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Robotic Automation Solutions



Total EtherCAT Automation Solutions

NexCOBOT is committed to being your trustworthy partner in building open and modular intelligent robot control and motion control solutions. To surpass customers' expectations, NexCOBOT makes the difference by utilizing its industrial computing experience, having a strategic sales and marketing team, and a highly talented R&D team in Taiwan, US, and China, and by providing exceptional levels of global customer service. To enable smart manufacturing, NexCOBOT's leading robot and machinery solution combines EtherCAT fieldbus, advanced motion control and robotic automation technology to provide development flexibility and fulfill the requirements of highlevel customization. With these core strengths, NexCOBOT has helped its customers accelerate the digital transformation and gain competitive advantages.



Machinery System

NexCOBOT's EtherCAT-based machinery solution provides integrated motion control hardware and software systems to enable fast and high performance industrial automation applications with ready-to-use features, speeding up development process and deployment time. Various I/O modules are also available for flexible expansion of input and output signals in machines.



Industrial ODM

NexCOBOT offers design manufacturing and customization service based on customer's unique product specifications and application requirements. It supports high-level customization service that includes FPGA, RTOS and communication protocol customization. NexCOBOT's dedicated R&D team specializes in designing high performance and quality industrial controllers and software to assist our customers speed up time-to-market.



Collaborative Robot System

Compared to industrial robots, collaborative robots (cobots) play a more agile role in modern manufacturing. NexCOBOT's cobot solution includes cobot controller, AI computer vision and gateway to provide modular selection flexibilities, accelerate machine learning algorithms and connectivity to different brands of robots to fulfill diversified needs in cobot systems.



Industrial Robot System

NexROBA, for industrial robot systems, is an open and modular EtherCAT-based robot solution including robotic controller and teach pendant with development flexibility and expandability of the system to fit different application requirements. The solution supports a broad selection of industrial robots, such as 7-axis and 6-axis articulated robots, delta robots, SCARA robots, all of which can be enabled to operate collaboratively.



Key Solutions for Smart Manufacturing

NexCOBOT provides product solutions for smart manufacturing and assists customers in building factory automation systems. Based on open EtherCAT communication, equipments and devices can be easily deployed and connected in series, including industrial robots, machine tools, general-purpose machines, and conveyor system, all of which will eventually be integrated into the production management system. NexCOBOT's comprehensive control systems include CNC control, motion control, industrial and collaborative robot control. These control systems based on EtherCAT and corresponding control software can not only be built as standalone machines, but also configured as a robotic control system for different application scenarios. To meet more advanced control requirements, NexCOBOT further provides application software packages bundled with domain knowledge for various industrial uses. Customers can also package their own industry-specific functions as value-added features to implement into advanced automation system.



Robot System



GRC-200C

Robot Control Cabinet

- Suitable for Articulated, SCARA and Delta robot
- Support Tamagawa, Nikon encoder interface
- Extension digital I/O: 16in/16out
- Provide PoE for machine vision application (optional)
- Dimensions: 480 x 270 x 460 mm
- Integrated with NexCOBOT robotic controller: NexGRC



TP-100-2

Teach Pendant

- 10.1" WXGA 1280x800 500 nits LED panel
- Support HDMI display
- 5 points projected capacitive touch with Full IP 65 protection
- 3-Position Enabling switch & E-Stop Button
- EMC(IEC/EN 61000-6-2/4) compliance
- Support up to 20M cable



SRB 100

Smart Robot Gateway

- Robot connectivity: YASKAWA, FANUC, KUKA, ABB, UR, EPSON
- R2M communication: Modbus TCP, TCP/IP
- R2C communication: MQTT
- Provide friendly web-based UI for configuration
- Max Number of Connected Robots: 2



NEXGRC

General Robot Control Software

- Support Articulated, SCARA and Delta robot
- Support 4 groups motion
- Support extension single-axis control up to 16 axes
- Provide simulation of robot
- Provide 3D view function
- Provide Windows APIs for user programming

Machine Automation



ECM-110F

EtherCAT Master Controller

- Standard EtherCAT communication
- EtherCAT communication cycle up to 250 μ s
- Support CiA 402 profile
- Provide Windows API
- Provide Real-time API (need to work with Real-time OS SDK)
- Onboard Intel® Celeron® J1900 processor



GMC-211F

32-axis High-performance Motion Controller

- Single-axis motion control up to 32 axes
- Group axes motion control up to 4 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 TM i5-6500TE processor



GMC-311F

64-axis High-performance Motion Controller

- 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 TM i7-6700TE processor



NEXECM

EtherCAT Master Software

- Standard EtherCAT communication
- Support up to 64 stand EtherCAT slave modules
- EtherCAT communication cycle up to 250 μ s
- Support DC, PDO, SDO, CiA402, CoE, FoE, ESI, ENI
- Provide Windows API
- Powerful utility - NexECM studio

EtherCAT I/O Module



NEIO-B1812

32-ch Digital Input/Output EtherCAT Slave Module

- Provide 16-ch digital input (PNP/NPN), 16-ch digital output (PNP)
- Digital input support 24 Vdc
- Digital input filter: 1 ms
- Digital output current support 500mA/ch
- Digital output support 24 Vdc



NEIO-B1841

8-ch AI, 2-ch AO, 16-ch DI/O EtherCAT Slave Module

- Provide 8-ch analog inputs (single-ended), 2-ch analog outputs
- Provide 8-ch digital input (PNP/NPN), 8-ch digital output (PNP)
- Analog input/output support voltage and current mode
- Analog input/output support 16-bit resolution
- Digital input filter: 1 ms
- Digital output current support 500mA/ch



NEIO-C1812

Compact 32-ch Digital Input/Output EtherCAT Slave Module

- Provide 16-ch digital input (PNP/NPN), 16-ch digital output (PNP)
- Digital input/output support 24 Vdc
- Digital input filter: 1 ms
- Digital output current support 500mA/ch
- Dimensions: 68 x 104 x 34 mm (W x H x D)



AXE-5904

4-axis Pulse Type EtherCAT Slave Module

- 4-axis independent control and pulse output up to 4Mpps
- Pulse output options: CW/ CCW, OUT/DIR
- 4x differential encoder interface, ABZ phase
- Support CiA 402 device profile
- Provide general purpose I/O
- Support EtherCAT slave communication

Industrial ODM Solution



MARS355

Motion Automation Relay System

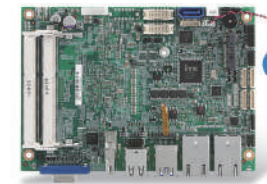
- Supports Intel® Celeron® J1900 processor
- 1 x SO-DIMM DDR3L with non-ECC SO-DIMM 1333MHZ up to 4GB
- Supports LVDS or VGA
- NVRAM design is available to store data even without power
- Customized FPGA design, DI/DO scalability for CNC machine
- EtherCAT solution to enhance efficiency of factory automation facilities



MARS100

Robotic Automation Controller System

- Supports 6th Gen. Intel® Core™ i7/ i5 /i3 Processors, LGA1151 socket
- Dual channel DDR4 with ECC or non-ECC SO-DIMM 2666MHZ up to 32GB
- 4 x Intel® GbE LAN ports
- Supports 1x PoE with IEEE 802.3af compliant
- Suitable for machine vision, factory AOI inspection application
- EtherCAT solution to enhance efficiency of factory automation facilities



EBC358

3.5" embedded SBC board

- Supports Intel® Atom® x6000 series processor
- Supports dual independent display, VGA, HDMI 1.4b
- 3 x Intel® GbE LAN ports, support 1x 2.5GbE for AOI solution
- DC-in 12V or 24V power input
- Wide-range operating temperature from -20°C ~ 70°C
- Supports Intel® UHD Graphics up to 32EUs, for AI edge computing



ICES675S

COM Express Type 6 Basic module

- Supports 8/9th Gen. Intel® Core™ i9/ i7/ i5 /i3 Processors
- LGA1151 socket for flexible scalability
- Dual channel DDR4 with ECC or non-ECC SO-DIMM 2666MHZ up to 32GB
- Supports triple independent display, VGA, 2 x DP , 24-bit dual channel LVDS/DP
- Rich I/O for 1 x GbE LAN, 4 x USB3.1 GEN1, 8 x USB2.0, 4 x SATA3.0
- Supports AT or ATX mode