



## 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 Mbaud), category 5 (100 Mbaud) |
| Distance between stations | 100 m between hub/switch and Bus Coupler                                       |
| Data transfer rates       | 10/100 Mbaud   |
| 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 Mbaud, automatic recognition of the transmission rate |
| Bus interface                 | 1 x RJ45   |
| Power supply                  | 24 V DC (-15 %/+20 %)  |
| Input current                 | 320 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</b>                        | CE, UL, Ex, GL                        |

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|-----------------------------|--|
| <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> |