

CX5120 | Embedded PC with Intel Atom® E3815

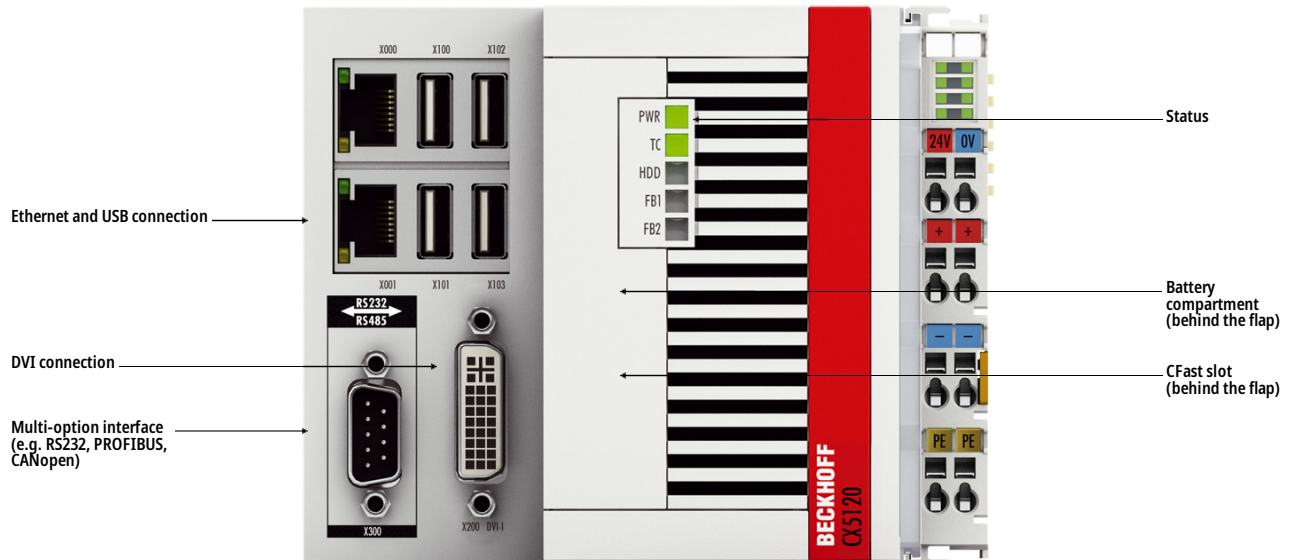


Image similar, may contain optional accessories

i **Product status:** regular delivery

The CX5120 has an Intel Atom® single-core processor with a clock rate of 1.46 GHz. The hardware interfaces in this series are oriented and implemented identically to those of the existing CX5000 series. Two independent, Gigabit-capable Ethernet interfaces as well as four USB 2.0 and a DVI-I interface are available. A multitude of further connection options or gateway functions are created by an optional interface, which can be pre-fitted in the factory, as well as the I/O level, which can selectively consist either of E-bus or K-bus terminals.

The CX5120 is characterized by low power consumption and fanless design.

Depending on the installed TwinCAT runtime environment, the CX5120 can be used for implementing PLC or PLC/motion control projects with or without visualization. The execution of motion control applications with interpolating axis movements is also possible.

Like the CX5000, the CX5100 series has a compact design; a modular device with extension modules like in the CX2000 series is not available.

Product information

Technical data

Technical data	CX5120
Processor	Intel Atom® E3815, 1.46 GHz

Number of cores	1
Flash memory	slot for CFast card and microSD card, cards not included
Main memory	2 GB DDR3 RAM (not expandable)
1-second UPS	integrated (1 MB on CFast card)
Interfaces	2 x RJ45 10/100/1000 Mbit/s, 1 x DVI-I, 4 x USB 2.0, 1 x optional interface
Cooling	passive
Diagnostics LED	1 x power, 1 x TC status, 1 x flash access, 2 x bus status
Clock	internal battery-backed clock for time and date (battery exchangeable)
Operating system	Windows Embedded Compact 7, Windows Embedded Standard 7, Windows 10 IoT Enterprise 2016 LTSC, Windows 10 IoT Enterprise 2019 LTSC, Windows 10 IoT Enterprise 2021 LTSC, TwinCAT/BSD
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	11 W
Max. power consumption (with loading UPS)	18 W
Max. power consumption E-bus/K-bus	10 W (5 V/max. 2 A)
Weight	approx. 975 g
Dimensions (W x H x D)	122 mm x 100 mm x 92 mm
Relative humidity	95%, no condensation
Operating temperature	-25...+60°C
Storage temperature	-40...+85°C
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protection rating	IP20
Approvals/markings	CE, UL, 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	Performance (40); 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
- 2 = Windows Embedded Standard 7 P 32 bit
- 3 = Windows Embedded Standard 7 P 64 bit
- 4 = Windows 10 IoT Enterprise 2016 LTSB 32 bit
- 5 = Windows 10 IoT Enterprise 2016 LTSB 64 bit
- 6 = Windows 10 IoT Enterprise 2019 LTSC 32 bit
- 7 = Windows 10 IoT Enterprise 2019 LTSC 64 bit
- 8 = TwinCAT/BSD
- 9 = Windows 10 IoT Enterprise 2021 LTSC 64 bit

T = TwinCAT software licenses

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

CX51x0-01ST

Ordering information	
CX5120-0100	CPU module, no operating system, no TwinCAT
CX5120-0110	CPU module, Microsoft Windows Embedded Compact 7, no TwinCAT
CX5120-0111	CPU module, Microsoft Windows Embedded Compact 7, TwinCAT 2 PLC runtime
CX5120-0112	CPU module, Microsoft Windows Embedded Compact 7, TwinCAT 2 NC PTP runtime
CX5120-0113	CPU module, Microsoft Windows Embedded Compact 7, TwinCAT 2 NC I runtime
CX5120-0115	CPU module, Microsoft Windows Embedded Compact 7, TwinCAT 3 runtime (XAR), no licenses included
CX5120-0120	CPU module, Microsoft Windows Embedded Standard 7 P, 32 bit, no TwinCAT
CX5120-0121	CPU module, Microsoft Windows Embedded Standard 7 P, 32 bit, TwinCAT 2 PLC runtime
CX5120-0122	CPU module, Microsoft Windows Embedded Standard 7 P, 32 bit, TwinCAT 2 NC PTP runtime
CX5120-0123	CPU module, Microsoft Windows Embedded Standard 7 P, 32 bit, TwinCAT 2 NC I runtime
CX5120-0125	CPU module, Microsoft Windows Embedded Standard 7 P, 32 bit, TwinCAT 3 runtime (XAR), no licenses included
CX5120-0130	CPU module, Microsoft Windows Embedded Standard 7 P, 64 bit, no TwinCAT
CX5120-0135	CPU module, Microsoft Windows Embedded Standard 7 P, 64 bit, TwinCAT 3 runtime (XAR), no licenses included
CX5120-0140	CPU module, Microsoft Windows 10 IoT Enterprise 2016 LTSB, 32 bit, no TwinCAT
CX5120-0141	CPU module, Microsoft Windows 10 IoT Enterprise 2016 LTSB, 32 bit, TwinCAT 2 PLC runtime
CX5120-0142	CPU module, Microsoft Windows 10 IoT Enterprise 2016 LTSB, 32 bit, TwinCAT 2 NC PTP runtime
CX5120-0143	CPU module, Microsoft Windows 10 IoT Enterprise 2016 LTSB, 32 bit, TwinCAT 2 NC I runtime
CX5120-0150	CPU module, Microsoft Windows 10 IoT Enterprise 2016 LTSB, 64 bit, no TwinCAT
CX5120-0155	CPU module, Microsoft Windows 10 IoT Enterprise 2016 LTSB, 64 bit, TwinCAT 3 runtime (XAR), no licenses included
CX5120-0160	CPU module, Microsoft Windows 10 IoT Enterprise 2019 LTSC, 32 bit, no TwinCAT

CX5120-0161	CPU module, Microsoft Windows 10 IoT Enterprise 2019 LTSC, 32 bit, TwinCAT 2 PLC runtime
CX5120-0162	CPU module, Microsoft Windows 10 IoT Enterprise 2019 LTSC, 32 bit, TwinCAT 2 NC PTP runtime
CX5120-0163	CPU module, Microsoft Windows 10 IoT Enterprise 2019 LTSC, 32 bit, TwinCAT 2 NC I runtime
CX5120-0170	CPU module, Microsoft Windows 10 IoT Enterprise 2019 LTSC, 64 bit, no TwinCAT
CX5120-0175	CPU module, Microsoft Windows 10 IoT Enterprise 2019 LTSC, 64 bit, TwinCAT 3 runtime (XAR), no licenses included
CX5120-0185	CPU module, TwinCAT/BSD, TwinCAT 3 runtime (XAR), no licenses included
CX5120-0190	CPU module, Microsoft Windows 10 IoT Enterprise 2021 LTSC, 64 bit, no TwinCAT
CX5120-0195	CPU module, Microsoft Windows 10 IoT Enterprise 2021 LTSC, 64 bit, TwinCAT 3 runtime (XAR), no licenses included

CX51x0-016x: only 4 GB RAM can be used with Windows 10 IoT Enterprise 2019 LTSC 32 Bit.

The end date of the extended support for the operating systems Microsoft Windows Embedded Compact 7 and Microsoft Windows Embedded Standard 7 has already passed. Up-to-date security updates can no longer be provided. TwinCAT is only supported up to build 4024.

Windows Embedded Compact 7 and TwinCAT/BSD require a CFast flash card with a minimum capacity of 20 GB. Other operating systems require a CFast flash card with a minimum capacity of 40 GB.

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

Options

Options	
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	
CX5120-N020	Audio interface, 3 x 3.5 mm jack sockets, Line In, Mic In, Line Out or 5.1 Surround. Is not supported by Windows Embedded Compact 7.
CX5120-N030	RS232 interface, D-sub plug, 9-pin (RXD, TXD, RTS, CTS)
CX5120-N031	RS485 interface, D-sub socket, 9-pin, configuration as an end point, without echo, termination on
CX5120-N031-0001	RS485 interface, D-sub socket, 9-pin, configuration as an end point, with echo, termination on

CX5120-N031-0002	RS485 interface, D-sub socket, 9-pin, configuration as drop point, without echo, termination off
CX5120-N031-0003	RS485 interface, D-sub socket, 9-pin, configuration as drop point, with echo, termination off
CX5120-N031-0004	RS422 interface, D-sub socket, 9-pin, configuration as full duplex end point, termination on
CX5120-M112	2 x EtherCAT master interface
CX5120-B110	EtherCAT slave interface, EtherCAT IN and OUT (2 x RJ45)
CX5120-M310	PROFIBUS master interface, D-sub socket, 9-pin
CX5120-B310	PROFIBUS slave interface, D-sub socket, 9-pin
CX5120-M510	CANopen master interface, D-sub plug, 9-pin
CX5120-B510	CANopen slave interface, D-sub plug, 9-pin
CX5120-M930	PROFINET RT, controller interface, Ethernet (2 x RJ45 switch)
CX5120-B930	PROFINET RT, device interface, Ethernet (2 x RJ45 switched)

Accessories

Accessories	
CX1900-0101	DVI-to-VGA passive adaptor for connecting a standard desktop VGA monitor to the CX system (singles out the VGA signals of the DVI-I interface).
CX2900-0108	Logo strips for CX5xxx, transparent for individual labeling, package contents 20 units
CX1900-0122	512 MB microSD card
CX1900-0124	1 GB microSD card
CX1900-0132	16 GB microSD card
CX2900-0026	20 GB CFast card, 3D flash, extended temperature range (only for Windows CE or TwinCAT/BSD operating systems)
CX2900-0038	40 GB CFast card, 3D flash, extended temperature range
CX2900-0040	80 GB CFast card, 3D flash, extended temperature range
CX2900-0042	160 GB CFast card, 3D flash, extended temperature range
CX2900-0044	320 GB CFast card, 3D flash, extended temperature range
C9900-K530,-K552,-K553,-K554	USB cable, shielded, PVC, 1 x 2 x 28AWG + 2C 20AWG, fixed installation, black, USB A, plug, straight, male, 4-pin – USB B, plug, straight, male, 4-pin
C9900-K569,-K570,K577	USB cable, shielded, PVC, 2 x 2 x AWG28 + 1 x 2 AWG28 + 1 x 2 x AWG24, fixed installation, black, USB A, plug, straight, male, 9-pin – USB B, plug, straight, male, 9-pin
ZK1090-9191-0xxx	RJ45, plug, straight, male, 8-pin – RJ45, plug, straight, male, 8-pin
ZK1093-9191-0xxx	RJ45, plug, straight, male, 8-pin – RJ45, plug, straight, male, 8-pin
C9900-K527,-K549,-K550,-K568	Display cable, shielded, PVC, fixed installation, black, DVI-D, plug, straight, male, 18 + 1-pin – DVI-D, plug, straight, male, 18 + 1-pin

<u>C9900-K528,-K529,-K534...K537,-K688</u>	Display cable, shielded, PVC, 14 x AWG24, fixed installation, black, DVI-D, plug, straight, male, 18 + 1-pin – DVI-D, plug, straight, male, 18 + 1-pin
<u>C9900-K780...K783,-K820</u>	Display cable, shielded, PVC, fixed installation, black, DVI-D, plug, straight, male, 24 + 1-pin – DisplayPort, plug, straight, male, 20-pin
<u>C9900-K543,-K544,-K507,-K555,-K651</u>	Display cable, shielded, PVC, fixed installation, black, DVI-D, plug, straight, male, 24 + 1-pin – M16, plug, straight, female, 19-pin
<u>BZ1xxx</u>	100 contact labels, various colors, pre-printed
<u>BZ2xxx</u>	100 contact labels, various colors, blank