

One Cable Automation (OCA)  
Matching connectors for every performance class

BECKHOFF

EtherCAT<sup>®</sup>  P



Version 2.3

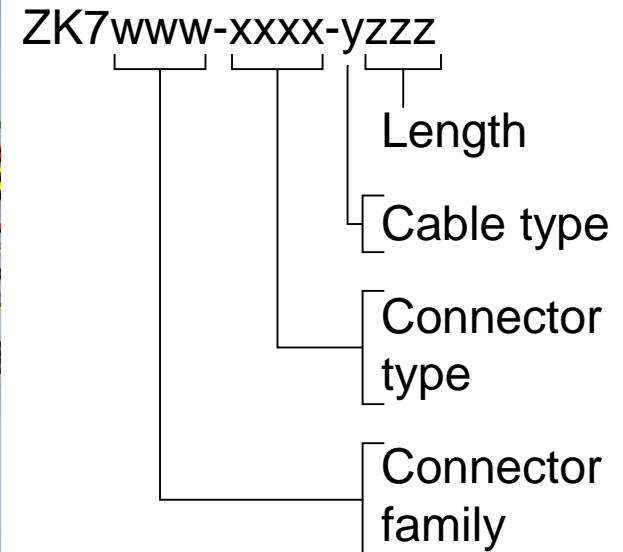
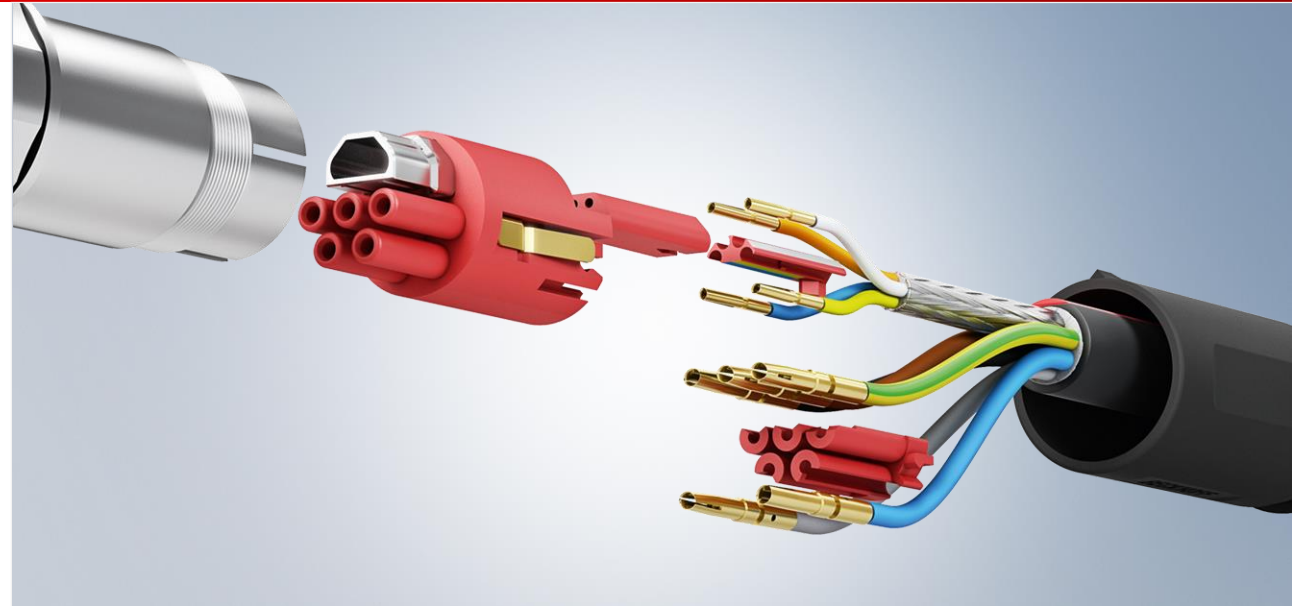
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# One Cable Automation (OCA)

## Matching connectors for every performance class

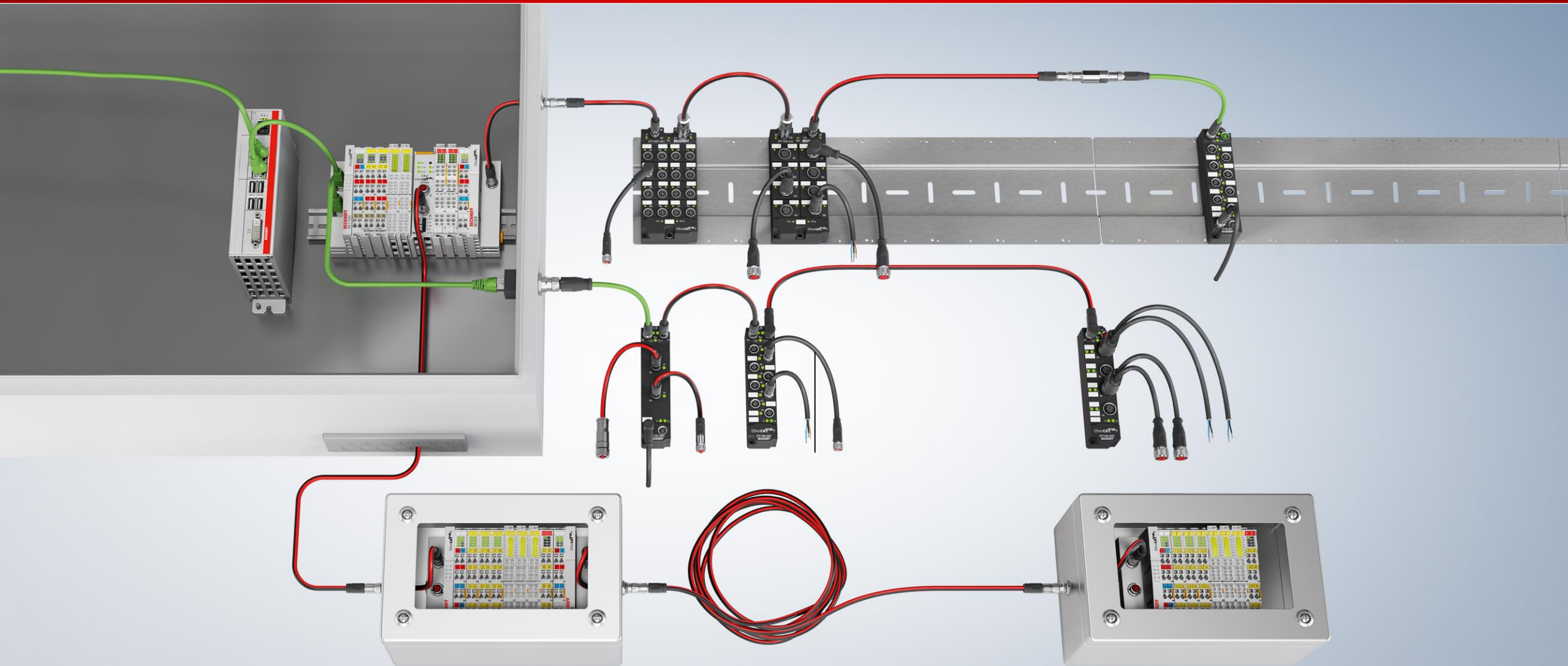
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- One Cable Automation (OCA): based on a single EtherCAT P cable, integrates communication and power supply
- the ECP and ENP connector families are scalable from 24 V to 850 V and 72 A
- sizes B12 to B40 with different numbers of power pins (2- to 6-pin); all sizes include a Cat.5-enabled Ethernet
- integrated 360° shielding of Ethernet element
- bayonet fitting ensures fast cabling and installation
- lowered connection costs with outstanding EtherCAT performance



# EtherCAT P for field level

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## EtherCAT P M8 | Connection cable, straight, male to male

- [ZK7000-0101-0xxx](#): PUR, 1x4xAWG22, drag-chain suitable<sup>1</sup>
- [ZK7001-0101-0xxx](#): PUR, 1x4xAWG24, drag-chain suitable<sup>1</sup>
- [ZK7000-0101-1xxx](#): PUR, 1x4xAWG22, fixed installation
- [ZK7000-0101-6xxx](#): PUR, 1x4xAWG22, capable of torsion<sup>2</sup>



## EtherCAT P M8 | Extension cable, with feed-through, male to female

- [ZK7000-0303-0xxx](#): PUR, 1x4xAWG22, drag-chain suitable<sup>1</sup>
- [ZK7001-0303-0xxx](#): PUR, 1x4xAWG24, drag-chain suitable<sup>1</sup>
- [ZK7000-0303-1xxx](#): PUR, 1x4xAWG22, fixed installation
- [ZK7000-0303-6xxx](#): PUR, 1x4xAWG22, capable of torsion<sup>2</sup>



xxx = the last three digits of the ordering information stand for the cable length in dm, e.g. ZK7000-0101-0030 correspond to a cable length of 3.0 m

1) 3 million cycles; 5 million cycles

PUR: Polyurethane



## EtherCAT P M8 | Extension cable, with feed-through, male to female

- [ZK7000-0105-0xxx](#): PUR, 1x4xAWG22, drag-chain suitable<sup>1</sup>
- [ZK7001-0105-0xxx](#): PUR, 1x4xAWG24, drag-chain suitable<sup>1</sup>
- [ZK7000-0105-1xxx](#): PUR, 1x4xAWG22, fixed installation
- [ZK7000-0105-6xxx](#): PUR, 1x4xAWG22, capable of torsion<sup>2</sup>



## EtherCAT P M8 | Connection cable, straight, male to flying leads

- [ZK7000-0100-0xxx](#): PUR, 1x4xAWG22, drag-chain suitable<sup>1</sup>
- [ZK7001-0100-0xxx](#): PUR, 1x4xAWG24, drag-chain suitable<sup>1</sup>
- [ZK7000-0100-1xxx](#): PUR, 1x4xAWG22, fixed installation
- [ZK7000-0100-6xxx](#): PUR, 1x4xAWG22, capable of torsion<sup>2</sup>



xxx = the last three digits of the ordering information stand for the cable length in dm, e.g. ZK7000-0101-0030 correspond to a cable length of 3.0 m

1) 3 million cycles; 5 million cycles

PUR: Polyurethane

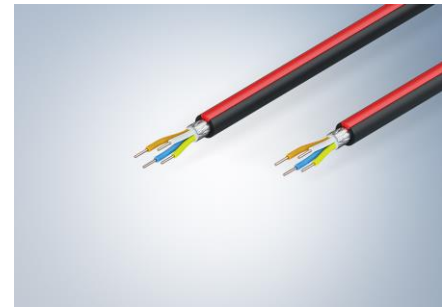
## EtherCAT P M8 | Extension cable, straight, male to female

- [ZK7000-0102-0xxx](#): PUR, 1x4xAWG22, drag-chain suitable<sup>1</sup>
- [ZK7001-0102-0xxx](#): PUR, 1x4xAWG24, drag-chain suitable<sup>1</sup>
- [ZK7000-0102-1xxx](#): PUR, 1x4xAWG22, fixed installation
- [ZK7000-0102-6xxx](#): PUR, 1x4xAWG22, capable of torsion<sup>2</sup>



## EtherCAT P M8 | Raw cable

- [ZB7000](#): PUR, 1x4xAWG22, drag-chain suitable<sup>1</sup>
- [ZB7001](#): PUR, 1x4xAWG24, drag-chain suitable<sup>1</sup>
- [ZB7003](#): PUR, 1x4xAWG22, fixed installation
- [ZB7004](#): PUR, 1x4xAWG22, capable of torsion<sup>2</sup>



xxx = the last three digits of the ordering information stand for the cable length in dm, e.g. ZK7000-0101-0030 correspond to a cable length of 3.0 m

1) 3 million cycles; 5 million cycles

PUR: Polyurethane

## EtherCAT P M8 | Field wireable connectors

- [ZS7000-0001](#): plug, straight, **male**, **crimp** termination
- [ZS7000-0002](#): plug, straight, **male**, **screw** termination
- [ZS7000-0004](#): plug, straight, **female**, **screw** termination



## EtherCAT P M8 | EtherCAT P to EtherCAT passive adapter

- [ZS7000-0005](#): cable adapter passive, **EtherCAT P to EtherCAT**, IP 67, straight, M8, EtherCAT-P-coded, 4-pin, **female** to M8, A-coded, 4-pin, **female**



xxx = the last three digits of the ordering information stand for the cable length in dm, e.g. ZK7000-0101-0030 correspond to a cable length of 3.0 m









1) 3 million cycles; 5 million cycles

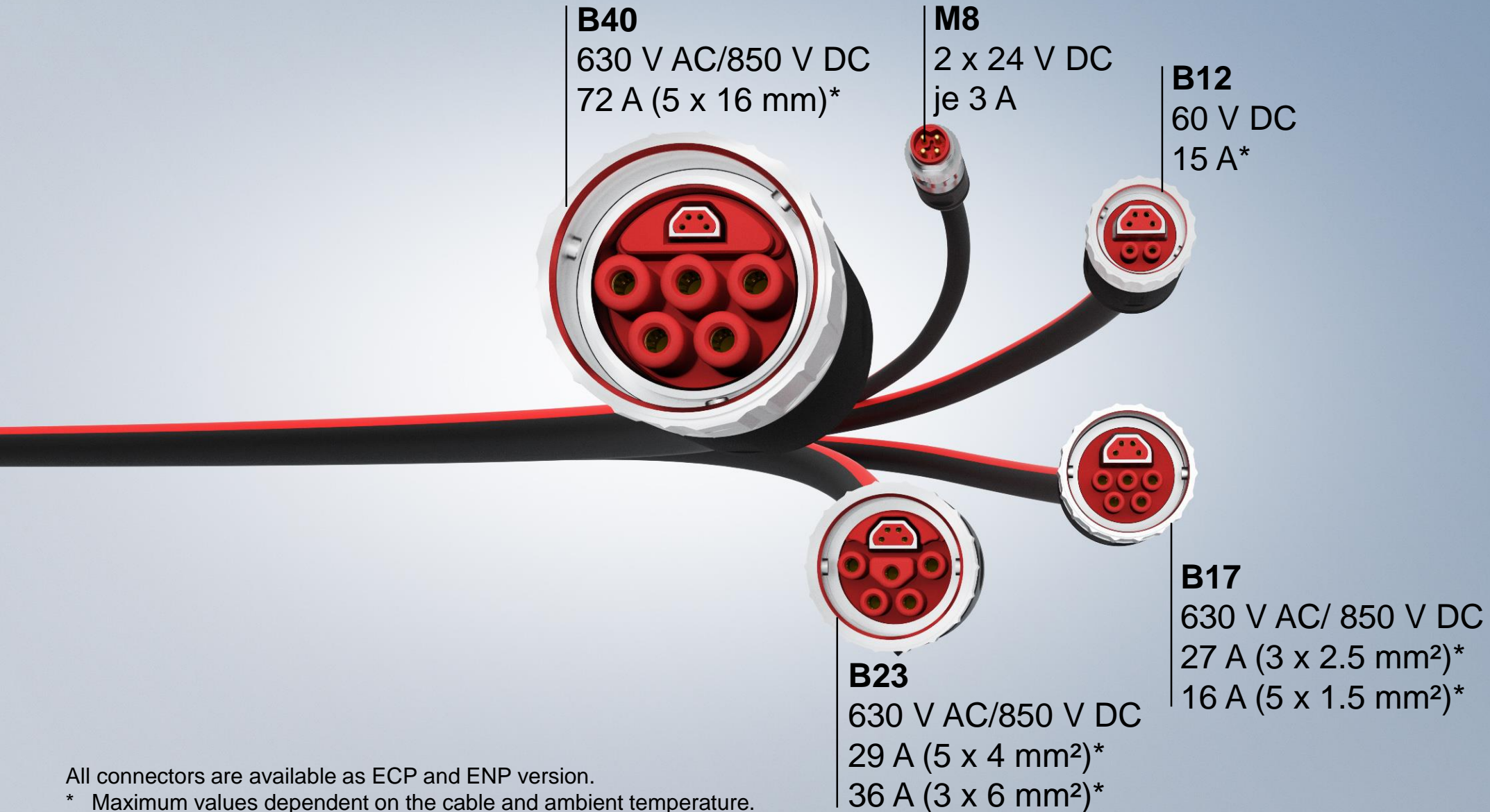
PUR: Polyurethane



# Overview M8 EtherCAT P flanges

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Ordering information	<a href="#">ZS7002-0001</a>	<a href="#">ZS7002-0002</a>	<a href="#">ZS7002-0003</a>	<a href="#">ZS7002-0004</a>	<a href="#">ZS7002-0005</a>	<a href="#">ZS7002-0006</a>	<a href="#">ZS7002-0007</a>	<a href="#">ZS7002-0008</a>
								
Installation size	M8							
Configuration	straight				angled		straight	
Special features	2-pieces: separate contact carrier and housing, in future reflow suitable (THR)	1-piece: contact carrier glued into housing	2-pieces: separate contact carrier and housing, in future reflow suitable (THR)					
Contact type	female							
Connection	print							
Coding	EtherCAT-P-coded							
Rated voltage	30 V acc. to IEC 61076-2-104							
Rated current	3 A (40 °C) acc. to IEC 61076-2-104							
Mating cycles	≥100 acc. to IEC 60512-9a							
Ambient temperature	-30 °C...+85 °C, -22 °F...+185 °F							
Pollution level	3/2 acc. to IEC 60664-1							
Protection class	IP 65/67, in screwed condition acc.to IEC 60529							
Length flange	12.5 mm	6.0 mm	6.0 mm	10.0 mm	8.2 mm	12.2 mm	9.0 mm	13.0 mm



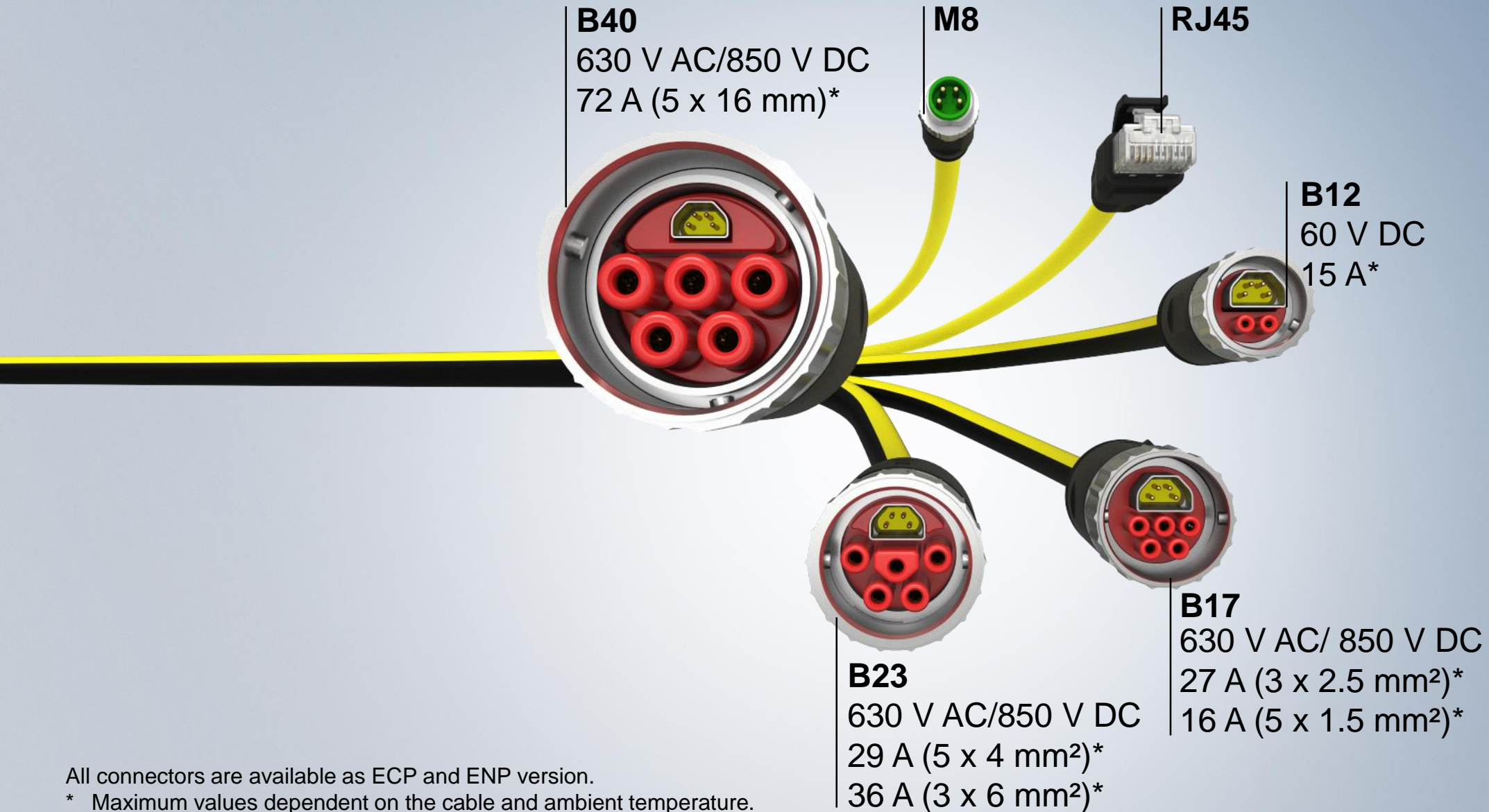
All connectors are available as ECP and ENP version.

\* Maximum values dependent on the cable and ambient temperature.

# EtherCAT/Ethernet




## Matching connectors for every performance class

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All connectors are available as ECP and ENP version.

\* Maximum values dependent on the cable and ambient temperature.

Technical data pins	M8 P-coded	B12 2 + 4 pins	
			
<b>Coding</b>		EtherCAT-P	EtherCAT
<b>Rated voltage</b>	50 V AC/60 V DC	50 V AC/60 V DC	
<b>Rated current at 40 °C*</b>	3 A	15 A	
<b>Number of power pins</b>	–	2	
<b>Number of EtherCAT P pins</b>	4		
<b>Max. connection cross-section power</b>	–	0.75 mm <sup>2</sup>	
<b>Max. connection cross-section data</b>	0.34 mm <sup>2</sup> (AWG22)		
<b>Number of mechanical coding</b>	1	2	
<b>Coding specification</b>	1 = U <sub>S</sub> 24 V DC/U <sub>P</sub> 24 V DC	1 = 24 V DC 2 = user-defined voltage I	
<b>Protection class</b>	IP 65/IP 67		

\* Maximum values dependent on the cable, coding and ambient temperature

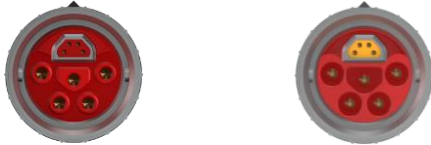


Technical data pins	B17 2 + PE + 4 pins		B17 2 + PE + 4 pins		B17 4 + 4 pins		B17 4 + PE + 4 pins	
								
<b>Coding</b>	EtherCAT-P	EtherCAT	EtherCAT-P	EtherCAT	EtherCAT-P	EtherCAT	EtherCAT-P	EtherCAT
<b>Rated voltage</b>	250 V AC/DC		630 V AC/850 V DC		630 V AC/850 V DC		630 V AC/850 V DC	
<b>Rated current at 40 °C*</b>	24 A		17 A		16 A		16 A	
<b>Number of power pins</b>	2 + PE (3)		2 + PE (3)		4		4 + PE (5)	
<b>Number of EtherCAT P pins</b>	4							
<b>Max. connection cross-section power</b>	2.5 mm <sup>2</sup>		1.5 mm <sup>2</sup>		1.5 mm <sup>2</sup>		1.5 mm <sup>2</sup>	
<b>Max. connection cross-section data</b>	0.34 mm <sup>2</sup> (AWG22)							
<b>Number of mechanical coding</b>	3							
<b>Coding specification</b>	1 = 24 V DC + PE 2 = 230 V AC 3 = user-defined voltage I		1 = 24 V DC + PE 2 = 230 V AC 3 = user-defined voltage I		1 = 2 x 24 V DC 2 = user-defined voltage I		1 = 2 x 24 V DC + PE 2 = 400 V AC 3 = user-defined voltage I	
<b>Protection class</b>	IP 65/IP 67							

\* Maximum values dependent on the cable, coding and ambient temperature



# Info | Technical data B23/B40

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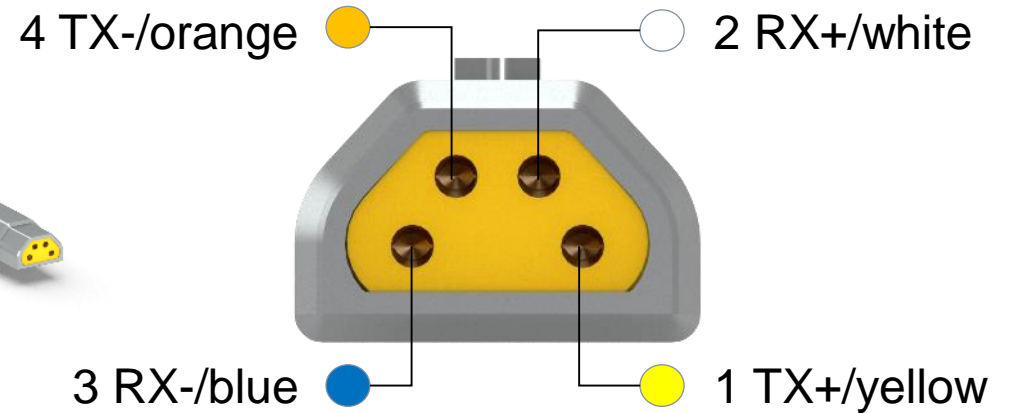
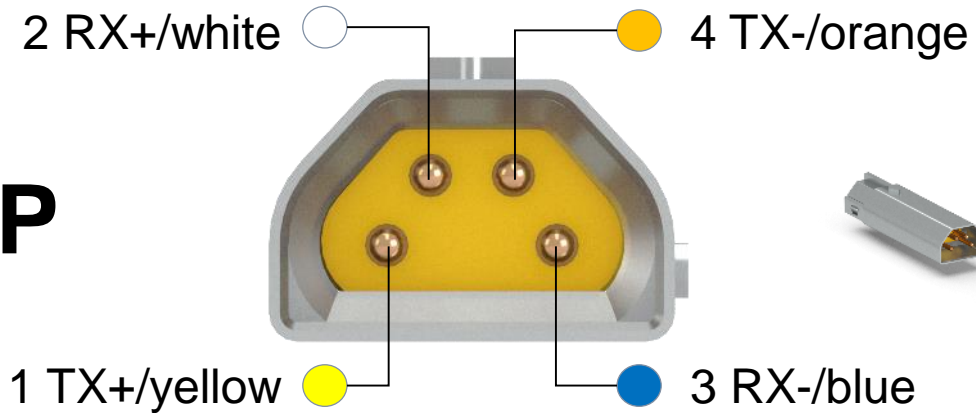
Technical data pins	B23 4 + PE + 4 pins		B23 3 + PE + 2 + 4 pins		B40 4 + PE + 4 pins	
						
<b>Coding</b>	EtherCAT-P	EtherCAT	EtherCAT-P	EtherCAT	EtherCAT-P	EtherCAT
<b>Rated voltage</b>	630 V AC/850 V DC		630 V AC/850 V DC		630 V AC/850 V DC	
<b>Rated current at 40 °C*</b>	29 A		25 A + 22 A		72 A	
<b>Number of power pins</b>	4 + PE (5)		3 + PE + 2 (6)		4 + PE (5)	
<b>Number of EtherCAT P pins</b>	4					
<b>Max. connection cross-section power</b>	4 mm <sup>2</sup>		4 mm <sup>2</sup> + 2.5 mm <sup>2</sup>		16 mm <sup>2</sup>	
<b>Max. connection cross-section data</b>	0.34 mm <sup>2</sup> (AWG22)					
<b>Number of mechanical coding</b>	3				6	
<b>Coding specification</b>	1 = 2 x 24 V DC + PE 2 = 400 V AC 3 = user-defined voltage I		1 = user-defined voltage I 2 = user-defined voltage II 3 = user-defined voltage III		1 = 2 x 24 V DC + PE 2 = 400 V AC 3 = user-defined voltage I 4 = user-defined voltage II 5 = user-defined voltage III 6 = user-defined voltage IV	
<b>Protection class</b>	IP 65/IP 67					

\* Maximum values dependent on the cable, coding and ambient temperature

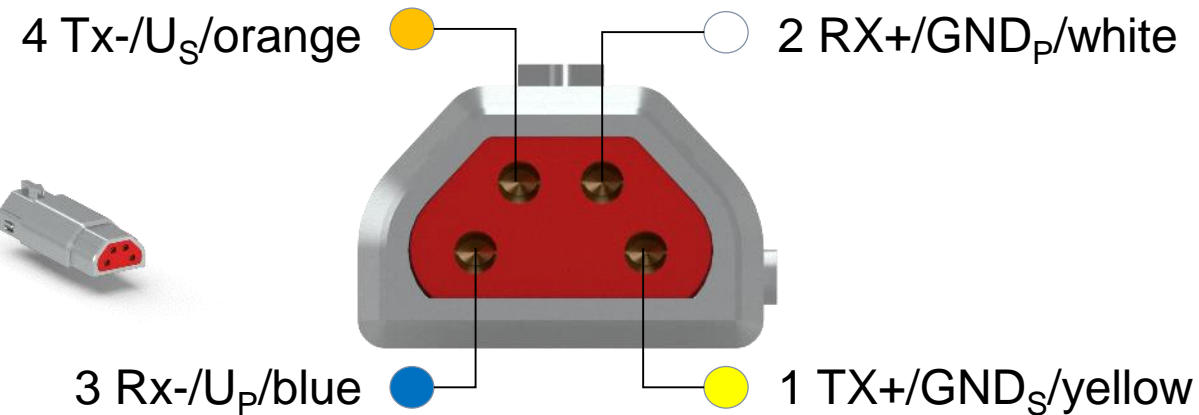
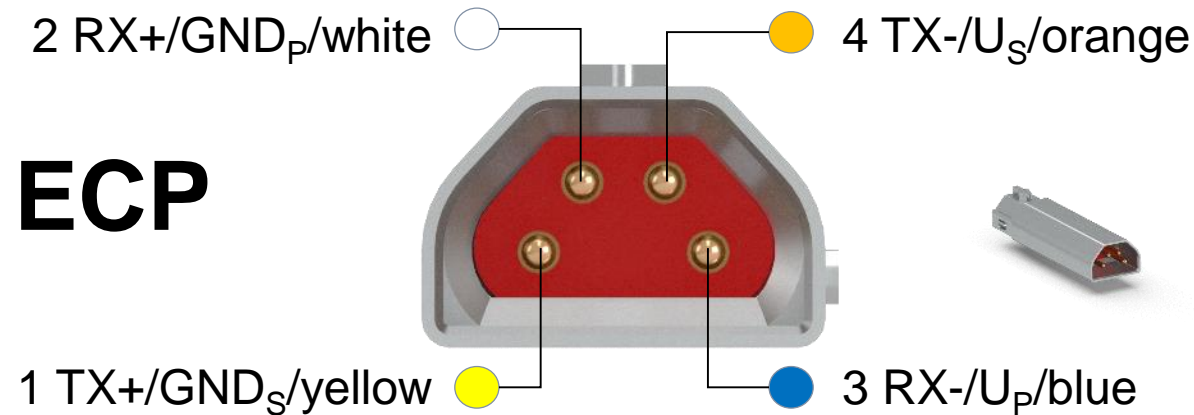
- connector families with uniform design across all sizes – a basis of One Cable Automation (OCA)
- sizes B12 to B40 with different numbers of power pins (2- to 6-pin) for various network and power consumption scenarios
- high current carrying capacity and dielectric strength of power pins
- Cat. 5-enabled Ethernet element in trapezoidal form with seamless shielding



**ENP**

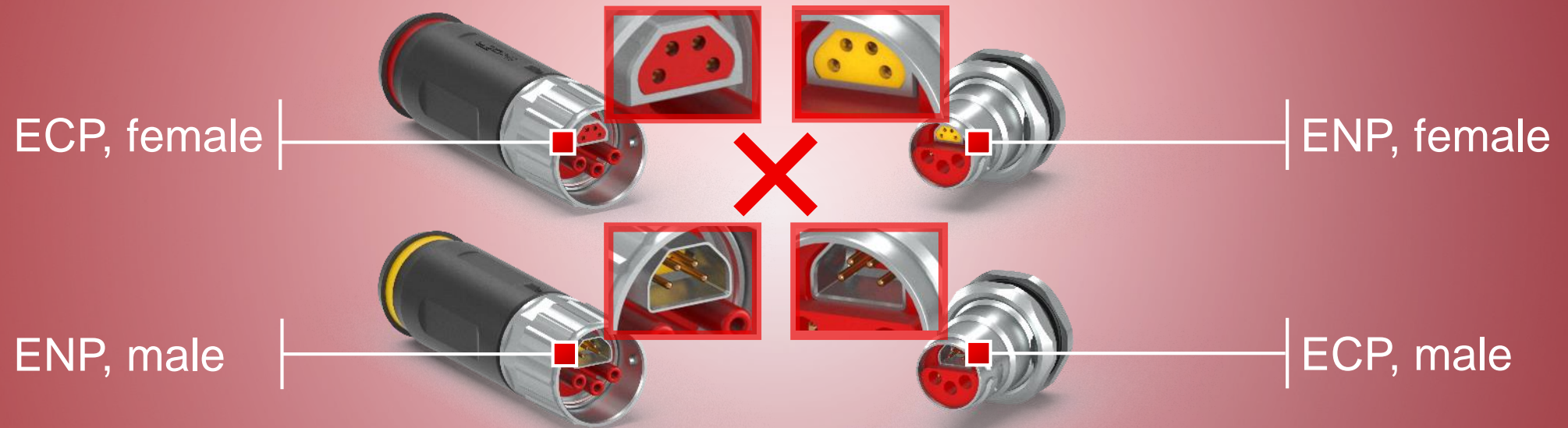
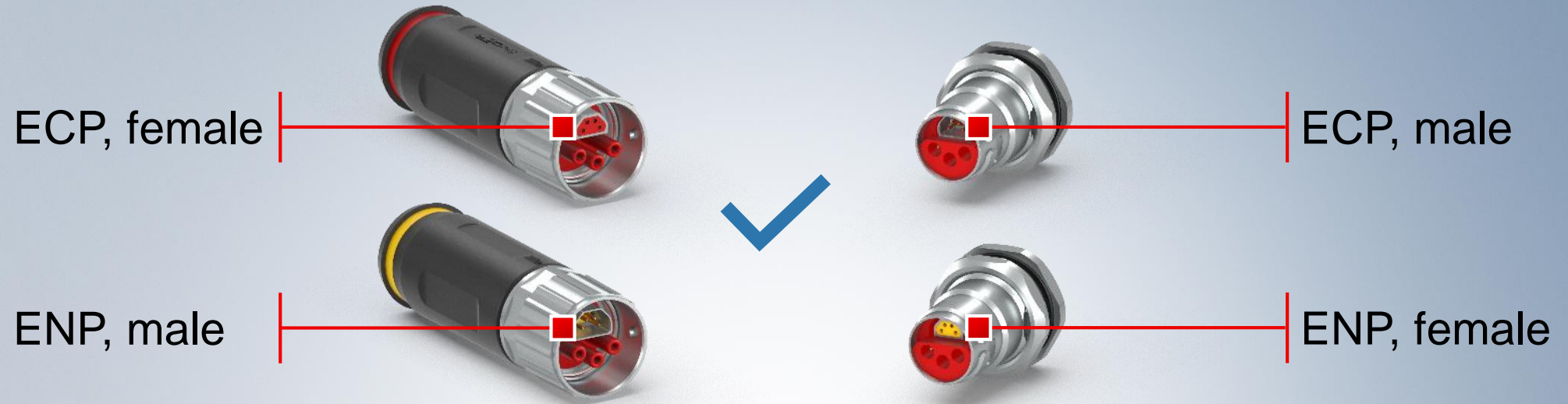


**ECP**



**male**

**female**





## Mechanical coding B12

Mechanical coding 1



Mechanical coding 2

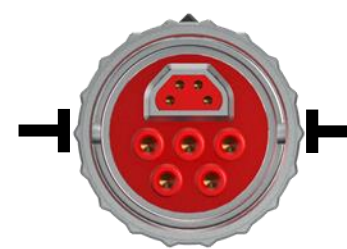


## Mechanical coding B17–B23

Mechanical coding 1



Mechanical coding 2



Mechanical coding 3



## Default



The mechanical coding is defined by the position of the bayonet pin



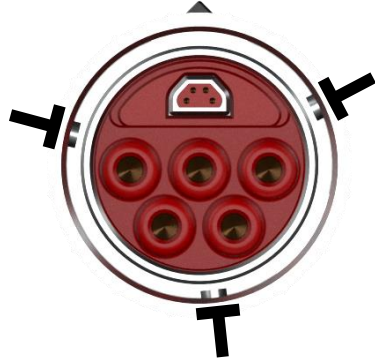


## Mechanical coding B40

Mechanical coding 1



Mechanical coding 2



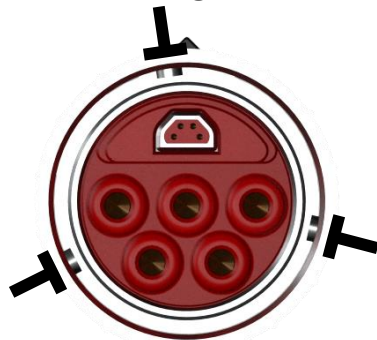
Mechanical coding 3



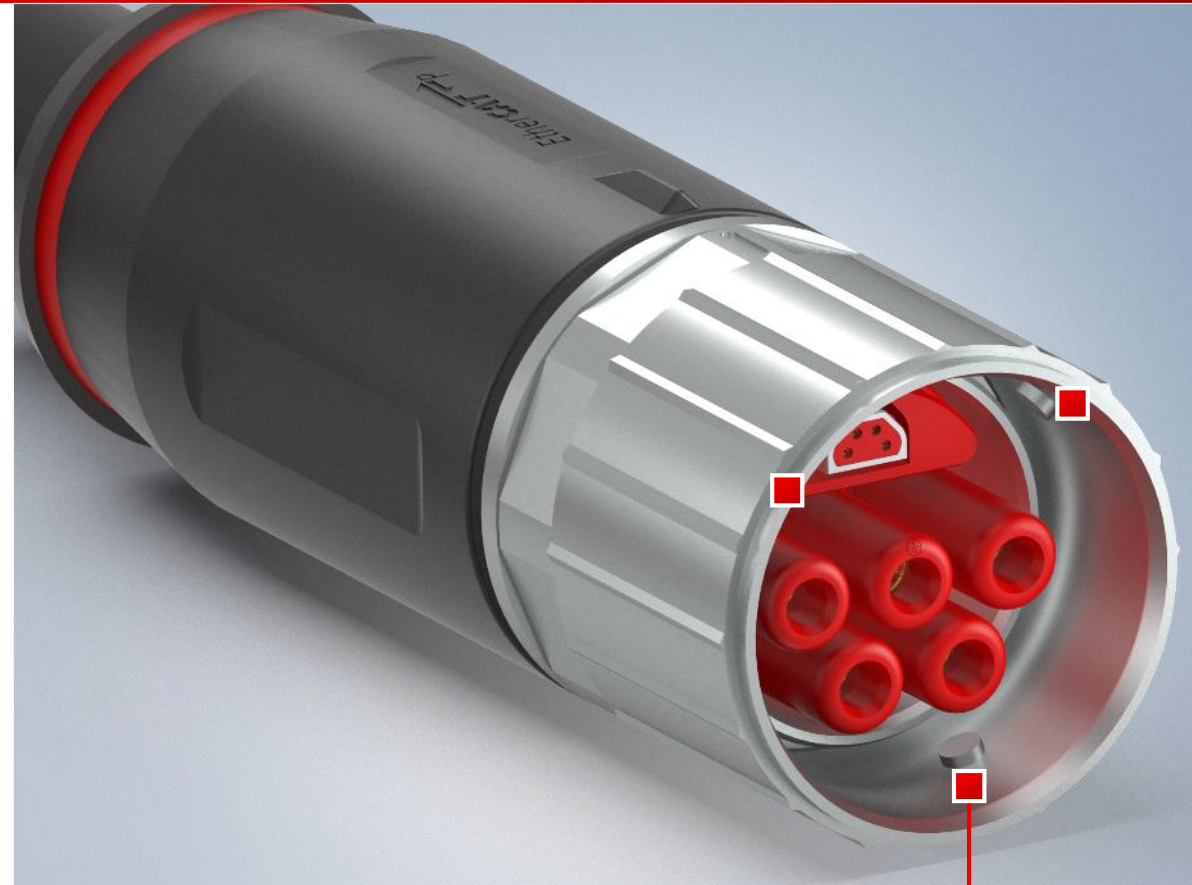
Mechanical coding 4



Mechanical coding 5



Mechanical coding 6



The mechanical coding is defined by the position of the bayonet pin

## Types of housing

- Cable side (plug and socket)



male with notch



male with nut



female with notch

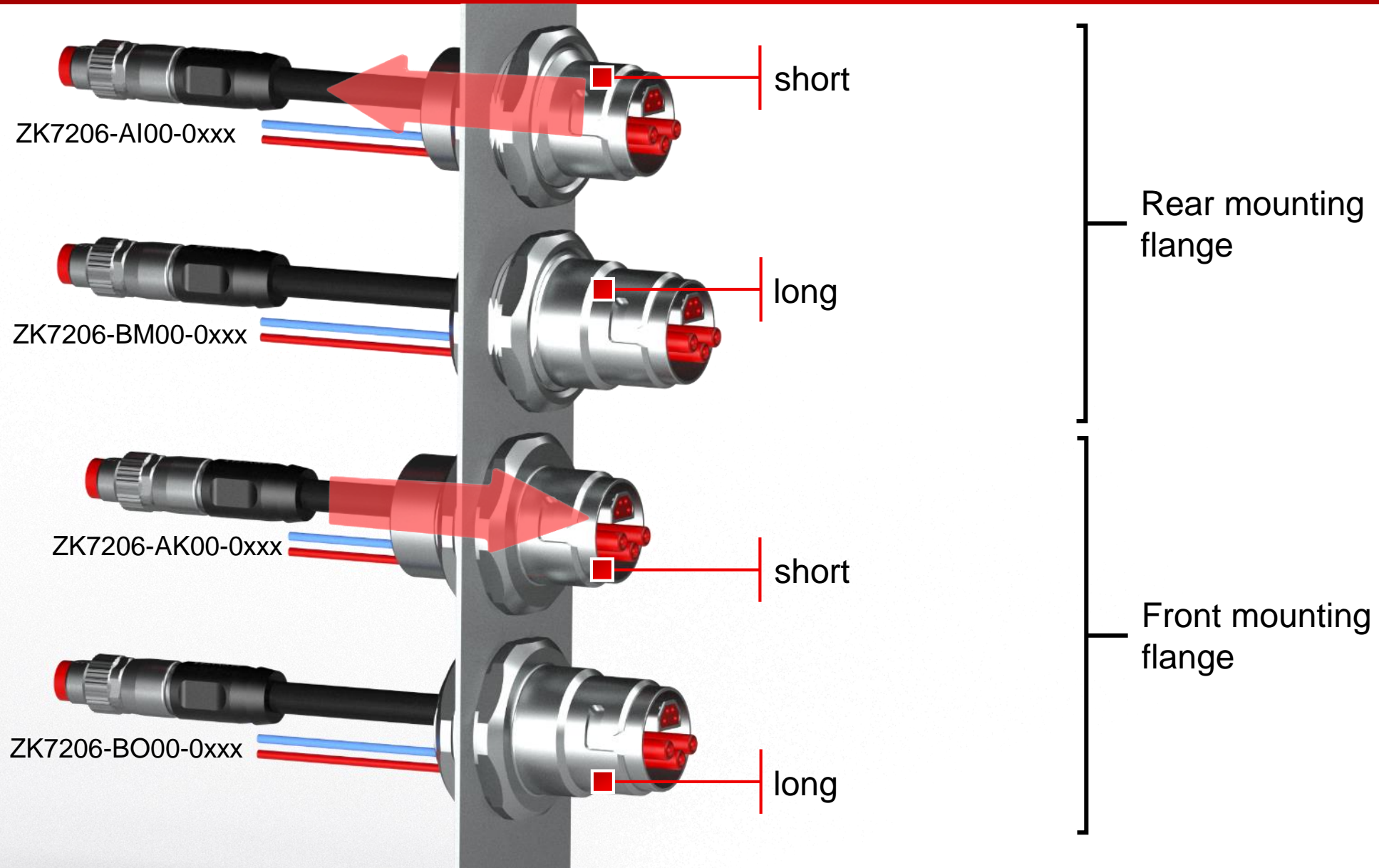


female with nut



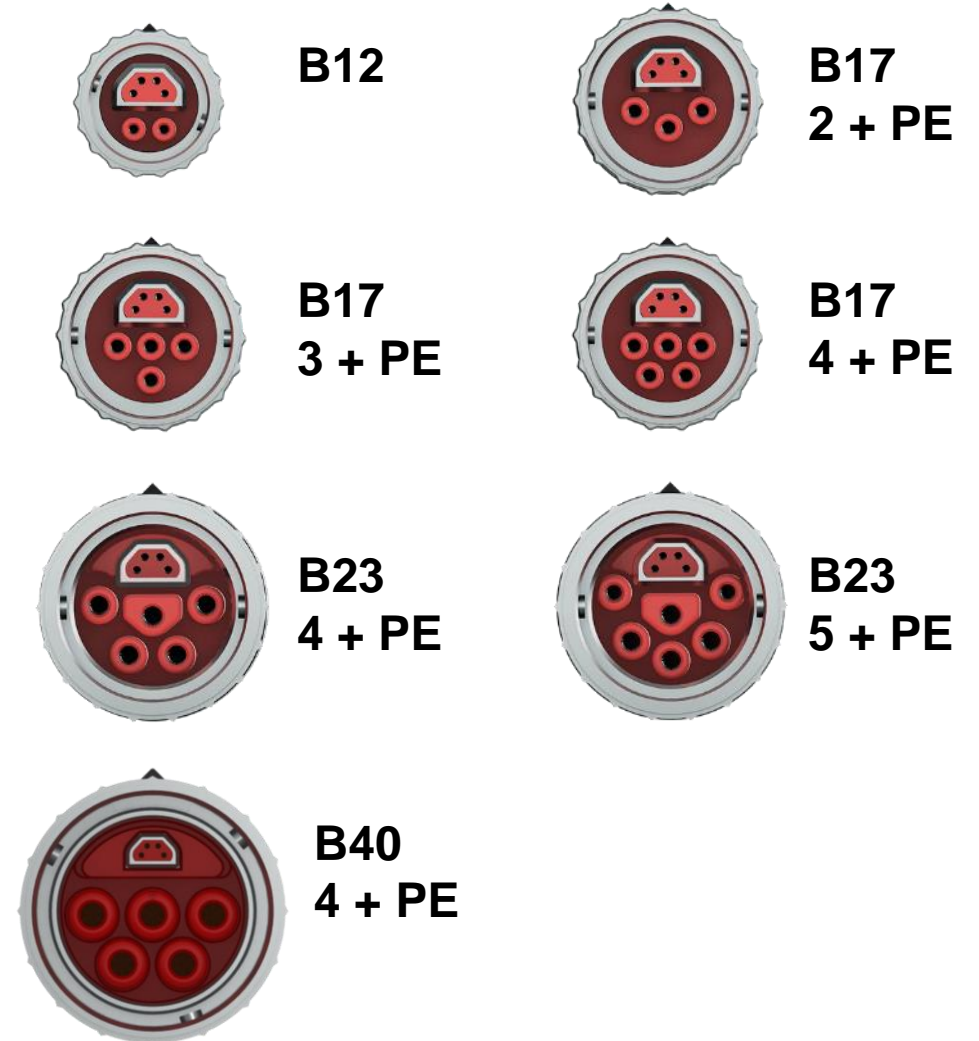
# Info | Recommendation for front and rear mounting flanges

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## Sizes and pin outs

- different number of power contacts
  - 2            B12
  - 2 + PE    B17
  - 3 + PE    B17
  - 4            B17
  - 4 + PE    B17...B40
  - 5 + PE    B23
- proper connections between the different pin outs



## Types

- cable side (plugs and couplings)
  - overmoulded
  - field assembly
- device wise
  - 6 flange variants
    - short and long design
    - square, rear and front wall mounting

ENP,  
B12



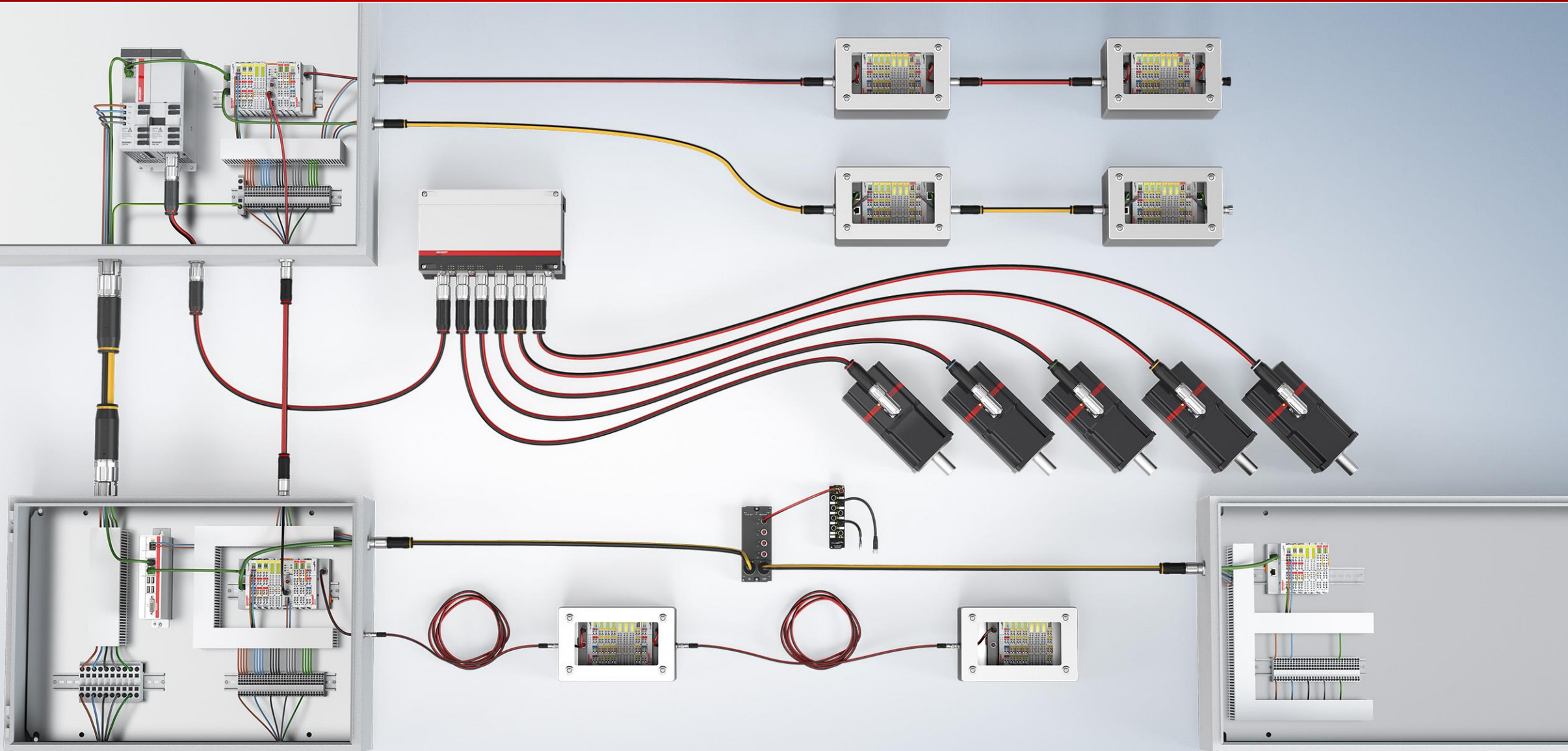
ECP,  
B17





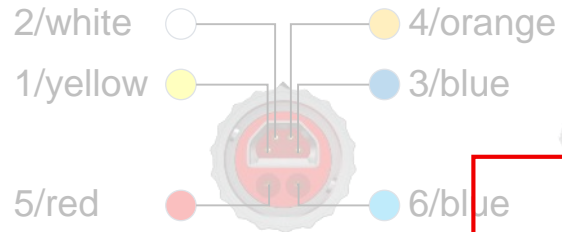
# Cabling with OCA

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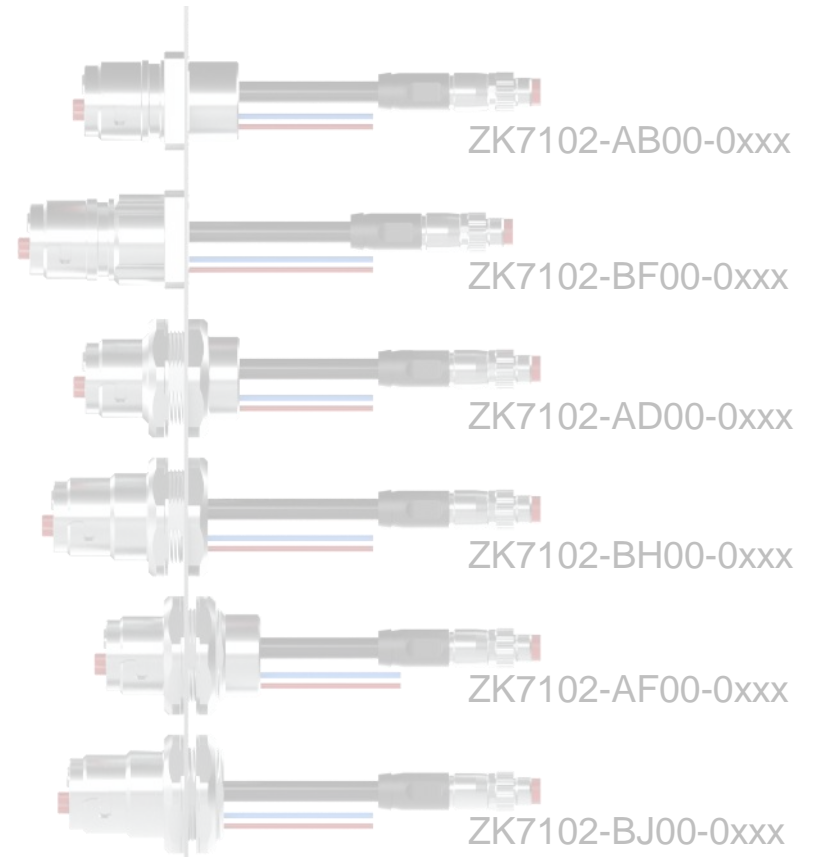
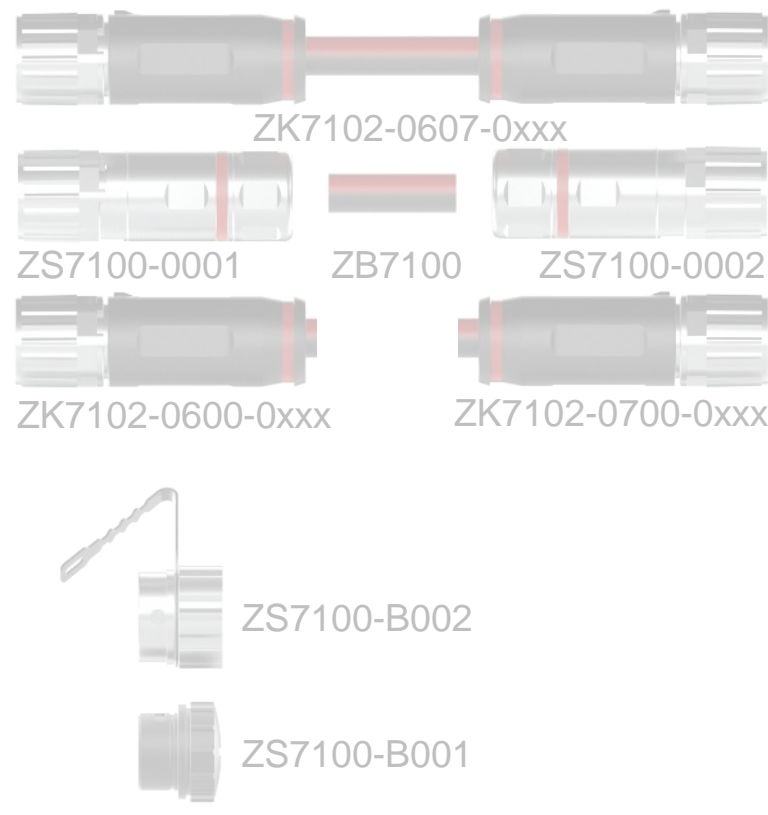
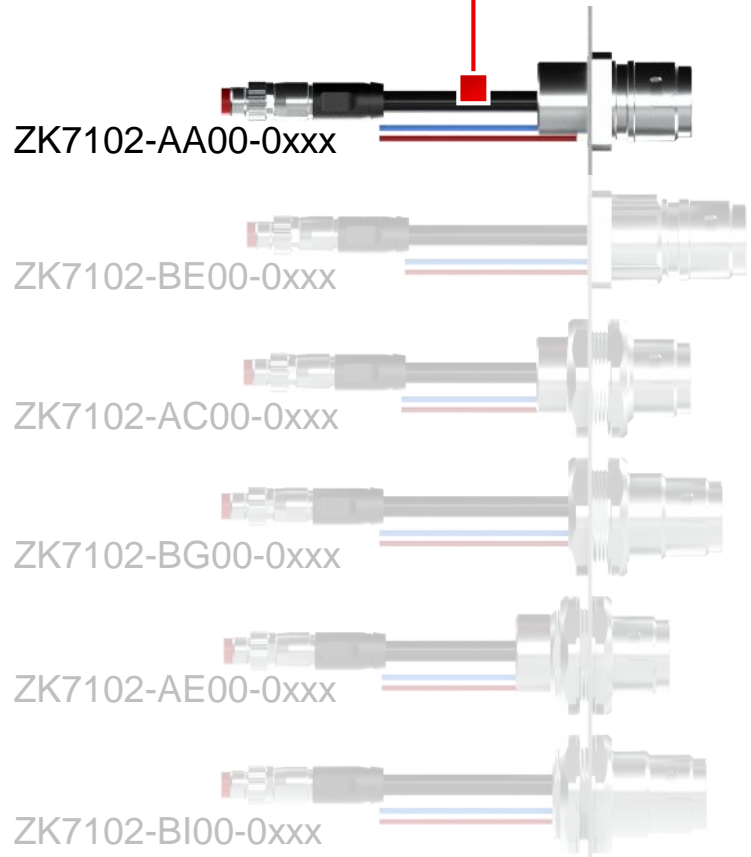
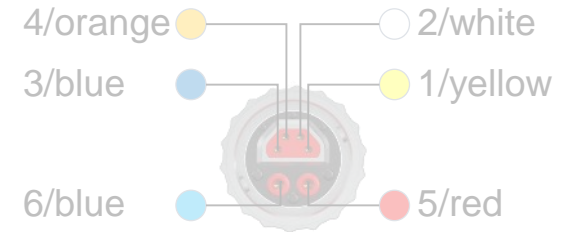


# Usage of cabling overview slides

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Click on any product to open data sheet from Beckhoff website.

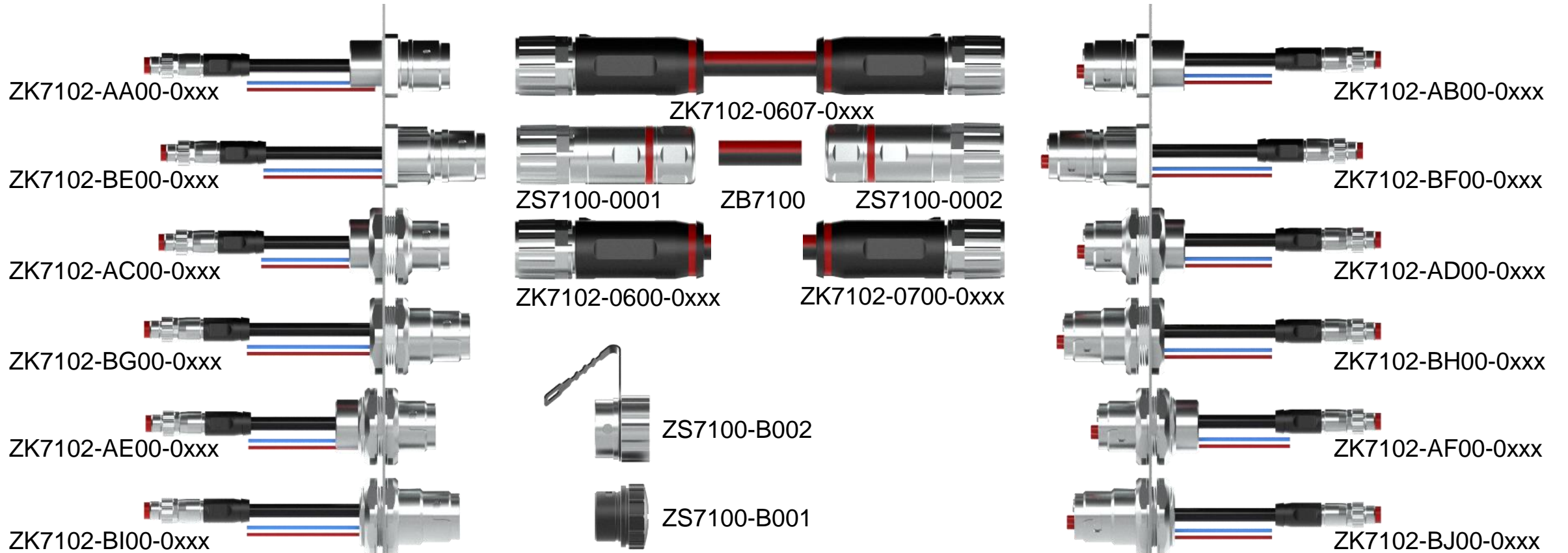
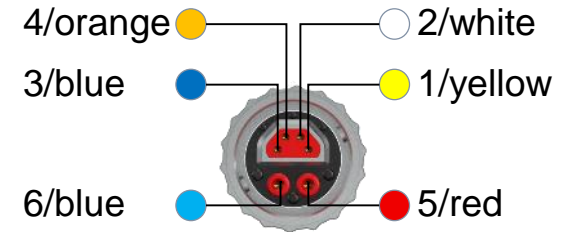
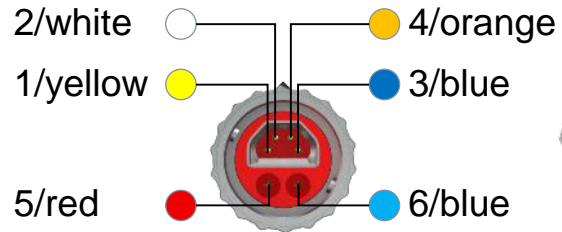


Mechanical coding 1 (ZK7102) = 24 V DC, mechanical coding 2 (ZK7502) = free

3D files can be found [here](#).

# ECP B12 2-pin 0.75 mm<sup>2</sup> overview

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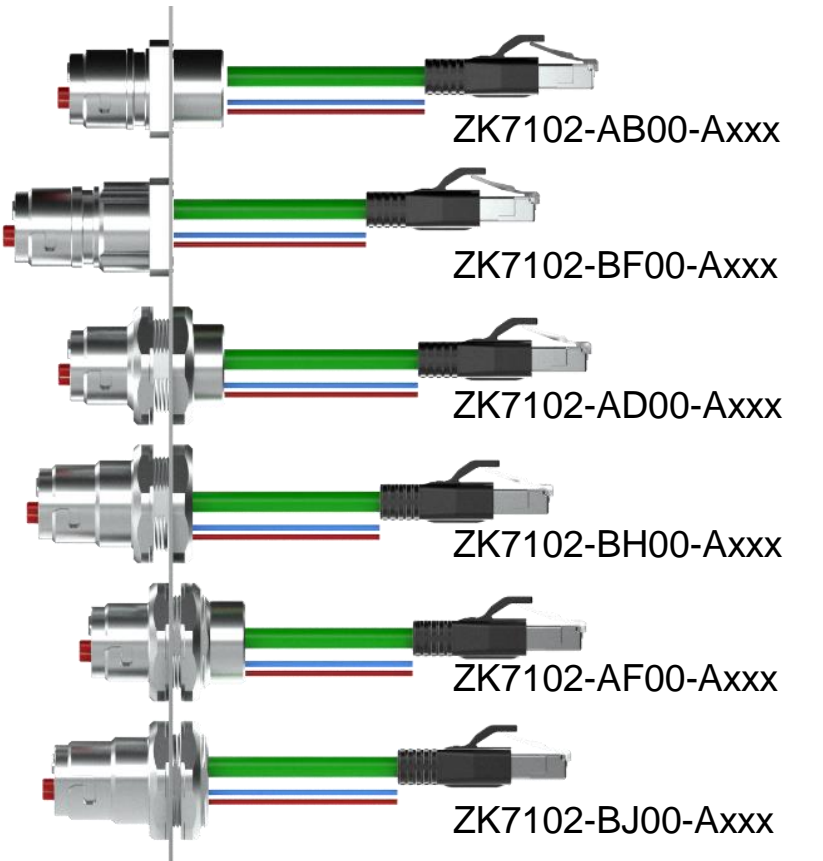
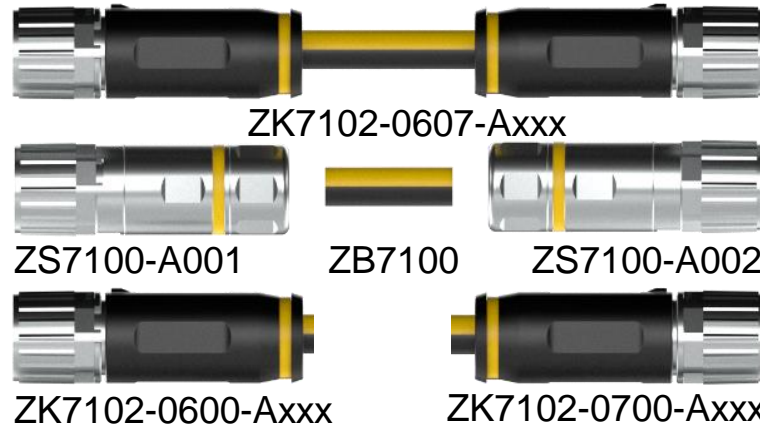
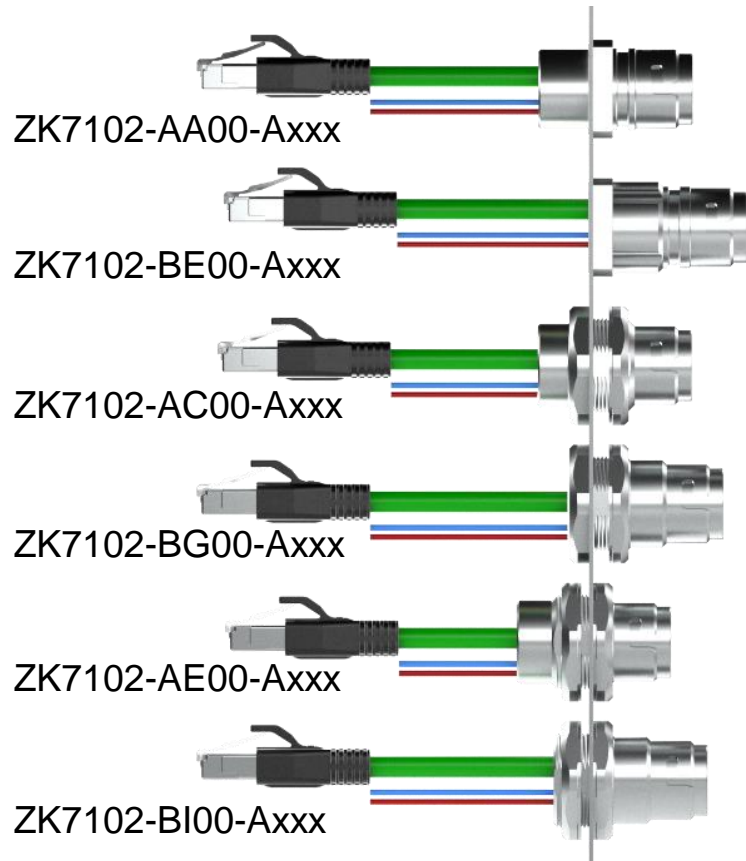
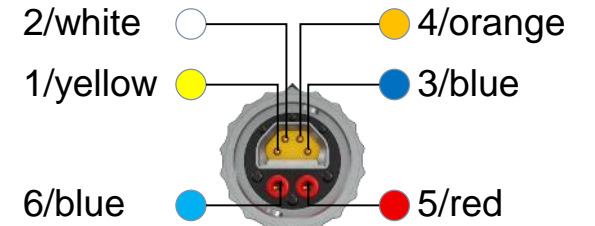
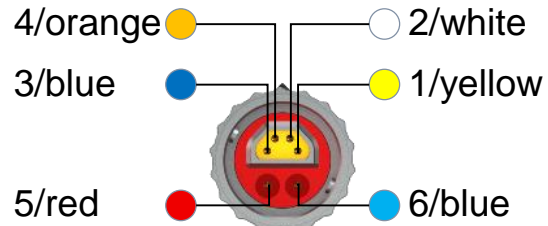
Mechanical coding 1 (ZK7102) = 24 V DC, mechanical coding 2 (ZK7502) = free

**i** 3D files can be found [here](#).



# ENP B12 2-pin 0.75 mm<sup>2</sup> overview

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Mechanical coding 1 (ZK7102) = 24 V DC, mechanical coding 2 (ZK7502) = free

**i** 3D files can be found [here](#).

# B12 | Connectors for field assembly with crimp contacts






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	<u>ZS7000-C001</u> AWG22/0.34 mm <sup>2</sup> male	<u>ZS7000-C002</u> AWG22/0.34 mm <sup>2</sup> female	<u>ZS7000-C003</u> AWG18/0.75 mm <sup>2</sup> male	<u>ZS7000-C004</u> AWG18/0.75 mm <sup>2</sup> female
				
<b><u>ZS7100-0001</u></b> B12, ECP, 2+4-pin, male	✓		✓	
<b><u>ZS7100-0002</u></b> B12, ECP, 2+4-pin, female		✓		✓
<b><u>ZS7100-A001</u></b> B12, ENP, 2+4-pin, female + male		✓	✓	
<b><u>ZS7100-A002</u></b> B12, ENP, 2+4-pin, male + female	✓			✓



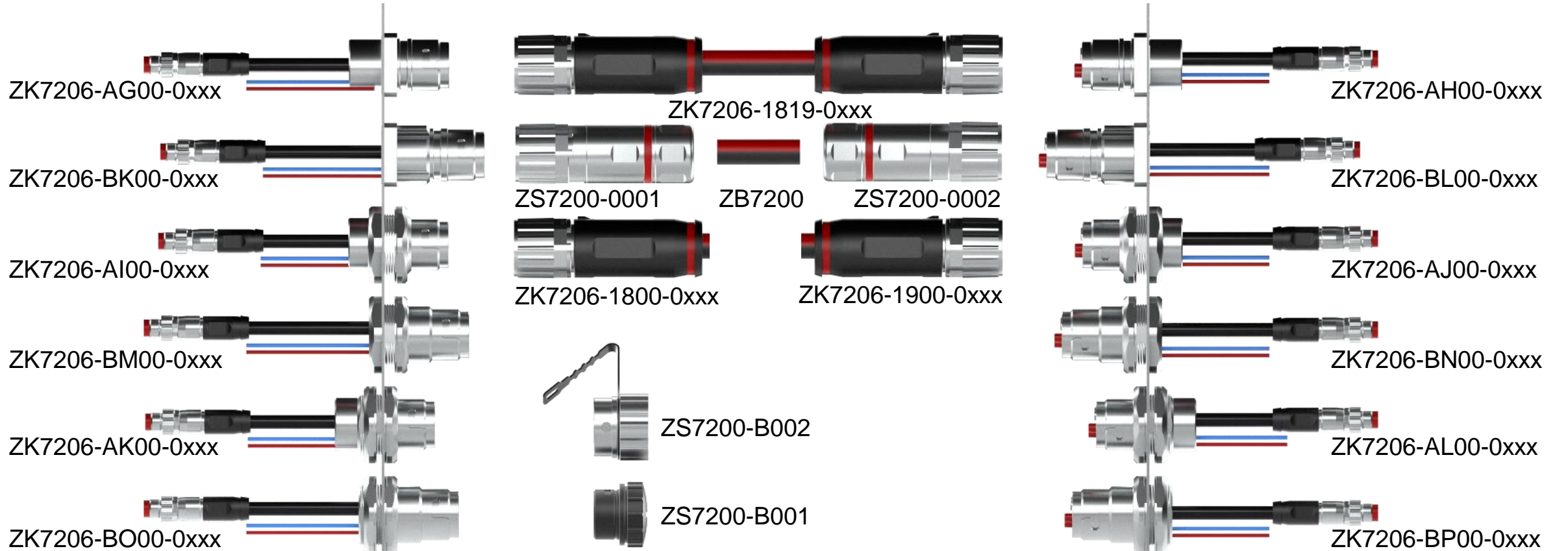
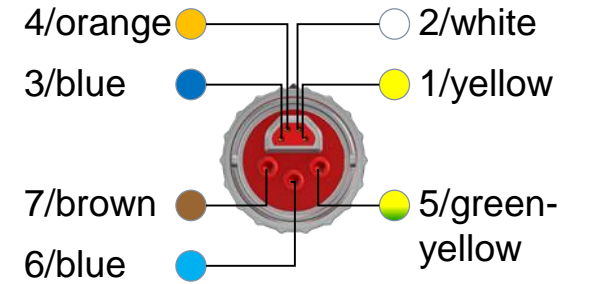
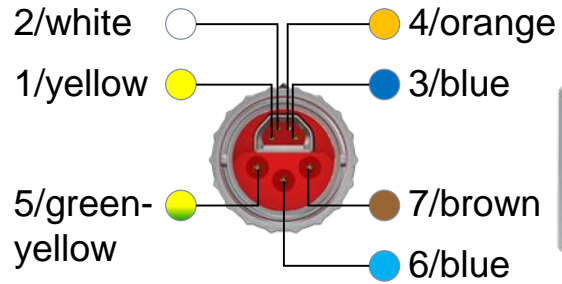
# B12 | Accessories for ENP/ECP connector family

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Tools and inserts	Crimp contacts for Ethernet element	Crimp contacts for power pins	Protection caps IP 67	Color coding for connectors	Color coding for connectors	
						
<b>Crimping tool for Ethernet element</b>	<b>AWG22/0.34 mm<sup>2</sup></b>	<b>0.75 mm<sup>2</sup></b>	<b>Socket/flange</b>	<b>Color coding connector/square flange</b>	<b>Color coding flange for front/rear assembly</b>	
<a href="#">ZB8810-0000</a> M8, B12, B17, B23 contacts	<a href="#">ZS7000-C001</a> male <a href="#">ZS7000-C002</a> female	<a href="#">ZS7000-C003</a> male <a href="#">ZS7000-C004</a> female	<a href="#">ZS7100-B001</a> plastic <a href="#">ZS7100-B002</a> metal	<a href="#">ZS7100-B005</a> red <a href="#">ZS7100-B006</a> yellow <a href="#">ZS7100-B007</a> blue <a href="#">ZS7100-B008</a> green <a href="#">ZS7100-B015</a> orange <a href="#">ZS7100-B016</a> gray	<a href="#">ZS7100-B009</a> red <a href="#">ZS7100-B010</a> yellow <a href="#">ZS7100-B011</a> blue <a href="#">ZS7100-B012</a> green <a href="#">ZS7100-B013</a> orange <a href="#">ZS7100-B014</a> gray	
<b>Crimping insert and locator for Ethernet element</b>			<b>Plug</b>			<a href="#">ZS7100-B003</a> plastic <a href="#">ZS7100-B004</a> metal
<a href="#">ZB8810-0001</a> M8, B12, B17 contacts						
<b>Assembly tool</b>						
<a href="#">ZB8802-0001</a> for B12 connector, AF17						
<b>i</b> Further crimp contacts can be found <a href="#">here</a> .						

# B17 | ECP 3-pin 1.5 mm<sup>2</sup> overview

**BECKHOFF**

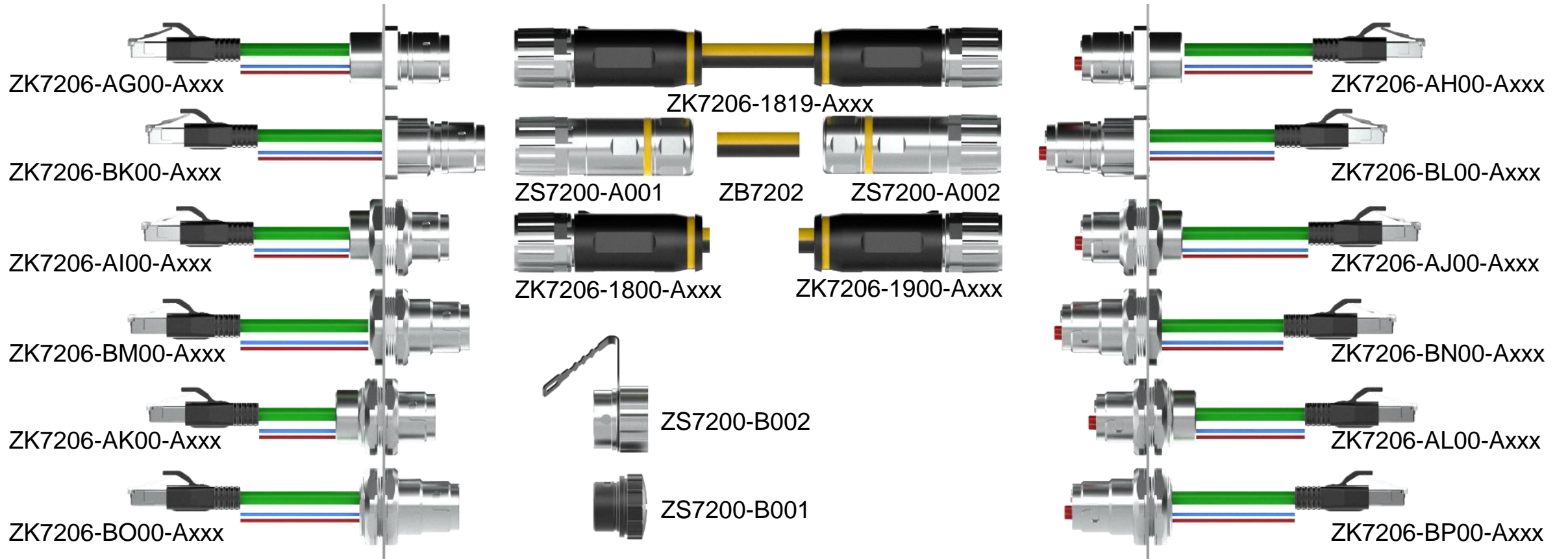
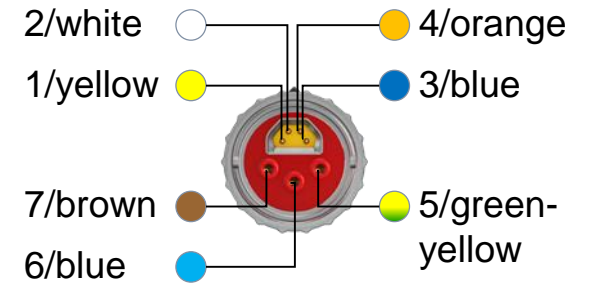
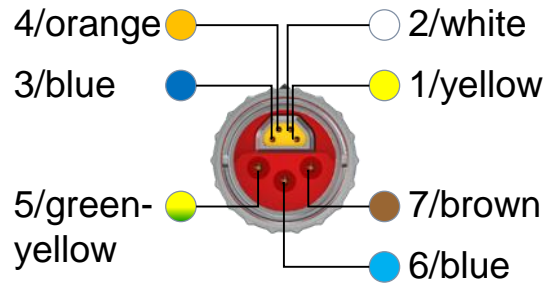


Mechanical coding 1 (ZK7206) = 24 V DC + PE, mechanical coding 2 (ZK7606) = 230 V AC, mechanical coding 3 (ZK7906) = free

**i** 3D files can be found [here](#).

# B17 | ENP 3-pin 1.5 mm² overview

**BECKHOFF**

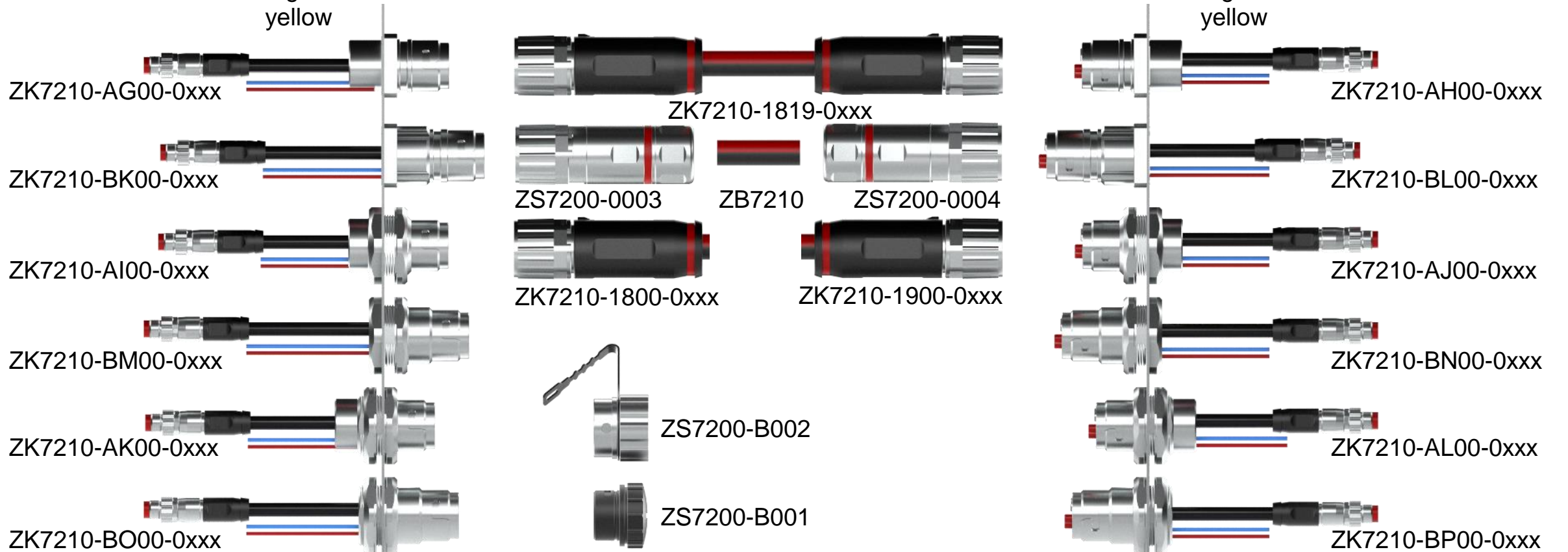
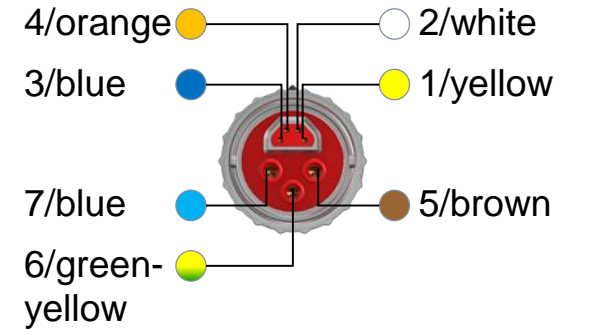
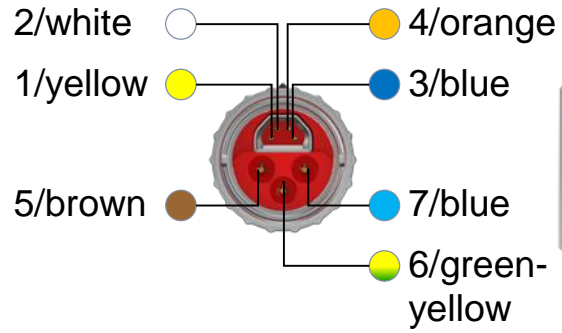


Mechanical coding 1 (ZK7206) = 24 V DC + PE, mechanical coding 2 (ZK7606) = 230 V AC, mechanical coding 3 (ZK7906) = free

**i** 3D files can be found [here](#).

# B17 | ECP 3-pin 2.5 mm<sup>2</sup> overview

**BECKHOFF**



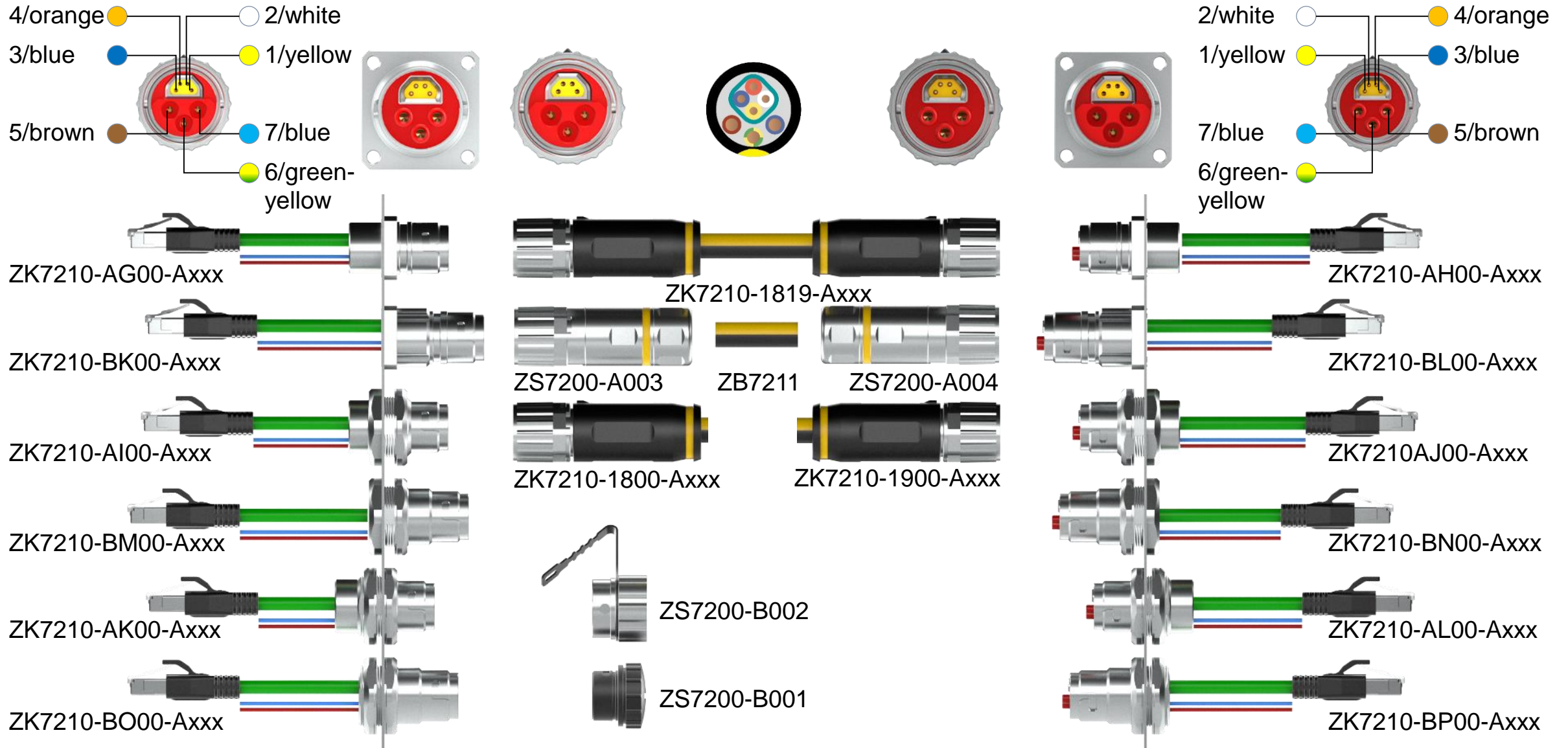
Mechanical coding 1 (ZK7210) = 24 V DC + PE, mechanical coding 2 (ZK7610) = 230 V AC, mechanical coding 3 (ZK7910) = free

**i** 3D files can be found [here](#).



# B17 | ENP 3-pin 2.5 mm<sup>2</sup> overview

**BECKHOFF**



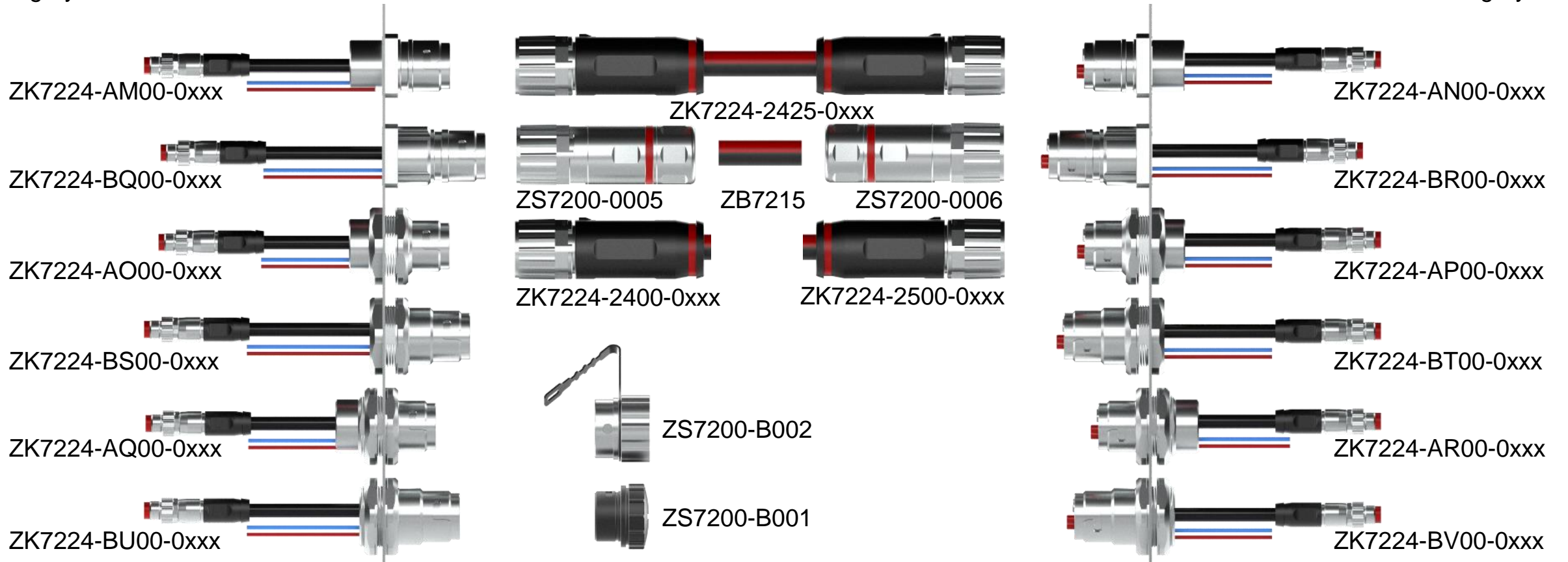
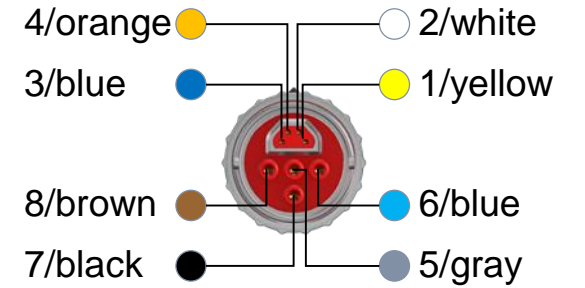
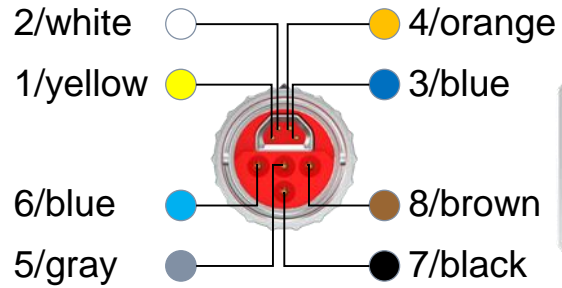
Mechanical coding 1 (ZK7210) = 24 V DC + PE, mechanical coding 2 (ZK7610) = 230 V AC, mechanical coding 3 (ZK7910) = free

**i** 3D files can be found [here](#).



# B17 | ECP 4-pin 1.5 mm<sup>2</sup> overview

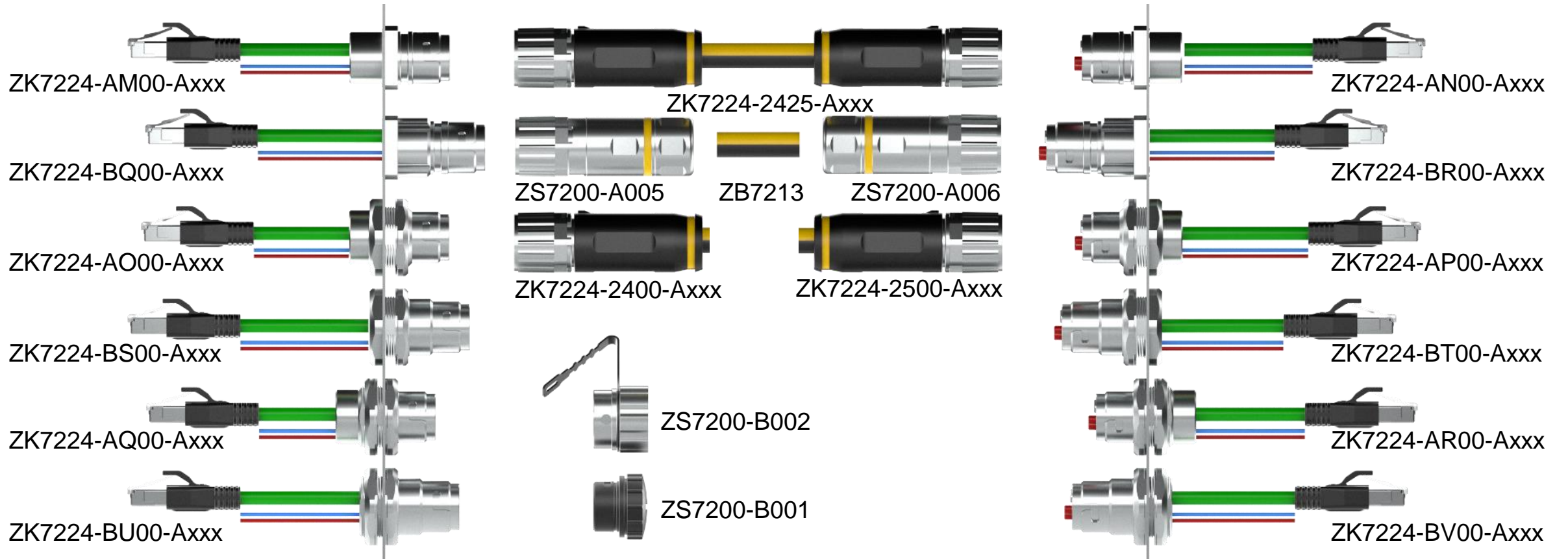
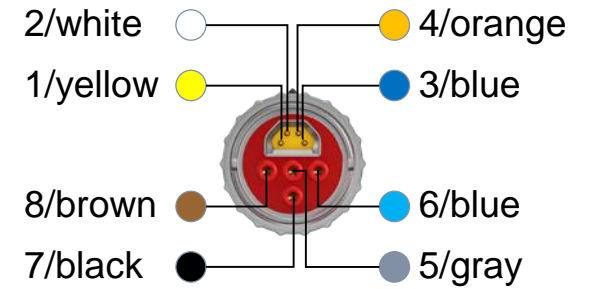
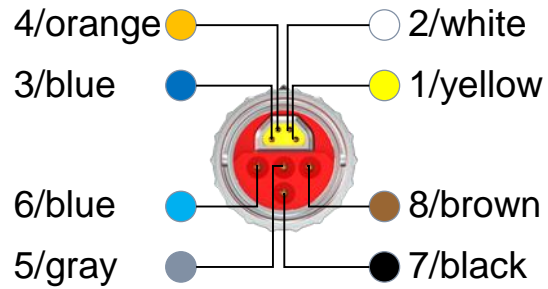
**BECKHOFF**



Mechanical coding 1 (ZK7224) = 2 x 24 V DC, mechanical coding 2 (ZK7624) = free, mechanical coding 3 (ZK7924) = n.a.

**i** 3D files can be found [here](#).

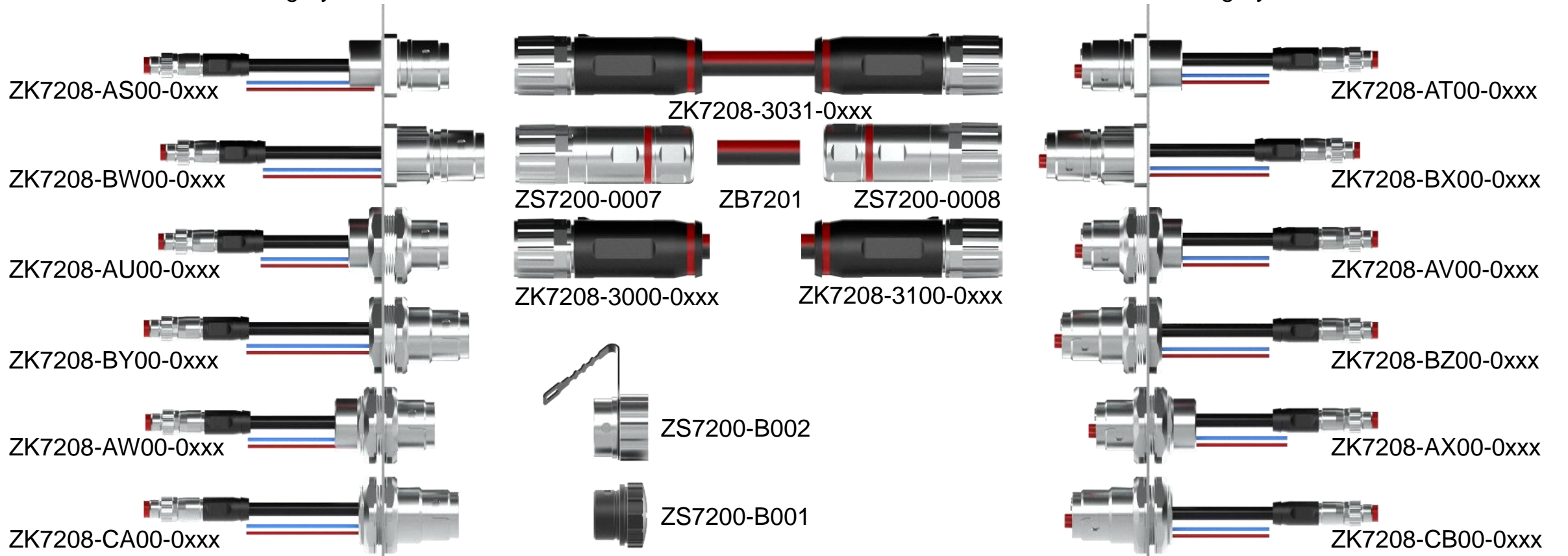
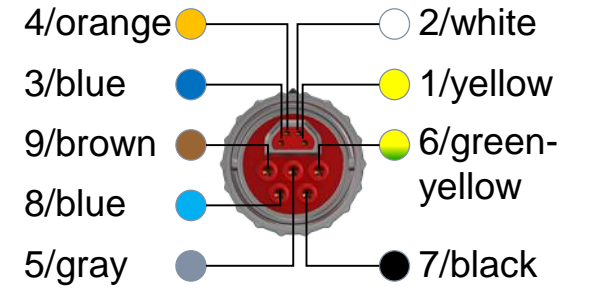
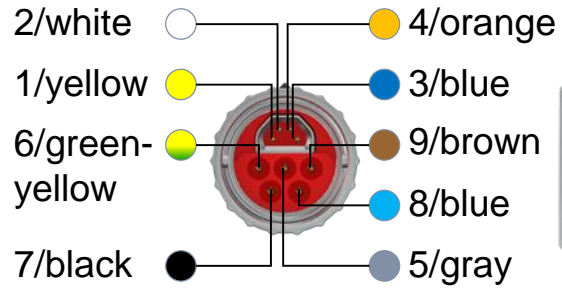
# B17 | ENP 4-pin 1.5 mm<sup>2</sup> overview



Mechanical coding 1 (ZK7224) = 2 x 24 V DC, mechanical coding 2 (ZK7624) = free, mechanical coding 3 (ZK7924) = n.a.

# B17 | ECP 5-pin 1.5 mm<sup>2</sup> overview

**BECKHOFF**



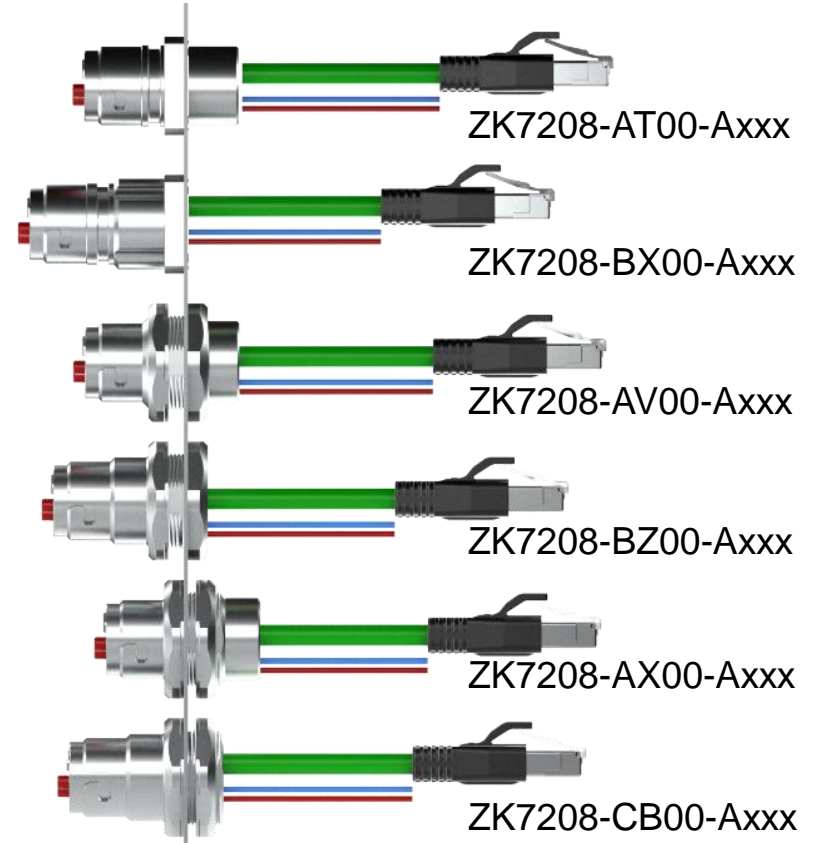
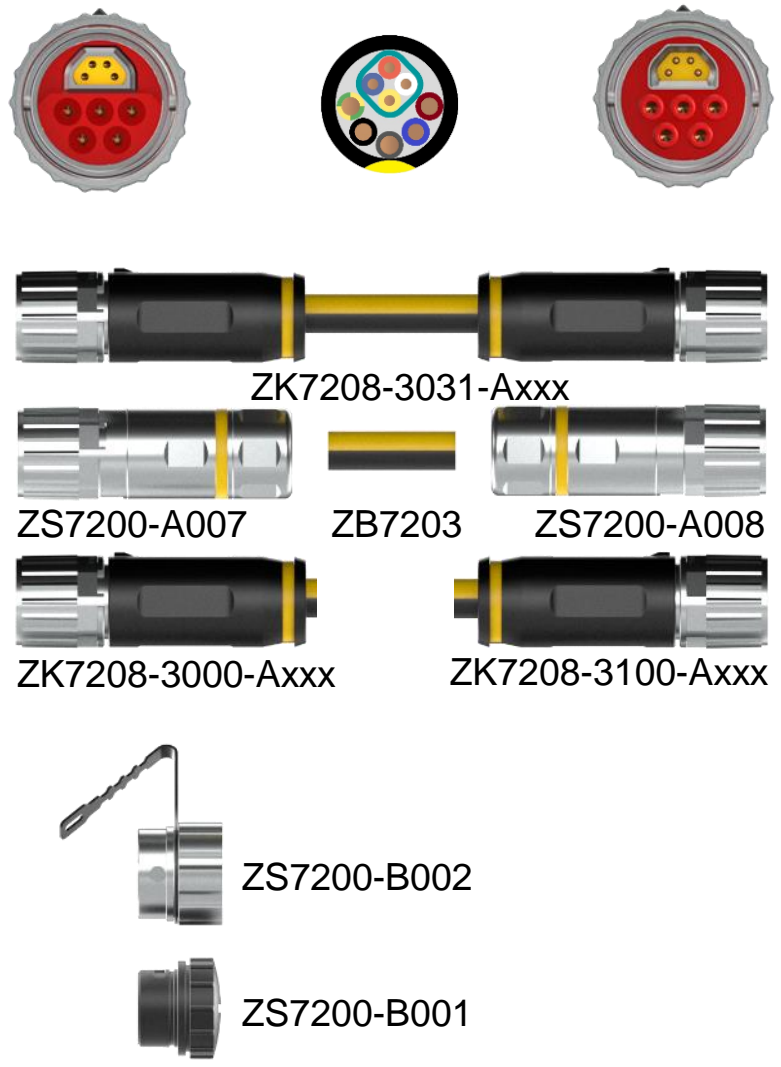
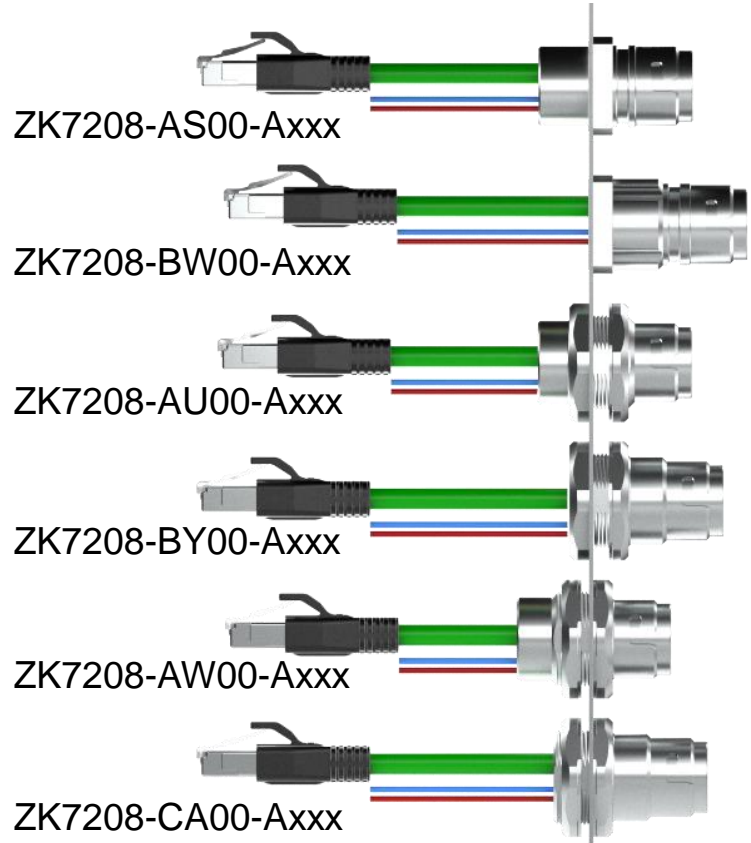
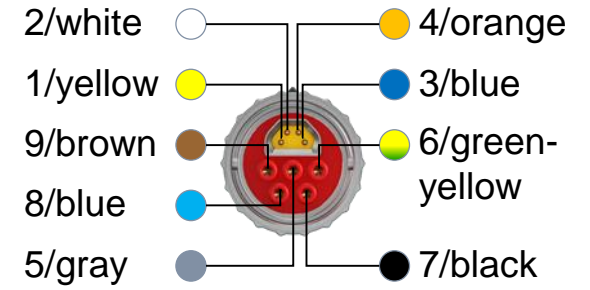
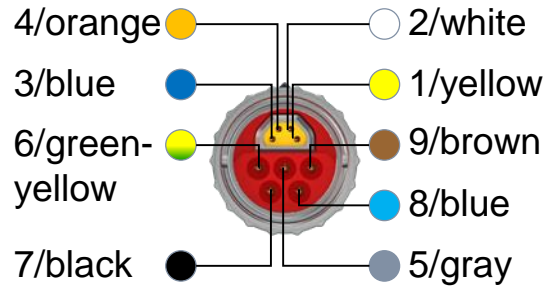
Mechanical coding 1 (ZK7208) = 2 x 24 V DC + PE, mechanical coding 2 (ZK7608) = 400 V AC, mechanical coding 3 (ZK7908) = free

**i** 3D files can be found [here](#).



# B17 | ENP 5-pin 1.5 mm<sup>2</sup> overview

**BECKHOFF**



Mechanical coding 1 (ZK7208) = 2 x 24 V DC + PE, mechanical coding 2 (ZK7608) = 400 V AC, mechanical coding 3 (ZK7908) = free

**i** 3D files can be found [here](#).







# B17 | Connectors for field assembly with crimp contacts

**BECKHOFF**

	<u>ZS7000-C001</u> AWG22/ 0.34 mm <sup>2</sup> male	<u>ZS7000-C002</u> AWG22/ 0.34 mm <sup>2</sup> female	<u>ZS7000-C005</u> AWG16/ 1.5 mm <sup>2</sup> male	<u>ZS7000-C006</u> AWG16/ 1.5 mm <sup>2</sup> female	<u>ZS7000-C007</u> AWG14/ 2.5 mm <sup>2</sup> male	<u>ZS7000-C008</u> AWG14/ 2.5 mm <sup>2</sup> female
<b>ZS7200-0001</b> B17, ECP, 3+4-pin, male	✓		✓			
<b>ZS7200-0002</b> B17, ECP, 3+4-pin, female		✓		✓		
<b>ZS7200-A001</b> B17, ENP, 3+4-pin, male + female		✓	✓			
<b>ZS7200-A002</b> B17, ENP, 3+4-pin, female + male	✓			✓		
<b>ZS7200-0003</b> B17, ECP, 3+4-pin, male	✓				✓	
<b>ZS7200-0004</b> B17, ECP, 3+4-pin, female		✓				✓
<b>ZS7200-A003</b> B17, ENP, 3+4-pin, female + male		✓			✓	
<b>ZS7200-A004</b> B17, ENP, 3+4-pin, male + female	✓					✓
<b>ZS7200-0005</b> B17, ECP, 4+4-pin, male	✓		✓			
<b>ZS7200-0006</b> B17, ECP, 4+4-pin, female		✓		✓		
<b>ZS7200-A005</b> B17, ENP, 4+4-pin, female + male		✓	✓			
<b>ZS7200-A006</b> B17, ENP, 4+4-pin, male + female	✓			✓		
<b>ZS7200-0007</b> B17, ECP, 5+4-pin, male	✓		✓			
<b>ZS7200-0008</b> B17, ECP, 5+4-pin, female		✓		✓		
<b>ZS7200-A007</b> B17, ENP, 5+4-pin, female + male		✓	✓			
<b>ZS7200-A008</b> B17, ENP, 5+4-pin, male + female	✓			✓		

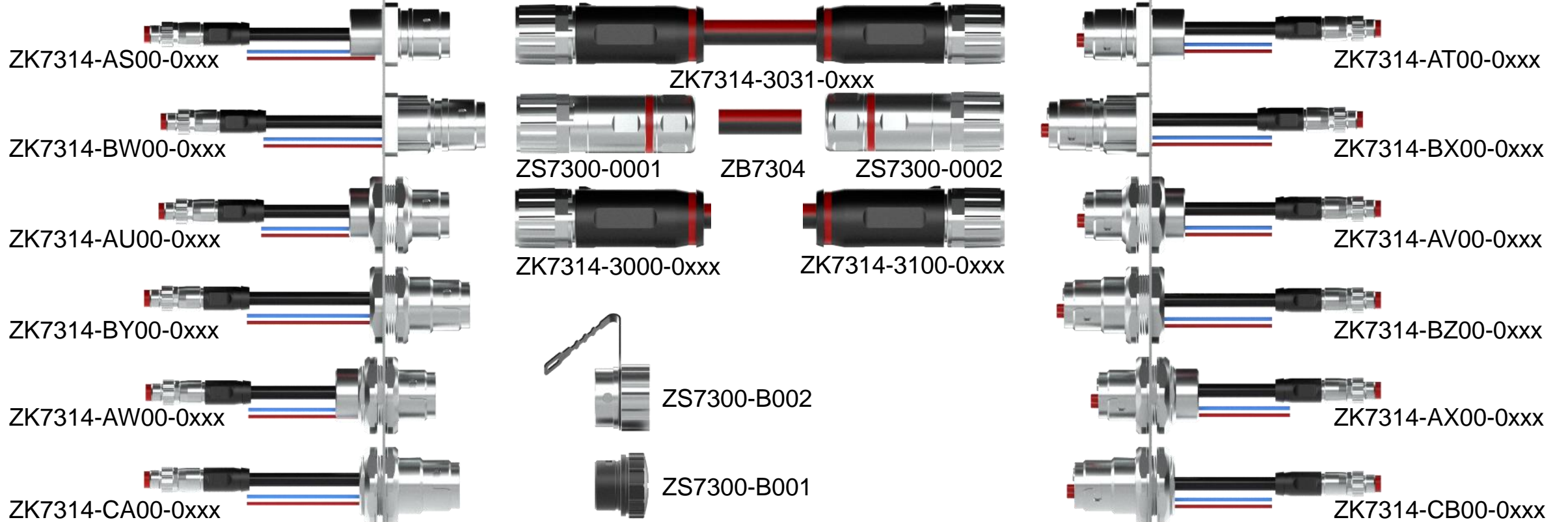
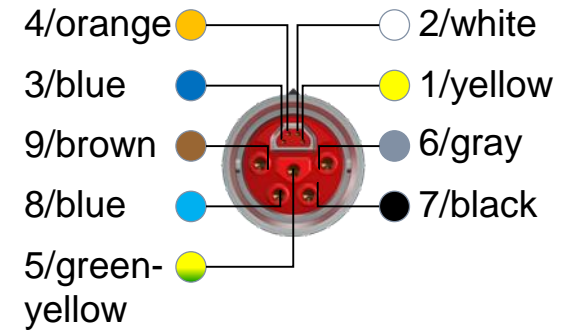
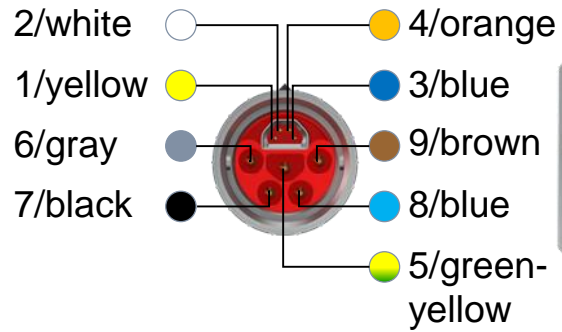
# B17 | Accessories for ENP/ECP connector family

**BECKHOFF**

Tools and inserts	Crimp contacts for Ethernet element	Crimp contacts for power pins	Protection caps IP 67	Color coding for connectors	Color coding for connectors
					
<b>Crimping tool for Ethernet element</b>	<b>AWG22/0.34 mm<sup>2</sup></b>	<b>1.5 mm<sup>2</sup></b>	<b>Socket/flange</b>	<b>Color coding connector/square flange</b>	<b>Color coding flange for front/rear assembly</b>
<a href="#">ZB8810-0000</a> M8, B12, B17, B23 contacts	<a href="#">ZS7000-C001</a> male <a href="#">ZS7000-C002</a> female	<a href="#">ZS7000-C005</a> male <a href="#">ZS7000-C006</a> female	<a href="#">ZS7200-B001</a> plastic <a href="#">ZS7200-B002</a> metal	<a href="#">ZS7200-B005</a> red <a href="#">ZS7200-B006</a> yellow <a href="#">ZS7200-B007</a> blue <a href="#">ZS7200-B008</a> green	<a href="#">ZS7200-B009</a> red <a href="#">ZS7200-B010</a> yellow <a href="#">ZS7200-B011</a> blue <a href="#">ZS7200-B012</a> green
<b>Crimping insert and locator for Ethernet element</b>		<b>2.5 mm<sup>2</sup></b>	<b>Plug</b>	<a href="#">ZS7200-B015</a> orange <a href="#">ZS7200-B016</a> gray	<a href="#">ZS7200-B013</a> orange <a href="#">ZS7200-B014</a> gray
<a href="#">ZB8810-0001</a> M8, B12, B17 contacts		<a href="#">ZS7000-C007</a> male <a href="#">ZS7000-C008</a> female	<a href="#">ZS7200-B003</a> plastic <a href="#">ZS7200-B004</a> metal		
<b>Assembly tool</b>					
<a href="#">ZB8802-0002</a> assembly tool for B17 connector, AF22					
<b>i</b> Further crimp contacts can be found <a href="#">here</a> .					

# B23 | ECP 5-pin 4.0 mm<sup>2</sup> overview

**BECKHOFF**

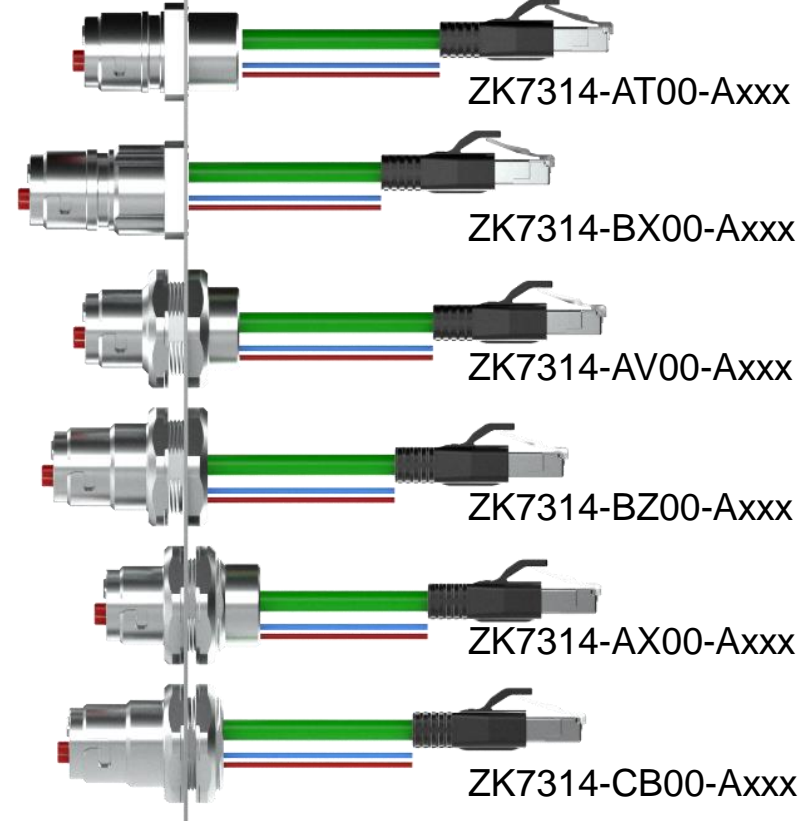
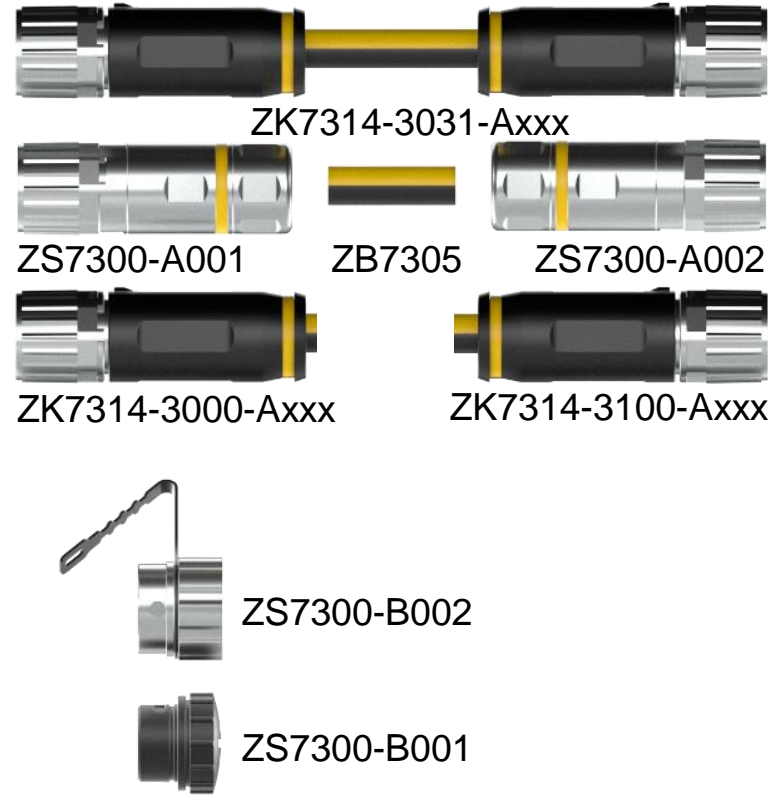
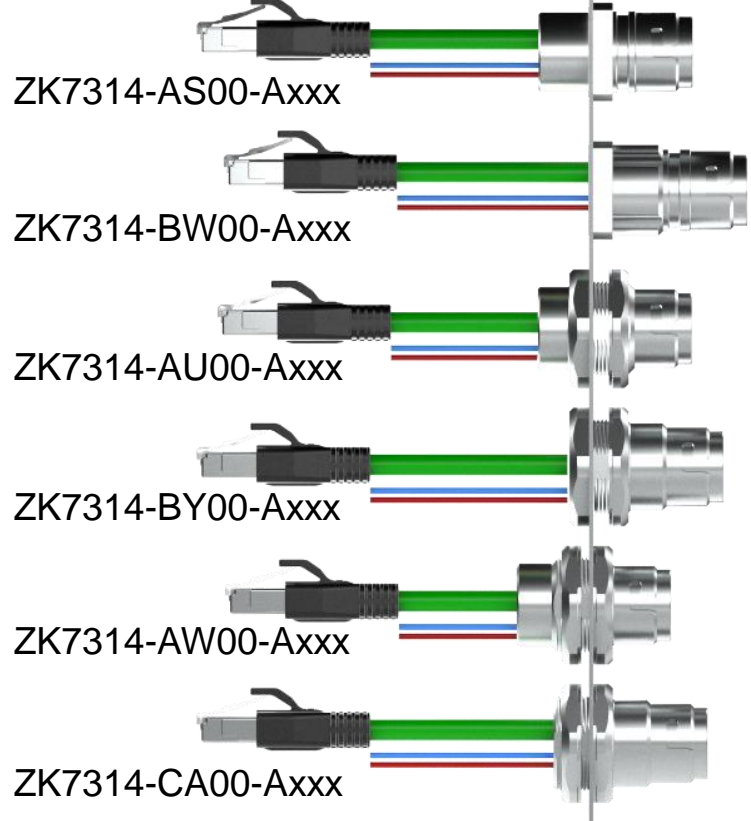
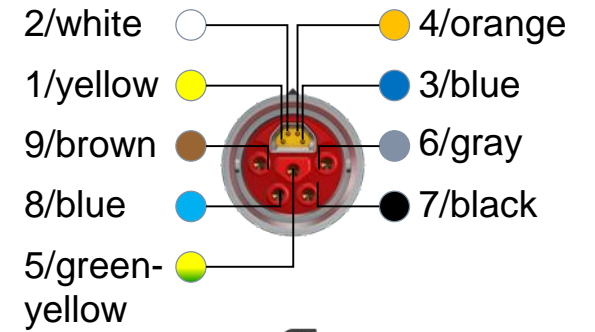
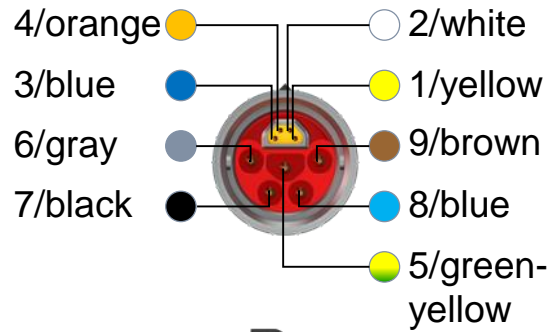


Mechanical coding 1 (ZK7314) = 2 x 24 V DC + PE, mechanical coding 2 (ZK7714) = 400 V AC, mechanical coding 3 (ZK7A14) = free

**i** 3D files can be found [here](#).

# B23 | ENP 5-pin 4.0 mm<sup>2</sup> overview

**BECKHOFF**



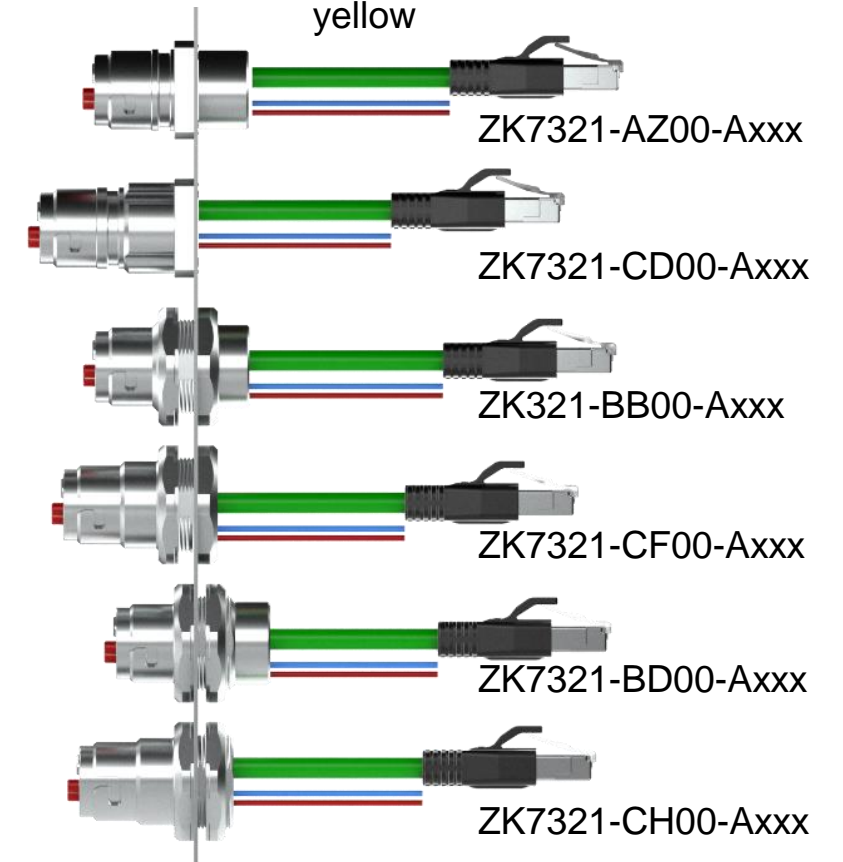
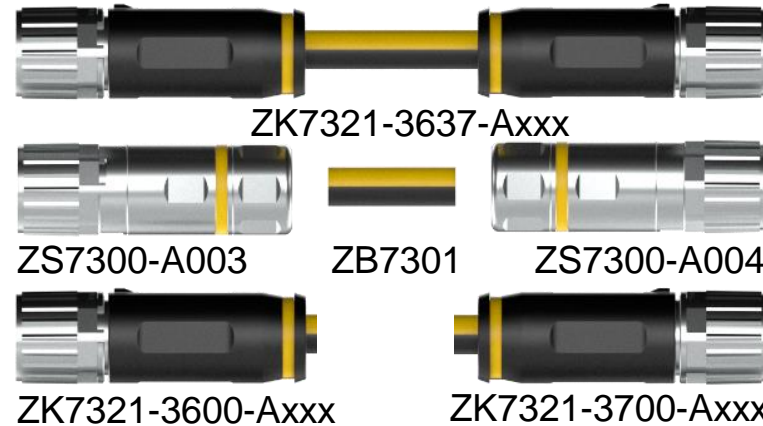
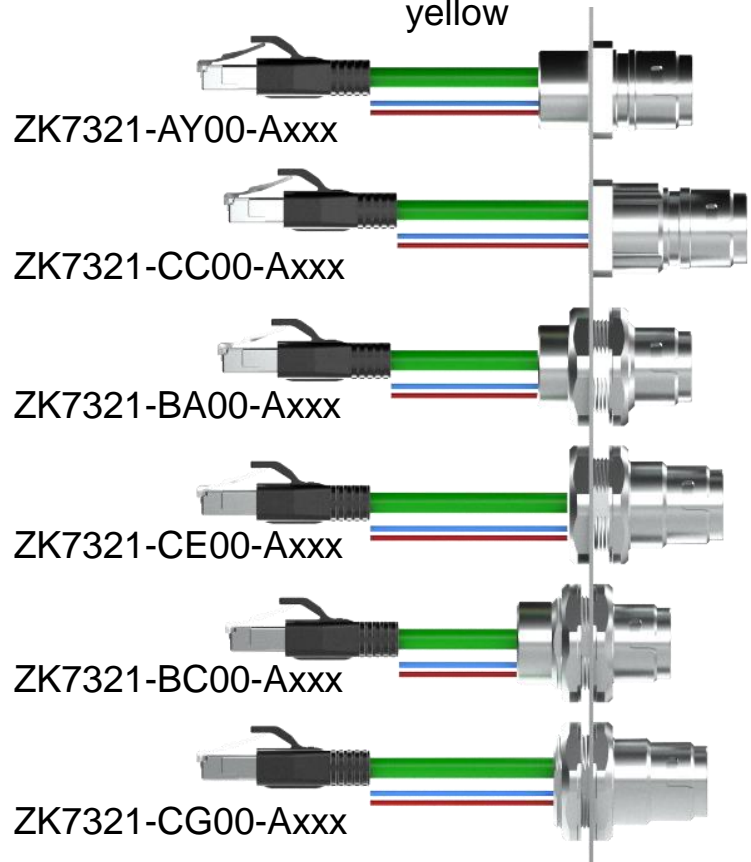
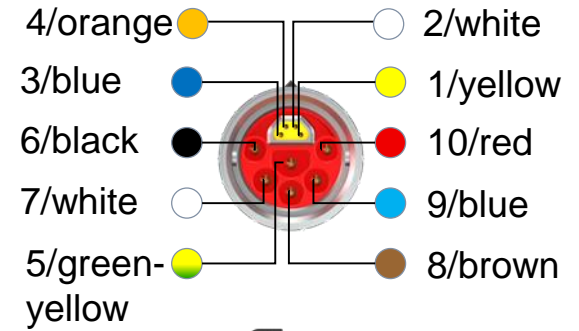
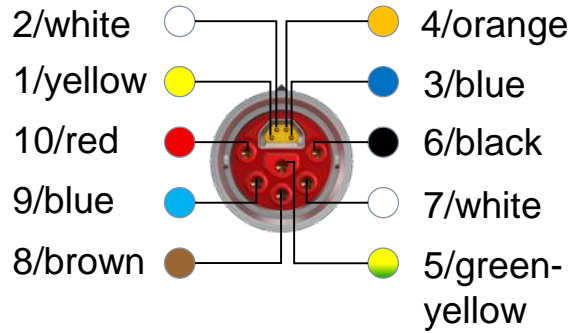
Mechanical coding 1 (ZK7314) = 2 x 24 V DC + PE, mechanical coding 2 (ZK7714) = 400 V AC, mechanical coding 3 (ZK7A14) = free

**i** 3D files can be found [here](#).



# B23 | ENP 6-pin 4.0 mm<sup>2</sup> and 2.5 mm<sup>2</sup> overview

**BECKHOFF**



Mechanical coding 1 (ZK7321) = free, mechanical coding 2 (ZK7721) = free, mechanical coding 3 (ZK7A21) = free

**i** 3D files can be found [here](#).








# B23 | Connectors for field assembly with crimp contacts

**BECKHOFF**

	<u>ZS7000-C001</u> AWG22/ 0.34 mm <sup>2</sup> male	<u>ZS7000-C002</u> AWG22/ 0.34 mm <sup>2</sup> female	<u>ZS7000-C009</u> AWG12/ 4.0 mm <sup>2</sup> male	<u>ZS7000-C010</u> AWG12/ 4.0 mm <sup>2</sup> female	<u>ZS7000-C013</u> AWG14/ 2.5 mm <sup>2</sup> Ø 1.8 female	<u>ZS7000-C014</u> AWG14/ 2.5 mm <sup>2</sup> Ø 1.8 male	<u>ZS7000-C015</u> AWG16/ 1.5 mm <sup>2</sup> male	<u>ZS7000-C016</u> AWG16/ 1.5 mm <sup>2</sup> female	<u>ZS7000-C017</u> AWG14/ 2.5 mm <sup>2</sup> Ø 2.25 male	<u>ZS7000-C018</u> AWG14/ 2.5 mm <sup>2</sup> Ø 2.25 female
<b><u>ZS7300-0001</u></b> B23, ECP, 5+4-pin, male	✓		✓							
<b><u>ZS7300-0002</u></b> B23, ECP, 5+4-pin, female		✓		✓						
<b><u>ZS7300-A001</u></b> B23, ENP, 5+4-pin, female + male		✓	✓							
<b><u>ZS7300-A002</u></b> B23, ENP, 5+4-pin, male + female	✓			✓						
<b><u>ZS7300-0003</u></b> B23, ECP, 4+2+4-pin, male	✓					✓	✓		✓	
<b><u>ZS7300-0004</u></b> B23, ECP, 4+2+4-pin, female		✓			✓			✓		✓
<b><u>ZS7300-A003</u></b> B23, ENP, 4+2+4-pin, female + male		✓				✓	✓		✓	
<b><u>ZS7300-A004</u></b> B23, ENP, 4+2+4-pin, male + female	✓				✓			✓		✓
<b><u>ZS7300-0005</u></b> B23, Power, 5+4-pin, male			✓							
<b><u>ZS7300-0006</u></b> B23, Power, 5+4-pin, female				✓						

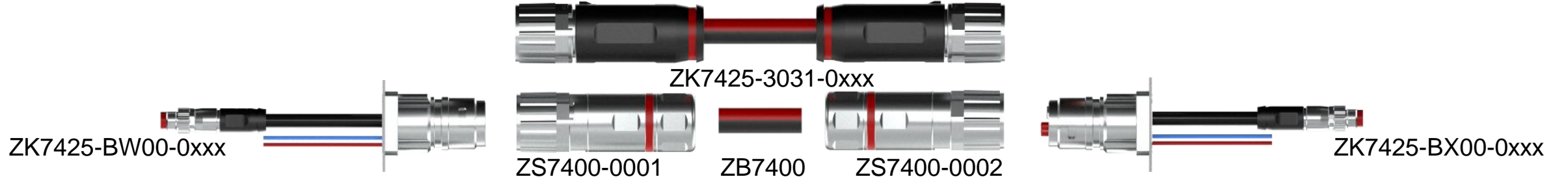
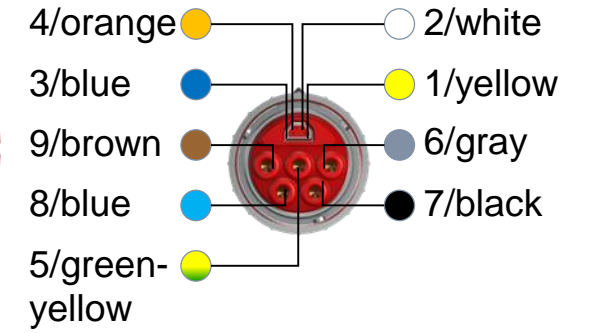
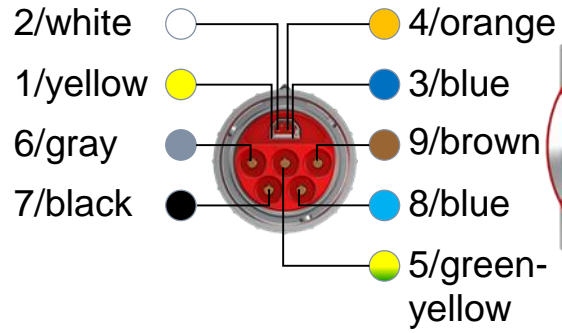
# B23 | Accessories for ENP/ECP connector family

**BECKHOFF**

Tools and inserts	Crimp contacts for Ethernet element	Crimp contacts for power pins	Protection caps IP 67	Color coding for connectors	Color coding for connectors	Color coding for connectors	
							
<b>Crimping tool for Ethernet element</b>	<b>AWG22/0.34 mm<sup>2</sup></b>	<b>4 mm<sup>2</sup></b>	<b>Socket/flange</b>	<b>Color coding connector/square flange</b>	<b>Color coding flange for front/rear assembly</b>	<b>Color coding for connector for field assembly</b>	
<a href="#">ZB8810-0000</a> M8, B12, B17, B23 contacts	<a href="#">ZS7000-C001</a> male <a href="#">ZS7000-C002</a> female	<a href="#">ZS7000-C009</a> male <a href="#">ZS7000-C010</a> female	<a href="#">ZS7300-B001</a> plastic <a href="#">ZS7300-B002</a> metal	<a href="#">ZS7300-B005</a> red <a href="#">ZS7300-B006</a> yellow <a href="#">ZS7300-B007</a> blue <a href="#">ZS7300-B008</a> green	<a href="#">ZS7300-B009</a> red <a href="#">ZS7300-B010</a> yellow <a href="#">ZS7300-B011</a> blue <a href="#">ZS7300-B012</a> green	<a href="#">ZS7300-B017</a> red <a href="#">ZS7300-B018</a> yellow <a href="#">ZS7300-B019</a> blue	
<b>Crimping insert and locator for Ethernet element</b>			<b>Plug</b>	<a href="#">ZS7300-B008</a> green <a href="#">ZS7300-B015</a> orange <a href="#">ZS7300-B016</a> gray	<a href="#">ZS7300-B012</a> green <a href="#">ZS7300-B013</a> orange <a href="#">ZS7300-B014</a> gray	<a href="#">ZS7300-B020</a> green <a href="#">ZS7300-B021</a> orange <a href="#">ZS7300-B022</a> gray	
<a href="#">ZB8810-0001</a> M8, B12, B17 contacts			<a href="#">ZS7300-B003</a> plastic <a href="#">ZS7300-B004</a> metal				
<b>Assembly tool</b>			<b>i Further crimp contacts can be found <a href="#">here</a>.</b>				
<a href="#">ZB8802-0003</a> assembly tool for B23 connector, AF22							

# B40 | ECP 5-pin 16 mm<sup>2</sup> overview

**BECKHOFF**

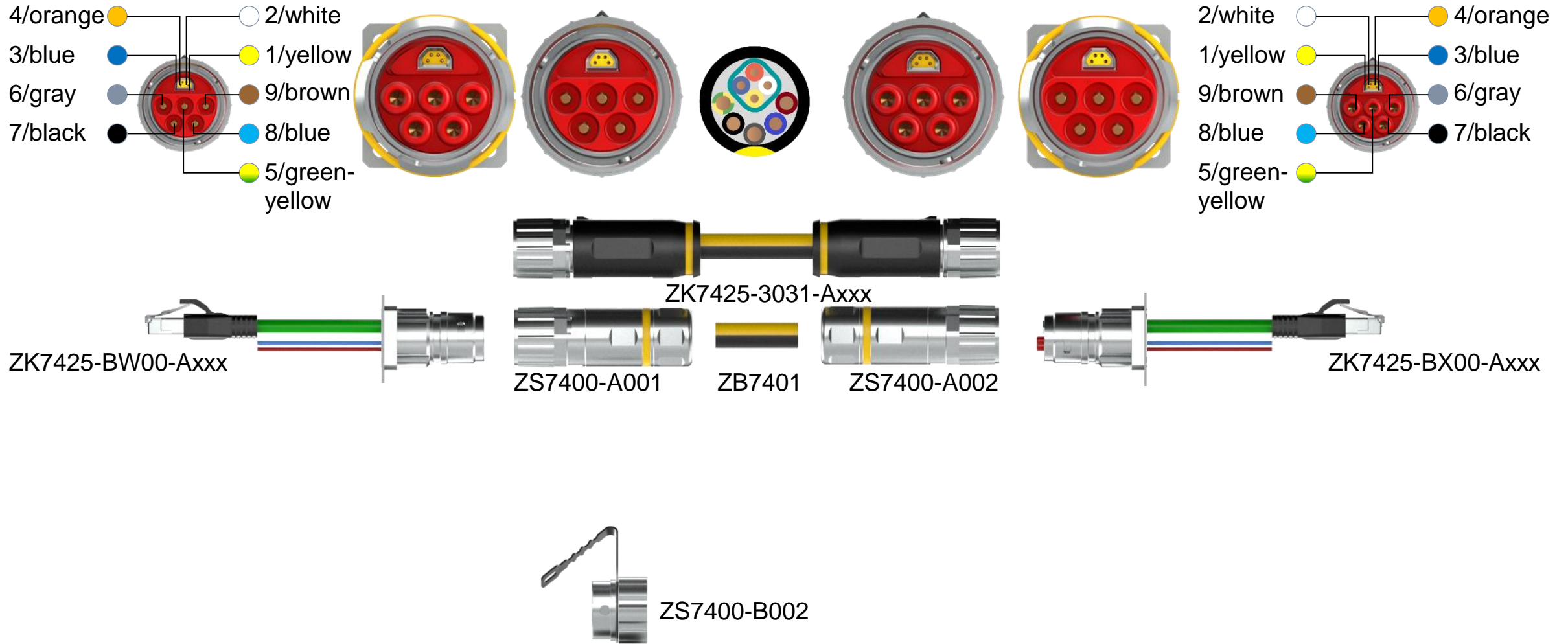


Mechanical coding 1 (ZK7425) = 2 x 24 V DC + PE, mechanical coding 2 (ZK7825) = 400 V AC, mechanical coding 3 (ZK7B25) = free, mechanical coding 4 (ZK7x25) = 2 x 24 V DC + PE, mechanical coding 5 (ZK7x25) = 400 V AC, mechanical coding 6 (ZK7x25) = free



# B40 | ENP 5-pin 16 mm<sup>2</sup> overview

**BECKHOFF**



Mechanical coding 1 (ZK7425) = 2 x 24 V DC + PE, mechanical coding 2 (ZK7825) = 400 V AC, mechanical coding 3 (ZK7B25) = free, mechanical coding 4 (ZK7x25) = 2 x 24 V DC + PE, mechanical coding 5 (ZK7x25) = 400 V AC, mechanical coding 6 (ZK7x25) = free

**i** 3D files can be found [here](#).






# B40 | Connectors for field assembly with crimp contacts

**BECKHOFF**

	<u>ZS7000-C001</u> AWG22/0.34 mm <sup>2</sup> male	<u>ZS7000-C002</u> AWG22/0.34 mm <sup>2</sup> female	<u>ZS7000-C023</u> 16 mm <sup>2</sup> male	<u>ZS7000-C024</u> 16 mm <sup>2</sup> female
				
<b><u>ZS7400-0001</u></b> B40, ECP, 5+4-pin, male	✓		✓	
<b><u>ZS7400-0002</u></b> B40, ECP, 5+4-pin, female		✓		✓
<b><u>ZS7400-A001</u></b> B40, ENP, 5+4-pin, female + male		✓	✓	
<b><u>ZS7400-A002</u></b> B40, ENP, 5+4-pin, male + female	✓			✓

# B40 | Accessories for ENP/ECP connector family

**BECKHOFF**

Crimp contacts for Ethernet element	Protection caps IP 67	Color coding for connectors	Color coding for connectors	Color coding for connectors
				
AWG22/0.34 mm <sup>2</sup>	Socket/flange	Color coding connector/ square flange	Color coding flange for front/rear assembly	Color coding for connector for field assembly
<a href="#">ZS7000-C001</a> male <a href="#">ZS7000-C002</a> female	<a href="#">ZS7400-B002</a> metal <b>Plug</b> <a href="#">ZS7400-B004</a> metal	<a href="#">ZS7400-B005</a> red <a href="#">ZS7400-B006</a> yellow <a href="#">ZS7400-B007</a> blue <a href="#">ZS7400-B008</a> green <a href="#">ZS7400-B015</a> orange <a href="#">ZS7400-B016</a> gray	<a href="#">ZS7400-B009</a> red <a href="#">ZS7400-B010</a> yellow <a href="#">ZS7400-B011</a> blue <a href="#">ZS7400-B012</a> green <a href="#">ZS7400-B013</a> orange <a href="#">ZS7400-B014</a> gray	<a href="#">ZS7400-B017</a> red <a href="#">ZS7400-B018</a> yellow <a href="#">ZS7400-B019</a> blue <a href="#">ZS7400-B020</a> green <a href="#">ZS7400-B021</a> orange <a href="#">ZS7400-B022</a> gray

**i** Further crimp contacts can be found [here](#).



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