

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)

Series	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	
C 16-3	1,5	1,0 - 2,0	14 + PE	1	0,14 - 0,5 mm ²	single contact	100	VN 01 015 0046 (1)	VN 01 015 0046 (2)	
			12 + 3 + PE	1		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						
C 16-3	1,5	1,6 - 2,3	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		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						
C 16-3	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		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)	
C 16-3	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		contacts on reel	200	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)	
C 16-3	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		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)	
C 16-3	2,5	1,8 - 2,8	14 + PE	1	0,5 - 1,5 mm ²	single contact	100	VN 01 025 0001 (101)	VN 01 025 0001 (102)	
			12 + PE	2		contacts on reel	200	ZN 01 025 0001 (1)	ZN 01 025 0001 (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	14 + PE	12 + PE	1	2	1,5 - 2,5 mm ²	single contact	100	VN 01 025 0010 (101)	VN 01 025 0010 (102)
							contacts on reel	100	ZN 01 025 0010 (1)	ZN 01 025 0010 (2)
						right	2000	HN 01 025 0010 (1)	HN 01 025 0010 (2)	
							left	2000	TN 01 025 0010 (1)	TN 01 025 0010 (2)

Single contact in plastic bag; stamped contact on reel – HN = feeding right side / TN = feeding left side

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)

Series	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
C 16-3	1,5	1,0 - 2,0	14 + PE	1	0,14 - 0,5 mm ² 26 - 20	single contact	100	VN 02 015 0046 (1)	VN 02 015 0046 (2)
			12 + 3 + PE	1		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					
C 16-3	1,5	1,6 - 2,3	14 + PE	1	0,75 - 1,0 mm ² 18	single contact	100	VN 02 015 0047 (1)	VN 02 015 0047 (2)
			12 + 3 + PE	1		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					
C 16-3	1,6	1,0 - 2,0	8 + PE	1	0,14 - 0,5 mm ² 26 - 20	single contact	100	VN 02 016 0003 (1)	VN 02 016 0003 (2)
			12 + 3 + PE	1		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)
C 16-3	1,6	1,8 - 2,8	8 + PE	1	0,5 - 1,5 mm ² 20 - 16	single contact	100	VN 02 016 0002 (1)	VN 02 016 0002 (2)
			12 + 3 + PE	1		contacts on reel	200	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)
C 16-3	1,6	2,5 - 3,5	8 + PE	1	1,5 - 2,5 mm ² 16 - 14	single contact	100	VN 02 016 0005 (1)	VN 02 016 0005 (2)
			12 + 3 + PE	1		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)
C 16-3	2,5	1,8 - 2,8	14 + PE	1	0,5 - 1,5 mm ² 20 - 16	single contact	100	VN 02 025 0001 (101)	VN 02 025 0001 (102)
			12 + PE	2		contacts on reel	200	ZN 02 025 0001 (1)	ZN 02 025 0001 (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)
C 16-3	2,5	2,5 - 3,5	14 + PE	1	1,5 - 2,5 mm ² 16 - 14	single contact	100	VN 02 025 0010 (101)	VN 02 025 0010 (102)
			12 + PE	2		contacts on reel	100	ZN 02 025 0010 (1)	ZN 02 025 0010 (2)
						right	2000	HN 02 025 0010 (1)	HN 02 025 0010 (2)
						left	2000	TN 02 025 0010 (1)	TN 02 025 0010 (2)

Single contact in plastic bag; stamped contact on reel – HN = feeding right side / TN = feeding left side

VN 01 016 0001 (1)
1) 2) 3) 4) 5)

- 1) supplied as: VN = single contact 100 pcs.

 ZN = contacts on reel 100 resp. 200 pcs.

 HN = contacts on reel with 2000 contacts (contact feeding right hand side)

 TN = contacts on reel with 2000 contacts (contact feeding left hand side)
- 2) Type of contact: 01 = male contact
 02 = female contact
- 3) Connection and wire gauge, e.g. 0046: 0,14 - 0,5 mm²
 0047: 0,75 - 1,0 mm²
- 4) Index of version (wire gauge)
- 5) Plating: (1) = silver plated
 (2) = gold plated
 (4) = gold plated for high performance

Termination methods

• **Screw connection**

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

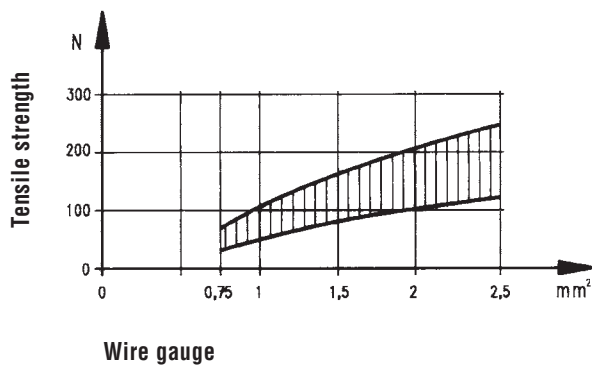
Chart 1 below shows the screw size depending on wire size and the required clamping and testing torque..

Chart 1

Wire size (mm ²)	max. 4
Screw size	M 3
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



This comparison chart allows a cross reference between American Wire Gauge (AWG) and metric wire sizes (mm²).

Chart 2

AWG	Wire composition	Wire diameter	Wire size
30	1 x 0,25	0,25 mm	0,05 mm ²
	7 x 0,10	0,36 mm	0,06 mm ²
28	1 x 0,32	0,32 mm	0,08 mm ²
	7 x 0,13	0,38 mm	0,09 mm ²
26	1 x 0,40	0,40 mm	0,13 mm ²
	7 x 0,16	0,48 mm	0,14 mm ²
	19 x 0,10	0,51 mm	0,15 mm ²
24	1 x 0,51	0,51 mm	0,21 mm ²
	7 x 0,20	0,61 mm	0,23 mm ²
	19 x 0,13	0,64 mm	0,24 mm ²
22	1 x 0,64	0,64 mm	0,33 mm ²
	7 x 0,25	0,76 mm	0,36 mm ²
	19 x 0,16	0,81 mm	0,38 mm ²
20	1 x 0,81	0,81 mm	0,52 mm ²
	7 x 0,32	0,97 mm	0,56 mm ²
	19 x 0,20	1,02 mm	0,62 mm ²
18	1 x 1,02	1,02 mm	0,79 mm ²
	19 x 0,25	1,27 mm	0,96 mm ²
16	19 x 0,29	1,44 mm	1,23 mm ²
14	19 x 0,36	1,80 mm	1,95 mm ²
12	19 x 0,46	2,29 mm	3,09 mm ²
10	37 x 0,40	3,10 mm	4,60 mm ²
8	133 x 0,29	4,0 mm	8,80 mm ²
6	133 x 0,36	5,5 mm	13,5 mm ²

It has to be noted that wires of the same AWG number but with different composition have slightly different mm².

Chart 3

Composition and Dimensions of Copper Wires

Wire Size	Wire Composition	Wire diameter
0,09 mm ²	12 x 0,10	0,48 mm
0,14 mm ²	18 x 0,10	0,50 mm
0,25 mm ²	14 x 0,15	0,70 mm
0,34 mm ²	7 x 0,25	0,78 mm
0,5 mm ²	16 x 0,20	1,0 mm
0,75 mm ²	24 x 0,20	1,2 mm
1,0 mm ²	32 x 0,20	1,4 mm
1,5 mm ²	30 x 0,25	1,6 mm
2,5 mm ²	35 x 0,30	2,2 mm
4,0 mm ²	56 x 0,30	2,8 mm
6,0 mm ²	19 x 0,64	3,4 mm
10 mm ²	19 x 0,80	4,3 mm

• Crimp connection

A crimp connection is a non-detachable electrical connection between a wire and a crimp contact produced with the crimp technology. Precise crimping dies which are matched to the crimp barrel and the wire size and a defined deformation result in a reliable electrical connection.

There are open crimp barrels (stamped contacts) and closed crimp barrels (turned contacts).

The main advantages of crimp connections are:

- Efficient termination of contacts.
- Reproducible termination achieve consistent electrical and mechanical results

The requirements for crimp connections are defined in DIN EN 60352-2, IEC 60352-2.

An important point of the quality of a crimp connection is the achieved tensile strength of the termination. Easily measured, the tensile strength is a practicable means for quality control purposes.

Diagram 2 below shows the required minimum tensile strength for open and closed barrels depending on the wire size.

Assembly instructions

For crimp contacts use the released crimp tool.

The insertion and extraction of crimp contacts shall only be approved with the corresponding insertion / extraction tool.

A detailed description of the crimp technology can be found in our crimp tooling catalogues.

Crimp contacts are in this catalogues on page 21 and 22.

Diagram 2

