Robot Controller System

Compact Solutions for
Small Payload Robot

TP100 RCS200

Main Features

- Compact size
- Suitable for small payload robot
- Wide range motor supported
- Provide PoE for machine vision application
- Integrated with NexCOBOT robotic controller: NexGRC/NexARC

Product Overview

NexCOBOT Robot Control System (RCS) ensures simple and powerful robotic automation. RCS adapt NexCOBOT intelligent PC-based robotic controller and integrates with NexCOBOT's robotic control software, NexGRC/NexARC, is an efficient and flexible robotic control system. RCS is designed for small payload robot such as articulated robot (6 axis & 7 axis), SCARA robot and Delta robot. RCS support several different brand motor which allows user have more flexibility for their own robot solution. RCS also provide EtherCAT port and PoE port for user to connect to EtherCAT slaves and machine vision devices, let the robot system easily to extend axis control and integrate with machine visioin application.

Specifications

RCS

- Integrated with NexCOBOT robotic controller: NexGRC/NexARC
- Integrated with NexCOBOT teach pedant: TP100
- Provide PoE for machine vision application: 1 x PoE, IEEE 802.3af compliant
- Provide EtherCAT extension port for connecting more EtherCAT slaves
- Integrated with NexCOBOT safety controller and provide safety I/O
- Provide extension digital I/O: 16in/16out

Including Additional Hardware

- TP100

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- NexGRC/NexARC runtime
- NexMotion studio

NexGRC Runtime

- Support robot type: articulated (6 axis)/SCARA/Delta
- Robot control command: PTP/linear/3D arc
- Robot blending motion: aborting/buffered/blending
- Extension single axis no.: up to 8 axes
- Single axis control functions: PTP/jog/halt/stop
- Single axis blending motion: aborting/buffered/blending
- Single axis override functions: position/velocity/acceleration/deceleration
- NexCOBOT EtherCAT master, CoE and DC supported
- Support standard EtherCAT slave devices

NexARC Runtime

- Support robot type: articulated (6 & 7 Axis)
- Robot control command: PTP/linear/3D arc
- Robot blending motion: aborting/ buffered/ blending
- Ramp profile: T curve/S curve
- Optimize path planning: joint limit/self-collision avoidance
- Co-Robot function: hand-guide/collision detect stop
- NexCOBOT EtherCAT Master, CoE and DC supported
- Support EtherCAT slave devices

RCB100

RCB 100 robot controller provides robot control functionalities integrated with NexGRC, and rich I/Os such as 2 x I210 LAN port for EtherCAT communication, 1 x VGA port to connect to teach pendant, and 2 x USB 2.0 for software license dongle. RCB100 also comes with isolated digital I/O for multiple usages and PoE port to connect to Industrial cameras.

- Mini-ITX Form Factor(17 × 17 cm)
- 6th Gen Core i7 / i5 / i3 LGA1151 socket
- Intel® H110 chipset
- 2x DDR4 SO-DIMM, support up to 16GB
- 1 x SATA port
- Edge I/O
  - 1 x RS232/422/485 with Auto flow control
  - 1 x HDMI (4096x2160 @24Hz, 24 bpp)
  - 2 x USB 3.0, 4 x USB 2.0
  - 2 x I211AT GbE LAN
  - 1 x PoE, IEEE 802.3af compliant
- Internal I/O
  - 1 x RS232/422/485 with Auto flow control
  - 2 x I210-AT GbE LAN
  - 2 x USB 2.0
  - 1 x VGA (1920 x 1200@60Hz)
  - Isolated 12 DI (NPN/PNP), 4 DO (PNP)
- Expansion
  - 1 x PCIex16 (Gen3.0)
  - 1 x mPCIe
- Support AT/ATX mode
- Environment
  - Operation temperature: 0~60°C with CPU fan and system fan
  - Operation temperature: -20~80°C
  - Relative humidity: 90%, non-condensing

Platform Selection Guide

Item	RCS 100	RCS 200
Dimensions (W x H x D)	300 x 270 x 300 mm	480 x 270 x 460 mm
Processor	6th Gen Celeron G3900	6th Gen Celeron G3900
Number of axes	7 axis (200W*3+100W*2+50W*2)	6 axis (Max 750 W*6) 7 axis (option) (Max 750 W*7) 8 axis (option) (Max 750 W*8)
Supported motors	Sanyo Denki 48 V_{DC} servo	Tamagawa AC servo Sanyo Denki AC servo (option)
Supported Encoder		Tamagawa Nikon
Rated supply voltage	120V to 240V AC	240V AC
Protection rating	IP20	IP20