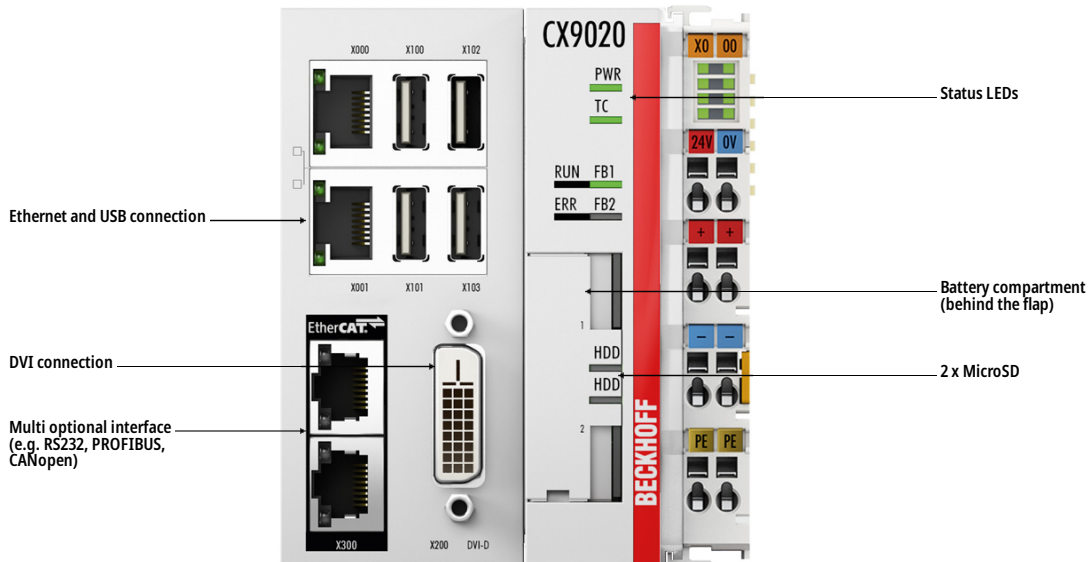


CX9020 | Basic CPU module



i Product status: regular delivery

The CX9020 is a compact, DIN rail-mountable Ethernet control system with 1 GHz ARM Cortex™-A8 CPU. The connection for the Beckhoff I/O systems is directly integrated into the CPU module. The unit offers automatic bus system identification (E-bus or K-bus) and independently switches in the corresponding mode. The CX9020 comprises the CPU with two microSD card slots, the internal RAM and 128 kB NOVRAM as non-volatile memory. The basic configuration also includes two switched Ethernet RJ45 interfaces, four USB 2.0 interfaces and a DVI-D interface. The RJ45 interfaces are connected to an internal switch and offer a simple option for creating a line topology without the need for additional Ethernet switches. The operating system is Windows Embedded Compact 7. TwinCAT automation software transforms a CX9020 system into a powerful PLC and motion control system that can be operated with or without visualization. Optionally, the unit can be ordered with a fieldbus, serial or audio interface.

The extended operating temperature range between -25 °C and +60 °C enables application in climatically demanding situations.

Product information

Technical data

Technical data	CX9020
Processor	ARM Cortex™-A8, 1 GHz
Number of cores	1
Flash memory	2 x slot for microSD card, 512 MB included (expandable)
Main memory	1 GB DDR3 RAM (not expandable)

Persistent memory	128 kB NOVRAM integrated
Interfaces	2 x RJ45 10/100 Mbit/s (internal switch), 1 x DVI-D, 4 x USB 2.0, 1 x optional interface
Diagnostics LED	1 x power, 1 x TC status, 2 x flash access, 2 x bus status
Clock	internal battery-backed clock for time and date (battery exchangeable)
Operating system	Windows Embedded Compact 7, English
Control software	TwinCAT 2 runtime TwinCAT 3 runtime (XAR)
I/O connection	E-bus or K-bus, automatic recognition
Power supply	24 V DC (-15 %/+20 %)
Current supply E-bus/K-bus	2 A
Max. power consumption	5 W
Max. power consumption (with loading UPS)	9 W
Dimensions (W x H x D)	84 mm x 100 mm x 91 mm
Weight	approx. 590 g
Relative humidity	95 %, no condensation
Operating/storage temperature	-25...+60 °C/-40...+85 °C
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
Protection rating	IP20
Approvals/markings	CE, UL, DNV GL, with CX2900-0107 ordering option: ATEX, IECEx, cFMus
Ex marking	ATEX: II 3 G Ex nA IIC T4 Gc II 3 D Ex tc IIIC T135 °C Dc IECEx: Ex nA IIC T4 Gc Ex tc IIIC T135 °C Dc cFMus: Class I, Division 2, Groups A, B, C, D Class I, Zone 2, AEx ec IIC T4 Gc
TwinCAT 3 platform level	Economy Plus (30); please see here for an overview of all the TwinCAT 3 platform level

Ordering information

S = operating system options
 0 = no operating system
 1 = Windows Embedded Compact 7

T = TwinCAT software licenses
 0 = no TwinCAT
 1 = equipped with TwinCAT 2 PLC runtime
 2 = equipped with TwinCAT 2 NC PTP runtime
 5 = equipped with TwinCAT 3 runtime (XAR),
 no licenses included

CX9020-01ST

Ordering information	
CX9020-0100	CPU module, no operating system, no TwinCAT
CX9020-0110	CPU module, Windows Embedded Compact 7, no TwinCAT
CX9020-0111	CPU module, Windows Embedded Compact 7, TwinCAT 2 PLC runtime
CX9020-0112	CPU module, Windows Embedded Compact 7, TwinCAT 2 NC PTP runtime
CX9020-0115	CPU module, Windows Embedded Compact 7, TwinCAT 3 runtime (XAR), no licenses included

CX9020-0100: only suitable for Linux® (no Windows CE is possible), for further information see <http://github.com/beckhoff>

Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

TwinCAT 3 runtime (XAR) is preinstalled, without licenses. Please order TwinCAT 3 licenses separately from the TwinCAT 3 Price List.

Options

Options	
CX9020-U900	internal, capacitive 1-second UPS to ensure secure backup of persistent application data on the microSD card
CX1900-0123	1 GB microSD card, instead of 512 MB microSD card
CX1900-0125	2 GB microSD card, instead of 512 MB microSD card
CX1900-0127	4 GB microSD card, instead of 512 MB microSD card
CX1900-0129	8 GB microSD card, instead of 512 MB microSD card
CX2900-0107	Device modification for CX5120, CX5130, CX5140 and CX9020 Embedded PCs according to the requirements for ATEX, IECEx and FM certification. The modification is mandatory for the usage of CX5120, CX5130, CX5140 and CX9020 in hazardous areas, zone 2/22 respectively Class I, Div. 2. It includes the modification and repositioning of the device label as well as a mounting bracket installed ex works for mechanical locking of the connectors. Product labeling: ATEX: II 3 G Ex nA IIC T4 Gc and II 3 D Ex tc IIIC T135 °C Dc IECEx: Ex nA IIC T4 Gc and Ex tc IIIC T135 °C Dc cFMus: CL I, DIV 2. GP A, B, C, D and CL I, Zn 2 AEx/Ex ec IIC T4 Gc Read the device documentation for use in hazardous areas carefully.

Optional interfaces	
CX9020-N020	audio interface, 3 x 3.5 mm jack sockets, Line In, Mic In, Line Out
CX9020-N030	RS232 interface, D-sub plug, 9-pin (RXD, TXD, RTS, CTS)
CX9020-N031	RS485 interface, D-sub socket, 9-pin, configuration as an end point, without echo, termination on
CX9020-N031-0001	RS485 interface, D-sub socket, 9-pin, configuration as an end point, with echo, termination on

CX9020-N031-0003	RS485 interface, D-sub socket, 9-pin, configuration as drop point, with echo, termination off
CX9020-N031-0004	RS422 interface, D-sub socket, 9-pin, configuration as full duplex end point, termination on
CX9020-B110	EtherCAT slave interface, EtherCAT IN and OUT (2 x RJ45)
CX9020-M310	PROFIBUS master interface, D-sub socket, 9-pin
CX9020-B310	PROFIBUS slave interface, D-sub socket, 9-pin
CX9020-M510	CANopen master interface, D-sub plug, 9-pin
CX9020-B510	CANopen slave interface, D-sub plug, 9-pin
CX9020-M930	PROFINET RT, controller interface, Ethernet (2 x RJ45 switch)
CX9020-B930	PROFINET RT, device interface, Ethernet (2 x RJ45 switched)

Accessories

Accessories	
CX1900-0102	Spare battery suitable for CX10x0, CX81x0, CX5xxx, CX90x0, CX20xx – lithium button cell type CR2032, 3V/225 mAh – follow polarity when installing
CX1900-0122	512 MB microSD card
CX1900-0124	1 GB microSD card
CX1900-0126	2 GB microSD card
CX1900-0128	4 GB microSD card
CX1900-0130	8 GB microSD card