



RF Coaxial Connectors Catalog

TNC



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TNC 50 Ohm Coaxial Connectors



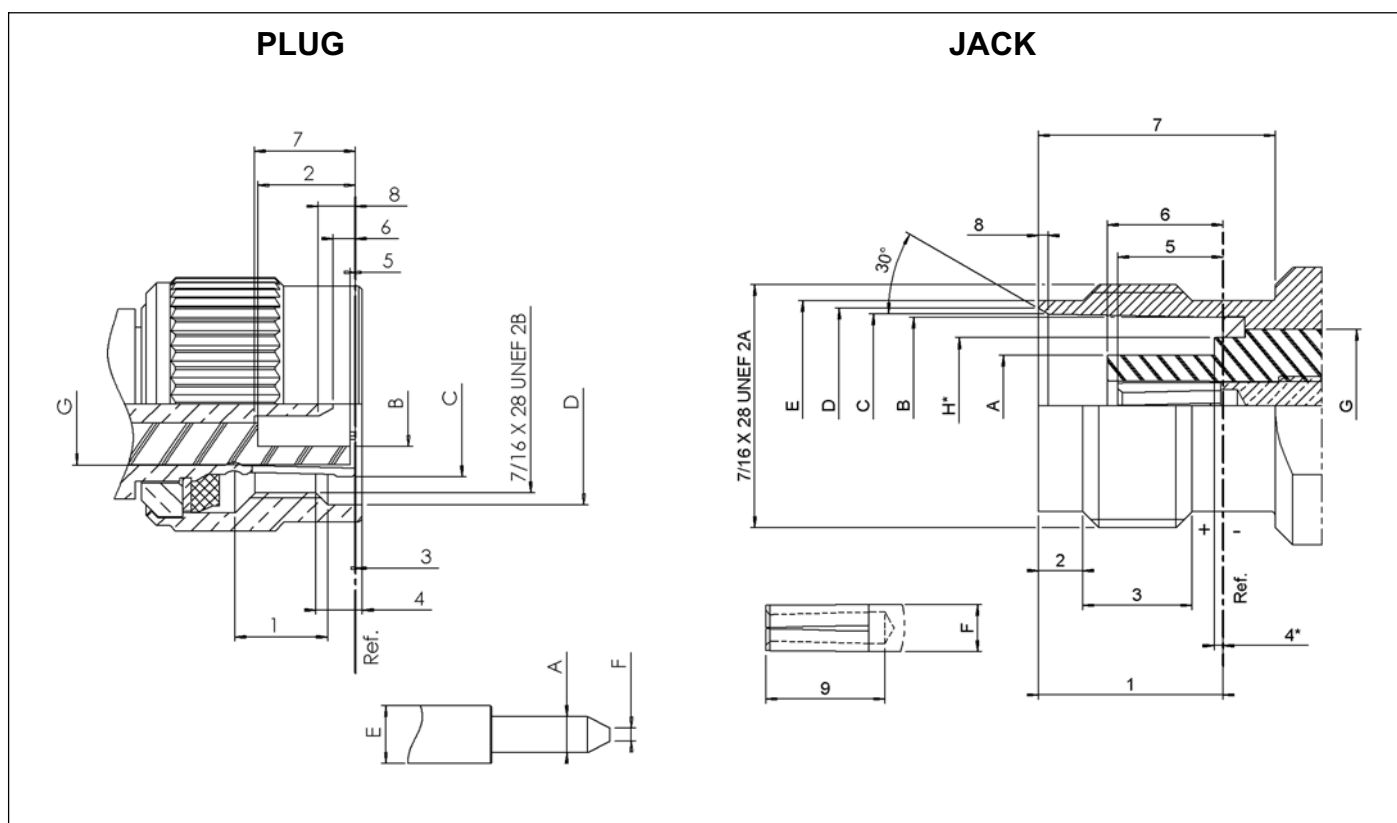
DESCRIPTION

The Threaded Neil Concelman connector emerged in 1956 as an alternative to the bayonet coupling mechanism of the BNC.Utilizing the same basic structural parameters as the BNC connector, only minia-
ture. They are two versions of TNC connectors:Standard and Reverse Polarity. The standard type of TNC
operates in frequency ranges between DC-11 GHz, and is often used in applications which have perfor-
mance requirements such as networks, antennas, telecom, cable assembly and cellular system.

CONTENTS

Description	1
Interface dimensions	2
Technical data	3
Cable connectors	4
Receptacles with solder end	9
Assembly instruction	10
Mounting hole	15

TNC INTERFACE



LETTER	mm		inch	
	min.	max.	min.	max.
A	1.32	1.37	0.052	0.054
B	4.83	-	0.190	-
D	11.40	-	0.449	-
E	-	2.2	-	0.087
F	0.35	0.65	0.014	0.025
G	7	7.05	0.275	0.277
1	4.9	5.7	0.193	0.224
2	5.28	5.79	0.208	0.228
3	0.15	-	0.006	-
4	1.8	-	0.071	-
5	0.15	-	0.006	-
6	0.08	1.02	0.003	0.040
7	5.33	5.84	0.210	0.230
8	0.7	1.98	0.027	0.078

LETTER	mm		inch	
	min.	max.	min.	max.
A	-	4.72	-	0.186
B	8.1	8.1	0.319	0.321
C	8.31	8.46	0.327	0.333
D	8.79	9.04	0.346	0.356
E	9.6	9.68	0.378	0.381
F	-	2.2	-	0.087
H	-	5.9	-	0.232
1	8.3	8.5	0.327	0.335
2	1.73	2.24	0.068	0.088
3	4.75	-	0.187	-
4	-	0.15	-	0.006
5	4.72	5.23	0.186	0.206
6	4.78	5.28	0.188	0.208
7	10.7	-	0.421	-
8	0.38	0.76	0.015	0.030
9	4.95	-	0.195	-

Interface dimensions conformable to the standards:

International: **IEC60169-17**
 Europe: **CECC 22 200**
 USA: **MIL-C-39012,**
TNC Interface MIL-STD-348A/313

IP rating (interface, mated) IP68

TECHNICAL DATA



ELECTRICAL DATA	
Impedance	50 Ohm
Frequency range	DC — 11 GHz
Dielectric withstanding voltage	1.5 kV rms, 50 Hz(depending on cable)
Working voltage	500 V rms, 50 Hz(depending on cable)
Insulation resistance	$\geq 5 \times 1000 \text{ M}\Omega$
Contact resistance	inter contact $\leq 1.5 \text{ m}\Omega$ out contact $\leq 1 \text{ m}\Omega$
RF leakage	$\geq 55 \text{ dB}$

MECHANICAL DATA	
Coupling nut torque	46 Ncm...69 Ncm/4.1 in.lbs...6.1 in.lbs (recommended) 170 Ncm/15.0 in.lbs (proof torque)
Coupling nut retention force	$\geq 450 \text{ N} / 101.2 \text{ lbs}$
Contact captivation	$\geq 27 \text{ N} / 6.1 \text{ lbs}$
Durability(matings)	≥ 500

ENVIRONMENTAL	
Temperature Range	-40 °C to + 155 °C
Thermal shock	MIL-STD-202, Method 107, Condition B
Moisture resistance	MIL-STD-202, Method 106
Corrosion	Saltspray test acc.to MIL-STD-202, Method 101, Condition B
Vibration	MIL-STD-202, Method 204, Condition B

CABLE CONNECTORS



Straight cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-03-1M18-001

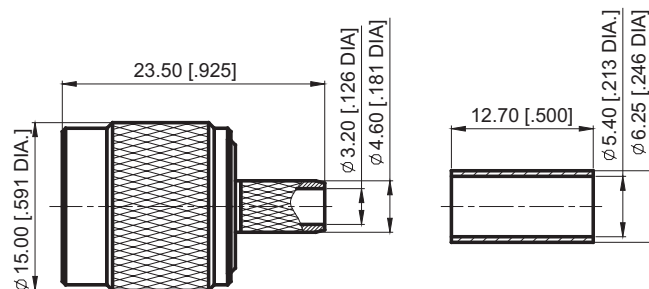
LMR195/RG58

Gold

Nickel

A01

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-03-1M04-002

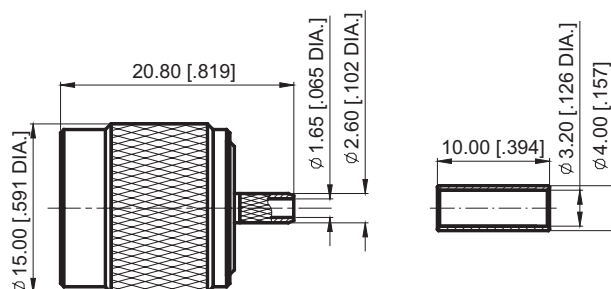
RG316/LMR100/RG174

Gold

Nickel

A02

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-03-1M10-004

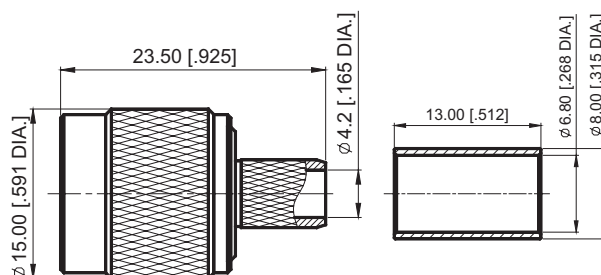
LMR240

Silver

Nickel

A01

- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS



Straight cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-03-1M01-005

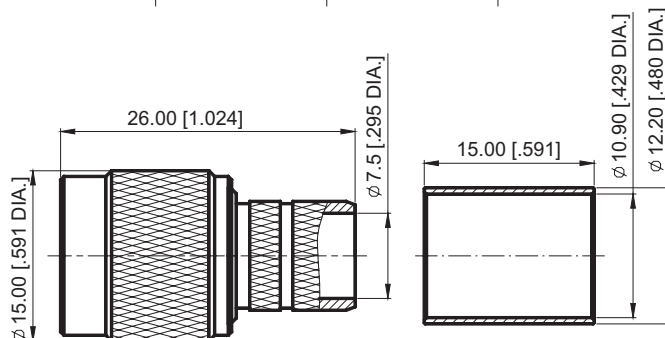
LMR400

Gold

Nickel

A01

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-03-4M18-006

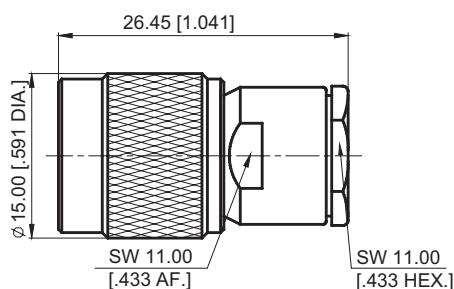
RG58/LMR195

Gold

Nickel

A03

- > Cable entry clamp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-03-4M01-008

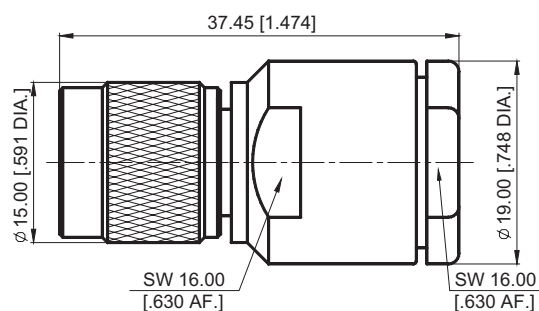
LMR400

Gold

Nickel

A03

- > Cable entry clamp
- > Centre contact soldered



CABLE CONNECTORS



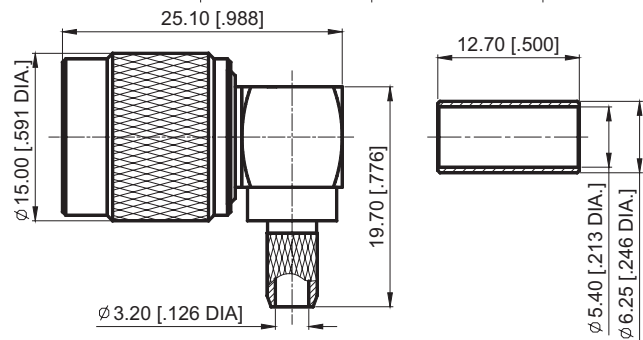
Right angle cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-13-1M18-009	LMR195/RG58	Gold	Nickel	A04	
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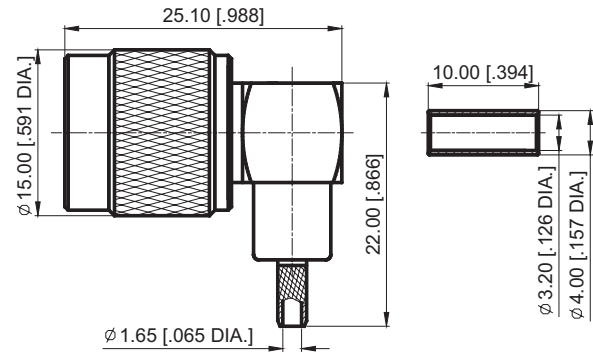
- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

80-13-1M04-010	LMR100/RG174/RG316	Gold	Nickel	A04	
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- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS

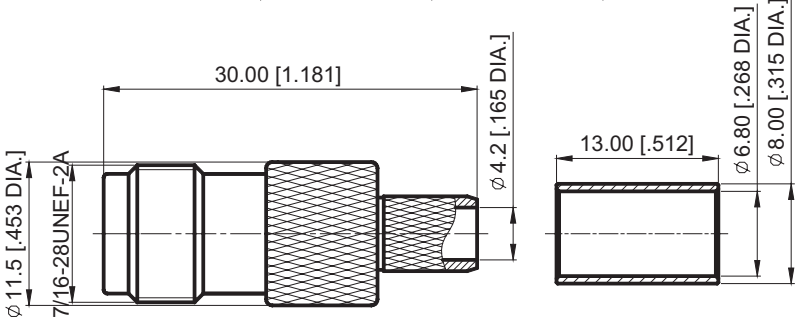


Straight cable jacks (female)



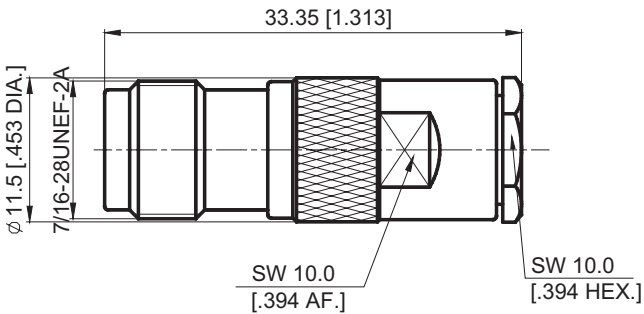
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-02-1M18-012	RG58/LMR195	Gold	Nickel	A01	

> Cable entry crimp



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-02-1M21-013	LMR195/RG58	Gold	Nickel	A03	

> Cable entry clamp
> Centre contact soldered



CABLE CONNECTORS

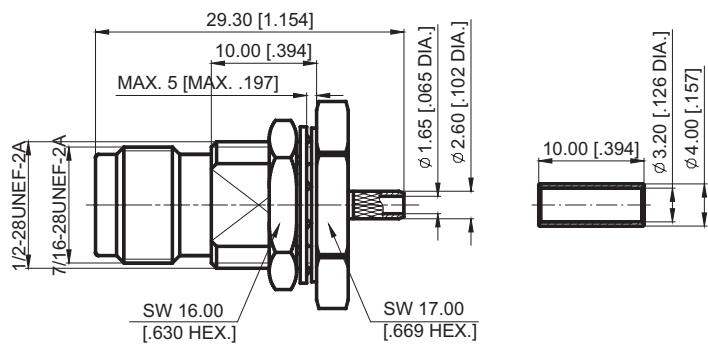


Straight bulkhead cable jacks (female)



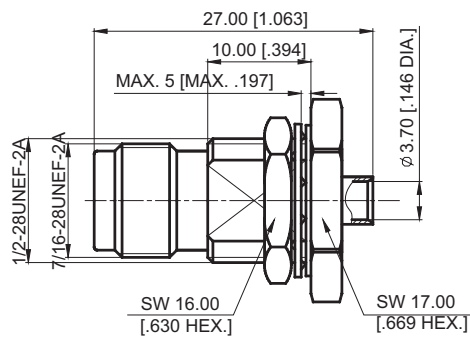
P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		
80-02-1A04-015	LMR100/RG174/RG316	Gold	Nickel	A01	M01

- > Cable entry solder
- > Centre contact crimp



P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		
80-02-2A14-016	Semi-rigid.141/RG402	Gold	Nickel	A04	M01

- > Cable entry solder
- > Centre contact solder



RECEPTACLES WITH SOLDER END

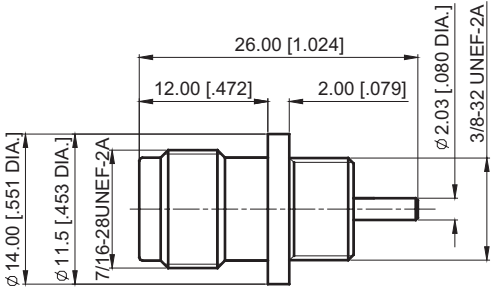


Receptacles, jacks (female)



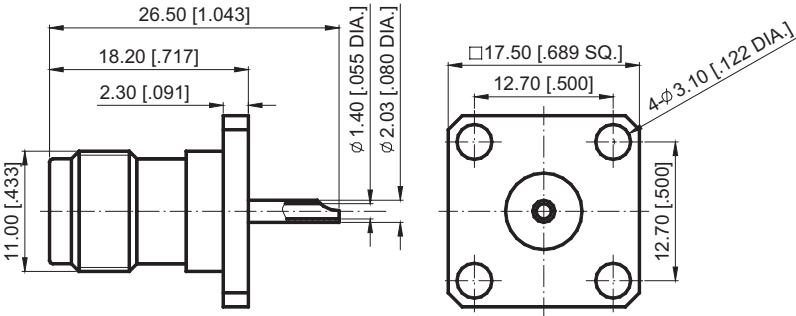
P/N	Mount Hole	Finish		Notes
		Center	Body	
80-02-5B2-018	M02	Gold	Nickel	

> Panel mounted



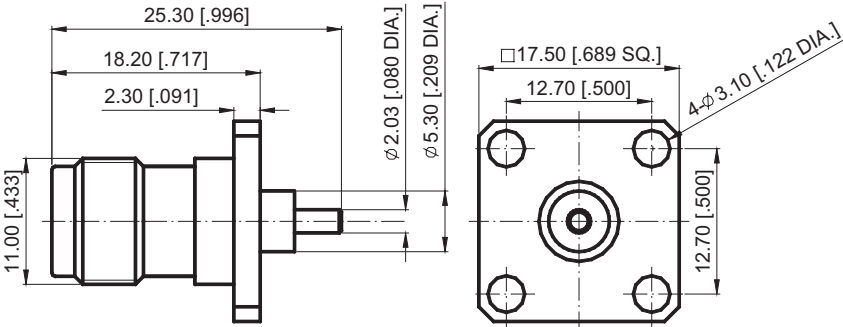
P/N	Mount Hole	Finish		Notes
		Center	Body	
80-02-5F1-019	M03	Gold	Nickel	

> Panel mounted



P/N	Mount Hole	Finish		Notes
		Center	Body	
80-02-5F7-020	M03	Gold	Nickel	

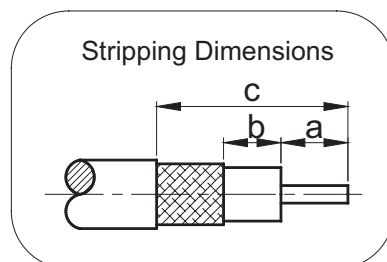
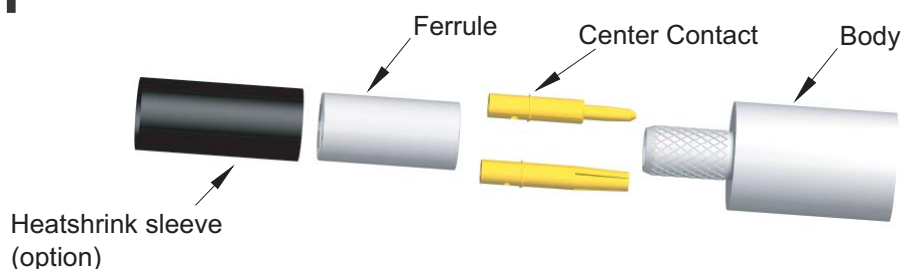
> Panel mounted



ASSEMBLY INSTRUCTIONS



A01



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])		
			a	b	c
80-03-1M18-001	LMR195/RG58	5.41 [.213]	4 [.157]	2 [.079]	11.5 [.453]
80-02-1M18-012					
80-03-1M10-004	LMR240	6.80 [.268]	4.5 [.177]	2.5 [.098]	12.5 [.492]
80-03-1M01-005	LMR400	10.9 [.429]			14 [.551]

- Slide the heatshrink sleeve onto the cable (option).
- Slide the ferrule onto the cable.
- Strip the cable as Stripping Dimensions.



- Slide the center contact on until it bottom against the cable dielectric.
- Solder the center contact onto the cable.



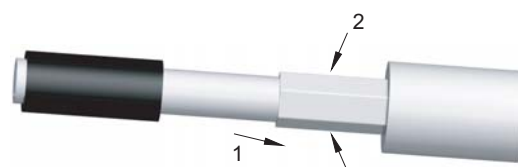
- Fan the braid.



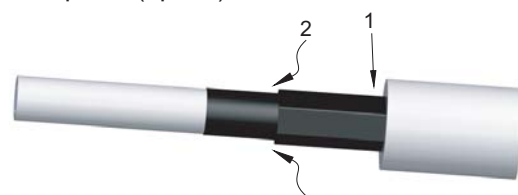
- Slide the cable into the body until stops.



- Slide the ferrule over the braid.
- Crimp the ferrule with crimping tool (see table).



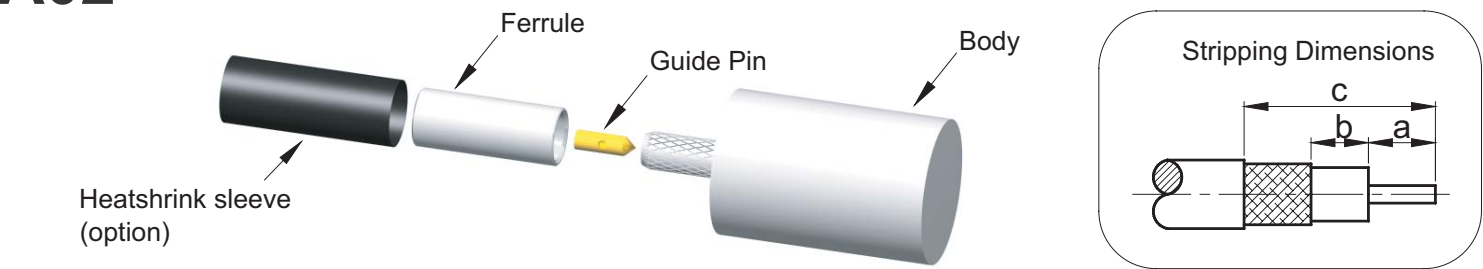
- Cut the excess of braid if necessary.
- Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A02



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])		
			a	b	c
80-03-1M04-002	LMR100/RG174/RG316	3.25 [.128]	3 [.118]	2.5 [.098]	11 [.433]
80-02-1A04-015					

- 1. • Slide the heatshrink sleeve onto the cable (option).
- Slide the ferrule onto the cable.
- Strip the cable as Stripping Dimensions.



- 2. • Slide the guide pin on until it bottom against the cable dielectric.
- Solder the guide pin onto the cable.



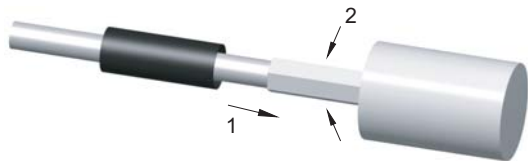
- 3. • Fan the braid.



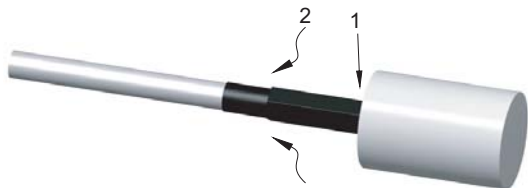
- 4. • Slide the cable into the body until stops.



- 5. • Slide the ferrule over the braid.
- Crimp the ferrule with crimping tool (see table).



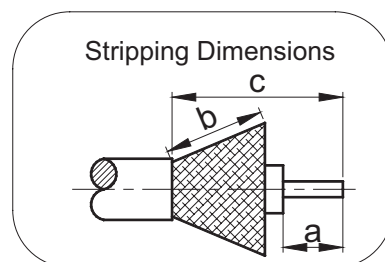
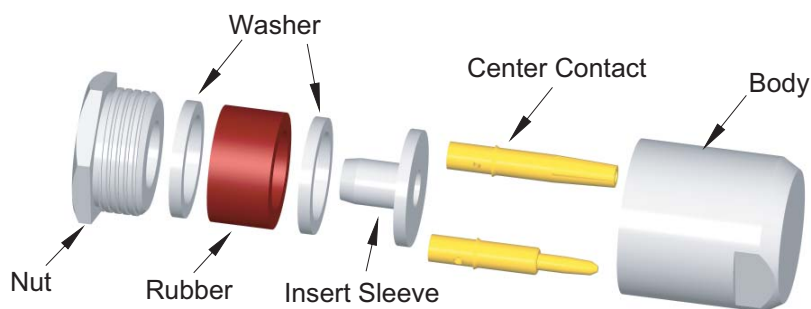
- 6. • Cut the excess of braid if necessary.
- Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS

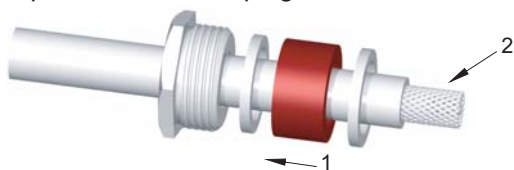


A03

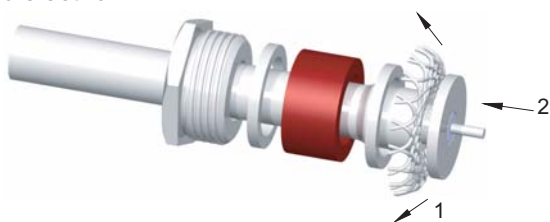


P/N	Cable Type	Stripping Length (mm [in])			Recommended Coupling Torque
		a	b	c	
80-03-4M18-006	LMR195/RG58	3 [.118]	5 [.197]	5 [.197]	450N·cm
80-02-1M21-013					
80-03-4M01-008	LMR400	3.5 [.138]	7 [.276]	9 [.354]	

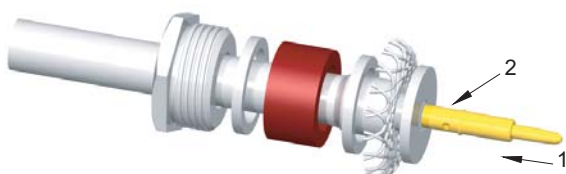
- Slide the nut, the washer, the rubber and another washer onto the cable.
- Strip the cable as Stripping Dimensions.



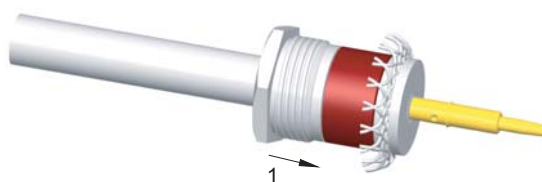
- Fold the braid back.
- Insert the insert sleeve into the cable (under the braid) until the back surface flush with the cable dielectric.



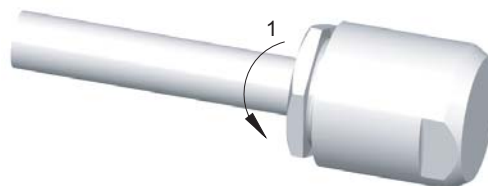
- Slide the center contact on until it bottom against the cable dielectric.
- Solder the center contact.



- Slide the nut over the cable assembly.



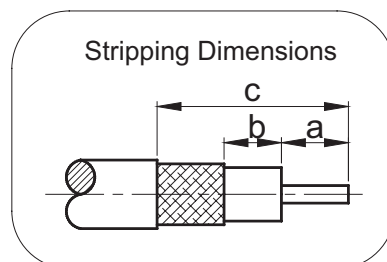
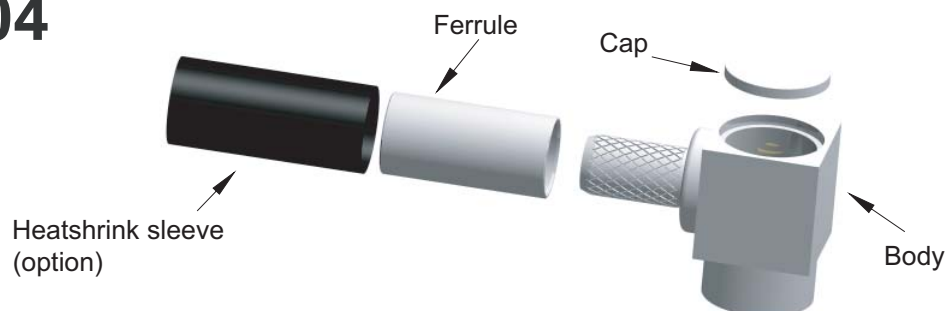
- Screw sub-assembly into the body with wrench, recommended coupling torque see table.



ASSEMBLY INSTRUCTIONS



A04



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])		
			a	b	c
80-13-1M04-010	LMR100/RG174/RG316	3.25 [.128]	1.5 [.059]	11 [.433]	18.5 [.728]
80-13-1M18-009	LMR195/RG58	5.41 [.213]	2 [.079]	7.5 [.295]	17.5 [.689]

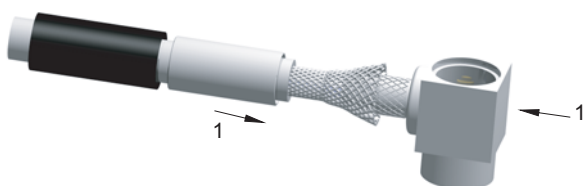
- Slide the heatshrink sleeve onto the cable (option).
- Slide the ferrule onto the cable.
- Strip the cable as Stripping Dimensions.



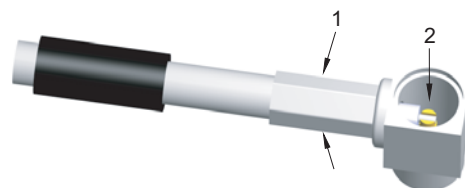
- Fan the braid.



- Push the body under the braid.
- Slide the ferrule over the braid.



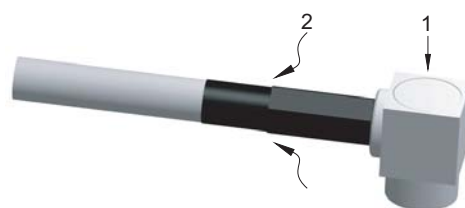
- Crimp the ferrule with crimping tool (see table).
- Solder the inner conductor.



- Place the cap into the body.



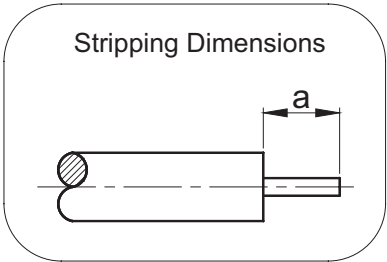
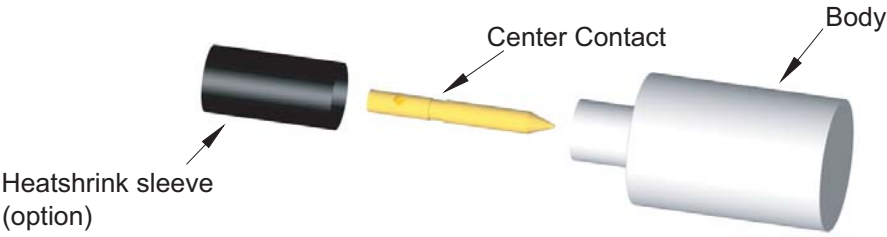
- Press on the cap until stops.
- Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A05



P/N	Cable Type	Stripping Length (mm [in]) a	Notes
80-02-2A14-016	Semi-rigid .141/RG402	4.0 [.157]	

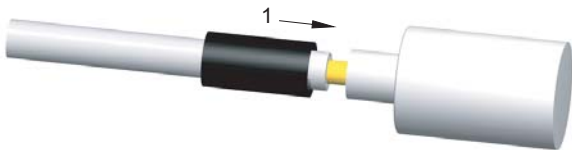
1. • Slide the heatshrink sleeve onto the cable (option).
• Strip the cable as Stripping Dimensions.



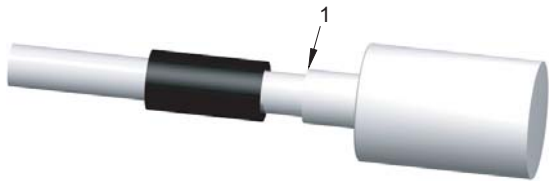
2. • Slide the center contact on until it bottom against the cable dielectric.
• Solder the center contact onto the cable.



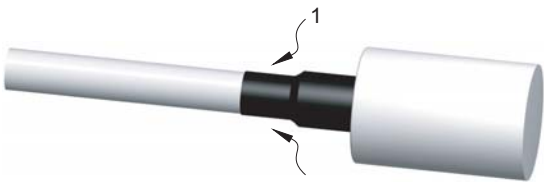
3. • Slide the cable into the body until it stops.



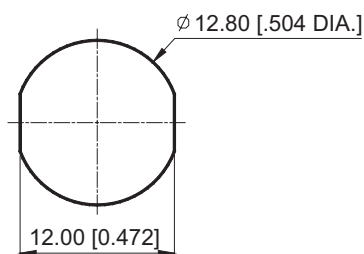
4. • Solder the body onto the cable.



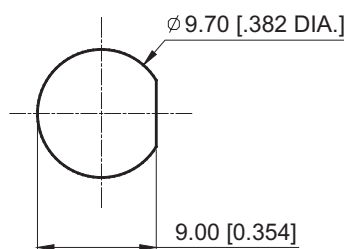
5. • Slide the heatshrink sleeve over the body and heatshrink it in place (option).



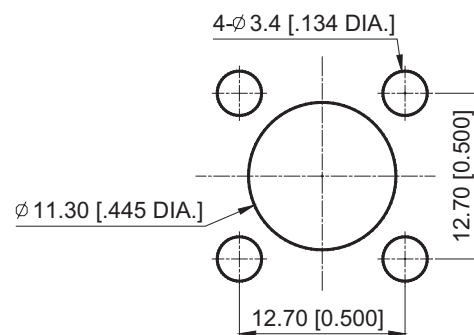
MOUNTING HOLES



M01



M02



M03