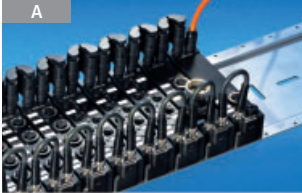


## Accessories EtherCAT Box and Fieldbus Box

Ordering information	Marking material	Pict.
ZS5000-0000	Fieldbus Box set M8 (contact labels, plugs)	
ZS5000-0001	Fieldbus Box set 8 mm (contact labels, plugs)	
ZS5000-0002	Fieldbus Box set M12 (contact labels, plugs)	
ZS5000-0010	plugs M8, IP 67 (50 pieces)	
ZS5000-0020	plugs M12, IP 67 (50 pieces)	
ZS5100-0000	marking labels, white, 40 pieces	
ZS5100-xxxx	printed marking labels, on request	
ZS5300-0001	mounting plate for 15 Extension Box or EtherCAT Box modules, V2A, stainless steel 500 mm	A



Mounting rail for up to  
15 IE or EP modules

## Sensor cables

Ordering information	Sensor cable	Connector	Contacts	Cross-section	Length	Pict.
ZK2000-2100-0020	straight plug, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	2.00 m	A
ZK2000-2100-0050	straight plug, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	5.00 m	A
ZK2000-2100-0100	straight plug, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	10.00 m	A
ZK2000-2300-0020	angled plug, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	2.00 m	B
ZK2000-2300-0050	angled plug, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	5.00 m	B
ZK2000-4100-0020	straight plug, open end	8 mm, snap on	3-pin	0.25 mm <sup>2</sup>	2.00 m	C
ZK2000-4100-0050	straight plug, open end	8 mm, snap on	3-pin	0.25 mm <sup>2</sup>	5.00 m	C
ZK2000-6100-0020	straight plug, open end	M12, screw type	4-pin	0.34 mm <sup>2</sup>	2.00 m	D
ZK2000-6100-0050	straight plug, open end	M12, screw type	4-pin	0.34 mm <sup>2</sup>	5.00 m	D
ZK2000-6300-0020	angled plug, open end	M12, screw type	4-pin	0.34 mm <sup>2</sup>	2.00 m	E
ZK2000-6300-0050	angled plug, open end	M12, screw type	4-pin	0.34 mm <sup>2</sup>	5.00 m	E
ZK2000-6300-0100	angled plug, open end	M12, screw type	4-pin	0.34 mm <sup>2</sup>	10.00 m	E
ZK2000-6500-0005	straight plug, open end, 2 wires	M12, screw type	4-pin	0.34 mm <sup>2</sup>	0.50 m	F
ZK2000-6500-0020	straight plug, open end, 2 wires	M12, screw type	4-pin	0.34 mm <sup>2</sup>	2.00 m	F
ZK2000-6500-0050	straight plug, open end, 2 wires	M12, screw type	4-pin	0.34 mm <sup>2</sup>	5.00 m	F
ZK2000-6500-0100	straight plug, open end, 2 wires	M12, screw type	4-pin	0.34 mm <sup>2</sup>	10.00 m	F
ZK2000-7100-0020	straight plug, open end, with shield	M12, screw type	5-pin	0.34 mm <sup>2</sup>	2.00 m	D
ZK2000-7100-0050	straight plug, open end, with shield	M12, screw type	5-pin	0.34 mm <sup>2</sup>	5.00 m	D
ZK2000-2200-0050	straight socket, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	5.00 m	
ZK2000-2400-0050	angled socket, open end	M8, screw type	3-pin	0.25 mm <sup>2</sup>	5.00 m	
ZK2000-6200-0100	straight socket, open end	M12, screw type	4-pin	0.34 mm <sup>2</sup>	10.00 m	
ZK2000-6400-0100	angled socket, open end	M12, screw type	5-pin	0.34 mm <sup>2</sup>	10.00 m	

For illustrations see [456](#)

For technical data sheets see [www.beckhoff.com/EtherCAT-Box](http://www.beckhoff.com/EtherCAT-Box)

Ordering information	Connection cable	Connector	Contacts	Cross-section	Length
ZK2000-2122-0005	straight plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2122-0010	straight plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2122-0020	straight plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2122-0050	straight plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2124-0005	straight plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2124-0010	straight plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2124-0020	straight plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2124-0050	straight plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2162-0005	straight plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2162-0010	straight plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2162-0020	straight plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2162-0050	straight plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2162-0100	straight plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	10.00 m
ZK2000-2164-0005	straight plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2164-0010	straight plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2164-0020	straight plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2164-0050	straight plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-6162-0005	straight plug, straight socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-6162-0010	straight plug, straight socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-6162-0020	straight plug, straight socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-6162-0050	straight plug, straight socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-6164-0005	straight plug, angled socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-6164-0010	straight plug, angled socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-6164-0020	straight plug, angled socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-6164-0050	straight plug, angled socket	M12, M12	4-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-6562-0003	straight plug, straight socket	M12, 2 x M12	4-pin	0.25 mm <sup>2</sup>	2 x 0.30 m
ZK2000-6562-0005	straight plug, straight socket	M12, 2 x M12	4-pin	0.25 mm <sup>2</sup>	2 x 0.50 m
ZK2000-6562-0010	straight plug, straight socket	M12, 2 x M12	4-pin	0.25 mm <sup>2</sup>	2 x 1.00 m
ZK2000-6562-0020	straight plug, straight socket	M12, 2 x M12	4-pin	0.25 mm <sup>2</sup>	2 x 2.00 m
ZK2000-6562-0050	straight plug, straight socket	M12, 2 x M12	4-pin	0.25 mm <sup>2</sup>	2 x 5.00 m
ZK2000-6522-0005	straight plug, straight socket	M12, 2 x M8	4-pin, 2 x 3-pin	0.25 mm <sup>2</sup>	2 x 0.50 m
ZK2000-6522-0010	straight plug, straight socket	M12, 2 x M8	4-pin, 2 x 3-pin	0.25 mm <sup>2</sup>	2 x 1.00 m
ZK2000-6522-0020	straight plug, straight socket	M12, 2 x M8	4-pin, 2 x 3-pin	0.25 mm <sup>2</sup>	2 x 2.00 m
ZK2000-6522-0050	straight plug, straight socket	M12, 2 x M8	4-pin, 2 x 3-pin	0.25 mm <sup>2</sup>	2 x 5.00 m

For further connection cables see next page

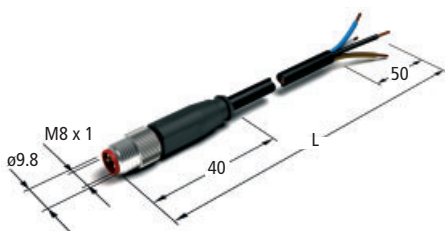
Ordering information	Connection cable	Connector	Contacts	Cross-section	Length
ZK2000-2322-0005	angled plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2322-0010	angled plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2322-0020	angled plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2322-0050	angled plug, straight socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2324-0005	angled plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2324-0010	angled plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2324-0020	angled plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2324-0050	angled plug, angled socket	M8, M8	3-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2362-0005	angled plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2362-0010	angled plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2362-0020	angled plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2362-0050	angled plug, straight socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2364-0005	angled plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	0.50 m
ZK2000-2364-0010	angled plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2364-0020	angled plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-2364-0050	angled plug, angled socket	M8, M12	3-pin, 4-pin	0.25 mm <sup>2</sup>	5.00 m
ZK2000-2132-0010	straight plug, straight socket	M8, M8	3-pin, 4-pin	0.25 mm <sup>2</sup>	1.00 m
ZK2000-2132-0020	straight plug, straight socket	M8, M8	3-pin, 4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-4132-0020	straight plug, straight socket	8 mm, snap on, M8, screw type	3-pin, 4-pin	0.25 mm <sup>2</sup>	2.00 m
ZK2000-6362-0010	angled plug, straight socket	M12, M12	4-pin	0.34 mm <sup>2</sup>	1.00 m
ZK2000-6362-0050	angled plug, straight socket	M12, M12	4-pin	0.34 mm <sup>2</sup>	5.00 m

**Further cables on request**

Ordering information	Only for combi I/Os (IP/IE240x)	Connector	Contacts	Cross-section	Length	Pict.
ZK2000-5100-0020	straight plug, open end	8 mm, snap on	4-pin	0.25 mm <sup>2</sup>	2.00 m	C
ZK2000-5100-0050	straight plug, open end	8 mm, snap on	4-pin	0.25 mm <sup>2</sup>	5.00 m	C
ZK2000-3100-0020	straight plug, open end	M8, screw type	4-pin	0.25 mm <sup>2</sup>	2.00 m	A
ZK2000-3100-0050	straight plug, open end	M8, screw type	4-pin	0.25 mm <sup>2</sup>	5.00 m	A
ZK2000-3300-0020	angled plug, open end	M8, screw type	4-pin	0.25 mm <sup>2</sup>	2.00 m	B
ZK2000-3300-0050	angled plug, open end	M8, screw type	4-pin	0.25 mm <sup>2</sup>	5.00 m	B
ZK2000-3300-0100	angled plug, open end	M8, screw type	4-pin	0.25 mm <sup>2</sup>	10.00 m	B

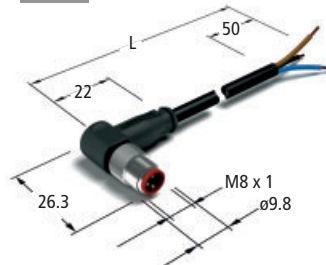
Ordering information	Sensor cable	Contacts	Cross-section	Length
ZB9002	sensor cable, drag chain suitable	3-pin	0.25 mm <sup>2</sup>	sold by the metre

**A** Illustrations similar



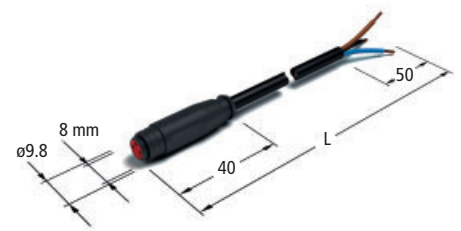
**Straight M8 screw type**

**B**



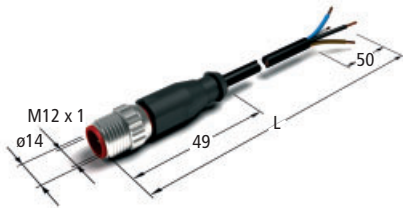
**Angled M8 screw type**

**C**



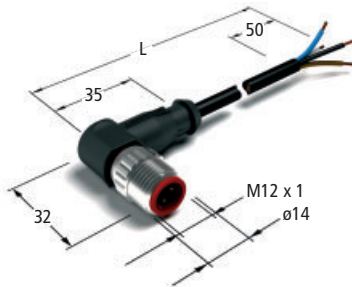
**Straight 8 mm screw type**

D Illustrations similar



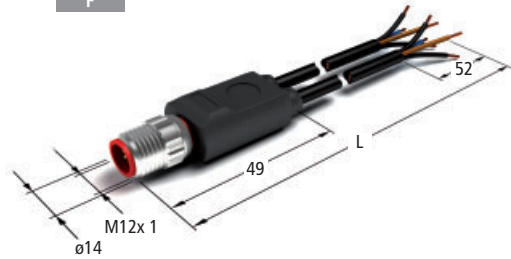
Straight M12 screw type

E

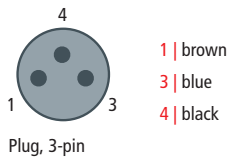


Angled M12 screw type

F

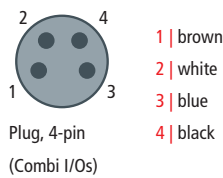


A, B, C



Pin assignment

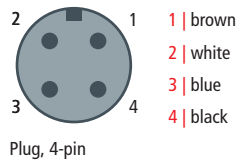
A, B, C



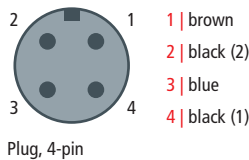
D



D, E



F



Electrical data	
Rated voltage according to IEC 61076-2-101	3-pin M8/8 mm: 60 V 4-pin M8/8 mm: 30 V 4-pin M12: 250 V 5-pin M12: 60 V
Contamination level according to IEC 60664-1	3/2
Insulation resistance according to IEC 60512-2	> 10 <sup>9</sup> Ω
Rated current according to IEC 61076-2-101	4 A
Volume resistance according to IEC 60512-2	< 5 mΩ
Mechanical data	
Protection class according to IEC 60529	IP 65/66/67, when screwed together
Ambient temperature	-25 °C...+80 °C

For technical data sheets see [www.beckhoff.com/EtherCAT-Box](http://www.beckhoff.com/EtherCAT-Box)

## Sensor/power leads accessories for field assembly

Ordering information	Plug/socket	Connection	Connector	Contacts	Pict.
ZS2000-1213	straight plug	IDC	M8, screw type	3-pin	
ZS2000-1313	straight plug	IDC	M8, screw type	4-pin	
ZS2000-1613	straight plug	IDC	M12, screw type	4-pin	
ZS2000-1223	straight socket	IDC	M8, screw type	3-pin	
ZS2000-1323	straight socket	IDC	M8, screw type	4-pin	
ZS2000-2311	straight plug	soldered	M8, screw type	4-pin	A
ZS2000-2331	angled plug	soldered	M8, screw type	4-pin	B
ZS2000-2221	straight socket	soldered	M8, screw type	3-pin	C
ZS2000-2321	straight socket	soldered	M8, screw type	4-pin	C
ZS2000-2241	angled socket	soldered	M8, screw type	3-pin	D
ZS2000-2341	angled socket	soldered	M8, screw type	4-pin	D
ZS2000-2610	straight plug	screwed	M12, screw type	4-pin	E
ZS2000-2710	straight plug	screwed	M12, screw type	5-pin	E
ZS2000-2630	angled plug	screwed	M12, screw type	4-pin	F
ZS2000-2730	angled plug	screwed	M12, screw type	5-pin	F
ZS2000-2620	straight socket	screwed	M12, screw type	4-pin	G
ZS2000-2720	straight socket	screwed	M12, screw type	5-pin	G
ZS2000-2640	angled socket	screwed	M12, screw type	4-pin	H
ZS2000-2740	angled socket	screwed	M12, screw type	5-pin	H
ZS2000-2210	straight plug	screwed	M8, screw type	3-pin	I
ZS2000-2310	straight plug	screwed	M8, screw type	4-pin	I
ZS2000-2220	straight socket	screwed	M8, screw type	3-pin	J
ZS2000-2320	straight socket	screwed	M8, screw type	4-pin	J
ZS2000-3712	straight plug for thermocouples with temperature compensation element	screwed	M12, screw type	5-pin	
ZS2000-3711	straight plug for small cable cross sections	screwed	M12, screw type	5-pin	
ZS2000-4722	Y distributor M12-ST-2xM12	–	–	4-pin	
ZS2000-5911	straight plug	soldered	M23, screw type	12-pin	
ZS2000-5911	straight plug	soldered	M23, screw type	12-pin	

A Illustrations similar



Straight plug, soldered, M8

B



Angled plug, soldered, M8

C



Straight socket, soldered, M8

D



Angled socket, soldered, M8

E



Straight plug, screwed, M12

F



Angled plug, screwed, M12

G



Straight socket, screwed, M12

H



Angled socket, screwed, M12

I



Straight plug, screwed, M8

J

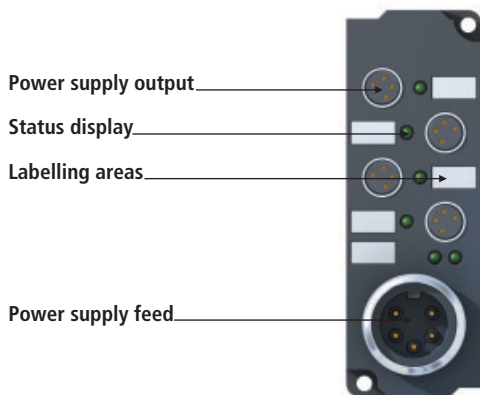


Straight socket, screwed, M8

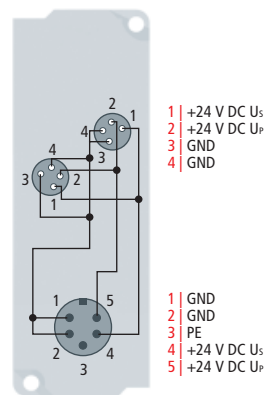
# Power distribution box

Technical data	ZS2020-4304	ZS2020-4308
Number of outputs	4	8
Power supply connection	7/8" connector, 5-pin	
Outgoing circuits	M8, screw type, 4-pin	
Current load	$I_N = 4 \text{ A}$	
Dimensions (W x H x D)	30 mm x 86 mm x 31 mm	30 mm x 126 mm x 31 mm
Operating temperature	0...+55 °C	
Storage temperature	-25...+85 °C	
Protection class	IP 65/66/67 (according to EN 60529)	
Installation position	variable	

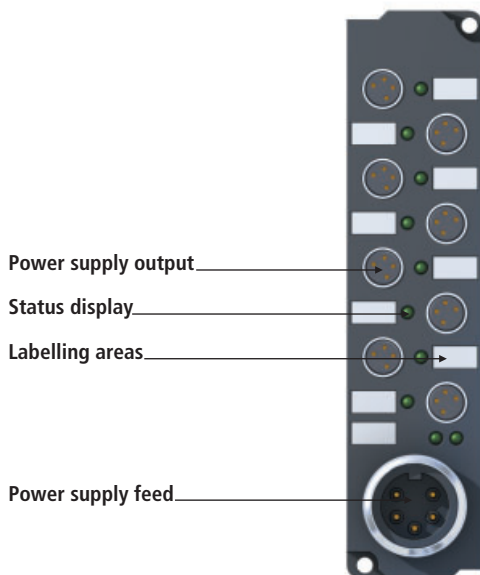
Ordering information	
ZS2020-4304	power distribution box, 4 x M8, 4-pin, 1 x 7/8" 5-pin
ZS2020-4308	power distribution box, 8 x M8, 4-pin, 1 x 7/8" 5-pin
ZS2020-2820	7/8" straight socket, field assembly, 5-pin
ZS2020-2810	7/8" straight connector, field assembly, 5-pin
ZS2020-2840	7/8" angled socket, field assembly, 5-pin
ZS2020-2830	7/8" angled connector, field assembly, 5-pin



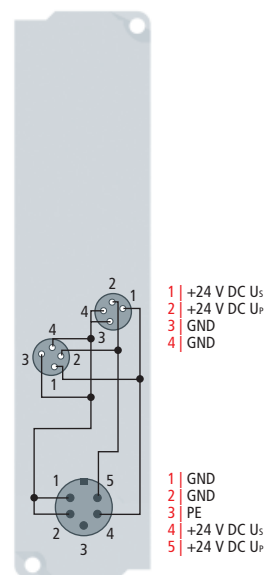
Power distribution box ZS2020-4304



Connector assignment



Power distribution box ZS2020-4308



Connector assignment

# Accessories Fieldbus Box

## Power cables, sensor cables, connection cables and further accessories

see the EtherCAT Box chapter from page 452

### Accessories for PROFIBUS, Modbus, RS232, RS485

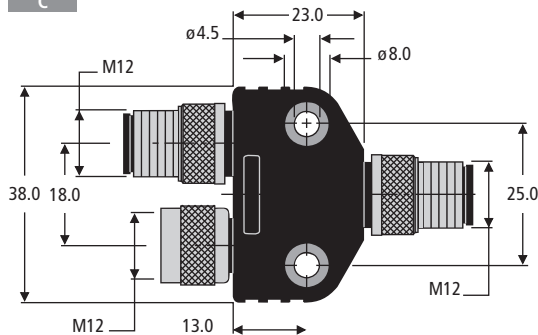
Ordering information		Pict.
ZS1031-2600	tee-connector, 12 Mbaud (blue ID ring)	A
ZS1031-2610	tee-connector, 12 Mbaud for the direct connection to the other tee-connectors (yellow ID ring)	B
ZS1000-2600	Y-connector, 12 Mbaud (plug, socket)	C
ZS1000-1610	termination resistor (plug)	D
ZS1000-0610	plug for field assembly	E
ZS1000-0620	socket for field assembly	F
ZS1000-0630	plug for field assembly, angled	G
ZS1000-0640	socket for field assembly, angled	H
ZS1031-6610	control cabinet feed through M12, plug-coupling	I
ZB3200	PROFIBUS cable 12 Mbaud 1 x 2 x 0.64 mm <sup>2</sup>	
ZB3300	PROFIBUS cable 12 Mbaud 1 x 2 x 0.64 mm <sup>2</sup> , 5-wires, drag chain suitable	

A, B Illustrations similar



Tee-connector

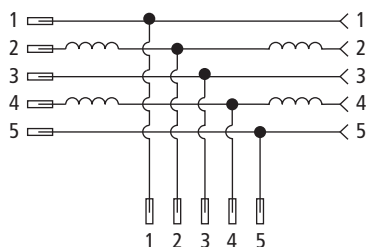
C



Dimensions in mm, Y-connector

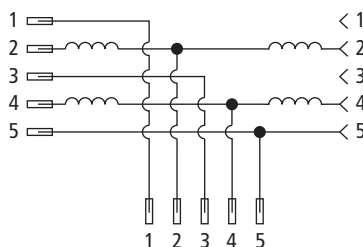
(Attention: due to the size of the field wireable connectors, at least one pre moulded cable has to be used.)

A



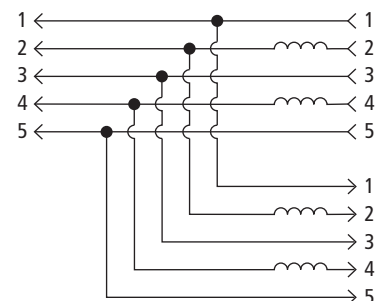
Wiring diagramm tee-connector

B



Wiring diagramm tee-connector

C



Wiring diagramm Y-connector

D Illustrations similar



Termination resistor

E



Plug

F



Socket

G



Plug

H



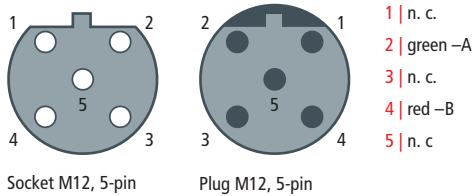
Socket

I



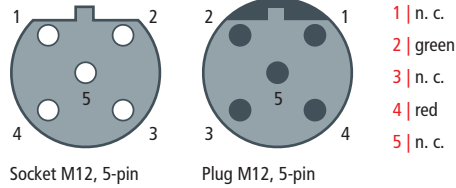
Control cabinet lead-in

A, B



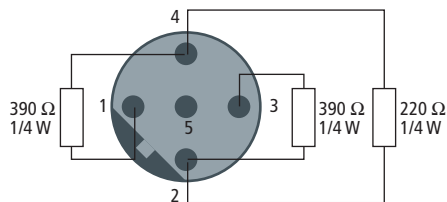
Pin assignment

C



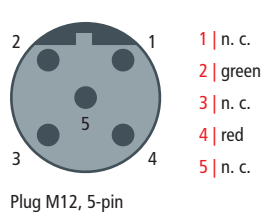
Pin assignment

D



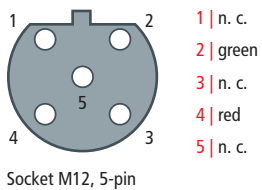
Pin assignment

E, G



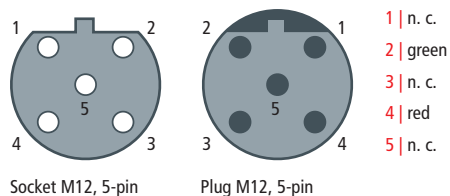
Pin assignment

F, H



Pin assignment

I



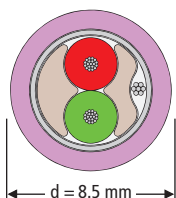
Pin assignment

## Cordsets for PROFIBUS, Modbus, RS485

Ordering information	Fieldbus cable	Connector	Contacts	Cross-section	Length	Pict.
ZK1031-6200-1020	straight socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	2.00 m	A
ZK1031-6200-1050	straight socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	5.00 m	A
ZK1031-6200-1100	straight socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	10.00 m	A
ZK1031-6200-1150	straight socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	15.00 m	A
ZK1031-6100-1020	straight plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	2.00 m	B
ZK1031-6100-1050	straight plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	5.00 m	B
ZK1031-6100-1100	straight plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	10.00 m	B
ZK1031-6100-1150	straight plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	15.00 m	B
ZK1031-6251-1003	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	0.30 m	A, B
ZK1031-6251-1005	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	0.50 m	A, B
ZK1031-6251-1010	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	1.00 m	A, B
ZK1031-6251-1020	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	2.00 m	A, B
ZK1031-6251-1050	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	5.00 m	A, B
ZK1031-6251-1100	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	10.00 m	A, B
ZK1031-6251-1150	straight socket, straight plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	15.00 m	A, B
ZK1031-6400-1020	angled socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	2.00 m	C
ZK1031-6400-1050	angled socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	5.00 m	C
ZK1031-6400-1100	angled socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	10.00 m	C
ZK1031-6400-1150	angled socket, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	15.00 m	C
ZK1031-6300-1020	angled plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	2.00 m	D
ZK1031-6300-1050	angled plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	5.00 m	D
ZK1031-6300-1100	angled plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	10.00 m	D
ZK1031-6300-1150	angled plug, open end	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	15.00 m	D
ZK1031-6354-1003	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	0.30 m	C, D
ZK1031-6354-1005	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	0.50 m	C, D
ZK1031-6354-1010	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	1.00 m	C, D
ZK1031-6354-1020	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	2.00 m	C, D
ZK1031-6354-1050	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	5.00 m	C, D
ZK1031-6354-1100	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	10.00 m	C, D
ZK1031-6354-1150	angled socket, angled plug	M12, screw type	4-pin	2 x 0.32 mm <sup>2</sup>	15.00 m	C, D

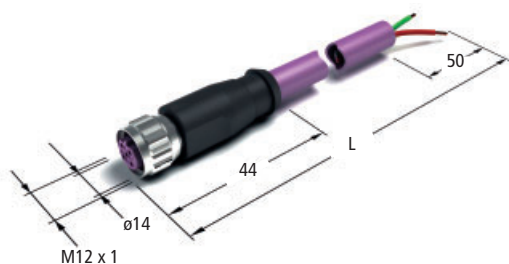
Electrical data	
Ratings	160 V (according to IEC 61076-2-101)
Material	outer cladding PUR, inner insulation polyethylene
Installation	drag chain suitable
DC resistance	54.13 Ω/km
Line capacitance	28.5 nF/km
Nominal impedance	150 Ω at 1 MHz
Approval	UL style 119100 vol. 1 sec. 8, RoHS-compliant, halogen-free, flame-resistant

For technical data sheets see [www.beckhoff.com/FieldbusBox](http://www.beckhoff.com/FieldbusBox)

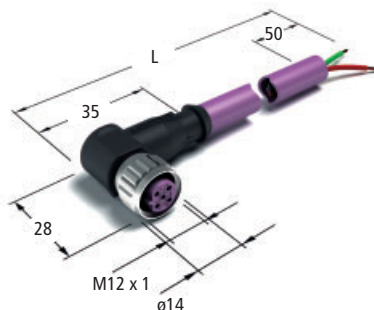


Sectional view

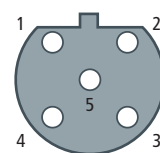
A Illustrations similar



C



A, C

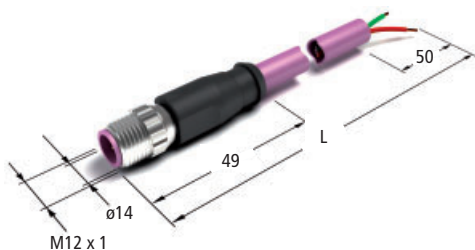


Socket M12, 5-pin

Pin assignment

- 1 | n. c.
- 2 | green
- 3 | n. c.
- 4 | red
- 5 | n. c.

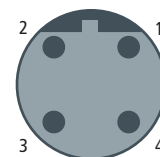
B



D



B, D



Plug M12, 4-pin

Pin assignment

- 1 | n. c.
- 2 | green
- 3 | n. c.
- 4 | red

## IP-Link accessories

Ordering information	Plug	Pict.
ZS1020-0010	plug, unit pack 1	E
ZS1021-0010	plug, unit pack 10	E
ZS1022-0010	IP-Link plug, unit pack 10, clip type	F
ZK1020-0101-1000	IP-Link jumper	G

Ordering information	IP-Link cable	Length
ZK1020-0101-0001	pre-assembled IP-Link cable, drag chain suitable	0.15 m
ZK1020-0101-0002	pre-assembled IP-Link cable, drag chain suitable	0.20 m
ZK1020-0101-0003	pre-assembled IP-Link cable, drag chain suitable	0.30 m
ZK1020-0101-0005	pre-assembled IP-Link cable, drag chain suitable	0.50 m
ZK1020-0101-0010	pre-assembled IP-Link cable, drag chain suitable	1.00 m
ZK1020-0101-0020	pre-assembled IP-Link cable, drag chain suitable	2.00 m
ZK1020-0101-0025	pre-assembled IP-Link cable, drag chain suitable	2.50 m
ZK1020-0101-0030	pre-assembled IP-Link cable, drag chain suitable	3.00 m
ZK1020-0101-0035	pre-assembled IP-Link cable, drag chain suitable	3.50 m
ZK1020-0101-0040	pre-assembled IP-Link cable, drag chain suitable	4.00 m
ZK1020-0101-0045	pre-assembled IP-Link cable, drag chain suitable	4.50 m
ZK1020-0101-0050	pre-assembled IP-Link cable, drag chain suitable	5.00 m
ZK1020-0101-0075	pre-assembled IP-Link cable, drag chain suitable	7.50 m
ZK1020-0101-0100	pre-assembled IP-Link cable, drag chain suitable	10.00 m
ZK1020-0101-0150	pre-assembled IP-Link cable, drag chain suitable	15.00 m
Z1101	plastic fibre optic, single core, 1,000 µm with protective PU cladding and Kevlar strain relief, drag chain suitable	
Z1103	plastic fibre optics, 1,000 µm, PUR sheath ø 6 mm, heavy duty, drag chain suitable	

Illustrations see next page

Ordering information	IP-Link accessories
ZS5300-0003	mounting plate for Coupler Box, zinc-coated steel sheet, 270 mm
ZS5400-0001	sanding gauge for IP-Link connector
ZS5400-0010	abrasive paper P600, 10 sheets
ZS1022-0000	locking device IP-Link, stainless steel

E Illustrations similar



IP-Link connector

F



IP-Link connector, clip type

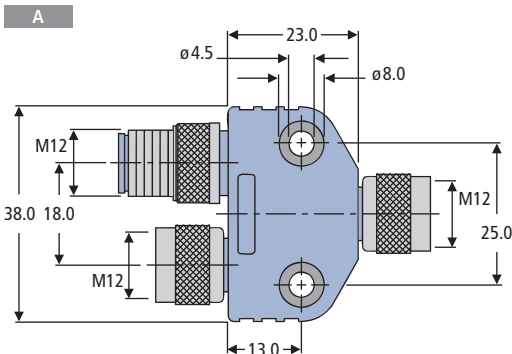
G



IP-Link jumper

## Accessories for CANopen, DeviceNet

Ordering information		Pict.
ZS1052-2600	Y-connector (plug, socket)	A
ZS1052-2602	Y-connector with stub, 1 m (plug, socket)	B
ZS1052-1610	termination resistor (plug, 120 Ω pin 4–5)	
ZS1052-0620	straight socket, screw type connection	
ZS1052-0640	angled socket, screw type connection	
ZS1052-0610	straight plug, screw type connection	
ZS1052-0630	angled plug, screw type connection	C
ZS5052-4500	distribution box: 1 x 5-pin plug, 4 x 5-pin socket	D
ZS1052-6610	control cabinet lead-in M12, plug-coupling	E

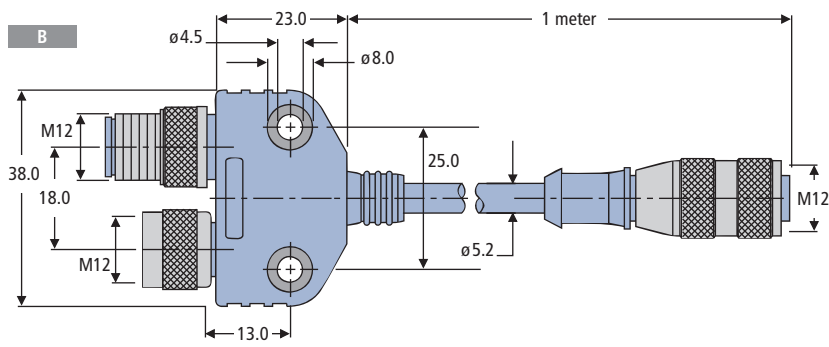


Dimensions in mm

C Illustrations similar



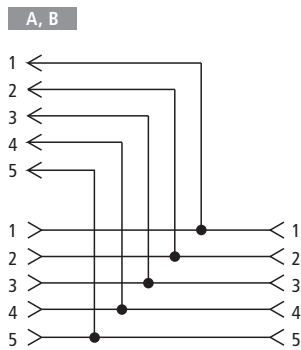
Termination resistor



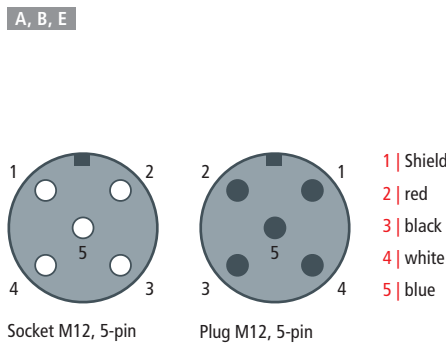
Dimensions in mm



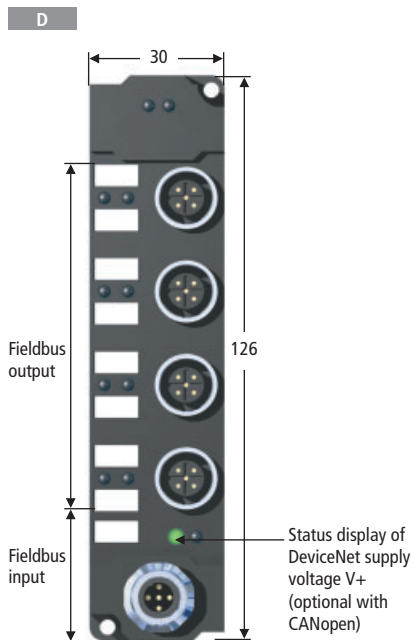
Control cabinet lead-in



Wiring diagramm



Pin assignment



Distribution box

Technical data	
Fieldbus	CANopen or DeviceNet
Bus plug	M12 plug, 5-pin, screwed
Data transfer rates	up to 1 Mbaud (CANopen) or 500 kbaud (DeviceNet)
Protection class	IP 67
Temperature range	0...+55 °C

The following stub lines are not to be exceeded:

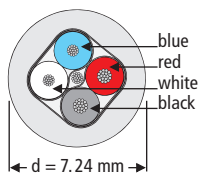
Baud rates	max. stub length (multidrop)	max. bus length with multidrop technology (without stubs)
1,000 kbaud	0.3 m	25 m
500 kBaud	1.2 m	60 m
250 kBaud	2.4 m	120 m
125 kBaud	4.8 m	310 m

## Cordsets for CANopen, DeviceNet

Ordering information	Fieldbus cable	Connector	Contacts	Cross-section	Length	Pict.
ZK1052-6200-3020	straight socket, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	2.00 m	A
ZK1052-6200-3050	straight socket, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	5.00 m	A
ZK1052-6200-3100	straight socket, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	10.00 m	A
ZK1052-6100-3020	straight plug, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	2.00 m	B
ZK1052-6100-3050	straight plug, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	5.00 m	B
ZK1052-6100-3100	straight plug, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	10.00 m	B
ZK1052-6152-3003	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	0.30 m	A, B
ZK1052-6152-3005	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	0.50 m	A, B
ZK1052-6152-3010	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	1.00 m	A, B
ZK1052-6152-3020	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	2.00 m	A, B
ZK1052-6152-3050	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	5.00 m	A, B
ZK1052-6152-3100	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	10.00 m	A, B
ZK1052-6152-3150	straight socket, straight plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	15.00 m	A, B
ZK1052-6400-3020	angled socket, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	2.00 m	C
ZK1052-6400-3050	angled socket, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	5.00 m	C
ZK1052-6400-3100	angled socket, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	10.00 m	C
ZK1052-6300-3020	angled plug, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	2.00 m	D
ZK1052-6300-3050	angled plug, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	5.00 m	D
ZK1052-6300-3100	angled plug, open end	M12, screw type	5-pin	0.32 mm <sup>2</sup>	10.00 m	D
ZK1052-6354-3003	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	0.30 m	C, D
ZK1052-6354-3005	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	0.50 m	C, D
ZK1052-6354-3010	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	1.00 m	C, D
ZK1052-6354-3020	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	2.00 m	C, D
ZK1052-6354-3050	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	5.00 m	C, D
ZK1052-6354-3100	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	10.00 m	C, D
ZK1052-6354-3150	angled socket, angled plug	M12, screw type	5-pin	0.32 mm <sup>2</sup>	15.00 m	C, D

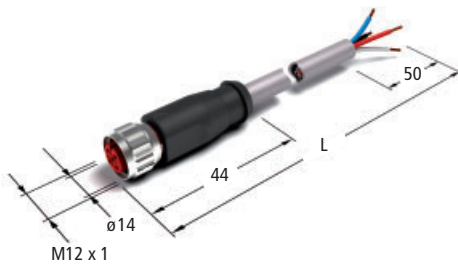
Electrical data	
Ratings	300 V, 80 °C
Material	outer cladding PVC, inner insulation polyethylene
Supply cable	black, red
Data lead	blue, white
DC resistance	54.13 Ω/km
Line capacitance	37.17 pF/m
Nominal impedance	126 Ω at 1 MHz
Approval	UL approval, AWM 2476, 80 °C, 300 V; CSA AWM I/II A/B, 80 °C, 300 V, FT1

For technical data sheets see [www.beckhoff.com/FieldbusBox](http://www.beckhoff.com/FieldbusBox)

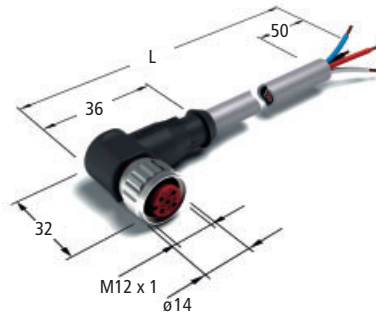


Sectional view

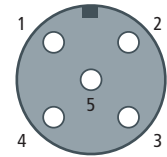
A Illustrations similar



C



A, C

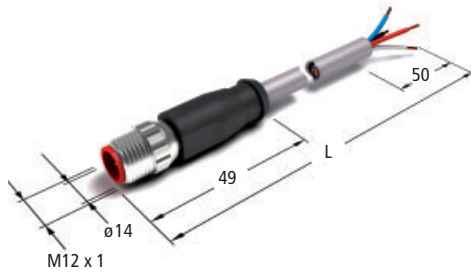


- 1 | Shield
- 2 | red
- 3 | black
- 4 | white
- 5 | blue

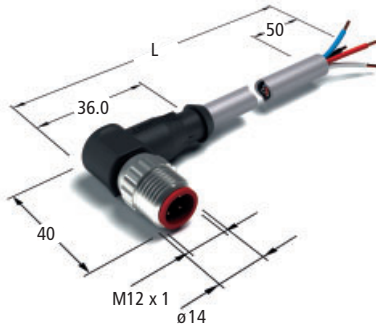
Socket M12, 5-pin

Pin assignment

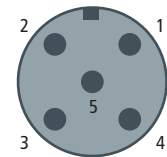
B



D



B, D



- 1 | Shield
- 2 | red
- 3 | black
- 4 | white
- 5 | blue

Plug M12, 5-pin

Pin assignment

## USB cable for the KS2000

The KS2000 cable establishes a connection between the Fieldbus Box modules and the PC. The KS2000 can be used for parametering modules, local diagnostics, forcing data, monitoring values, updating firmware and programming Beckhoff mini PLCs via TwinCAT. The USB cable features electrical isolation. Status LEDs indicate whether data are sent or received. On the connected PC the USB cable behaves like a COM port and can therefore be used for all Beckhoff tools using serial communication.

Ordering information	Description
KS2000-Z3-USB	connection cable for KS2000 or TwinCAT for serial conversion from USB for Fieldbus Box, length 3 m

