

EC2250 EtherCAT Compact Controller

Effective communication with CODESYS V3 controller with onboard I/Os

The new compact EC2250 controller is designed for short PLC cycle times and hard real-time. This is made possible with a powerful, scalable 800 MHz Arm® CPU with a Cortex™-A9 core. A comprehensive range of digital and analogue I/Os is to be found located in the PLC controller itself, which also features the current CODESYS V3 programming language. In combination with the CODESYS SoftMotion package technologically sophisticated multi-axis drive applications can be exploited.

An extensive range of communication interfaces is integrated in the unit: Ethernet, EtherCAT, CAN Bus, RS232 and RS485. Additional protocols such as PROFINET, BACnet and Modbus are also available. Applications include compact machines and building automation. For visualisation the EC2250 uses CODESYS target and Web-Visu and the appropriate Ethernet terminals.



- Short cycle and rapid reaction times
- CODESYS V3 (programming, visualisation, communication and SoftMotion) throughout
- EtherCAT master, CANopen master
- Serial interfaces
- 32 digital I/Os
- 18 analogue I/Os
- Optional expansion card

Improved performance at reduced cost

The 800 MHz Arm® CPU with Cortex™ A9 core brings the efficiency of top-hat rail PCs to small display controllers. This means substantial saving potential (e.g. due to the fact that expensive additional components are not required). The scalable single core CPU may be deployed as a pin-compatible dual or quad core version in the DC2250.

Onboard I/Os and storage media

The compact controller has 16 digital inputs and 16 digital outputs, as well as 12 analogue inputs for temperature, current and voltage measurements on the controller, complemented by 6 analogue voltage outputs.

The gathering, processing and the storing of data using the Micro SD slot and USB interface count among the most essential PLC controller functions.

Integrated CODESYS

The CODESYS programming tool provides a broad range of benefits, from IEC61131-3 programming to object orientation. Communication can be configured in the CODESYS control configuration or be implemented with additional communication libraries. Like visualisation, the SoftMotion package is also integrated in the tool. The fact that controlling, visualising and communicating are united in one project file provides a good overview when creating the project, while simplifying remote maintenance.

Data	
Description	EC2250
Dimensions W x H x D [mm]	Approx. 215 x 110 x 50 (without plug) / aluminium housing for top-hat rail mounting
Certification	CE according to EN 61131-2 / cUL (UL 508) product norm; in preparation
Development environment	CODESYS V3 (IEC61131-3)
CPU	800MHz ARM® CPU with Cortex™ A9 single core (optional: dual or quad core)
RAM / Flash memory / Retain storage	256 MB RAM / 256 MB Flash / 100 kB FRAM (not including buffer battery)
Communication interfaces	1 x Ethernet, 10/100 base T1 3 x RJ45 using switchport (protocols: e.g. TCP/IP, Modbus TCP, BACnet, PROFINET) 1 x EtherCAT T2 / RJ45 (EtherCAT master) 1 x CAN bus (protocols: CAN Bus and / or CANopen master) 1 x RS485 (protocols: Modbus RTU) 1 x RS232
Further functions and additional storage	1 x USB 2.0 host / USB plug WR-COM Port A 1 x Micro SD card slot 1 x optional onboard expansion e.g. for communication card or additional I/Os 1 x real-time clock, battery buffered
Digital I/Os	16 x digital In (common GND potential) 16 x digital Out (0.5 A); total current 4 x 2A; 4 outputs with separate 24V connection in each case (common GND potential)
Analogue I/Os	6 x analogue In switchable between 0..10 V and 4..20mA / 12 bit resolution 6 x analogue In, switchable between 0..10 V and 4..20mA / 12 bit resolution and PT1000 temperature measurement 2-conductor 12 bit, resolution 0.1°C, accuracy +/-1°C 6 x analogue Out 0-10V (8 bit resolution)
Supply voltage	+24 VDC (-15% / +20%) SELV max. AC voltage component 5% with reverse voltage protection
Current consumption	PLC: typ. 0.5 A, max. 2.0 A at +24 VDC, I/O: 4 x max. 2 A according to I/O load
Operating conditions Transport / storage	Ambient temperature: 0 °C to 55 °C / Transport -20 °C to +70 °C Relative humidity: max. 85 %, non-condensing

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