header	√
Slaves with Device Emulation	Support Slaves with and without application controller	√
EtherCAT State Machine	Support of ESM special behavior	√
Error Handling	Checking of network or slave errors, e.g. working counter	√
Process Data Exchange		
Cyclic PDO	Cyclic process data exchange	√
Network Configuration		
Reading ENI	Network configuration taken from ENI file	√
Compare Network Configuration	Compare configured and existing network configuration during boot-up	√
Explicit Device Identification	Identification used for hot connect and prevention against cable swapping	√
Station Alias Addressing	Support configured station alias in slave, i.e. enable 2nd Address and use it	√
Access to EEPROM	Support routines to access EEPROM via ESC register	√

Mailbox Support		
Support Mailbox	Main functionality for mailbox transfer	√
Mailbox polling	Polling mailbox state in slaves	√
CAN Application Layer Over EtherCAT (CoE)		
SDO Up/Download	Normal and expedited transfer	√
Complete Access	Transfer the entire object (with all sub-indices) at once	√
Distributed Clocks		
DC	Support of distributed clock	√

Ordering Information

♦ NET 3600E (P/N: A0J10360005X0)

High performance EtherCAT controller

Image Selection

NET 3600E-ECM WES7 32-bit & RTX2012 (P/N:88J10360001X0)

NET 3600E-ECM WES7 32-bit & RTX2016 (P/N:88J10360002X0)

NET 3600E-ECM WES7 64-bit & RTX2014 (P/N:88J10360003X0)

NET 3600E-ECM WES7 64-bit & RTX64 3.0 (P/N:88J10360004X0)

♦ 19V, 120W AC/DC power adapter w/o power core (P/N: 7410120002X00)