



## BK1120 | EtherCAT Bus Coupler



The BK1120 Bus Coupler connects EtherCAT, the real-time Ethernet system, with the modular, extendable electronic terminal blocks. A unit consists of a Bus Coupler, any number (between 1 and 64) of terminals (255 with K-bus extension) and one end terminal.

The Bus Coupler recognizes the connected Bus Terminals and automatically allocates them into the EtherCAT process image. The Bus Coupler is connected to the network via the upper Ethernet interface. The lower RJ45 socket may be used to connect further EtherCAT devices in the same strand.

In the EtherCAT network, the BK1120 Bus Coupler can be installed anywhere in the Ethernet signal transfer section (100BASE-TX) – except directly at the switch. The Bus Coupler BK9000 (for K-bus components) is suitable for installation at the switch.

EtherCAT (Ethernet Control Automation Technology) is the Ethernet solution for industrial automation, characterized by outstanding performance and particularly simple handling. EtherCAT enables the Ethernet star topology to be replaced with a simple line structure. Optionally, EtherCAT may also be wired in the "classic" way using switches, in order to integrate further Ethernet devices. The master requires no special plug-in card and can be implemented on any existing Ethernet controller using a very simple interface. EtherCAT is therefore also well suited to small and medium control applications, where it will also open up new areas of application for distributed I/Os.

For EtherCAT a separate I/O system in protection class IP 20 is available in the form of EtherCAT Terminals. In contrast to Bus Terminals, where the fieldbus signal is implemented within the Bus Coupler on the internal, fieldbus-independent terminal bus, the EtherCAT protocol remains fully intact down to the individual terminal. The ELxxx EtherCAT Terminals are connected via associated EKxxx-type EtherCAT Couplers (see EtherCAT section).

System data	EtherCAT   BK1120
Number of I/O stations	65,535
Number of I/O points	depending on controller
Data transfer medium	Ethernet/EtherCAT Cat.5 cable
Max. cable length	100 m (100BASE-TX)
Data transfer rates	100 Mbit/s
Data transfer time	0.01 ms in the case of 10 modules for 32 bit inputs and outputs each (without K-bus run-time)

Technical data	BK1120
Number of Bus Terminals	64 (255 with K-bus extension)
Max. number of bytes fieldbus	1024 byte input and 1024 byte output
Configuration possibility	via KS2000 or EtherCAT (ADS)
Bus interface	2 x RJ45
Power supply	24 V DC (-15 %/+20 %)
Input current	70 mA + (total K-bus current)/4, 500 mA max.
Starting current	approx. 2.5 x continuous current
Recommended fuse	≤ 10 A
Current supply K-bus	1750 mA
Power contacts	max. 24 V DC/max. 10 A
Electrical isolation	500 V (power contact/supply voltage/Ethernet)
Distance between stations	100 m (100BASE-TX)
Weight	approx. 150 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
Protect. class/installation pos.	IP 20/variable
Approvals/markings	CE, UL, ATEX
Ex marking	II 3 G Ex nA IIC T4 Gc

Accessories/related products	
<b>KS2000</b>	configuration software for extended parameterisation
<b>Cordsets</b>	cordsets and connectors
<b>FC9001-0010   FC9011</b>	Ethernet PCI fieldbus cards
<b>BK1150</b>	EtherCAT "Compact" Bus Coupler for up to 64 Bus Terminals (255 with K-bus extension)
<b>BK1250</b>	EtherCAT "Compact" Coupler between EtherCAT Terminals (E-bus) and Bus Terminals (K-bus), adapter terminal
<b>CX8010</b>	EtherCAT Embedded PC
<b>KS2000</b>	configuration software for extended parameterisation

System	
<b>EtherCAT</b>	For further EtherCAT products please see the <a href="#">system overview</a>