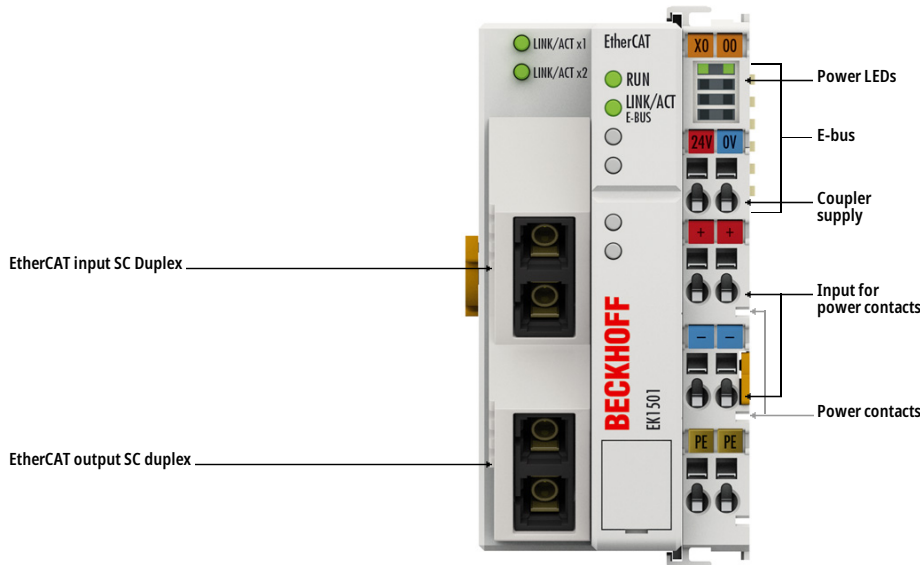
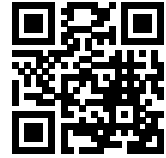


EK1501 | EtherCAT Coupler with ID switch, multi-mode fiber optic



i **Product status:** regular delivery

The EK1501 EtherCAT Coupler with multi-mode fiber-optic connection is the link between the EtherCAT protocol at fieldbus level and the EtherCAT Terminals. The coupler converts the passing telegrams from Ethernet 100BASE-FX to E-bus signal representation. A station consists of a coupler and any number of EtherCAT Terminals that are automatically detected and individually displayed in the process image.

Special features:

- connection technology 2 x multi-mode fiber-optic connection via SC duplex
- connection lengths up to 2 km
- 3 ID switches for implementing variable topologies
- number of EtherCAT Terminals in the overall system: up to 65,535

The EK1501 has two SC duplex sockets and three hexadecimal ID switches. The coupler is connected to the network via the upper Ethernet connection. The lower SC duplex socket may be used to connect further EtherCAT devices in the same segment. The multi-mode glass fiber connection enables distances of up to 2 km between two couplers. A group of EtherCAT components can be assigned a unique ID via the hexadecimal ID switches. This group can then be located at any position within the EtherCAT network. Variable topologies are therefore easily implementable. In addition, an EtherCAT junction or an EtherCAT extension can be used for the extension or for setting up a line or star topology.

The system and field supply, each 24 V DC, is provided directly at the coupler. The attached EtherCAT Terminals are supplied with the current required for communication from the supplied system voltage. The coupler can supply a maximum of 5 V and 2 A. Power feed terminals (e.g. EL9410) must be integrated if more current is required. The field supply is forwarded to the individual I/O components via the power contacts with up to 10 A.

Product information

Technical data

Technical data	EK1501
Task within EtherCAT system	coupling of EtherCAT Terminals (ELxxxx) to 100BASE-FX EtherCAT networks, with identity verification
Data transfer medium	multi-mode glass fiber 50/125 µm (MM)
Distance between stations	max. 2000 m (100BASE-FX)
Number of EtherCAT Terminals	up to 65,534
Type/number of peripheral signals	max. 4.2 GB addressable I/O points
Number of configurable IDs	4096
Protocol	EtherCAT
Delay	approx. 1 µs
Data transfer rates	100 Mbit/s
Bus interface	2 x SC Duplex
Power supply	24 V DC (-15 %/+20 %)
Current consumption from U _s	130 mA + (Σ E-bus current/4)
Current consumption from U _p	load
Current supply E-bus	2000 mA
Power contacts	max. 24 V DC/max. 10 A
Electrical isolation	500 V (power contact/supply voltage/Ethernet)
Weight	approx. 190 g
Operating/storage temperature	-25...+60 °C/-40...+85 °C
EMC immunity/emission	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
Protect. rating/installation pos.	IP20/variable
Approvals/markings	CE, UL, ATEX, IECEx
Ex marking	ATEX: II 3 G Ex ec IIC T4 Gc IECEx: Ex ec IIC T4 Gc

Housing data	EK-51-8pin
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 BZxxx series
Wiring	solid conductor (s), flexible conductor (st) and ferrule (f): spring actuation by screwdriver
Connection cross-section	s*: 0.08...2.5 mm ² , st*: 0.08...2.5 mm ² , f*: 0.14...1.5 mm ²
Connection cross-section AWG	s*: AWG 28...14, st*: AWG 28...14, f*: AWG 26...16
Stripping length	8...9 mm
Current load power contacts	I _{max} : 10 A

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