



i CX5100 | Embedded PC series with Intel® Atom™ processor

CX5120, CX5130 and CX5140 are Embedded PCs from the CX5100 series based on the Intel® Atom™ multi-core processors. They differ from one another in housing width and CPU type. What is new is that the available Atom™ CPUs now also introduce genuine multi-core technology, extending up to quad-core, into the compact Embedded PC segment. Since the new devices are an extension of the existing CX5000 series, they are equipped with identical hardware interfaces. Two independent Gigabit-capable Ethernet interfaces as well as four USB 2.0 and one DVI-I interface are available. A multitude of further connection options and gateway functions is created by the multi-option interface, which can be pre-equipped ex factory, as well as the I/O level, which can optionally consist of either E-Bus or K-Bus Terminals.

All devices in the series are characterised by low power consumption and fanless design.

Depending on the installed TwinCAT runtime environment, the CX5100 can be used for implementing PLC or PLC/Motion Control projects with or without visualisation. The execution of Motion Control applications with interpolating axis movements is also possible.

The extended operating temperature range from -25 to +60 °C enables the use of the CX5100 Embedded PCs in climatically demanding environments.

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

The order number for CX5100 units can be derived as follows:

CX51x0-01xx		Optional interfaces:
0	= operating system only	CX51x0-N020 = audio interface
1	= with TwinCAT 2 PLC runtime	CX51x0-N030 = RS232, D-sub plug
2	= with TwinCAT 2 NC PTP runtime	CX51x0-N031 = RS422/RS485, D-sub socket
3	= with TwinCAT 2 NC I runtime	CX51x0-M310 = PROFIBUS master, D-sub socket, 9-pin
0	= no operating system	CX51x0-B310 = PROFIBUS slave, D-sub socket, 9-pin
2	= operating system Windows Embedded Standard 7 P 32 bit	CX51x0-M510 = CANopen master, D-sub plug, 9-pin
3	= operating system Windows Embedded Standard 7 P 64 bit	CX51x0-B510 = CANopen slave, D-sub plug, 9-pin
2	= Intel® Atom™ processor single-core, 1.46 GHz	CX51x0-M930 = PROFINET RT, controller
3	= Intel® Atom™ processor dual-core, 1.75 GHz	CX51x0-B930 = PROFINET RT, device, Ethernet (2 x RJ 45 switch)
4	= Intel® Atom™ processor quad-core, 1.91 GHz	CX51x0-B950 = EtherNet/IP slave, Ethernet (2 x RJ 45 switch)
		CX51x0-B110 = EtherCAT slave, EtherCAT IN and OUT (2 x RJ 45)

Since not all combinations make sense, the table "Ordering information" contains a breakdown of the permissible combinations.

Technical data	CX5120	CX5130	CX5140
Processor	processor Intel® Atom™ E3815, 1.46 GHz, 1 core (TC3: 40)	processor Intel® Atom™ E3827, 1.75 GHz, 2 cores (TC3: 40)	processor Intel® Atom™ E3845, 1.91 GHz, 4 cores (TC3: 50)
Flash memory	slot for CFast card (card not included), slot for microSD card		
Internal main memory	2 GB DDR3 RAM (not expandable)	4 GB DDR3 RAM (not expandable)	4 GB DDR3 RAM (not expandable)
Persistent memory	integrated 1-second UPS (1 MB on CFast card)		
Interfaces	2 x RJ45, 10/100/1000 Mbit/s, DVI-I, 4 x USB 2.0, 1 x optional interface		
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	Microsoft Windows Embedded Standard 7 P		
Control software	TwinCAT 2 PLC runtime or TwinCAT 2 NC PTP runtime		
I/O connection	E-bus (EtherCAT Terminals) or K-bus (Bus Terminals), automatic recognition		
Power supply	24 V DC (-15 %/+20 %)		
Current supply E-bus/K-bus	2 A		
Max. power loss	9 W (including the system interfaces)	11 W (including the system interfaces)	12 W (including the system interfaces)
Dimensions (W x H x D)	124 mm x 100 mm x 92 mm	142 mm x 100 mm x 92 mm	142 mm x 100 mm x 92 mm
Weight	approx. 860 g	approx. 960 g	approx. 960 g
Operating/storage temperature	-25...+60 °C/-40...+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		
Approvals	CE, UL		
TC3 performance class	performance (40); please see here for an overview of all the TwinCAT 3 performance classes	performance (40); please see here for an overview of all the TwinCAT 3 performance classes	performance plus (50); please see here for an overview of all the TwinCAT 3 performance classes

Ordering information	no operating system	Windows Embedded Standard 7 P 32 bit	Windows Embedded Standard 7 P 64 bit	optional TwinCAT 3	TwinCAT 2 PLC runtime	TwinCAT 2 NC PTP runtime	TwinCAT 2 NC I runtime
CX5120-0100	x	–	–	–	–	–	–
CX5120-0120	–	x	–	x	–	–	–
CX5120-0121	–	x	–	–	x	–	–
CX5120-0122	–	x	–	–	–	x	–
CX5120-0123	–	x	–	–	–	–	x
CX5120-0130	–	–	x	x	–	–	–
CX5130-0100	x	–	–	–	–	–	–
CX5130-0120	–	x	–	x	–	–	–
CX5130-0121	–	x	–	–	x	–	–
CX5130-0122	–	x	–	–	–	x	–
CX5130-0123	–	x	–	–	–	–	x
CX5130-0130	–	–	x	x	–	–	–
CX5140-0100	x	–	–	–	–	–	–
CX5140-0120	–	x	–	x	–	–	–
CX5140-0121	–	x	–	–	x	–	–
CX5140-0122	–	x	–	–	–	x	–
CX5140-0123	–	x	–	–	–	–	x
CX5140-0130	–	–	x	x	–	–	–

Accessories	
CX5120-N020	audio interface, 3 x 3.5 mm jack sockets, Line In, Mic In, Line Out or 5.1 Surround
CX5120-N030	RS232 interface, D-sub plug, 9-pin
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-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)
CX5120-B930	PROFINET RT, device interface, Ethernet (2 x RJ45 switched)
CX5120-B950	EtherNet/IP slave interface, Ethernet (2 x RJ45 switched)
CX5130-N010	DVI-D interface, additional DVI-D port for clone or extended desktop operation
CX5130-N020	audio interface, 3 x 3.5 mm jack sockets, Line In, Mic In, Line Out or 5.1 Surround
CX5130-N030	RS232 interface, D-sub plug, 9-pin
CX5130-N031	RS485 interface, D-sub socket, 9-pin, configuration as an end point, without echo, termination on
CX5130-N031-0001	RS485 interface, D-sub socket, 9-pin, configuration as an end point, with echo, termination on
CX5130-N031-0002	RS485 interface, D-sub socket, 9-pin, configuration as drop point, without echo, termination off
CX5130-N031-0003	RS485 interface, D-sub socket, 9-pin, configuration as drop point, with echo, termination off
CX5130-N031-0004	RS422 interface, D-sub socket, 9-pin, configuration as full duplex end point, termination on
CX5130-B110	EtherCAT slave interface, EtherCAT IN and OUT (2 x RJ45)
CX5130-M310	PROFIBUS master interface, D-sub socket, 9-pin
CX5130-B310	PROFIBUS slave interface, D-sub socket, 9-pin
CX5130-M510	CANopen master interface, D-sub plug, 9-pin
CX5130-B510	CANopen slave interface, D-sub plug, 9-pin
CX5130-M930	PROFINET RT, controller interface, Ethernet (2 x RJ45)
CX5130-B930	PROFINET RT, device interface, Ethernet (2 x RJ45 switched)
CX5130-B950	EtherNet/IP slave interface, Ethernet (2 x RJ45 switched)
CX5140-N010	DVI-D interface, additional DVI-D port for clone or extended desktop operation
CX5140-N020	audio interface, 3 x 3.5 mm jack sockets, Line In, Mic In, Line Out or 5.1 Surround
CX5140-N030	RS232 interface, D-sub plug, 9-pin
CX5140-N031	RS485 interface, D-sub socket, 9-pin, configuration as an end point, without echo, termination on
CX5140-N031-0001	RS485 interface, D-sub socket, 9-pin, configuration as an end point, with echo, termination on
CX5140-N031-0002	RS485 interface, D-sub socket, 9-pin, configuration as drop point, without echo, termination off
CX5140-N031-0003	RS485 interface, D-sub socket, 9-pin, configuration as drop point, with echo, termination off
CX5140-N031-0004	RS422 interface, D-sub socket, 9-pin, configuration as full duplex end point, termination on
CX5140-B110	EtherCAT slave interface, EtherCAT IN and OUT (2 x RJ45)
CX5140-M310	PROFIBUS master interface, D-sub socket, 9-pin
CX5140-B310	PROFIBUS slave interface, D-sub socket, 9-pin
CX5140-M510	CANopen master interface, D-sub plug, 9-pin
CX5140-B510	CANopen slave interface, D-sub plug, 9-pin
CX5140-M930	PROFINET RT, controller interface, Ethernet (2 x RJ45)
CX5140-B930	PROFINET RT, device interface, Ethernet (2 x RJ45 switched)
CX5140-B950	EtherNet/IP slave interface, Ethernet (2 x RJ45 switched)
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).
CX2900-00xx	CFast cards: 2, 4, 8, 16, 32 GB CFast card



Product announcement

CX51x0-B950: estimated market release 1st quarter 2016