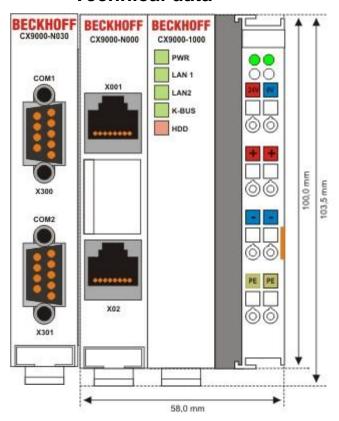
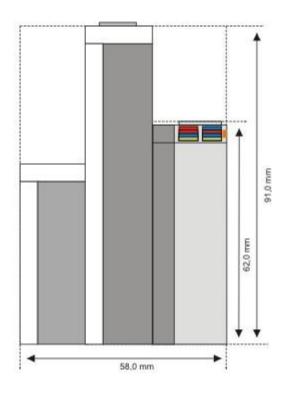
## Technical data





The CX9000 is a compact, top hat rail-mountable Ethernet Controller with direct connection to the Beckhoff I/O systems in IP 20. The CX9000 is available in two basic versions: one version for Bus Terminals with K-bus, the other one for EtherCAT Terminals with E-bus. The CX9000 comprises the CPU, the internal flash memory with two configuration options, the main memory (RAM) (available in two different sizes), and NOVRAM as non-volatile memory. Two Ethernet RJ 45 interfaces are also part of the basic configuration. 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. A memory medium in Compact Flash format I and II is available as an optional module (only in combination with system interface CX9000-N010). The operating system is Microsoft Windows CE. The TwinCAT automation software transforms a CX9000 system into powerful PLC and Motion Control system that can be operated with or without visualization. Further system interfaces can be connected to the CPU module ex works. The CX9000-N010 option can be connected to Beckhoff Control Panels or standard monitors with DVI or VGA input via the DVI and USB interfaces. Devices such as printer, scanner, mouse, keyboard, mass storage, CR-RW etc. can be connected via the USB2.0 interfaces. The module CX9000-N030 offers two serial RS232 interfaces with a maximum transfer speed of 115 kbaud. These two interfaces can be implemented as RS422/RS485, in which case they are identified as CX9000-N031.

Technical data	CX9000-1000
Processor	Intel® IXP420 with XScale® Technology, 266-MHz clock rate
Internal flash memory	16 MByte Flash (internal, expandable up to 32 MByte)

Internal main memory  64 MByte RAM (internal, expandable up to 128 MByte)  interfaces  2 x RJ 45 (internal Switch), 10/100 MBit  Diagnostics LEDs  1 x Power, 2 x LAN, 1 x K-Bus, 1 x Flash-Zugriff  Clock  internal battery-backed clock for time and date  Operating system  Microsoft Windows CE  Control software  TwinCAT-CE-PLC-Runtime or TwinCAT-CE-NC-PTP-Runtime  Power supply  24 Vpc (-15%/4-20%) To meet the UL requirements use a 4 A fuse or a power supply substitute as to satisfy NEC class 2!  □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□		
Diagnostics LEDs  1 x Power, 2 x LAN, 1 x K-Bus, 1 x Flash-Zugriff  Clock  internal battery-backed clock for time and date  Operating system  Microsoft Windows CE  Control software  TwinCAT-CE-PLC-Runtime or TwinCAT-CE-NC-PTP-Runtime  Power supply  24 V <sub>DC</sub> (-15%/+20%) To meet the UL requirements use a 4 A fuse or a power supply that has to satisfy NEC class 2!  **Display** Storman*** For Us/GNDs and Up/GNDp: Use 4 Amp. fuse or class 2 power supply  Dielectric strength  500 V <sub>ms</sub> (supply/internal electronics)  I/O connection  K-bus (Bus Terminals)  NOVRAM  128 kByte  I/O-DPRAM  4 kByte  Power supply I/O terminals  6 W (including CX9000-xxxxx system interfaces)  Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	Internal main memory	64 MByte RAM (internal, expandable up to 128 MByte)
Clock internal battery-backed clock for time and date  Operating system Microsoft Windows CE  Control software TwinCAT-CE-PLC-Runtime or TwinCAT-CE-NC-PTP-Runtime  Power supply 24 V <sub>DC</sub> (-15%/+20%) To meet the UL requirements use a 4 A fuse or a power supply that has to satisfy NEC class 2!  Operating system For Us/GNDs and Up/GNDp: Use 4 Amp. fuse or Class 2 power supply  Dielectric strength 500 V <sub>rms</sub> (supply/internal electronics)  I/O connection K-bus (Bus Terminals)  NOVRAM 128 kByte  I/O-DPRAM 4 kByte  Power supply I/O terminals 2 A  Max. power loss 6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D) 59 mm x 100 mm x 91 mm  weight ca. 250 g  Operating / storage temperature  Relative humidity 95% no condensation  Vibration/shock resistance conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD conforms to EN 61000-6-2/EN 61000-6-4	interfaces	2 x RJ 45 (internal Switch), 10/100 MBit
Operating system  Microsoft Windows CE  TwinCAT-CE-PLC-Runtime or TwinCAT-CE-NC-PTP-Runtime  24 V <sub>DC</sub> (-15%/+20%) To meet the UL requirements use a 4 A fuse or a power supply that has to satisfy NEC class 2!  ANO 28-14 For Us/GNDs and Up/GNDp: Use 4 Amp. fuse or class 2 power supply  Dielectric strength  500 V <sub>rms</sub> (supply/internal electronics)  I/O connection  K-bus (Bus Terminals)  NOVRAM  128 kByte  I/O-DPRAM  4 kByte  Power supply I/O terminals  2 A  Max. power loss  6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	Diagnostics LEDs	1 x Power, 2 x LAN, 1 x K-Bus, 1 x Flash-Zugriff
Control software  TwinCAT-CE-PLC-Runtime or TwinCAT-CE-NC-PTP-Runtime  24 V <sub>DC</sub> (-15%/+20%) To meet the UL requirements use a 4 A fuse or a power supply that has to satisfy NEC class 2!	Clock	internal battery-backed clock for time and date
Power supply  24 V <sub>DC</sub> (-15%/+20%) To meet the UL requirements use a 4 A fuse or a power supply that has to satisfy NEC class 2!  AWG 28-14 For Us/GNDs and Up/GNDp: Use 4 Amp. fuse or Class 2 power supply  Dielectric strength  500 V <sub>rms</sub> (supply/internal electronics)  I/O connection  K-bus (Bus Terminals)  NOVRAM  128 kByte  I/O-DPRAM  4 kByte  Power supply I/O terminals  2 A  Max. power loss  6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	Operating system	Microsoft Windows CE
Dielectric strength  500 V <sub>rms</sub> (supply/internal electronics)  I/O connection  K-bus (Bus Terminals)  NOVRAM  128 kByte  I/O-DPRAM  4 kByte  Power supply I/O terminals  2 A  Max. power loss  6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 61000-6-2/EN 61000-6-4	Control software	TwinCAT-CE-PLC-Runtime or TwinCAT-CE-NC-PTP-Runtime
I/O connection  K-bus (Bus Terminals)  NOVRAM  128 kByte  I/O-DPRAM  4 kByte  Power supply I/O terminals  2 A  Max. power loss  6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  K-bus (Bus Terminals)  6 W. (Bus Terminals)  6 W. (Bus Terminals)  6 W. (Bus Terminals)  6 W. (Including CX9000-xxxx system interfaces)  7 m x 100 mm x 91 mm  8 m x 100 mm x 91 mm  9 m x	Power supply	power supply that has to satisfy NEC class 2!  AWG 28-14 S5°C max USE 4 Amp. fuse or
NOVRAM  I/O-DPRAM  4 kByte  Power supply I/O terminals  2 A  Max. power loss  6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  128 kByte  4 kByte  4 kByte  6 W (including CX9000-xxxx system interfaces)  59 mm x 100 mm x 91 mm  ca. 250 g  Operating / storage temperature  10° C +50° C / -25° C +85° C  10° C +50° C / -25° C +85° C  10° C +50° C / -25° C +85° C  10° C +50° C / -25° C +85° C	Dielectric strength	500 V <sub>rms</sub> (supply/internal electronics)
I/O-DPRAM	I/O connection	K-bus (Bus Terminals)
Power supply I/O terminals  2 A  Max. power loss 6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D) 59 mm x 100 mm x 91 mm  weight ca. 250 g  Operating / storage temperature  Relative humidity 95% no condensation  Vibration/shock resistance conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	NOVRAM	128 kByte
Max. power loss 6 W (including CX9000-xxxx system interfaces)  Dimensions (W x H x D) 59 mm x 100 mm x 91 mm  weight ca. 250 g  Operating / storage temperature 0° C +50° C / -25° C +85° C  Relative humidity 95% no condensation  Vibration/shock resistance conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD conforms to EN 61000-6-4	I/O-DPRAM	4 kByte
Dimensions (W x H x D)  59 mm x 100 mm x 91 mm  weight  ca. 250 g  Operating / storage temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  59 mm x 100 mm x 91 mm  ca. 250 g  0° C +85° C  temperature  95% no condensation  conforms to EN 60068-2-6 / EN 60068-2-27/29  conforms to EN 61000-6-2/EN 61000-6-4	Power supply I/O terminals	2 A
weight  ca. 250 g  Operating / storage temperature  O° C +50° C / -25° C +85° C  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	Max. power loss	6 W (including CX9000-xxxx system interfaces)
Operating / storage temperature  O° C +50° C / -25° C +85° C  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	Dimensions (W x H x D)	59 mm x 100 mm x 91 mm
temperature  Relative humidity  95% no condensation  Vibration/shock resistance  conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD  conforms to EN 61000-6-2/EN 61000-6-4	weight	ca. 250 g
Vibration/shock resistance conforms to EN 60068-2-6 / EN 60068-2-27/29  EMC resistance burst/ESD conforms to EN 61000-6-2/EN 61000-6-4		0° C +50° C / -25° C +85° C
EMC resistance burst/ESD conforms to EN 61000-6-2/EN 61000-6-4	Relative humidity	95% no condensation
	Vibration/shock resistance	conforms to EN 60068-2-6 / EN 60068-2-27/29
Protection class IP 20	EMC resistance burst/ESD	conforms to EN 61000-6-2/EN 61000-6-4
	Protection class	IP 20