NControl Series

The Comprehensive CNC Solution
for 2D/3D Special Machining

Main Features

- Support 2D½ & 3D CNC machining
- Support EtherCAT and MechatrolinkIII protocols
- G/M Code supported
- Tool Center Point (TCP) Support
- Look ahead speed planning (up to 1024 blocks)
- High speed machining with polynomial interpolation
- TCP with high speed machining
- Multiple CNC channels supported
- Up to 24 channels can be customized

Product Overview

NControl series provides a comprehensive CNC solution to 2D and 3D machining. Providing high level CNC functionalities, such as TCP for 5-axis machining and high speed machining with look ahead and polynomial, NControl series ensures high machining precision with high speed. Derived from NexMotion cloud and open feature, NControl series can upgrade its function without changing any hardware and can easily integrate with 3rd party hardware and software.

Specifications

System

- Intel® Core™ 2 Duo P8400 processor pre-installed
- 2GB DDR3 SDRAM, pre-installed
- 32GB SSD pre-installed
- Windows CE 6.0 pre-installed
- VGA/DVI-I independent display
- 2 x Intel® GbE LAN ports (support WoL & LAN teaming)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with Auto Flow Control)
- 6 x USB 2.0 ports
- 1 x PS2 Connector supporting KB/MS
- Fast I/O: 4 digital in/4 digital out
- Analog I/O: 1 in (16-bit)/1 out (16-bit)
- Encoder: 1 in (A/B/Z phase)

CNC Control

- Axes Management
  - Circular 3D interpolation
  - Rollover Axes
  - Gantry Axes
  - Dynamic follower axes
- Canned Cycles
  - Spot-facing (G82)
  - Deep drilling with chip take out (G83)
  - Tapping (G84)
  - Reaming or tapping by Tapmatic (G85)
  - Boring with spot facing (G89)
- Motion control types
  - G code ISO 6983 programming
  - M, S, T functions programming
  - Look Ahead (up to 1024 blocks)
  - Velocity Feed Forward (VFF)
- Tool Centre Point (TCP)
  - TCP for Double Twist and Prismatic Heads with 2 or 3 rotary axes
  - TCP for non-standard kinematics
- Special Feature
  - Bidirectional pitch compensation

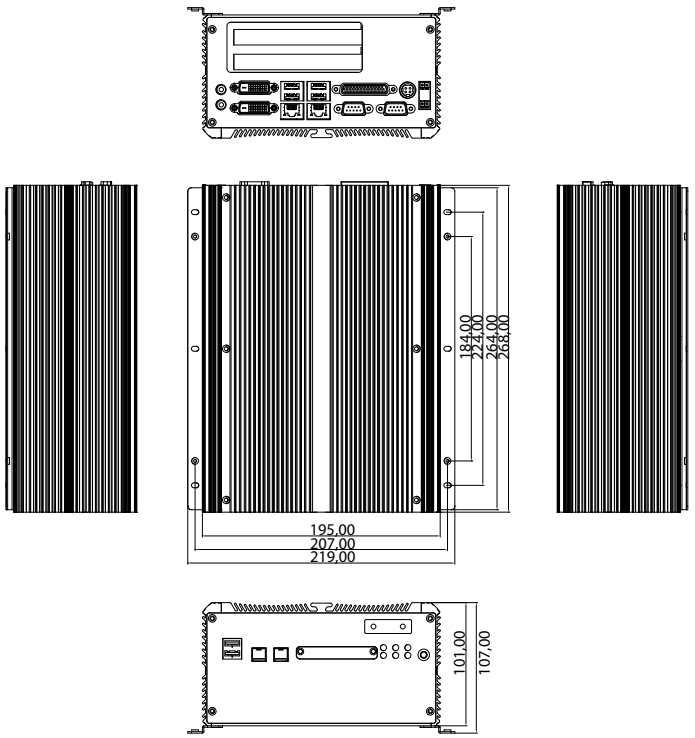
Optional Remote I/O

- Modular type
  - Coupler: C-101
  - Digital I/O module: E-101/E-201/E-202
  - Analog I/O module: E-501
- Terminal type
  - Digital I/O module: AXE-9200

Power Requirements

- DC input range: +16 to 30VDC input ATX Power mode
  (Optional AC/DC 120W power adapter)

Dimension Drawing



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:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CF: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500 Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500 Hz according to IEC60068-2-6

Certifications

- CE
- FCC Class A

Ordering Information

CNC Controller

- **NControl20**
  2D½ CNC Controller for Machining and Turning Center with Win CE 6.0
- **NControl20D**
  2D½ CNC Controller for Machining and Turning Center with Win CE 6.0 and WE2009
- **NControl30**
  3D CNC Controller for Machining and Turning Center with Win CE 6.0
- **NControl30D**
  3D CNC Controller for Machining and Turning Center with Win CE 6.0 and WE2009

Optional Accessories

- **C-101 Coupler**
  OPENrio EtherCAT Bus-coupler
- **E-101 Module**
  OPENrio 16 Digital Input block
- **E-201 Module**
  OPENrio 16 Digital Output block
- **E-202 Module**
  OPENrio 4 x 2A Digital Output block
- **E-501 Module**
  OPENrio 2 Analog Input and 2 Analog Output block