Modular control system CPX-E

Powerful!

Designed as an EtherCAT® master controller and motion controller with protection to IP20, the powerful automation system CPX-E for factory and process automation with NE21-specific certifications is becoming the central control system for handling technology. Several bus modules are available for the configuration as a compact and low-cost remote I/O.

Highlights
- High performance (dual core 766 MHz, 512 MB RAM)
- EtherCAT master interface
- Bus slave interfaces
  - PROFINET
  - EtherNet/IP
- USB interface
- SD card interface
- Optional display
- CODESYS V3 as of Service Pack 10
- Motion functions such as SoftMotion
- UL/CSA, C-Tick, IEC Ex certifications

Powerful control
In addition to comprehensive PLC functions right up to multiple axis applications with interpolation, the CPX-E can be easily integrated into existing host systems. This is made possible by the EtherCAT® master interface, the integrated PROFINET device interface or the EtherNet/IP slave interface. The OPC UA client and server functions ensure easy integration and interoperability in Industry 4.0 host environments with cloud and digitalisation concepts.

Complete solution for a large number of applications
CPX-E features specific software functions tailored to products and solution packages from Festo, for example:
- Handling technology
  - Parts handling
  - Assembly systems
  - Palletising
  - Gluing, dispensing
- Complete automation
  - Packaging machines (flow wrappers)
  - Palletising systems
  - Selective soldering systems
  - Wafer handling systems
Modular control system CPX-E

Automation system for factory and process automation

System overview

- Standardised CODESYS programming interface.
- CPX-E provides a complete answer to customer tasks, whether universal or Festo system solution.
- Significantly reduced engineering workload: we offer you integrated data management in combination with the Automation Suite software.
- Extended software functions for seamless integration and easy actuation of electric drives from Festo.

System advantages

- Standardised, integrated platform for consistent combination of servo technology and stepper motor technology. Ideal for smooth mixed operation, and an identical appearance for the customer interface.
- All motion control functions are embedded into the controller world.
- High I/O component density.
- Easy mounting on H-rail.

CPX-E: Individual modules and components

Input/output modules and bus modules

- Digital input modules (16DI)*
- Digital output modules (8 DO/0.5 A)*
- Analogue input module (4 AI current/voltage)
- Analogue output module (4 AO current/voltage)
- IO-Link® master modules (4 channels)*
- Counter module (1 channel)

*For process automation applications, these modules meet the interference immunity requirements in accordance with NE21 for process and laboratory control equipment.

Bus modules

The EtherNet/IP module CPX-E-EP also supports the Modbus/TCP protocol.

Depending on the module combination, the system can be configured and used as a purely remote I/O system (with bus module) or as a control system (with control unit).

Control units

The control units are currently available in two versions.

1. Controller CPX-E-CEC-C1-PN: The C1 variant is a powerful CODESYS V3 control unit with comprehensive PLC functions, but with no specific motion control functions.

2. Motion controller CPX-E-CEC-M1-PN: The M1 variant is a motion controller that supports SoftMotion in addition to CODESYS V3. SoftMotion is a powerful software library for simple and complex motion control applications and includes:

- PLCopen Parts 1 and 2
- Robotics (PLCopen Part 4)
- Cam disc editor
- CNC editor (dxf file import)

The PN variants can be integrated as slaves on PROFINET. EP variants for EtherNet/IP will also be available from the end of 2018.