NET3600E-NR0

High Performance EtherCAT Controller
with NexECM and RTX

Main Features

- Support 3rd generation Intel® Core™ i5-3610 processor with Intel® QM77 PCH
- EtherCAT technology with NexECM, Class B EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 µs
- Support CoE protocol
- Support high-level API for CiA 402 profile
- Support DC (Distributed Clocks) technology
- Build-in full function EtherCAT application configurator, NexCAT
- Management of real time task SDK
- I/O access API for Windows user mode and RTX subsystem

Product Overview

NET3600E-NR0 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 µs. Not only does NET3600E-NR0 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, NET3600E-NR0 offers comprehensive and easy-to-use application configurator, NexCAT, for system development and debugging to speed up development period.

Specifications

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 Display Ports and 1 x VGA or 2 x Display Ports and 1 x DVI-D
- 4 x USB3.0 & 2 x USB2.0 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

Optional Remote I/O

- Modular type:
  - Coupler: IM-053-1EC00
  - Digital input modules: SM-021-1BF00
  - Digital output modules: SM-022-1BF00
  - Analog input modules: SM-031-1BB70
  - Analog output modules: SM-032-1CB70
- Terminal type
  - Digital I/O Modules: AXE-9200

Pre-installed Software Package

- Operating System: Windows Embedded Standard 7
- Windows Extension: RTX 2012
- EtherCAT Master: NexECM
- EtherCAT Configurator: NexCAT

Power Requirements

- DC input range: +9 to 30VDC input

Dimensions

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

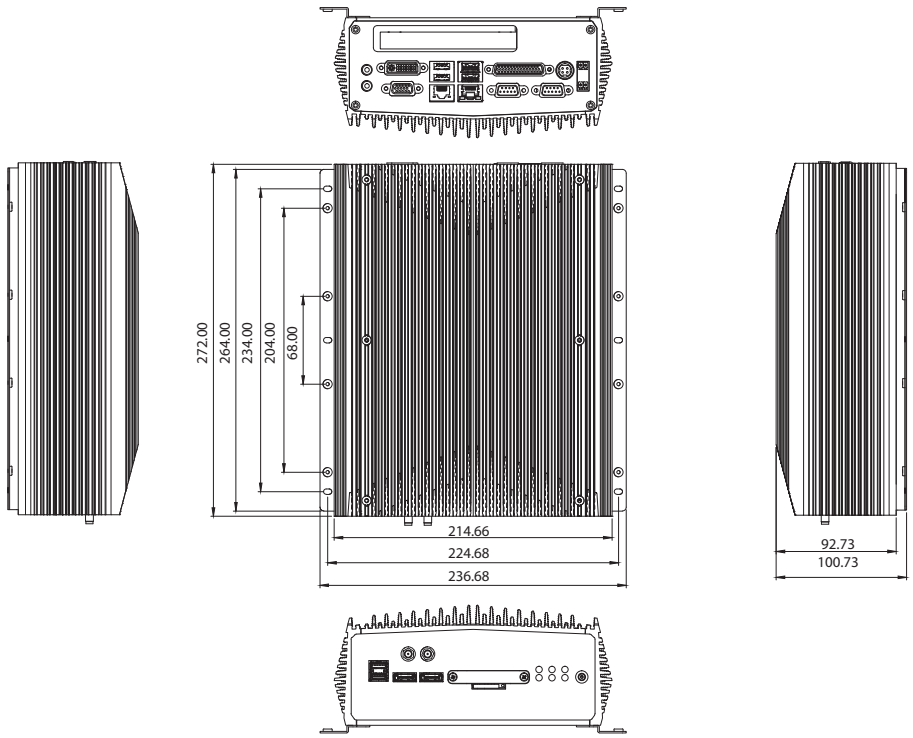
Environment

- 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

Dimension Drawing



EtherCAT Support Table

Feature Name	Short Description	NexECMRtx
Basic Features		
Service Commands	Support of all commands	V
IRQ field in datagram	Use IRQ information from Slave in datagram header	V
Slaves with Device Emulation	Support Slaves with and without application controller	V
EtherCAT State Machine	Support of ESM special behavior	V
Error Handling	Checking of network or slave errors, e.g. Working Counter	V
Process Data Exchange		
Cyclic PDO	Cyclic process data exchange	V
Network Configuration		
Reading ENI	Network Configuration taken from ENI file	V
Compare Network configuration	Compare configured and existing network configuration during boot-up	V
Explicit Device Identification	Identification used for Hot Connect and prevention against cable swapping	V
Station Alias Addressing	Support configured station alias in slave, i.e. enable 2nd Address and use it	V
Access to EEPROM	Support routines to access EEPROM via ESC register	V
Mailbox Support		
Support Mailbox	Main functionality for mailbox transfer	V
Mailbox polling	Polling Mailbox state in slaves	V
CAN application layer over EtherCAT (CoE)		
SDO Up/ Download	Normal and expedited transfer	V
Complete Access	Transfer the entire object (with all sub-indices) at Once	V
Distributed Clocks		
DC	Support of Distributed Clock	V

Ordering Information

EtherCAT Controller

- **NET3600E-NR0 (P/N: TBD)**
  High performance EtherCAT controller with NexECM and RTX

Consistancy

- **AXE-9200 (P/N: 10J40920000X0)**
  Remote I/O module with 16-CH digital input and 16-CH digital output