Beckhoff — EK EtherCAT Couplers

EK1101-0008



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The **EK1101-0008** EtherCAT coupler is produced by Beckhoff as part of the EK EtherCAT Couplers series. Designed for DIN-rail mounting in control cabinets, the device acts as the network entry point for a block of EtherCAT Terminals, translating Ethernet-based telegrams into the internal process image required by each terminal slice. Within an automation cell, it connects the PLC or IPC to distributed sensors, valves, or drives. It also forwards the 24 V system supply along the E-bus so that the modules receive data and power through one compact assembly.

Two compact M8 sockets labeled IN and OUT provide a **2 × M8 bus interface**. Through this connection, the coupler exchanges frames at up to **100 Mbit/s** while supporting the **100BASE-TX** Ethernet standard and requiring at least a CAT 5 twisted-pair cable. Three hexadecimal ID switches provide local addressing without software tools. An isolation barrier rated at 500 V separates the fieldbus from the power domain, while a continuous E-bus feed of 2 A supplies the attached terminals. The connection supports a maximum segment length of 100 m, and the device can operate at up to 95% relative humidity. The **IP20 enclosure** protects against contact with hazardous internal components and the entry of larger solid objects. The electronics draw a nominal **24 VDC** from the control cabinet supply.

The coupler can manage up to **65,535 EtherCAT Terminals** and create a process image as large as **4.2 GB**. This capacity allows one head station to accommodate extensive mixed-signal installations before additional masters are required. For automatic tool changes or movable substations, the coupler supports up to **4,096 Hot Connect IDs**, allowing segments to be detached and reattached while network communication continues. Power contacts routed

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through the coupler support a continuous load of **10 A** on the common supply rail, enabling sensors and actuators on the terminal string to share power without separate wiring.

Specifications

Bus Interface:	2 x M8	**Data Rate:**	100 Mbit/s	**E-bus Current <=55 C:**	2 A
Id Switches:	3 Hexadecimal	**Isolation Voltage:**	500 V	**Max Addressable I/o:**	4.2 GB
Max Coupler Distance:	100 m	**Max Ethercat Terminals:**	65535	**Max Hotconnect Ids:**	4096
Max Power Contact Current:	10 A	**Max Relative Humidity:**	95%	**Min Cable Category:**	CAT 5
Network Standard:	100BASE-TX	**Power Contact Voltage:**	24 VDC	**Power Supply:**	24 VDC
Protection Class:	IP20	**Last Verified:**	11/22/2026 7:30 PM		

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