CX1020 | Basic CPU module

Status LEDs
PC/104 interface
Compact Flash insert
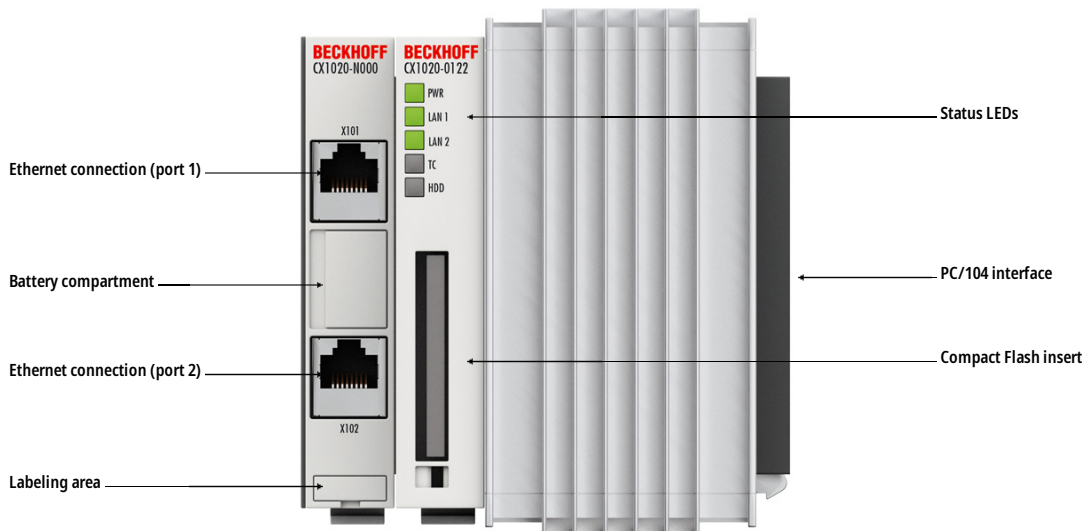Ethernet connection (port 1)
Battery compartment
Ethernet connection (port 2)
Labeling area

Product status: last time buy | recommended alternative: CX2033, CX2043

The basic CX1020 CPU module has a 1 GHz Intel® CPU. The controller does not require a fan or other rotating components. In addition to the CPU and the chipset, the CX1020 module also contains the main memory, which is available in different sizes. The controller boots from the Compact Flash.

The basic configuration of the CX1020 includes a 128 MB Compact Flash card and two Ethernet RJ45 interfaces. These interfaces are connected to an internal switch and offer a simple option for creating a line topology without the need for additional Ethernet switches. All other CX family components can be connected via the PC/104 interface that is available on both sides. The passive cooling module is included in the scope of supply. The operating system can be Windows Embedded CE 6 or Windows Embedded Standard 2009. The TwinCAT 2 automation software transforms a CX1020 system into a powerful PLC and motion control system that can be operated with or without visualization. In contrast to the CX1010, the CX1020 can also be used for interpolating axis movements with TwinCAT 2 NC I.

Further system interfaces or fieldbus connections can be added to the basic CPU module. The CPU module requires a CX1100 type power supply module. All CX1500 fieldbus modules and all CX1100 power supplies from the CX series can be used in combination with the CX1020.

The Embedded PC CX1020 is also available as the ordering option CX1900-0320 with zero second level cache. Instead of the 1 GHz processor with 512 kB second level cache (L2), a less expensive variant of the processor without a second level cache (L2 = 0 kB) is used. Since the CX1900-0320 has the same 855GME chipset as the CX1020, none of the basic characteristics of the CX1020 are changed, apart from the slightly lower CPU power.

Product information

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Technical data

Technical data	CX1020
Processor	Intel® Celeron® M ULV, 1 GHz clock frequency
Number of cores	1
Flash memory	slot for Compact Flash card, 128 MB included (expandable)
Main memory	256 MB DDR RAM (expandable ex factory to 1 GB)
Interfaces	2 x RJ45 10/100 Mbit/s (internal switch)
Diagnostics LED	1 x power, 2 x LAN link/activity, TC status, 1 x flash access
Expansion slot	1 x Compact Flash type I+II insert with eject mechanism
Clock	internal battery-backed clock for time and date (battery exchangeable)
Operating system	Windows Embedded CE 6, Windows Embedded Standard 2009
Control software	TwinCAT 2 PLC runtime, NC PTP runtime, NC I runtime
System bus	16 bit ISA (PC/104)
I/O connection	via power supply module (E-bus, K-bus, K-bus/IP-Link)
Power supply	via system bus (through CX1100-xxxx power supply modules)
Max. power consumption	11 W
Dimensions (W x H x D)	96 mm x 112 mm x 99 mm
Weight	approx. 550 g
Relative humidity	95 %, no condensation
Operating/storage temperature	0...+50 °C/-25...+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

Ordering information

Ordering information	
CX1020-0000	CPU module, no operating system, no TwinCAT
CX1020-0010	CPU module, Microsoft Windows Embedded CE 6.0, no TwinCAT
CX1020-0011	CPU module, Microsoft Windows Embedded CE 6.0, TwinCAT 2 PLC runtime
CX1020-0012	CPU module, Microsoft Windows Embedded CE 6.0, TwinCAT 2 NC PTP runtime
CX1020-0013	CPU module, Microsoft Windows Embedded CE 6.0, TwinCAT 2 NC I runtime
CX1020-0100	CPU module, DVI/USB, no operating system, no TwinCAT

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CX1020-0111	CPU module, DVI/USB, Microsoft Windows Embedded CE 6.0, TwinCAT 2 PLC runtime
CX1020-0112	CPU module, DVI/USB, Microsoft Windows Embedded CE 6.0, TwinCAT 2 NC PTP runtime
CX1020-0113	CPU module, DVI/USB, Microsoft Windows Embedded CE 6.0, TwinCAT 2 NC I runtime
CX1020-0020	CPU module, Microsoft Windows Embedded Standard 2009, no TwinCAT
CX1020-0021	CPU module, Microsoft Windows Embedded Standard 2009, TwinCAT 2 PLC runtime
CX1020-0022	CPU module, Microsoft Windows Embedded Standard 2009, TwinCAT 2 NC PTP runtime
CX1020-0023	CPU module, Microsoft Windows Embedded Standard 2009, TwinCAT 2 NC I runtime
CX1020-0120	CPU module, DVI/USB, Microsoft Windows Embedded Standard 2009, no TwinCAT
CX1020-0121	CPU module, DVI/USB, Microsoft Windows Embedded Standard 2009, TwinCAT 2 PLC runtime
CX1020-0122	CPU module, DVI/USB, Microsoft Windows Embedded Standard 2009, TwinCAT 2 NC PTP runtime
CX1020-0123	CPU module, DVI/USB, Microsoft Windows Embedded Standard 2009, TwinCAT 2 NC I runtime

Options

Options	
CX1900-0320	option for basic CPU module CX1020: Intel® Celeron® M processor 1 GHz, zero second level cache
CX1900-0120	"Active cooling": factory conversion of the CX1020 CPU module for active cooling in order to enable flexible installation positions (see documentation). Active cooling takes place via a fan cartridge. This option requires the use of a power supply unit type CX1100-001x.
CX1900-00xx	Aditionally expandable memory: 1, 2, 4 and 8 GB Compact Flash card
CX1900-001x	Formatting a Compact Flash card (bootable)

Accessories

Accessories	
CX1900-00xx	Optionally expandable memory ex factory. Instead of 128 MB Compact Flash card: 1, 2, 4 and 8 GB Compact Flash card
CX1900-0200	Universal plastic labels (5 x 15 mm) suitable for the premolded spots on the CX components

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