



Kapitel 3

Serie TNC

Series TNC

2003

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COAX

Die Serie TNC umfasst sehr häufig verwendete koaxiale Steckverbindungen, die bis zu einer Frequenz von 11 GHz eingesetzt werden. Sie gleichen in den Maßen der Serie BNC verfügen jedoch über einen Schraubverschluss. Es werden Ausführungen mit 50 Ohm und 75 Ohm Wellenwiderstand angeboten. Steckverbindervarianten gibt es für flexible, Semi-Flex- und Semi-Rigid-Kabel. Die Leiterplattensteckverbinder der Serie TNC sind als Löt- bzw. Einpresstypen erhältlich. Kabel werden je nach Ausführung durch Crimpen, Klemmen oder Löten angeschlossen. Die Steckverbinder der Serie TNC sind vibrationsfest und werden in der Signal-, Daten- und Videoübertragung eingesetzt. TNC-Steckverbinder sind kostengünstige Alternativen für koaxiale Verbindungen bei hohen Frequenzen. Diese Steckverbinder erfüllen die Querdichtigkeit im Steckgesicht zwischen Stecker und Buchse im gesteckten Zustand gemäß IP 68. Diese Schutzklasse ist pauschal für die Serie TNC festgelegt worden. Für einzelne Steckverbindungen kann es zu Abweichungen kommen. Im Zweifelsfall bitte anfragen.

The TNC series a commonly used coax connector. Similar to the BNC, but supplied with a screw coupling, this connector can be used up to 11 GHz. Both 50 ohm and 75 ohm impedances are available. Connector styles are available for flexible, conformable and semi-rigid cable types. Versions of the TNC connector are available for mounting to printed circuit boards using both through-hole soldered and through-hole press-fit techniques. Both crimp and clamp cable termination processes are used for this series. Applications for these connectors vary from signal patches to video transmission where vibration resistance is required. TNC's are a low-cost high-frequency solution for coax connections. Mating face sealing for TNC connectors between plug and jack (mated) according to IP 68. The classifications are general statements for the relevant series. Individual connectors may deviate from the values shown. If in doubt, please consult our engineers.

Mechanische Eigenschaften Mechanical Characteristics

■ Empf. Kupplungsdrehmoment	0.46 - 0.69 Nm	Recommended coupling torque ■
■ Lebensdauer (Steckungen)	≥ 500	Durability (mating cycles) ■
■ Werkstoffe		Materials ■
Federnde Kontakteile	CuBe2; CuPb1.15Ni1(C97)	Spring contacts
Außenleiter	CuZn39Pb3	Outer conductor
Sonstige Metallteile	CuZn39Pb3	Other metal parts
Dichtungen	Silicon	Gaskets
Isolierteile	PTFE; PE	Insulators
■ Oberflächen		Finish ■
Innenleiter	Cu1Ni2Au0.8	Inner conductor
Außenleiter	Cu2Ni5	Outer conductor
Sonstige Metallteile	Cu2Ni5	Other metal parts

Thermische und klimatische Eigenschaften Climatic Characteristics

■ Prüfklasse nach DIN IEC 68 Teil 1		Climatic category acc. to IEC 68 - 1 ■
■ Typen mit PTFE-Isolierung	40/155/21	Types with PTFE insulator ■
■ Typen mit PE-Isolierung	40/75/21	Types with PE insulator ■

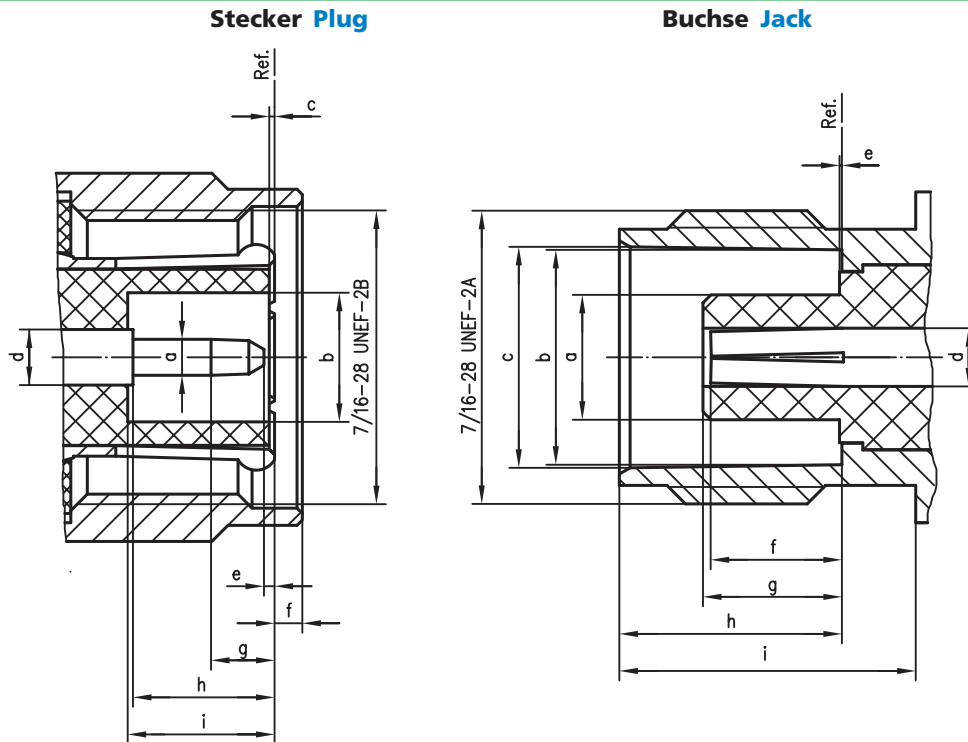
Elektrische Eigenschaften Electrical Characteristics

■ Durchgangswiderstand		Contact resistance ■
Innenleiter	≤ 10 mΩ	Inner conductor
Außenleiter	≤ 2.5 mΩ	Outer conductor
■ Isolationswiderstand	≥ 5 GΩ	Insulation resistance ■
■ Spannungsfestigkeit	1.5 kV _{eff} /50 Hz	Voltage proof ■
■ Wellenwiderstand	50Ω/(75Ω)	Impedance ■
■ Rückflussdämpfung (gültig nur für 50 Ω)		Return loss (valid for 50 Ω only) ■
Gerade Ausführung	≥ 17.7 dB/11GHz	Straight style
Winkel Ausführung	≥ 16.5 dB/11GHz	Angle style
■ Betriebsspannung	≤ 500 V _{eff} /50 Hz	Working voltage ■
■ Frequenzbereich bis (gültig nur für 50 Ω)	11 GHz	Frequency range up to (valid for 50 Ω only) ■

Die oben angeführten Rückflussdämpfungswerte entsprechen der IEC-Norm 60 169-17. Diese Norm zeigt nur Mindestwerte. Die tatsächlichen elektrischen Parameter der einzelnen Steckverbindungen übersteigen meist die der IEC-Norm und sind auf Anfrage erhältlich.

The return loss values listed above correspond to the IEC standard 60 169-17. This standard reflects solely minimum values. The actual electrical parameters of the individual connectors often surpass those of the IEC standard and are available on request.

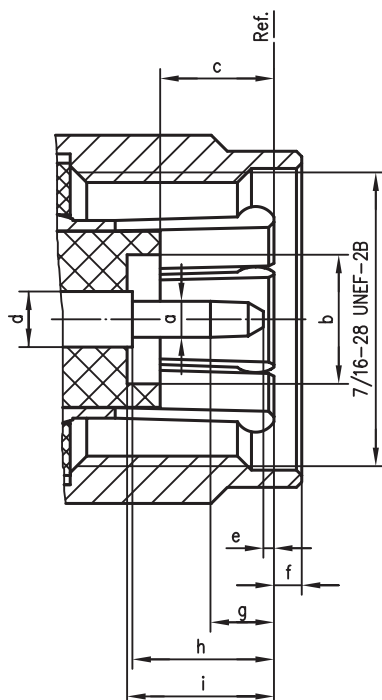
TNC-Steckgesicht 50 Ω TNC Mating Face 50 Ω



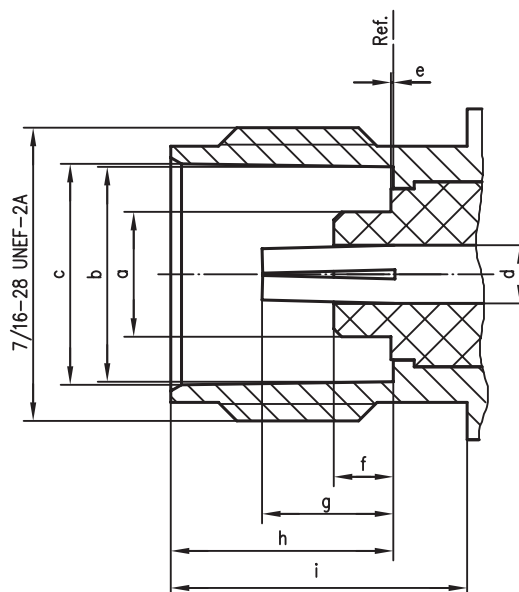
	Stecker Plug				Buchse Jack				
	mm		inch		mm		inch		
	min.	max.	min.	max.	min.	max.	min.	max.	
a	1.32	1.37	0.052	0.054	-	4.72	-	0.186	a
b	4.83	-	0.190	-	8.10	8.15	0.319	0.321	b
c	0.15	-	0.006	-	8.31	8.46	0.327	0.333	c
d	2.14	2.14	0.0842	0.0842	2.14	2.14	0.0842	0.0842	d
e	0.35	-	0.014	-	-	0.15	-	0.006	e
f	-	1.98	-	0.078	4.55	5.23	0.179	0.206	f
g	1.96	3.05	0.077	0.120	-	5.28	-	0.208	g
h	5.33	-	0.210	-	8.31	8.51	0.327	0.335	h
i	5.28	-	0.208	-	10.52	-	0.414	-	i

TNC-Steckgesicht 75 Ω TNC Mating Face 75 Ω

Stecker Plug

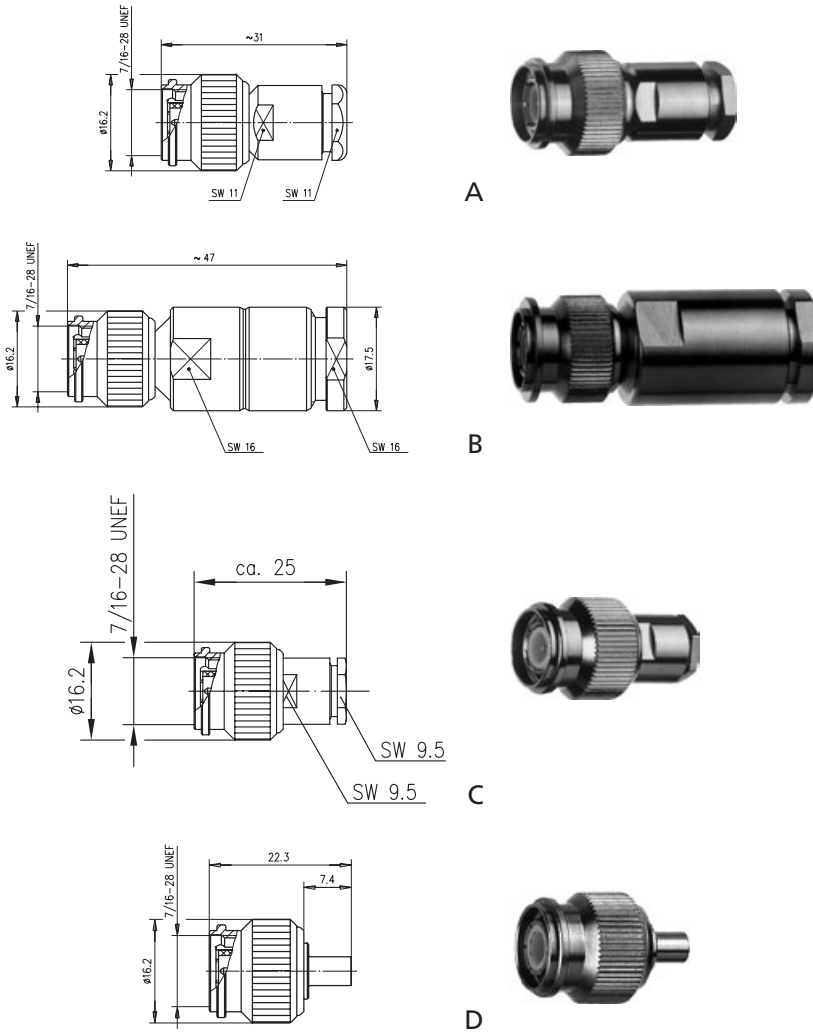


Buchse Jack



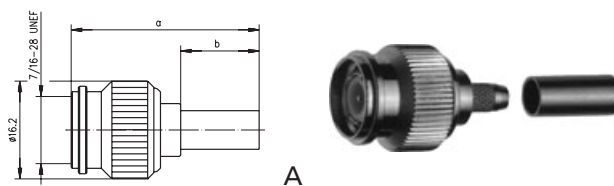
	Stecker Plug				Buchse Jack				
	mm		inch		mm		inch		
	min.	max.	min.	max.	min.	max.	min.	max.	
a	1.32	1.37	0.052	0.054	-	4.72	-	0.186	a
b	4.83	-	0.190	-	8.10	8.15	0.319	0.321	b
c	4.30	5.30	0.169	0.208	8.31	8.46	0.327	0.333	c
d	2.14	2.14	0.0842	0.0842	2.14	2.14	0.0842	0.0842	d
e	0.35	-	0.014	-	-	0.15	-	0.006	e
f	-	1.98	-	0.078	-	2.30	-	0.091	f
g	-	4.01	-	0.158	4.72	5.23	0.186	0.206	g
h	5.33	-	0.210	-	8.31	8.51	0.327	0.335	h
i	5.28	-	0.208	-	10.52	-	0.414	-	i

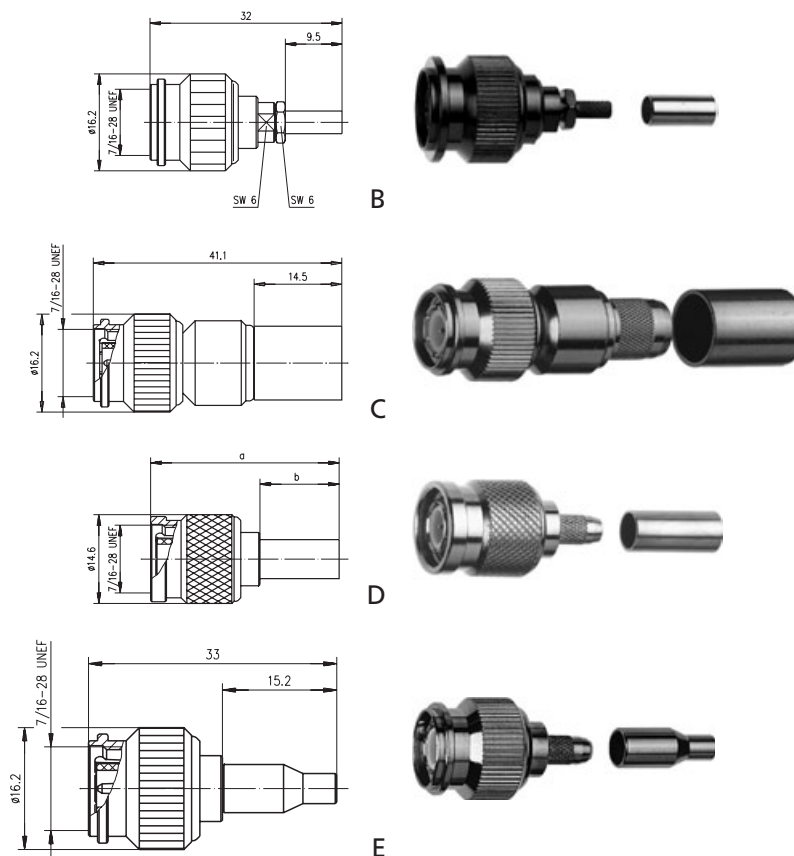
1 TNC-Kabelstecker TNC Straight Plug



Bestell-Nr. Order Nr.	Abb. Fig.	Z Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks
J01010A2608	A	50	G1 (RG-58C/U); G5 (RG-223/U); RG-141A/U; RG-142B/U	A02	MIL-Verschraubung IP 67 MIL-clamp IP 67
J01010A2610	A	50	G3 (RG-178B/U)	A03	IP 67
J01010A2611	A	50	G7 (RG-316/U)	A03	IP 67
J01010A2940	B	50	RG-213/U; RG-214/U; 9880 Belden	A05	IP 67
J01010A0022	C	50	G1 (RG-58C/U); LMR-195; RG-141A/U; RG-142B/U	A01	IP 67
J01010A0021	D	50	G10 (UT-141)	A12	
J01012A2215	A	75	G2 (RG-59B/U)	A02	MIL-Verschraubung IP 67 MIL-clamp IP 67
J01012A2258	A	75	G4 (RG-179B/U)	A03	IP 67

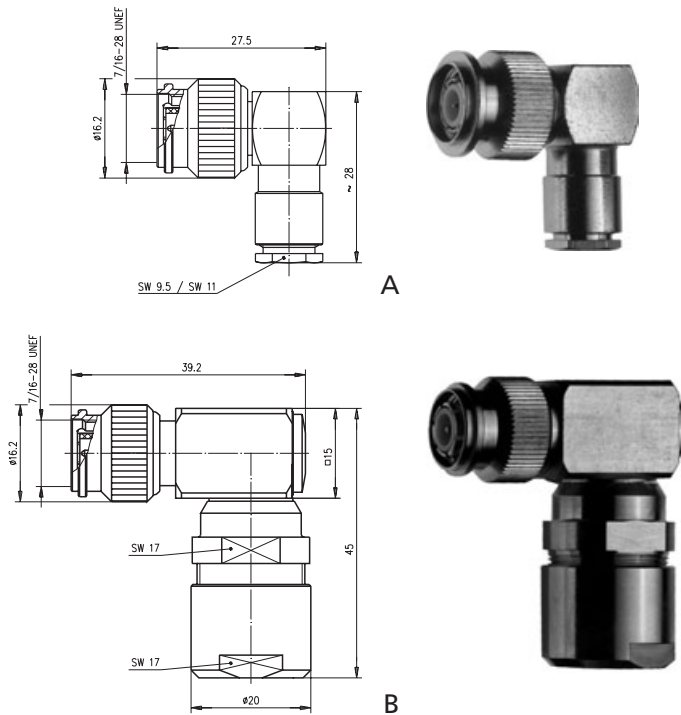
2 TNC-Kabelstecker Crimp TNC Straight Plug Crimp





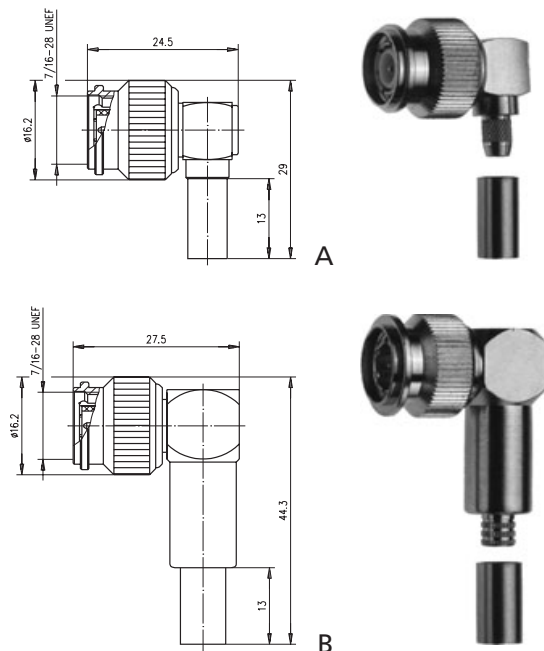
Bestell-Nr. Order Nr.	Abb Fig.	Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks	Abmess. Dimensions	Crimpeinsatz Crimp die
J01010A2255	A	50	G1 (RG-58C/U); YR 23092 Belden; LMR-195	A0205	crimp/crimp; Professional	a=31.2, b=13	N01001A0005
J01010A2256	A	50	G5 (RG-223/U)	A0205	crimp/crimp	a=31.5, b=13.5	N01001A0005
J01010A0039	A	50	G7 (RG-316/U)	A2616	crimp/crimp	a=30.3, b=11	N01001A0009
J01010A0035	A	50	G30 (TZC 500 25); H 155 Pope; LMR-240; Low Loss 1.4/3.8	A0206	crimp/crimp	a=31.2, b=13	N01001A0007
J01010A0000	A	50	RG-142B/U	A0205	crimp/crimp	A=31.5, b=13.5	N01001A0005
J01010A0045	A	50	G8 (RD-316)	A2620	crimp/crimp	a=30.3, b=11	N01001A0014
J01010B0007	B	50	G7 (RG-316/U)	A2903	crimp/crimp		N01001A0009
J01010B0027	B	50	G3 (RG-178B/U)	A2913	crimp/crimp		N01001A0010
J01010A0043	B	50	G8 (RD-316)	A2914	crimp/crimp		N01001A0014
J01010A0028	C	50	RG-213/U	A2212	crimp/crimp		N01001D1274
J01010A0029	C	50	RG-214/U	A2212	crimp/crimp		N01001D1274
J01010A0049	C	50	G37 (2.7/7.25)	A3112	löt/crimp solder/crimp		N01001D1274
J01010F2255	D	50	G1 (RG-58C/U); YR 23092 Belden	A0205	crimp/crimp; Standard	a=31, b=13	N01001A0005
J01010L2255	D	50	G1 (RG-58C/U); YR 23092 Belden	A2805	crimp/crimp; Basic	a=28, b=13	N01001A0005
J01010A0046	D	50	G5 (RG-223/U)	A0205	crimp/crimp	a=31.5, b=13.5	N01001A0005
J01010A0038	E	50	G7 (RG-316/U)	A2505	crimp/crimp		N01001A0005
J01012A2288	A	75	G2 (RG-59B/U)	A0206	crimp/crimp	a=31, b=13	N01001A0007
J01012A0014	A	75	G27 (9248 Belden)	A0207	crimp/crimp	a=31, b=13	N01001A0004
J01012A5032	B	75	G4 (RG-179B/U)	A2903	crimp/crimp		N01001A0009

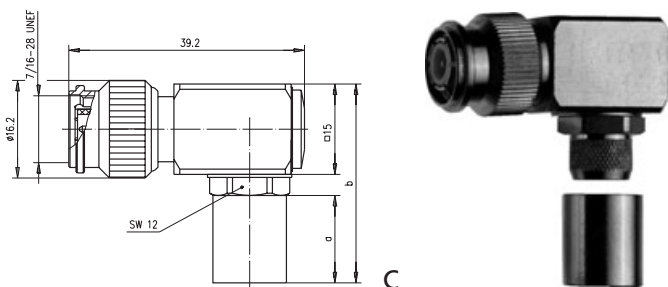
3 TNC-Kabelwinkelstecker TNC Angle Plug



Bestell-Nr. Order Nr.	Abb. Z Fig. Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks
J01010A0009	A 50	G1 (RG-58C/U)	A06	Druckverschraubung pressure sleeve
J01010A0010	A 50	G1 (RG-58C/U); G5 (RG-223/U); RG-141A/U; RG-142B/U	A06	MIL-Verschraubung MIL-clamp
J01010A0011	A 50	G7 (RG-316/U)	A07	
J01010A0023	B 50	G42 (2.7/7.1); RG-213/U; AA-5886	D04	
J01010A0024	B 50	RG-214/U; RG-216/U; RG-393/U	D04	
J01012A0002	A 75	G2 (RG-59B/U)	A06	Druckverschraubung pressure sleeve

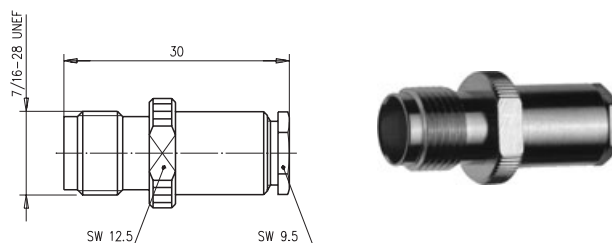
4 TNC-Kabelwinkelstecker Crimp TNC Angle Plug Crimp





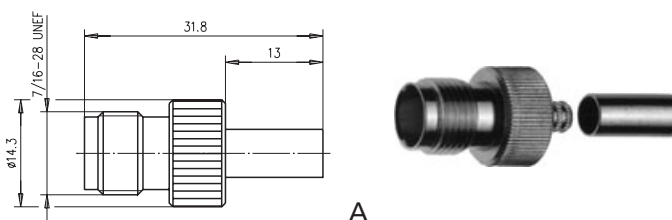
Bestell-Nr. Order Nr.	Abb. Fig.	Z Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks	Abmessungen Dimensions	Crimpeinsatz Crimp die
J01010A0005	A	50	G1 (RG-58C/U)	A0505	löt/crimp solder/crimp	a=13, b=29	N01001A0005
J01010A0006	A	50	G5 (RG-223/U)	A0505	löt/crimp solder/crimp	a=13.5, b=29.5	N01001A0005
J01010B0012	A	50	G7 (RG-316/U)	A0503	löt/crimp solder/crimp	a=9.5, b=25.5	N01001A0009
J01010A0037	A	50	G30 (TZC 500 25); H 155 Pope; LMR-240; Low Loss 1.4/3.8	A0506	löt/crimp solder/crimp	a=13, b=29	N01001A0007
J01010A0048	A	50	G8 (RD-316)	A0520	löt/crimp solder/crimp	a=9.5, b=25.5	N01001A0014
J01010A0019	B	50	G1 (RG-58C/U)	A0605	crimp/crimp		N01001A0005
J01010A0047	B	50	G5 (RG-223/U)	A0605	crimp/crimp		N01001A0005
J01010A0025	C	50	G42 (2.7/7.1); RG-213/U; AA-5886	D0512	löt/crimp solder/crimp	a=14.5, b=33	N01001D1274
J01010A0026	C	50	RG-214/U; RG-393/U	D0512	löt/crimp solder/crimp	a=13, b=31.5	N01001D1274
J01012A0004	A	75	G2 (RG-59B/U)	A0506	löt/crimp solder/crimp	a=13, b=29	N01001A0007
J01012A0005	A	75	G2 (RG-59B/U)	A0506	löt/crimp mit Schraubkappe solder/crimp with screw cap	a=13, b=29	N01001A0007
J01012A2266	B	75	G2 (RG-59B/U)	A0606	crimp/crimp		N01001A0007

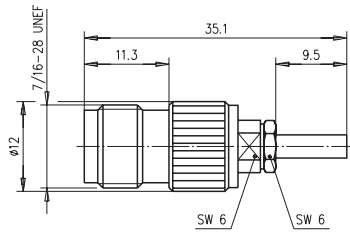
5 TNC-Kabelbuchse TNC Straight Jack



Bestell-Nr. Order Nr.	Z Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly
J01011A0014	50	G1 (RG-58C/U); LMR-195	A08
J01013A0004	75	G2 (RG-59B/U)	A08

6 TNC-Kabelbuchse Crimp TNC Straight Jack Crimp

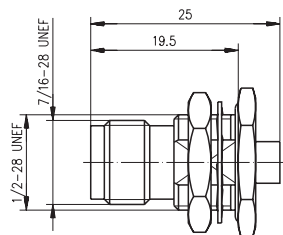




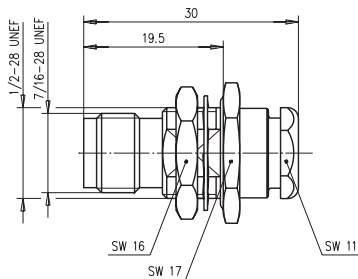
B

Bestell-Nr. Order Nr.	Abb. Fig.	Z Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks	Crimpeinsatz Crimp die
J01011A2265	A	50	G1 (RG-58C/U)	A0805	crimp/crimp	N01001A0005
J01011A2287	A	50	G5 (RG-223/U)	A0805	crimp/crimp	N01001A0005
J01011A0044	A	50	G30 (TZC 500 25); H 155 Pope; LMR-240; Low Loss 1.4/3.8	A0806	crimp/crimp	N01001A0007
J01011A0055	A	50	G37 (9913 Belden)	A3112	löt/crimp solder/crimp	N01001D1274
J01011B0032	B	50	G3 (RG-178B/U)	A2913	crimp/crimp	N01001A0010
J01011A0011	B	50	G8 (RD-316)	A2914	crimp/crimp	N01001A0014
J01011A0050	B	50	G7 (RG-316/U)	A2903	crimp/crimp	N01001A0009
J01013A2262	A	75	G2 (RG-59 B/U)	A0806	crimp/crimp	N01001A0007

7 TNC-Kabeleinbaubuchse TNC Bulkhead Jack



A

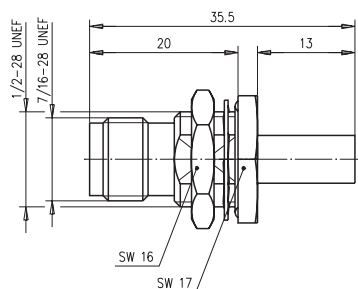


B

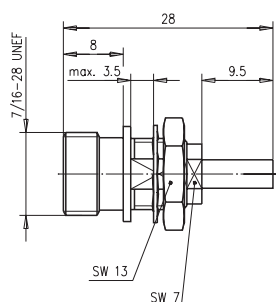


Bestell-Nr. Order Nr.	Abb. Fig.	Z Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks	Einbaumaß Mount. dim.	
J01011A0054	A	50	G11 (UT-85)	A18		Z04	
J01011A0008	A	50	G10 (UT-141)	A18		Z04	
J01011A0034	B	50	G10 (UT-141)	A15	MIL-Verschraubung; IP 67 MIL clamp; IP 67	Z04	
J01011A0036	B	50	G11 (UT-85)	A15	MIL-Verschraubung; IP 67 MIL clamp; IP 67	Z04	
J01011A2223	B	50	G1 (RG-58C/U); G5 (RG-223/U); RG-141A/U; RG-142B/U	A11	MIL-Verschraubung; IP 67 MIL clamp; IP 67	Z04	
J01011A2336	B	50	G3 (RG-178B/U)	A04	IP 67	Z04	
J01011A2337	B	50	G7 (RG-316/U)	A04	IP 67	Z04	
J01013A2224	B	75	G2 (RG-59B/U)	A11	IP 67	Z04	
B00031D1275	passende Isolierscheiben für isolierten Einbau suitable insulation washers for insulated mounting						

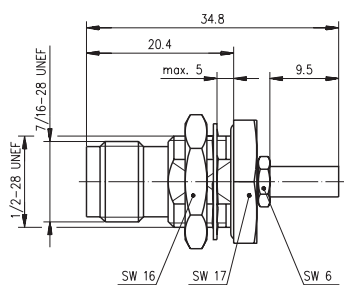
8 TNC-Kabeleinbaubuchse Crimp TNC Bulkhead Jack Crimp



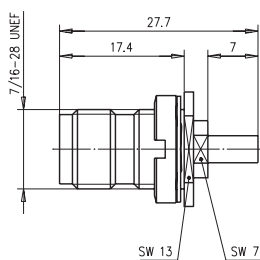
A



B



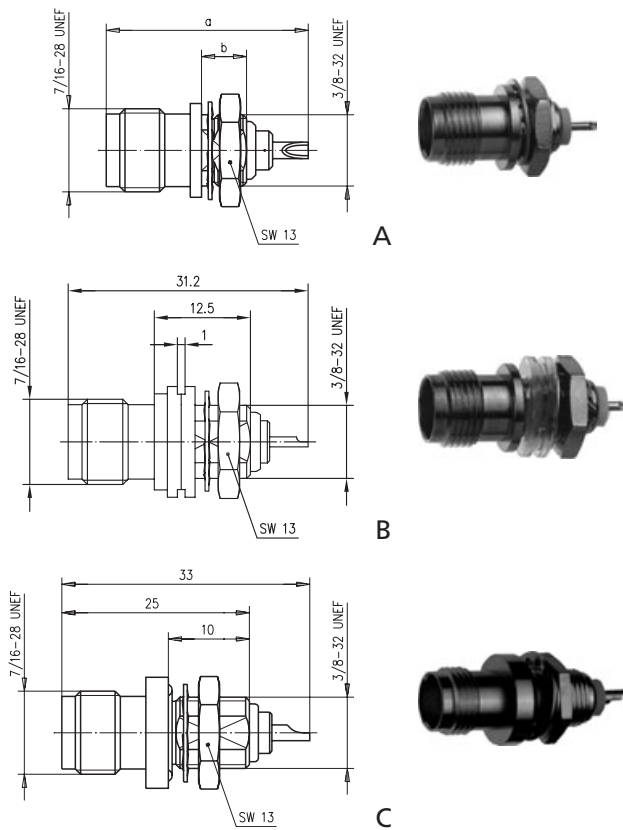
C



D

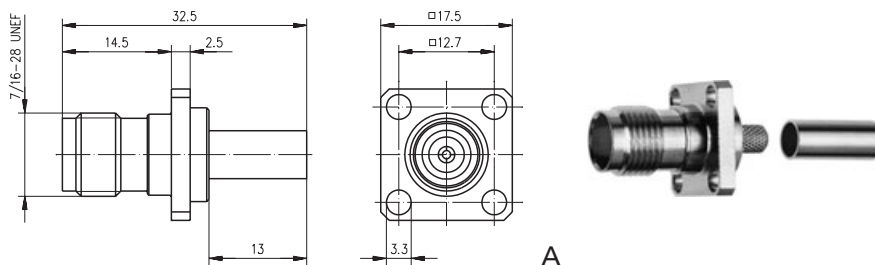
Bestell-Nr. Order Nr.	Abb. Fig.	Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Anmerkungen Remarks	Einbaumaß Mount. dim.	Crimpeinsatz Crimp die
J01011A0015	A	50	G1 (RG-58C/U)	A1105	crimp/crimp	Z04	N01001A0005
J01011A0016	A	50	G5 (RG-223/U)	A1105	crimp/crimp	Z04	N01001A0005
J01011A0023	B	50	G7 (RG-316/U)	A1903	löt/crimp nicht IEC 60 169-17 solder/crimp not IEC 60 169-17	Z19	N01001A0009
J01011A0051	B	50	G8 (RD-316)	A1920	löt/crimp nicht IEC 60 169-17 solder/crimp not IEC 60 169-17	Z19	N01001A0014
J01011B0029	C	50	G7 (RG-316/U)	A2903	crimp/crimp	Z04	N01001A0009
J01011B0030	C	50	G3 (RG-178B/U)	A2913	crimp/crimp	Z04	N01001A0010
J01011B0024	C	50	G8 (RD-316)	A2914	crimp/crimp	Z04	N01001A0014
J01011A0037	D	50	G7 (RG-316/U)	A1903	löt/crimp solder/crimp	Z58	N01001A0009
J01011A0052	D	50	G8 (RD-316)	A1920	löt/crimp solder/crimp	Z58	N01001A0014
J01013A2260	A	75	G2 (RG-59B/U)	A1106	löt/crimp solder/crimp	Z04	N01001A0007
J01013B0008	C	75	G4 (RG-179B/U)	A2903	crimp/crimp	Z04	N01001A0009
B00031D1275	Isolierscheiben für isolierten Einbau (passend für Abb. A + C) Insulation washers for insulated mounting (suitable for fig. A + C)						

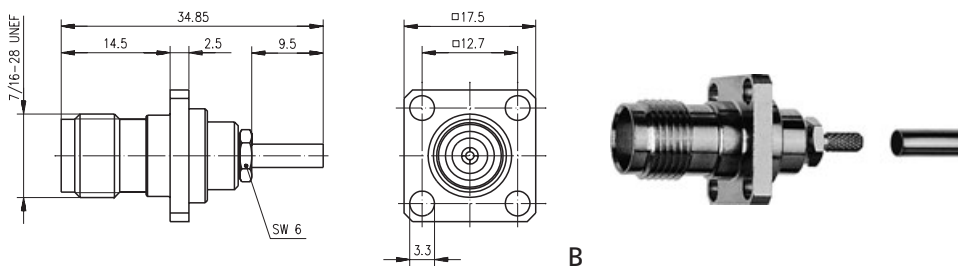
9 TNC-Einbaubuchse TNC Bulkhead Socket



Bestell-Nr. Order Nr.	Abb. Fig.	Z Z	Einbaumaß Mount. dim.	Anmerkungen Remarks	Abmessungen Dimensions
J01011A0012	A	50	Z01		a=32, b=10.8
J01011A2615	A	50	Z01		a=26.8, b=6
J01011A0013	B	50	Z04	isolierter Einbau insulated mounting	
J01011A2614	C	50	Z02	mit Dichtring with panel seal	
J01013A2218	A	75	Z01		a=31, b=12.5
J01013A2619	A	75	Z01		a=26.8, b=6
J01013A2286	B	75	Z04	isolierter Einbau insulated mounting	

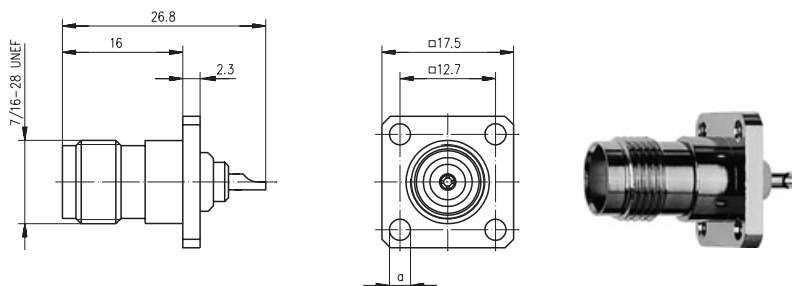
10 TNC-Kabeleinbaubuchse mit Flansch TNC Panel Jack





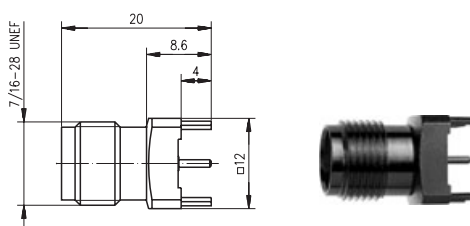
Bestell-Nr. Order Nr.	Abb. Fig.	Z	Kabelgruppe; Kabel Cable group; cable	Montage Assembly	Einbaumaß Mount. dim.	Anmerkungen Remarks	Crimpeinsatz Crimp die
J01011A0045	A	50	G1 (RG-58C/U)	A1005	Z54	crimp/crimp	N01001A0005
J01011A0047	A	50	G5 (RG-223/U)	A1005	Z54	crimp/crimp	N01001A0005
J01011B0046	B	50	G7 (RG-316/U)	A2903	Z54	crimp/crimp	N01001A0009
J01011A0053	B	50	G8 (RD-316)	A2914	Z54	crimp/crimp	N01001A0014

11 TNC-Einbaubuchse mit Flansch TNC Panel Socket



Bestell-Nr. Order Nr.	Z	Einbaumaß Mount. dim.	Anmerkungen Remarks	Abmessungen Dimensions
J01011F0613	50	Z05	löt solder	a=3-56" = M2.5

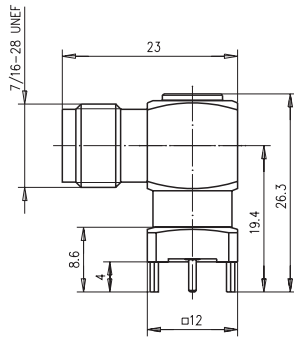
12 TNC-Buchse für gedruckte Schaltungen TNC Receptacle, female, for Printed Circuits



Bestell-Nr. Order Nr.	Z	Einbaumaß Mount. dim.
J01011A2944	50	Z06
J01013A2946	75	Z06

13 TNC-Winkelbuchse für gedruckte Schaltungen

TNC Angle Receptacle, female, for Printed Circuits



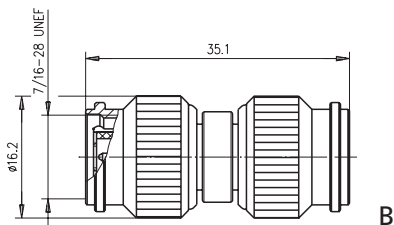
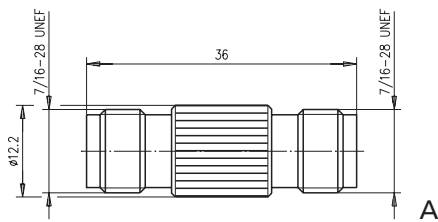
Bestell-Nr. **Z** **Einbaumaß**
Order Nr. **Z** **Mount. dim.**

J01011A2948 50 Z06

J01013A2949 75 Z06

14 TNC-Kupplung

TNC Adaptor



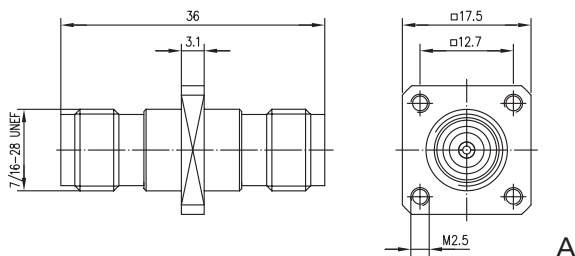
Bestell-Nr. **Abb.** **Z** **Anmerkungen**
Order Nr. **Fig.** **Z** **Remarks**

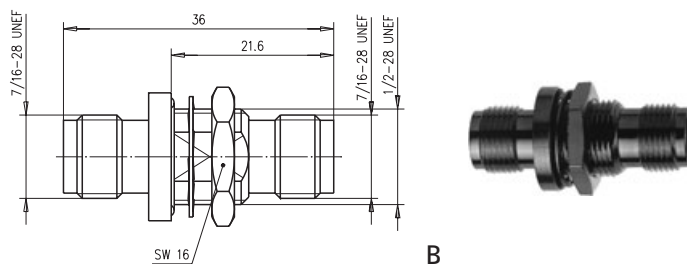
J01014A2618 A 50 Bu-Bu f-f

J01014A2806 B 50 Sti-Sti m-m

15 TNC-Verbindungsstück

TNC Adaptor for Panel Mounting

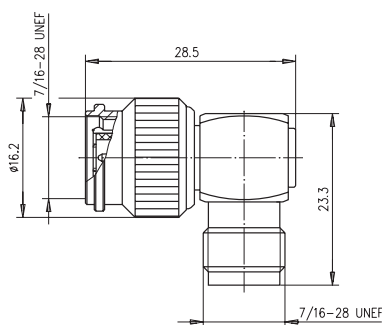




Bestell-Nr. **Abb.** **Z** **Einbaumaß** **Anmerkungen**
Order Nr. **Fig.** **Z** **Mount. dim.** **Remarks**

J01014A0004	A	50	Z05	Bu-Bu f-f
J01014A2233	B	50	Z04	Bu-Bu f-f
B00031D1275	passende Isolierscheiben für J01014A2233 für isolierten Einbau suitable insulation washers for J01014A2233 for insulated mounting			

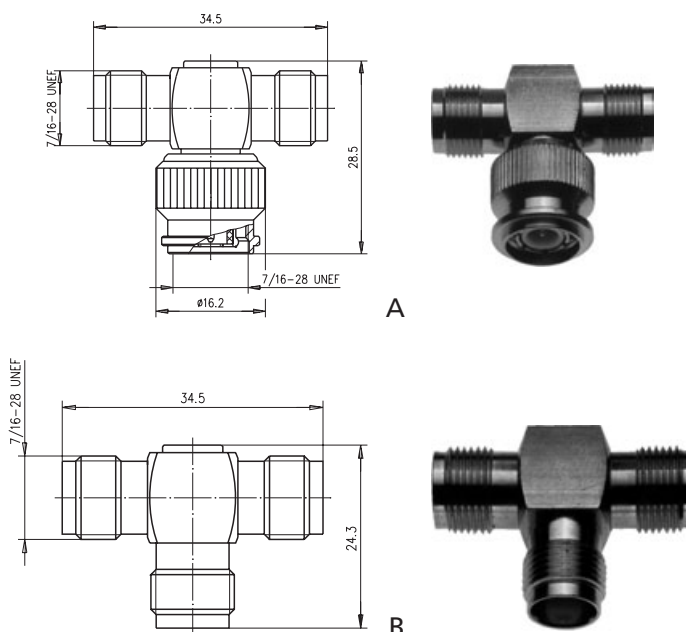
16 TNC-Winkelverbindungsstück TNC Angle Adaptor

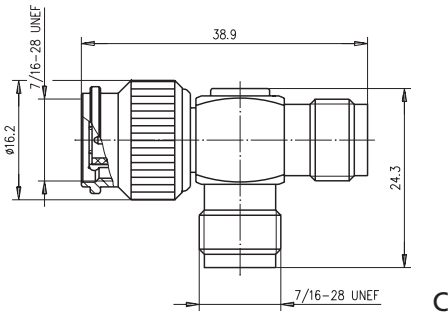


Bestell-Nr. **Z** **Anmerkungen**
Order Nr. **Z** **Remarks**

J01014A0001	50	Sti-Bu m-f
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17 TNC-T-Stück TNC T Adaptor

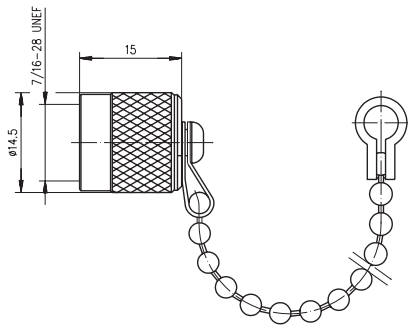




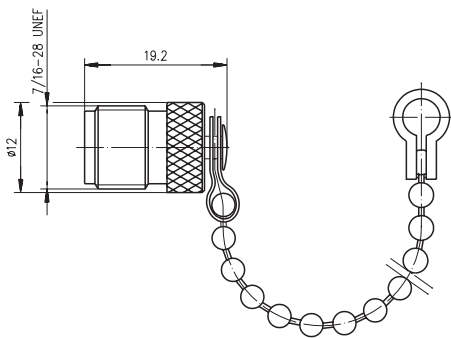
C

Bestell-Nr. Order Nr.	Abb. Fig.	Z Z	Anmerkungen Remarks
J01014A0000	A	50	Bu-Sti-Bu f-m-f
J01014A0005	B	50	Bu-Bu-Bu f-f-f
J01014A0002	C	50	Sti-Bu-Bu m-f-f

18 TNC-Abdeckkappe TNC Dust Cap



A



B



Bestell-Nr. Order Nr.	Abb. Fig.	Anmerkungen Remarks
H00050A0000	A	Sti m
H00051A0000	B	Bu f

Weitere TNC-Steckverbindervarianten können durch die Kombination von Normköpfen und Kabelabfangungen (siehe Kapitel 15) zusammengestellt werden.

Combination connectors and cable clamps (see chapter 15) can be utilised to create a further number of TNC-connector variations.