

GMC-311F

64-axis High-performance Motion Controller,
Intel® 6th Core™ i7-6700TE processor



Main Features

- Single-axis motion control up to 64 axes
- Group axes motion control up to 8 groups
- Single-axis control: PTP/Jog/Halt/Stop
- Axes group control: PTP/linear/3D arc
- Support C\C++, C# and VB.Net for user programming
- Support Intel® 6th Core™ i7-6700TE processor
- Intel® Q170 PCH
- 1 x DVI-D, and 1 x HDMI for dual independent display

Product Overview

GMC-311F presents an intelligent PC-based motion controller for robot and machinery. It integrates NexCOBOT's general motion control software, NexGMC, to perform real-time motion control and supports standard EtherCAT slaves. GMC-311F also provides widows APIs for general motion control applications and an integrated development environment called NexMotion Studio to speed up development time for automation users.

Specifications

NexGMC Runtime

- Single axis no.: up to 64 axes
- Single axis control functions: PTP/Jog/Halt/Stop
- Single axis blending motion: aborting/buffered/blending
- Single axis override functions: position/velocity/acceleration/deceleration
- Support axes group no.: up to 8 groups
- Support axes group type: Cartesian coordinates machine (XY, XYZ table, XYZ& θ)
- Axes group control functions: PTP/linear/2D arc/3D arc
- Axes blending motion: aborting/buffered/blending
- NexCOBOT EtherCAT master, CoE and DC supported
- Support standard EtherCAT slave devices

NexMotion Studio

- EtherCAT devices offline edit and online scan
- EtherCAT master configuration
- PDO mapping edit
- Online SDO edit
- Export ENI
- CiA 402 device operation: PP/PV/PT/CSP
- Single axis edit and operation
- Group axes edit and operation
- I/O mapping edit and operation
- Provide simulation operation mode

Teach Pendant HMI

- Optional TPUI software

CPU/Chipset

- Intel® 6th Core™ i7-6700TE, 2.3 GHz
- Intel® Q170 Chipset

Main Memory

- 4 GB DDR4 2400 SO-DIMM

Storage

- 256 GB 2.5" SATA3 MLC SSD

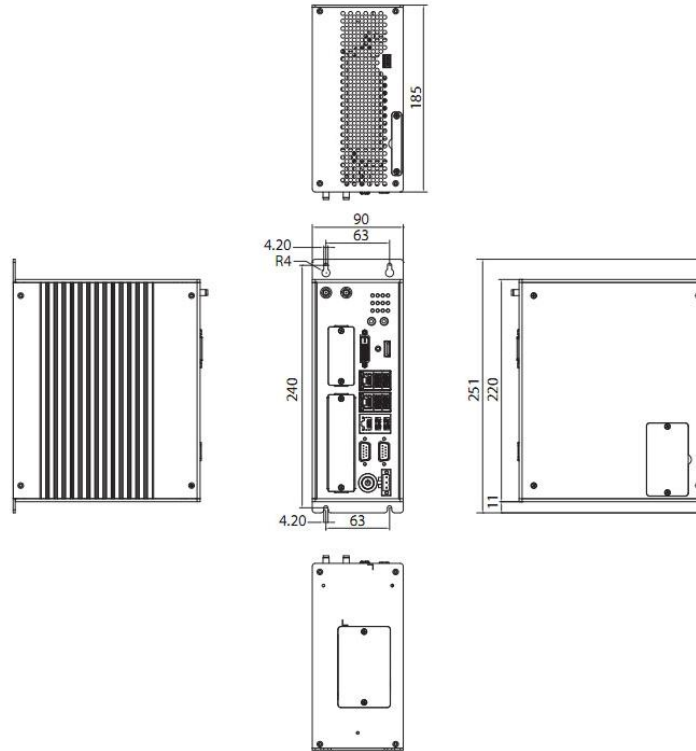
Display

- Dual independent display (HDMI, DVI-D)

I/O Interface- Front

- 1 x ATX power on/off switch
- 1 x HDMI and 1 x DVI-D
- 4 x USB 3.0 ports (900mA per each)
- 2 x USB 2.0 ports (500mA per each)
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna holes for Wi-Fi/ GSM
- 1 x Front access 2.5" HDD tray
- 1 x Mini-PCIe expansion support optional modules
- 2 x RS232/422/485 auto with 2.5KV Isolation
- 3 x Intel® I210IT GbE LAN ports, support WoL, teaming and PXE

Dimension Drawing



I/O Interface-Top

- 1 x 3-pin remote switch
- 1 x CFast expansion
- 1 x SIM card

User Programming

- Provide windows APIs for user programming
- Support programming language: C\C++, C#, VB.Net

Storage Device

- 1 x CFast (SATA 3.0)1 x 2.5" HDD (external, SATA 3.0)
- 1 x 2.5" HDD (internal, SATA 3.0)
- 1 x mSATA (via internal Mini-PCIe socket)

Expansion Slots

- 2 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power requirement

- AT/ ATX power mode (default with ATX power mode)
- Power input: typical +24 VDC $\pm 20\%$

Dimensions

- 90 mm(W) x 185mm (D) x 251mm (H)

Pre-installed Software Package

- Operating system: Windows Embedded Standard 7 (32-bit, 64-bit)
- NexGMC Runtime
- NexMotion Studio

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 85°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
 - HDD: 20G, half sine, 11ms, IEC60068-27
 - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/HDD condition:
 - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
 - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-64

Certifications

- CE/FCC Class A

Ordering Information

- **GMC-311F (P/N: 98GMC311F000F)**
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