SCB 100

Mini ITX Board with Functional Safety

Main Features

- Compliant to IEC-61508
- Supports EtherCAT Slave Communication
- Support 12-ch in/4-ch out safety I/O
- Supports HDMI Display
- Supports Intel® Elkhart Lake Processor
- Supports 2x DDR4 SO-DIMM, Up to 32GB
- Supports 4 x Intel GbE LAX, 6 x USB 2.0/3.0, 2 x COM, 1 x mPCIe

Product Overview

NexCOBOT's SCB 100 (Safety Control Board) is a MiniITX board with functional safety compatibility. It supports I/Os and interfaces needed as a controller platform to build robotic control and motion control systems. Moreover, it is designed to comply with functional safety standard and provides safety-related features such as safety I/O and extra EtherCAT slave ports. Robotic control and safety control can all be implemented with SCB 100 alone to simply system architecture.

Specifications

Safety
- Safety integrity level: SIL2
- Safety digital I/O, 12 in/ 4 out, dual channel, 24V 0.2A

CPU
- Intel® ATOM x6427FE

Main Memory
- 2 x DDR4 SO-DIMM, support up to 32GB(Support IBECC)

Storage
- 1 x EMMC 64G/32G/16G
- 1 x UFS 64G/32G/16G(Optional)

Display
- 1 x HDMI display

I/O Interface-Rear
- 2 x DB9 for RS232/422/485 (Auto flow control)
- 1 x HDMI
- 2 x USB 3.0, 4 x USB2.0
- 4 x LAN port
- 2 x EtherCAT slave port (IN, OUT)

Expansion Slots
- 1 x Mini PCIe

Power Requirements
- Power input: 24V 5A, -15% ~ +20%, acc. to IEC 61131-2
- Support AT/ATX mode

OS Support List
- Yocto

Dimensions
- 170 X 170 X 34.9 mm

Environment
- Operation Temperature: -20˚C to 60˚C
- Storage temperature: -40˚C to 85˚C
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 90% (non-operating, non-condensing)

Certifications
- CE/FCC (EN61000-6-4 / EN61000-6-2)
- Functional Safety (IEC 61508)

Ordering Information

- **SCB 100 (P/N: TBD)**
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