



## BK9050 | Ethernet TCP/IP Bus Coupler

**Ethernet TCP/IP** The BK9050 “Compact” Bus Coupler with compact housing connects Ethernet with the modular, extendable electronic terminal blocks. One unit consists of one Bus Coupler, any number from 1 to 64 terminals and one end terminal. With the K-bus extension, up to 255 Bus Terminals can be connected.

The Bus Coupler recognises the terminals to which they are connected, and performs the assignment of the inputs and outputs to the words of the process image automatically. The BK9050 supports 10 Mbit/s and 100 Mbit/s Ethernet. Connection is through normal RJ45 connectors. The IP address is set on the DIP switch (offset to a freely selectable start address). In networks with DHCP (a service for the allocation of the logical IP address to the physical node address [MAC-ID]) the Bus Coupler obtains its IP address from the DHCP server.

The Bus Coupler supports ADS TwinCAT system communication. TwinCAT I/O makes available configuration tools and Windows NT/2000/XP drivers for programs in any desired high-level language (DLLs) and for Visual Basic applications (ActiveX). Applications with OPC interfaces can access ADS (and therefore the BK9050) via an OPC server. In addition to ADS the Bus Coupler supports Open Modbus (Modbus TCP), a simple, widespread master/slave protocol based on TCP/IP.

System data	Ethernet TCP/IP   BK9050
Number of I/O stations	only limited by IP addresses
Number of I/O points	depending on controller
Data transfer medium	4 x 2 twisted pair copper cable; category 3 (10 Mbit/s), category 5 (100 Mbit/s)
Distance between stations	100 m between hub/switch and Bus Coupler
Data transfer rates	100 Mbit/s
Topology	star wiring

Technical data	BK9050
Number of Bus Terminals	64 (255 with K-bus extension)
Max. number of bytes fieldbus	512 byte input and 512 byte output
Digital peripheral signals	1,020 inputs/outputs
Analog peripheral signals	128 inputs/outputs
Protocol	TwinCAT ADS, Modbus TCP, Beckhoff real-time Ethernet
Configuration possibility	via KS2000
Data transfer rates	10/100 Mbit/s, automatic recognition of the transmission rate
Bus interface	1 x RJ45
Power supply	24 V DC (-15 %/+20 %)
Input current	70 mA + (total K-bus current)/4, 500 mA max.
Starting current	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/fieldbus)
Weight	approx. 100 g
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27

<b>EMC immunity/emission</b>	conforms to EN 61000-6-2/EN 61000-6-4
<b>Protect. class/installation pos.</b>	IP 20/variable
<b>Approvals/markings</b>	CE, UL, ATEX, GL
<b>Ex-Marking</b>	II 3 G Ex nA IIC T4 Gc

<b>Accessories</b>	
<b>KS2000</b>	configuration software for extended parameterisation
<b>Cordsets</b>	cordsets and connectors
<b>FC9001-0010   FC9011</b>	Ethernet PCI fieldbus cards

<b>Related products</b>	
<b>BK9000</b>	Ethernet TCP/IP Bus Coupler for up to 64 Bus Terminals
<b>BK9100</b>	Ethernet TCP/IP Bus Coupler for up to 64 Bus Terminals (255 with K-bus extension), with integrated 2-channel switch
<b>BC9000</b>	Ethernet Bus Terminal Controller for up to 64 Bus Terminals
<b>BC9050</b>	Ethernet "Compact" Bus Terminal Controller for up to 64 Bus Terminals (255 with K-bus extension)
<b>CX8090</b>	Ethernet Embedded PC

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