



EK1501-0100 | EtherCAT Coupler, media converter (multimode fibre optic IN, RJ45 OUT) with ID switch

The EK1501-0100 coupler connects EtherCAT with the EtherCAT Terminals (ELxxxx). A station consists of an EK1501-0100 coupler, any number of EtherCAT Terminals, an EL9011 bus end cap or an EK1110 EtherCAT extension. The coupler converts the passing telegrams from Ethernet 100BASE-FX to E-bus signal representation. The multimode glass fibre connection enables distances of up to 2 km between two couplers.

In addition, the coupler serves as media converter from optical fibre to copper. It is suitable for multimode optical fibre, always operates bidirectionally and collision-free with constant delay.

The EK1501-0100 has three hexadecimal ID switches for assigning an ID to a group of EtherCAT components. This group can then be located at any position within the EtherCAT network. Variable topologies are therefore easily implementable.

Technical data	EK1501-0100
Task within EtherCAT system	media transition from multimode fibre optic to RJ45 copper physics and coupling of EtherCAT Terminals (ELxxxx)
Data transfer medium	multimode glass fibre 50/125 µm; Ethernet/EtherCAT cable (min. Cat.5), shielded
Distance between stations	max. 2000 m (100BASE-FX); max. 100 m (100BASE-TX)
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
Configuration	not required
Bus interface	1 x SC Duplex; 1 x RJ45
Power supply	24 V DC (-15 %/+20 %)
Input current	130 mA + (total E-bus current)/4
Current consumption E-bus	–
Current consumption 24 V DC	typ. 70 mA
Current supply E-bus	2000 mA
Power contacts	24 V DC max./10 A max.
Weight	approx. 190 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	CE, UL, Ex

Accessories	
EtherCAT POF	POF cordsets and connectors for EtherCAT
Cordsets	cordsets and connectors

Further fibre optic products	
EK1501	EtherCAT Coupler with ID switch, multimode fibre optic for E-bus terminals (ELxxxx)
EK1501-0010	EtherCAT Coupler with ID switch, singlemode fibre optic for E-bus terminals (ELxxxx), distance between stations up to 20 km
EK1521	1-port EtherCAT multi-mode fibre optic junction
EK1521-0010	1-port EtherCAT singlemode fibre optic junction, distance between stations up to 20 km
CU1521	EtherCAT media converter fibre optic, IP20
EP9521	EtherCAT/Industrial Ethernet module EP9521 for Industrial Fast Ethernet/100 Mbaud

System	
EtherCAT	For further EtherCAT products please see the system overview