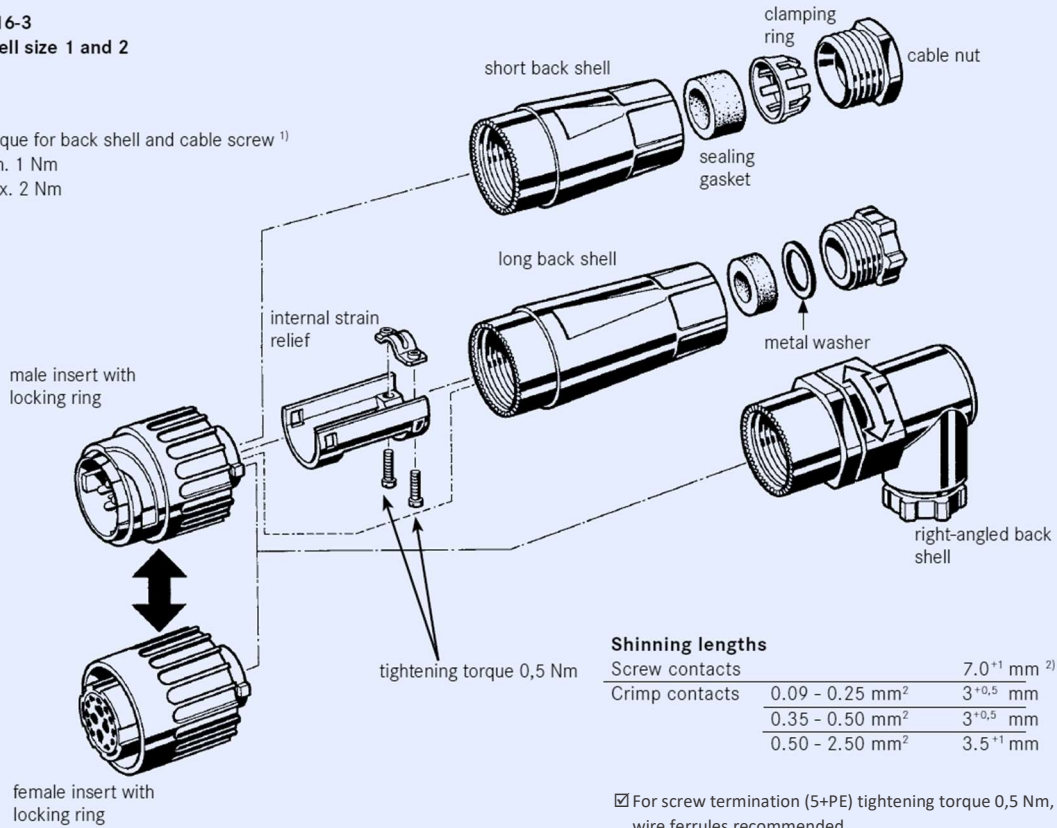


eco|mate C16 Mounting Instructions

Mounting Instruction C16-3 Plugs (Size 1 & 2)

C 16-3
Shell size 1 and 2

Torque for back shell and cable screw ¹⁾
min. 1 Nm
max. 2 Nm

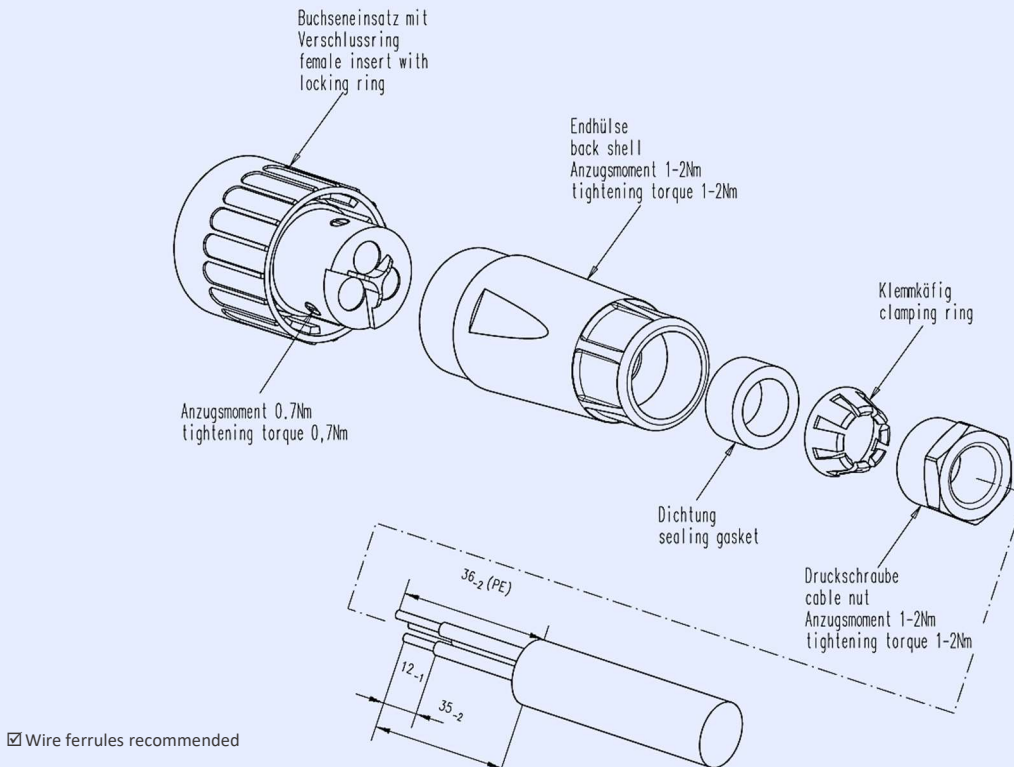


Shinning lengths

Screw contacts		7.0 ⁺¹ mm ²⁾
Crimp contacts	0.09 - 0.25 mm ²	3 ^{+0,5} mm
	0.35 - 0.50 mm ²	3 ^{+0,5} mm
	0.50 - 2.50 mm ²	3.5 ⁺¹ mm

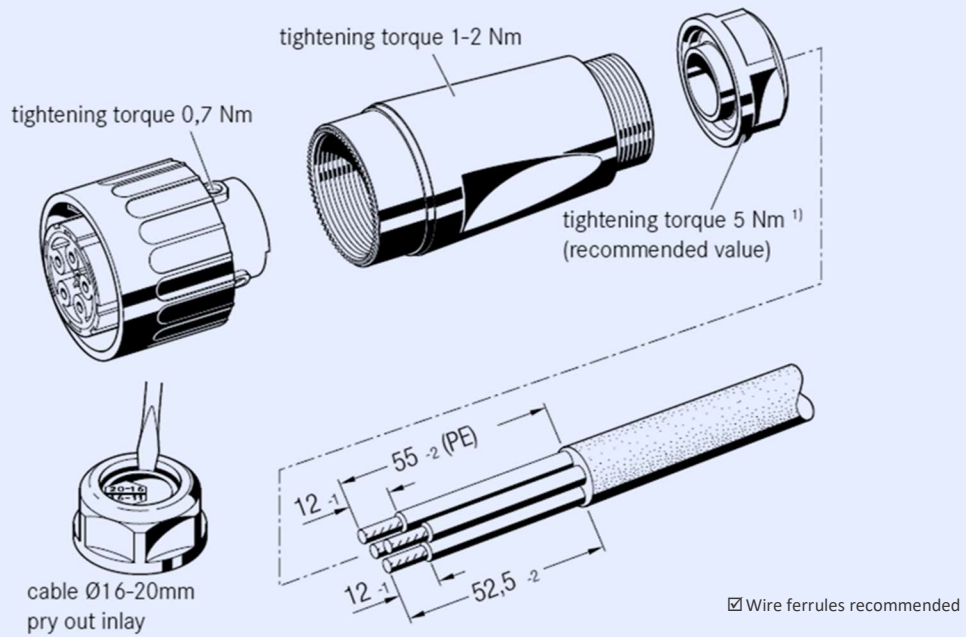
For screw termination (5+PE) tightening torque 0,5 Nm, wire ferrules recommended

Mounting Instruction C16-3 Plugs (2+PE)



Wire ferrules recommended

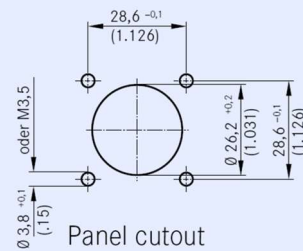
Mounting Instruction C16-L Plugs (4+PE)



Mounting Instruction Female square flange receptacle | C16-3 Size 1



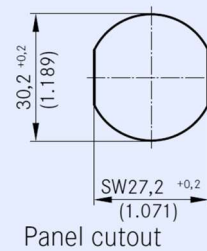
- ☑ Mounting hole Ø 26,2 without chamfer; suitable sealing (e.g. glue) for screws is necessary
- ☑ Tightening torque M3 fixing screws: 0,8 Nm
- ☑ Crimp contacts to be ordered separately



Mounting Instruction Female jam nut receptacle | C16-3 Size 1



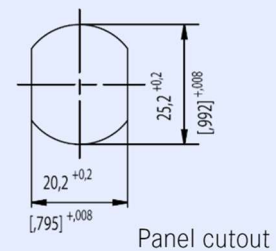
- ☑ Mounting hole without chamfer
- ☑ Tightening torque Jam nut: 5 Nm
- ☑ Nut wrench size 35mm (use spanner wrench)
- ☑ Max. panel thickness: 3,5mm
- ☑ Crimp contacts to be ordered separately



Mounting Instruction Female jam nut receptacle | C16-3 Size 1 (2+PE)



- ☑ Mounting hole without chamfer
- ☑ Tightening torque Jam Nut: 4 Nm
- ☑ Nut wrench size: 32mm
- ☑ Max. panel thickness: 9,5mm
- ☑ Crimp contacts to be ordered separately
- ☑ No protection caps available!

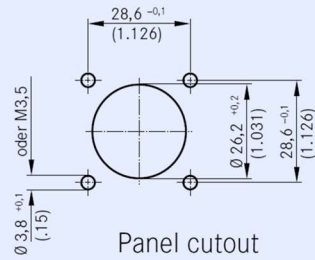


Mounting Instruction Male square flange receptacle | C16-3 Size 1



C

- ☑ Mounting hole $\varnothing 26,2$ without chamfer; suitable sealing (e.g. glue) for screws is necessary
- ☑ Tightening torque M3 fixing screws: 0,8 Nm
- ☑ Crimp contacts to be ordered separately

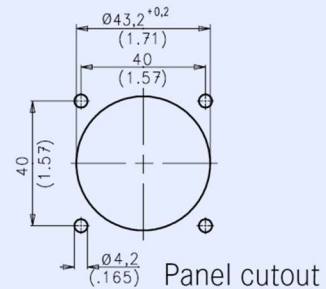


Mounting Instruction Female square flange receptacle | C16-3 Size 2



G

- ☑ Mounting hole $\varnothing 43,2$ without chamfer; suitable sealing (e.g. glue) for screws is necessary
- ☑ Tightening torque M3 fixing screws: 0,8 Nm
- ☑ Screw termination (5+PE): Tightening torque 0,5 Nm, wire ferrules recommended
- ☑ Crimp termination: crimp contacts to be ordered separately

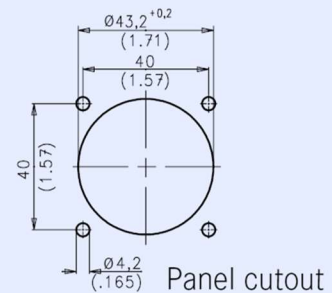


Mounting Instruction Male square flange receptacle | C16-3 Size 2



C

- ☑ Mounting hole $\varnothing 43,2$ without chamfer; suitable sealing (e.g. glue) for screws is necessary
- ☑ Tightening torque M3 fixing screws: 0,8 Nm
- ☑ Screw termination (5+PE): Tightening torque 0,5 Nm, wire ferrules recommended
- ☑ Crimp termination: crimp contacts to be ordered separately



Mounting protection caps on square flange receptacles

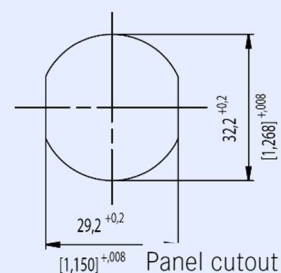
- Dust caps can be attached with one of the four screws used for mounting the square flange panel
- Same screws and tightening torque 0,8 Nm can be used



Mounting Instruction Male jam nut receptacle | C16-L (4+PE)



- ☑ Mounting hole without chamfer
- ☑ Tightening torque Jam nut: 5 Nm
- ☑ Nut wrench size 41mm
- ☑ Max. panel thickness: 5mm
- ☑ Tightening torque screw contacts: 0,7 Nm, wire ferrules recommended
- ☑ No protection caps available!
- ☑ When mated, the optional locking feature can be only removed with a screw driver



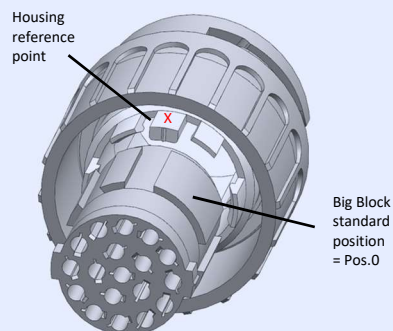
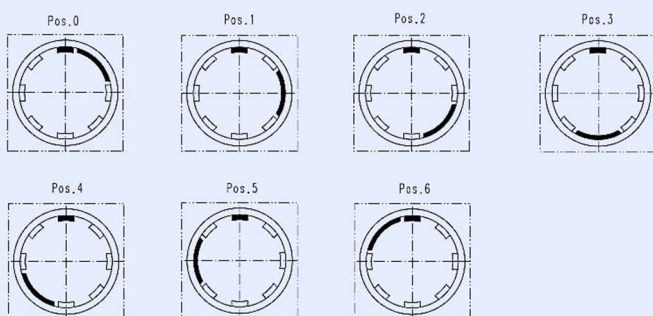
eco|mate C16 Mechanical Coding System

Polarization

Depending on the contact arrangements the polarization of this connector series can be varied. Please take care of the housing and contact insert characteristics.

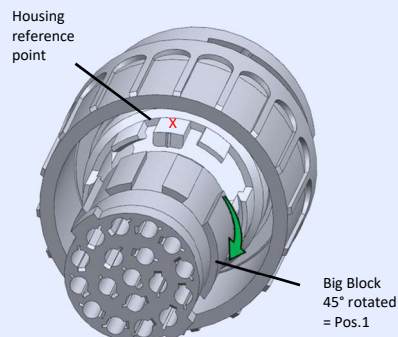
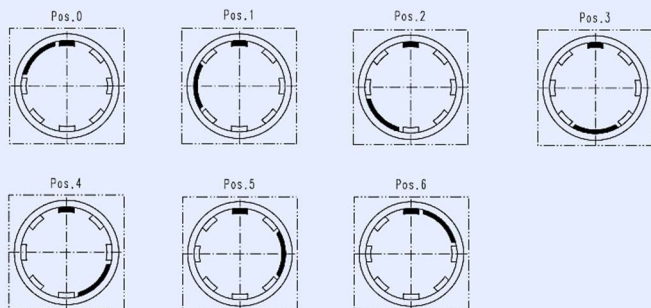
Shell size 1			Shell size 2		
No of contacts	No of coding possibil.	Position	No of contacts	No of coding possibil.	Position
3 + PE	4	1,3,5,7	4 + PE	-	-
8 + PE	4	1, 3, 5, 7	5 + PE	6	1, 2, 3, 4, 6, 7
14 + PE	7	1, 2, 3, 4, 5, 6, 7	14 + PE	7	1, 2, 3, 4, 5, 6, 7
17 + PE	6	1, 2, 3, 4, 5, 7	12 + PE	7	1, 2, 3, 4, 5, 6, 7
12 + 3 + PE	4	1, 3, 5, 7	19 + PE	6	1, 3, 4, 5, 6, 7

Male Connector (view from rear side)

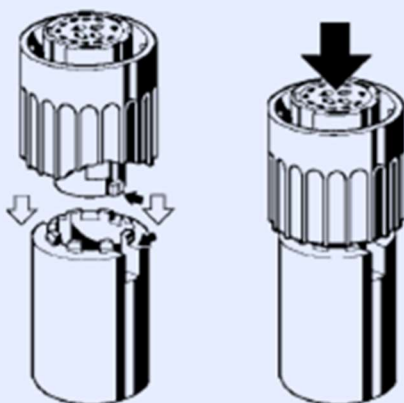


Example: C016 10|017 002 1 (Code 0)

Female Connector (view from rear side)



Example: C016 11|017 002 1 (Code 1)



Coding instruction for customers:

1. Align the key of the contact insert and set it onto the removal tool
2. Push the housing down with some force until release of the insert
3. Choose the correct position of the contact insert according to above coding overview
4. Push the insert back into the housing

Tool part numbers:

Size 1: FH 0000 016 / Size 2: FH 0002 016

Removing crimp contacts with FG 0300 146 1 (example for 1,6mm contacts)



1. Extend the pin out of the release tool and fix it in place



2. Insert the tool from the front side into the center of the contact



3. When fully inserted pin or socket contact can be pulled out with slight force

eco|mate C16 Technical Information & Remarks

Termination methods

• Screw connection

Screw clamps are designed acc. to EN 60999-1 / VDE 609-1.

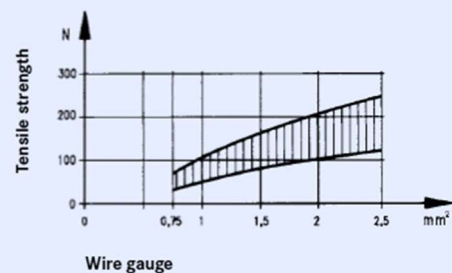
Chart 1 below shows the screw size depending on wire size and the required clamping and testing torque..

Chart 1

Wire size (mm ²)	max.4
Screw size	M3
Test torque(Ncm)	50

Diagram 1 below shows the range of tensile strength for a screw connection with a clamp screw M3, fastened with a torque of 50 Ncm, depending on the wire size.

Diagram 1



1. General Remarks

These connectors are designed and produced in conformity with the low voltage directive (73/23/EWG) respectively Gerätesicherheitsgesetz (German law) and are especially in according with the standards DIN EN 61984 / IEC 61984 (VDE 0627); IEC 60664-1 (VSE 0110-1) and IEC 60529. The connectors may be used only within the technical ratings. These connectors with / without breaking capacity are designed and produced according to DIN EN 61984/VDE0627.

All technical data refers to mated connectors under live conditions. The safety of the connector system depends on the correct selection of products, proper assembly of the connector device, and a precise fit of the connectors.

2. Application Remarks

Connectors with / without breaking capacity must be used according to specified technical ratings.

The technical data represents the initial value of mated parts under predetermined conditions and length of time. These values could change with different test parameters or product requirements.

The 16-3 Series connectors are used in a wide variety of industries and equipment. Some of these include industrial machines and controls, data processing, instrumentation and test equipment, medical devices, telecommunication's network and equipment, plus outdoor and marine applications.

All rated data for the connectors listed in this catalogues are based on over-voltage category III 1) and pollution degree 3 2) for electronic applications.

Connectors were completely mated according to their respective safety locking mechanism. Selection and testing of connectors with / without breaking capacity to meet specific product or industrial requirements such as rated voltage and the related clearances and creepage distances are the responsibility of the user.

3. Assembling Remarks

Protection against electrical shock of the termination of the connectors shall be secured by correct mounting. Connectors of the same or different series being mounted side by side may be protected against incorrect mating by the use of coding options. Care must be taken to ensure the parts are correctly mated and screws are tightened with the proper torque.

4. Termination Remarks

Cable connectors are effectively secured when using the internal cable clamp. When the connector contains a simple gland bushing for retention without clamping ring the cable should have a strain relief close behind the connector. All cable properties or specifications must be compatible with the connector design and materials.

Designated wire conductors must be terminated to the correct poles in the connector.

Crimp contacts must be fully inserted into the plastic housing and retention assured with a slight tug on the wire.

Wire should be stripped correctly according to printed specifications to insure no electrical contact can be made between the conductors. There should be no nicked or cut strains during the stripping action.

¹⁾ Overvoltage category III: Equipment intended for the use in installations or parts of it in which lightning overvoltages do not need to be considered, however switching overvoltages generated by the equipment, and for cases where the reliability and the availability of the equipment or its dependent circuits are subject to special requirements. Examples are protecting means, switches and sockets.

²⁾ Pollution degree 3: Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.

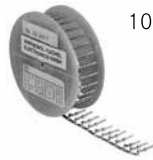
16-3

Crimp contacts Pin

Stamped single contacts



Stamped contacts on reel
for hand crimping tools



100 resp. 200 pcs

Stamped contacts on reel for crimp machines



2000 pcs.
(feeding left or
right hand side)

Contact Ø in mm	Isulation Ø in mm	No. of cont.	Shell size	Wire gauge in mm ² / AWG	Supplied as	pcs.	Part No. Contact plating		
							silver	gold	
1.5	0.7 - 1.6	14 + PE	1	0.09 - 0.25 mm ²	single contact	100	VN 01 015 0052 (1)	VN 01 015 0052 (2)	
		12 + 3 + PE	1	28 - 24	contacts on reel	200	ZN 01 015 0052 (1)	ZN 01 015 0052 (2)	
		17 + PE	1		right	2000	HN 01 015 0052 (1)	HN 01 015 0052 (2)	
		14 + PE	2		left	2000	TN 01 015 0052 (1)	TN 01 015 0052 (2)	
		19 + PE	2						
1.5	1.3 - 2.0	14 + PE	1	0.35 - 0.5 mm ²	single contact	100	VN 01 015 0046 (1)	VN 01 015 0046 (2)	
		12 + 3 + PE	1	22 - 20	contacts on reel	200	ZN 01 015 0046 (1)	ZN 01 015 0046 (2)	
		17 + PE	1		right	2000	HN 01 015 0046 (1)	HN 01 015 0046 (2)	
		14 + PE	2		left	2000	TN 01 015 0046 (1)	TN 01 015 0046 (2)	
		19 + PE	2						
1.5	1.6 - 2.1	14 + PE	1	0.75 - 1.0 mm ²	single contact	100	VN 01 015 0047 (1)	VN 01 015 0047 (2)	
		12 + 3 + PE	1	18	contacts on reel	200	ZN 01 015 0047 (1)	ZN 01 015 0047 (2)	
		17 + PE	1		right	2000	HN 01 015 0047 (1)	HN 01 015 0047 (2)	
		14 + PE	2		left	2000	TN 01 015 0047 (1)	TN 01 015 0047 (2)	
		19 + PE	2						
1.6	1.0 - 2.0	8 + PE	1	0.14 - 0.5 mm ²	single contact	100	VN 01 016 0003 (1)	VN 01 016 0003 (2)	
		12 + 3 + PE	1	26 - 20	contacts on reel	200	ZN 01 016 0003 (1)	ZN 01 016 0003 (2)	
		12 + PE	2		right	2000	HN 01 016 0003 (1)	HN 01 016 0003 (2)	
		14 + PE	2		left	2000	TN 01 016 0003 (1)	TN 01 016 0003 (2)	
1.6	1.8 - 2.8	8 + PE	1	0.5 - 1.5 mm ²	single contact	100	VN 01 016 0002 (1)	VN 01 016 0002 (2)	
		12 + 3 + PE	1	20 - 16	contacts on reel	100	ZN 01 016 0002 (1)	ZN 01 016 0002 (2)	
		12 + PE	2		right	2000	HN 01 016 0002 (1)	HN 01 016 0002 (2)	
		14 + PE	2		left	2000	TN 01 016 0002 (1)	TN 01 016 0002 (2)	
1.6	2.5 - 3.5	8 + PE	1	1.5 - 2.5 mm ²	single contact	100	VN 01 016 0005 (1)	VN 01 016 0005 (2)	
		12 + 3 + PE	1	16 - 14	contacts on reel	200	ZN 01 016 0005 (1)	ZN 01 016 0005 (2)	
		12 + PE	2		right	2000	HN 01 016 0005 (1)	HN 01 016 0005 (2)	
		14 + PE	2		left	2000	TN 01 016 0005 (1)	TN 01 016 0005 (2)	
2.5	1.8 - 2.8	3 + PE	1	0.5 - 1.5 mm ²	single contact	100	VN 01 025 0001 (101)	VN 01 025 0001 (102)	
		14 + PE	1	20 - 16	contacts on reel	100	ZN 01 025 0001 (1)	ZN 01 025 0001 (2)	
		12 + PE	2		right	2000	HN 01 025 0001 (1)	HN 01 025 0001 (2)	
					left	2000	TN 01 025 0001 (1)	TN 01 025 0001 (2)	
	2.5 - 3.5	2 + PE 3 + PE 14 + PE 12 + PE	1	1	1.5 - 2.5 mm ²	single contact	100	VN 01 025 0010 (101)	VN 01 025 0010 (102)
			1	1	16 - 14	contacts on reel	200	ZN 01 025 0010 (1)	ZN 01 025 0010 (2)
			1	1		right	2000	HN 01 025 0010 (1)	HN 01 025 0010 (2)
			2	2		left	2000	TN 01 025 0010 (1)	TN 01 025 0010 (2)
2.5	3.3 - 4.2	2 + PE	1	2.5 - 4.0 mm ²	single contact	100	VN 01 025 0043 (1)		
		3 + PE	1	14-12	contacts on reel	200	ZN 01 025 0043 (1)		
					right	2000	HN 01 025 0043 (1)		
					left	2000	TN 01 025 0043 (1)		

16-3

Crimp contacts Socket

Stamped single contacts



Stamped contacts on reel
for hand crimping tools



100 resp. 200 pcs

Stamped contacts on reel for crimp machines



2000 pcs.
(feeding left or
right hand side)

Contact Ø in mm	Isolation Ø in mm	No. of cont.	Shell size	Wire gauge in mm ² / AWG	Supplied as	pcs.	Part No. Contact plating		
							silver	gold	
1.5	0.7 - 1.6	14 + PE	1	0.09 - 0.25 mm ²	single contact	100	VN 02 015 0052 (1)	VN 02 015 0052 (2)	
		12 + 3 + PE	1	28 - 24	contacts on reel	200	ZN 02 015 0052 (1)	ZN 02 015 0052 (2)	
		17 + PE	1		right	2000	HN 02 015 0052 (1)	HN 02 015 0052 (2)	
		14 + PE	2		left	2000	TN 02 015 0052 (1)	TN 02 015 0052 (2)	
		19 + PE	2						
1.5	1.3 - 2.0	14 + PE	1	0.35 - 0.5 mm ²	single contact	100	VN 02 015 0046 (1)	VN 02 015 0046 (2)	
		12 + 3 + PE	1	22 - 20	contacts on reel	200	ZN 02 015 0046 (1)	ZN 02 015 0046 (2)	
		17 + PE	1		right	2000	HN 02 015 0046 (1)	HN 02 015 0046 (2)	
		14 + PE	2		left	2000	TN 02 015 0046 (1)	TN 02 015 0046 (2)	
		19 + PE	2						
1.5	1.6 - 2.1	14 + PE	1	0.75 - 1.0 mm ²	single contact	100	VN 02 015 0047 (1)	VN 02 015 0047 (2)	
		12 + 3 + PE	1	18	contacts on reel	200	ZN 02 015 0047 (1)	ZN 02 015 0047 (2)	
		17 + PE	1		right	2000	HN 02 015 0047 (1)	HN 02 015 0047 (2)	
		14 + PE	2		left	2000	TN 02 015 0047 (1)	TN 02 015 0047 (2)	
		19 + PE	2						
1.6	1.0 - 2.0	8 + PE	1	0.14 - 0.5 mm ²	single contact	100	VN 02 016 0003 (1)	VN 02 016 0003 (2)	
		12 + 3 + PE	1	26 - 20	contacts on reel	200	ZN 02 016 0003 (1)	ZN 02 016 0003 (2)	
		12 + PE	2		right	2000	HN 02 016 0003 (1)	HN 02 016 0003 (2)	
		14 + PE	2		left	2000	TN 02 016 0003 (1)	TN 02 016 0003 (2)	
1.6	1.8 - 2.8	8 + PE	1	0.5 - 1.5 mm ²	single contact	100	VN 02 016 0002 (1)	VN 02 016 0002 (2)	
		12 + 3 + PE	1	20 - 16	contacts on reel	100	ZN 02 016 0002 (1)	ZN 02 016 0002 (2)	
		12 + PE	2		right	2000	HN 02 016 0002 (1)	HN 02 016 0002 (2)	
		14 + PE	2		left	2000	TN 02 016 0002 (1)	TN 02 016 0002 (2)	
1.6	2.5 - 3.5	8 + PE	1	1.5 - 2.5 mm ²	single contact	100	VN 02 016 0005 (1)	VN 02 016 0005 (2)	
		12 + 3 + PE	1	16 - 14	contacts on reel	200	ZN 02 016 0005 (1)	ZN 02 016 0005 (2)	
		12 + PE	2		right	2000	HN 02 016 0005 (1)	HN 02 016 0005 (2)	
		14 + PE	2		left	2000	TN 02 016 0005 (1)	TN 02 016 0005 (2)	
2.5	1.8 - 2.8	3 + PE	1	0.5 - 1.5 mm ²	single contact	100	VN 02 025 0001 (101)	VN 02 025 0001 (102)	
		14 + PE	1	20 - 16	contacts on reel	100	ZN 02 025 0001 (1)	ZN 02 025 0001 (2)	
		12 + PE	2		right	2000	HN 02 025 0001 (1)	HN 02 025 0001 (2)	
					left	2000	TN 02 025 0001 (1)	TN 02 025 0001 (2)	
	2.5 - 3.5	2 + PE 3 + PE 14 + PE 12 + PE	2 + PE	1	1.5 - 2.5 mm ²	single contact	100	VN 02 025 0010 (101)	VN 02 025 0010 (102)
			3 + PE	1	16 - 14	contacts on reel	200	ZN 02 025 0010 (1)	ZN 02 025 0010 (2)
			14 + PE	1		right	2000	HN 02 025 0010 (1)	HN 02 025 0010 (2)
			12 + PE	2		left	2000	TN 02 025 0010 (1)	TN 02 025 0010 (2)
2.5	3.3 - 4.2	2 + PE	1	2.5-4.0 mm ²	single contact	100	VN 02 025 0043 (1)		
		3 + PE	1	14 - 12	contacts on reel	200	ZN 02 025 0043 (1)		
					right	2000	HN 02 025 0043(1)		
					left	2000	TN 02 025 0043 (1)		