

# Accessories EtherCAT

## Cables

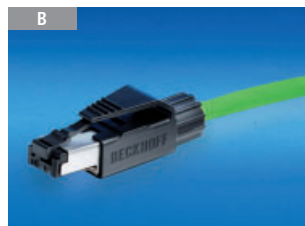
The pre-assembled Industrial Ethernet/EtherCAT cables with RJ 45 plug enable fast, easy wiring inside the control cabinet and are suitable for short distances on the machine. The robust, industrial quality PUR cables distinguish themselves from office cables by both their mechanical and their EMC characteristics. Further lengths and variants on request.

Technical data	ZK1090-9191-xxxx	A
Cross-section	4 x 2 x AWG26/7...4 x 2 x 0.128 mm <sup>2</sup>	
Cable sheath material	PUR	
Colour	green (RAL 6018)	
Line configuration	SF/UTP (shielded)	
Diameter	sheath: typ. 5.9 mm ±0.2 mm	
Bending radius	> 5 x diameter	
Category/class	CAT 5, class D	
Operating/installation temperature	-40...+75 °C/-10...+60 °C	
Insertion cycles	min. 750	
Ordering information	Patch cable	
ZK1090-9191-0001	Industrial Ethernet/EtherCAT patch cable, 0.17 m	
ZK1090-9191-0002	Industrial Ethernet/EtherCAT patch cable, 0.26 m	
ZK1090-9191-0005	Industrial Ethernet/EtherCAT patch cable, 0.5 m	
ZK1090-9191-0010	Industrial Ethernet/EtherCAT patch cable, 1.0 m	
ZK1090-9191-0020	Industrial Ethernet/EtherCAT patch cable, 2.0 m	
ZK1090-9191-0030	Industrial Ethernet/EtherCAT patch cable, 3.0 m	
ZK1090-9191-0050	Industrial Ethernet/EtherCAT patch cable, 5.0 m	
ZK1090-9191-0100	Industrial Ethernet/EtherCAT patch cable, 10.0 m	
ZK1090-9191-0150	Industrial Ethernet/EtherCAT patch cable, 15.0 m	
ZK1090-9191-0200	Industrial Ethernet/EtherCAT patch cable, 20.0 m	
ZK1090-9191-0250	Industrial Ethernet/EtherCAT patch cable, 25.0 m	
ZK1090-9191-0300	Industrial Ethernet/EtherCAT patch cable, 30.0 m	
ZK1090-9191-0350	Industrial Ethernet/EtherCAT patch cable, 35.0 m	
ZK1090-9191-0400	Industrial Ethernet/EtherCAT patch cable, 40.0 m	
ZK1090-9191-0450	Industrial Ethernet/EtherCAT patch cable, 45.0 m	
ZK1090-9191-0500	Industrial Ethernet/EtherCAT patch cable, 50.0 m	

Ordering information	Industrial Ethernet/EtherCAT cable	
ZB9010	Industrial Ethernet/EtherCAT cable, fixed installation, CAT 5e, 4 wires, SF/UTP	
ZB9020	Industrial Ethernet/EtherCAT cable, drag chain suitable, CAT 5e, 4 wires, SF/UTP	
ZB903x	Industrial Ethernet/EtherCAT cable, reduced diameter for M8 wiring, SF/UTP, see page	459

Ordering information	Fibre-optic cables for EK1501, EK1521 (multimode 50/125 µm)
ZK1091-1001-0001	fibre-optic duplex cable, SC connector, 1 m
ZK1091-1001-0005	fibre-optic duplex cable, SC connector, 5 m
ZK1091-1001-0010	fibre-optic duplex cable, SC connector, 10 m

Further lengths and variants on request



## Connectors

Ordering information	Description	Pict.
ZS1090-0003	EtherCAT/Ethernet RJ 45 connector, IP 20, 4-pin, for field assembly, AWG 22-24, packing unit = 10	B
ZS1090-0005	EtherCAT/Ethernet RJ 45 plug, IP 20, 8-pin, for field assembly, AWG 22-24, packing unit = 10	C

## Connectors for KS Bus Terminals, ES EtherCAT Terminals

Ordering information	Description
ZS2010	10 connectors for KS and ES series, spare part (KS/ES terminals are supplied with connector.)

## Connectors for KM and EM modules

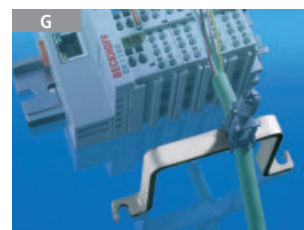
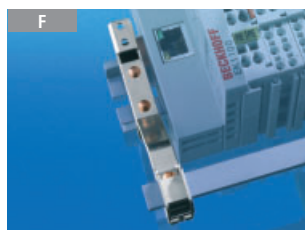
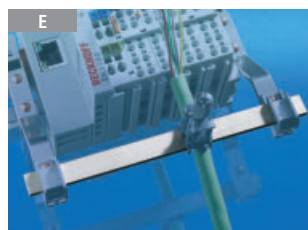
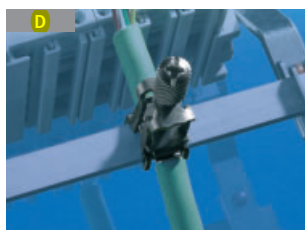
Ordering information	Description
ZS2001-0001	connector for KM/EM module, 1-pin, without LED; spare part (KM/EM terminals are supplied with connector.)
ZS2001-0002	connector for KM/EM module, 1-pin, with LED; spare part (KM/EM terminals are supplied with connector.)
ZS2001-0004	connector for KM/EM module, 3-pin, with LED; spare part (KM/EM terminals are supplied with connector.)
ZS2001-0005	connector for KM/EM module, 1-pin, without LED, labelling (1...10); spare part (KM/EM terminals are supplied with connector.)

## Shielding connection system

The shielding connection system enables the shielding to be located very close to the terminals of the shielded line, so that interference is reduced to a minimum. Two variants are available for the realisation of this function: a shield busbar for attachment to a mounting rail or a bracket for separate mounting in the control cabinet.

Ordering information	Shield busbar with mounting rail holder	Pict.
ZB8500	clamp strap for shield connection with knurled screw, width 11 mm, shield diameter max. 8 mm, packing unit = 10	D
ZB8510	shield busbar 10 x 3 mm, 1000 mm galvanised Cu, packing unit = 1	E
ZB8520	mounting rail holder for shield busbar (10 x 3 mm), packing unit = 2	F
ZB8530	U-clamp terminal up to 4 mm <sup>2</sup> for PE connection to the rail (10 x 3 mm), packing unit = 20	

Ordering information	Shield busbar clamps	Pict.
ZB8500	clamp strap for shield connection with knurled screw, width 11 mm, shield diameter max. 8 mm, packing unit = 10	D
ZB8511	shield busbar clamp 10 x 3 mm for 5 Bus Terminals/EtherCAT Terminals 12 mm, packing unit = 10	G
ZB8530	U-clamp terminal up to 4 mm <sup>2</sup> for PE connection to the rail (10 x 3 mm), packing unit = 20	



## Assembly aids

Ordering information	Description
ZB8700	slot screwdriver assembly tool for pressing the spring force clamps on the coupler and the terminals

## Bus system housing

The BG1558 and BG1559 housings are especially suitable for the construction of compact I/O stations with a higher protection class (IP 65). The housings are supplied with mounting rails. If desired, the housings can be supplied fully fitted with EtherCAT Terminals, flanges and PG threaded fittings. Further sizes are available on request.

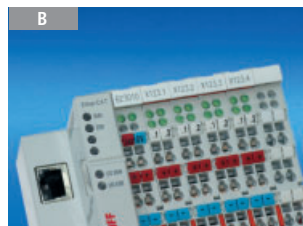
Ordering information	Description	Pict.
BG1558	bus system housing 400 mm x 200 mm x 120 mm (W x H x D) with mounting rails and holes	A
BG1559	bus system housing 600 mm x 200 mm x 120 mm (W x H x D) with mounting rails and holes	

## Marking material

The EtherCAT Terminals can be individually labelled with standard contact signs. The marking material is not included in the EtherCAT Terminal delivery. Other versions in other colours and with other texts are available on request or on the internet ([www.beckhoff.com](http://www.beckhoff.com)).

Ordering information	Unprinted	B
BZ1000	100 unprinted contact labels, white	
BZ1002	100 unprinted contact labels, yellow	
BZ1005	100 unprinted contact labels, red	
BZ1006	100 unprinted contact labels, blue	
BZ1007	100 unprinted contact labels, orange	
BZ1008	100 unprinted contact labels, light green	
BZ3000	180 equipment identification labels 12 x 7 mm for Bus Terminals with removable identification section, blank	

Ordering information	Printed
BZ1100	100 contact labels, printed with: 0 V, blue
BZ1102	100 contact labels, printed with: -, blue
BZ1104	100 contact labels, printed with: 24 V, red
BZ1106	100 contact labels, printed with: +, red
BZ1107	100 contact labels, printed with: +, white
BZ1108	100 contact labels, printed with: PE, light green
BZ1300	100 contact labels, ten of each printed with: 0...7, 20 unprinted, white
BZ1400	100 contact labels, two of each printed with: 00 01...48 49, white
BZ3010	180 equipment identification labels 12 x 7 mm for Bus Terminals with removable identification section, printed (printed according to customer specification [in Excel file])



## Slide-in label cover, transparent

The slide-in label covers BZ3200 enable clear labelling of the individual channels or text-based functional description of the EtherCAT Terminals. The labels are inserted in the designated slots. For connecting the individual channels the label cover can be tilted upwards.

Ordering information	Description	C
BZ3200	insertable label cover, transparent, pluggable, 11.5 mm x 104.5 mm, packing unit = 50	
BZ5100	push-in strips for labels, A4 sheet, 160 pieces, pre-punched, packing unit = 10	

## Coding pins and sockets for KS and ES terminals

The coding pins and sockets for ZS2010 and KS/ES terminals with pluggable wiring level enable coding between terminal and plug in order to prevent incorrect plug insertion.

Ordering information	Description	D
ZS2010-0010	The set contains 100 sockets and 100 pins.	

## Demokit

The TC9910-B11x EtherCAT demokit offers a quick introduction into EtherCAT communication. It includes EtherCAT Terminals and a Coupler for testing simple I/O functions. The enclosed CD contains a step-by-step guide and a full version of TwinCAT as programming environment for the

Beckhoff EtherCAT master. EtherCAT slaves of any type can be tested with this field-proven EtherCAT master. It also includes a comprehensive help collection that facilitates familiarisation with Beckhoff ADS communication and programming according to IEC 61131.

The demokit consists of:

- EK1100 EtherCAT Coupler
- 2 digital input terminals 24 V DC
- 2 digital output terminals 24 V DC
- Beckhoff product folder
- Beckhoff TwinCAT CD
- "TwinCAT Quickstart" documentation

- documentation describing the EK1100
- a 25 cm section of 35 mm mounting rail for fitting the terminal system
- TwinCAT PLC licence (only TC9910-B110)
- EL9011 end cap
- Ethernet cable

Ordering information	Description	E
TC9910-B110	EtherCAT demokit, with TwinCAT PLC licence	
TC9910-B111	EtherCAT demokit, without TwinCAT PLC licence	
TC9910-B112	EtherCAT demokit, without TwinCAT PLC licence (1 instead of 2 digital input terminals)	

