BK1150 | EtherCAT Compact Bus Coupler

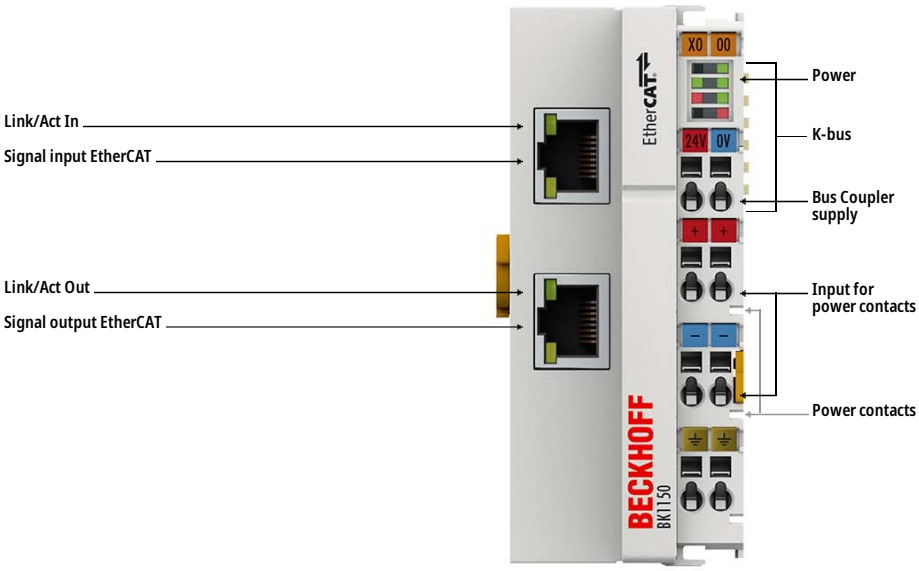

Image similar, may contain optional accessories

Product status: regular delivery

The BK1150 EtherCAT Coupler is the link between the EtherCAT protocol at fieldbus level and the Bus Terminals. The coupler converts the passing telegrams from Ethernet 100BASE-TX to the internal, fieldbus-independent terminal bus. A station consists of a coupler and up to 64 Bus Terminals plus a bus end terminal. The process image of the EtherCAT system is assigned automatically. Up to 255 Bus Terminals can be connected via the K-Bus extension.

Special features:

- Compact design
- Connection technology: 2 x RJ45 socket
- Connection lengths: up to 100 m
- connects the EtherCAT protocol with the Bus Terminals

The BK1150 works in the same way as the BK1120 and complements this series with its compact design. The coupler has two RJ45 sockets. The upper Ethernet interface is used to connect the coupler to the network; the lower socket serves for the optional connection of further EtherCAT devices in the same segment. The system and field supply, each 24 V DC, is provided directly at the coupler. The attached Bus Terminals are supplied with the current required for communication from the supplied system voltage. The field supply is forwarded to the individual I/O components via the power contacts with up to 10 A. The Bus Terminals are parameterized via ADS through the KS2000 software; a KS2000 connector is not required. Alternatively, the controller (PLC, IPC) can configure the Bus Terminals via PLC function blocks.

In the EtherCAT network, the BK1150 coupler can be installed anywhere in the Ethernet signal transfer section (100BASE-TX) – except directly at the switch. The EK9000 and EK1000 couplers are suitable for use at the switch.

Product information

Technical data

Technical data	BK1150
Number of Bus Terminals	64 (255 with K-bus extension)
Max. number of bytes fieldbus	1024 byte input and 1024 byte output
Configuration	via KS2000 or EtherCAT (ADS)
Data transfer rates	100 Mbit/s
Bus interface	2 x RJ45
Data transfer medium	Industrial Ethernet cable (min. Cat.5), shielded
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)
Data transfer time	typ. 0.01 ms in the case of 10 modules for 32 bit inputs and outputs each (without K-bus run-time)
Dimensions (W x H x D)	44 mm x 100 mm x 68 mm
Weight	approx. 110 g
Operating temperature	-25...+60°C
Storage temperature	-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. rating/installation pos.	IP20/variable
Approvals/markings	CE, CCC, UL, ATEX, IECEx
Ex marking	ATEX: II 3 G Ex ec IIC T4 Gc IECEx: Ex ec IIC T4 Gc

Housing data	EK-44-8pin
Design form	compact terminal housing with signal LEDs
Material	polycarbonate

Installation	on 35 mm DIN rail, conforming to EN 60715 with lock
Side by side mounting by means of	double slot and key connection
Marking	labeling of the BZxxxx series
Wiring	solid conductor (s), flexible conductor (st) and ferrule (f): spring actuation by screwdriver
Connection cross-section	s*: 0.08...2.5 mm², st*: 0.08...2.5 mm², f*: 0.14...1.5 mm²
Connection cross-section AWG	s*: AWG28...14, st*: AWG28...14, f*: AWG26...16
Stripping length	8...9 mm
Current load power contacts	I_{max}: 10 A
Dimensions (W x H x D)	44 mm x 100 mm x 68 mm

*s: solid wire; st: stranded wire; f: with ferrule