



i CX9020 | Basic CPU module

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 (K-bus or E-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 RJ 45 interfaces, four USB-2.0 interfaces and a DVI-D interface. The RJ 45 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 Microsoft Windows Embedded Compact 7. TwinCAT 2 automation software transforms a CX9020 system into a powerful PLC and Motion Control system that can be operated with or without visualisation. Optionally, the unit can be ordered with a fieldbus, serial or audio interface.

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

The order identifier of the basic CPU module is derived as follows:

<p>CX9020-011T</p> <ul style="list-style-type: none"> 0 = without TwinCAT 1 = with TwinCAT 2 PLC run-time 2 = with TwinCAT 2 PLC/NC run-time 	<p>Optional interfaces:</p> <ul style="list-style-type: none"> CX9020-N020 = audio interface CX9020-N030 = RS232, D-sub plug CX9020-N031 = RS422/RS485, D-sub socket CX9020-B110 = EtherCAT slave, EtherCAT IIN and OUT (2 x RJ 45) CX9020-M310 = PROFIBUS master, D-sub socket, 9-pin CX9020-B310 = PROFIBUS slave, D-sub socket, 9-pin CX9020-M510 = CANopen master, D-sub plug, 9-pin CX9020-B510 = CANopen slave, D-sub plug, 9-pin CX9020-M930 = PROFINET RT, controller CX9020-B930 = PROFINET RT, device, Ethernet (2 x RJ 45 switch) CX9020-B950 = EtherNet/IP slave, Ethernet (2 x RJ 45 switch)
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Technical data	CX9020
Processor	ARM Cortex™-A8, 1 GHz
Flash memory	256 MB microSD (optionally expandable), 2 x microSD card slot
Internal main memory	1 GB DDR3 RAM
Persistent memory	128 KB NOVRAM integrated
Interfaces	2 x RJ 45 (Ethernet, internal switch), 10/100 Mbit/s, 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	Microsoft Windows Embedded Compact 7
Control software	TwinCAT 2 PLC runtime or TwinCAT 2 NC PTP runtime
Power supply	24 V DC (-15 %/+20 %)
Dielectric strength	500 V (supply/internal electronics)
NOVRAM	128 kbytes
Current supply I/O terminals	2 A
Max. power loss	5 W (including the system interfaces)
Dimensions (W x H x D)	85 mm x 100 mm x 91 mm
Operating/storage temperature	-25...+60 °C/-25...+85 °C
Relative humidity	95 %, no condensation
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 class	IP 20

TC3 performance class economy plus (30), not yet available; please see [here](#) for an overview of all the TwinCAT 3 performance classes

Ordering information	no TwinCAT	TwinCAT 2 PLC runtime	TwinCAT 2 NC runtime
CX9020-0110	x	–	–
CX9020-0111	–	x	–
CX9020-0112	–	–	x

i **Product announcement** CX9020-011T, CX9020-N0xx, CX9020-x310, CX9020-x510, CX9020-B110: available
CX9020-x930, CX9020-B950: estimated market release 4th quarter 2013