



# TNC 50 Ohm Coaxial Connectors



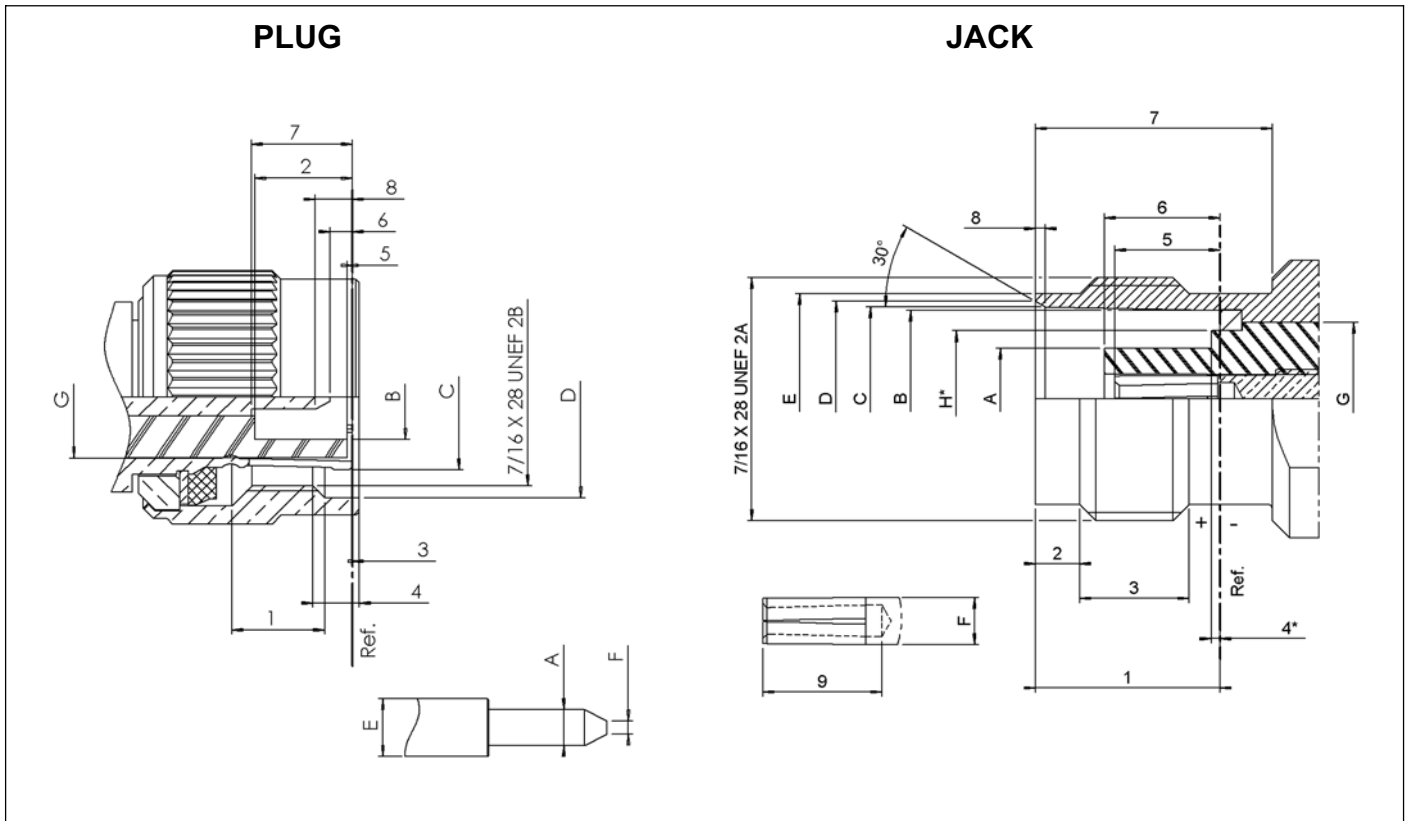
## DESCRIPTION

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 miniature. 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 performance requirements such as networks, antennas, telecom, cable assembly and cellular system.

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# 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)	$\geq 500$

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

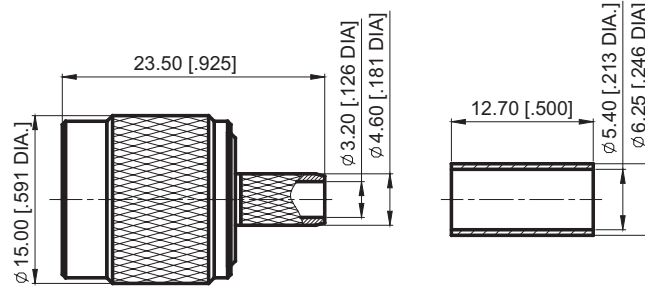


## Straight cable plugs (male)



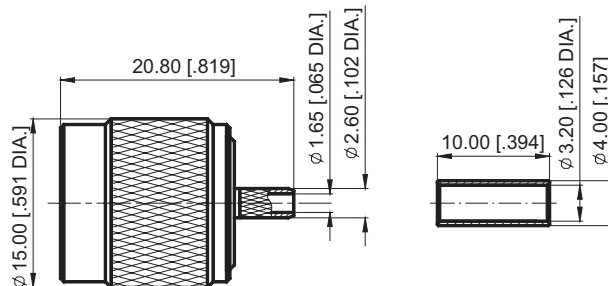
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-03-1M18-001	LMR195/RG58	Gold	Nickel	A01	

- > Cable entry crimp
- > Centre contact soldered



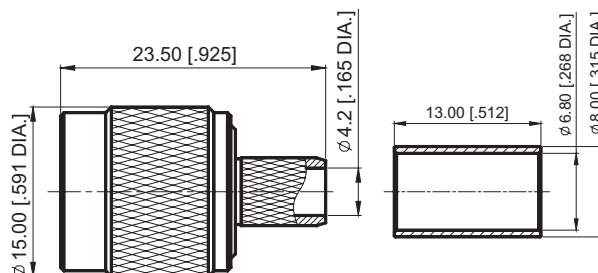
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-03-1M04-002	RG316/LMR100/RG174	Gold	Nickel	A02	

- > 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

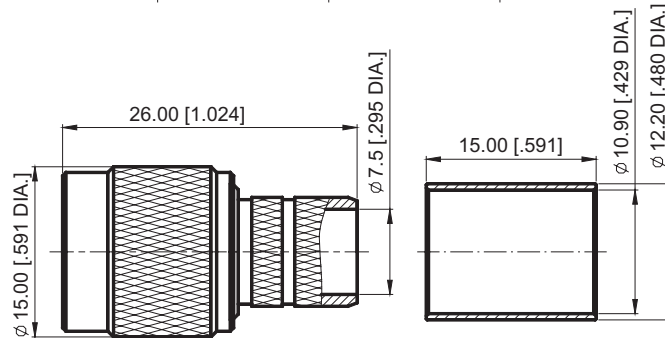


## Straight cable plugs (male)



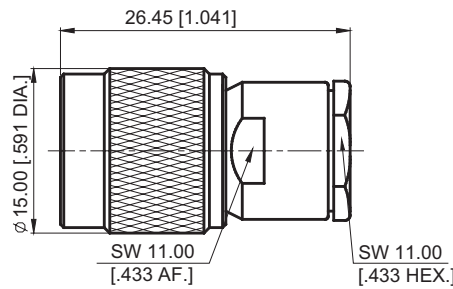
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-03-1M01-005	LMR400	Gold	Nickel	A01	

- > Cable entry crimp
- > Centre contact soldered



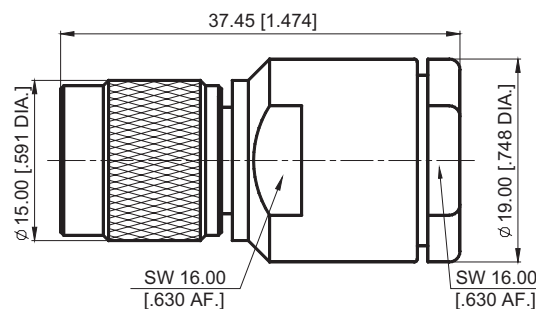
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-03-4M18-006	RG58/LMR195	Gold	Nickel	A03	

- > 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



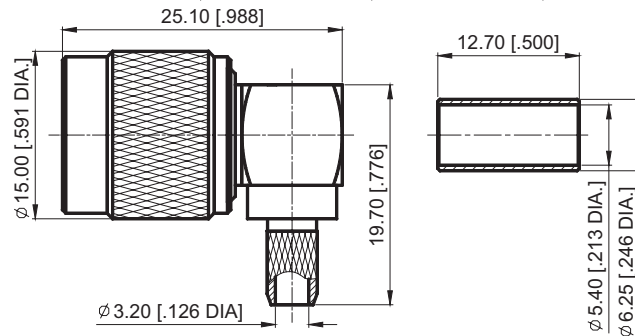
# CABLE CONNECTORS



## Right angle cable plugs (male)

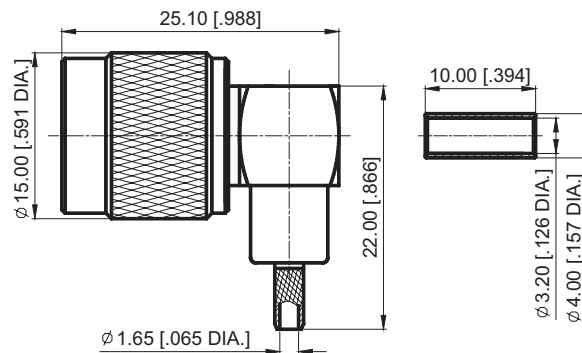
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-13-1M18-009	LMR195/RG58	Gold	Nickel	A04	

- > 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	

- > Cable entry crimp
- > Centre contact soldered



# CABLE CONNECTORS

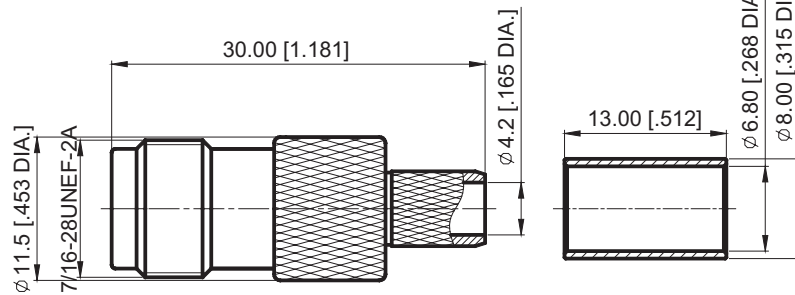


## Straight cable jacks (female)



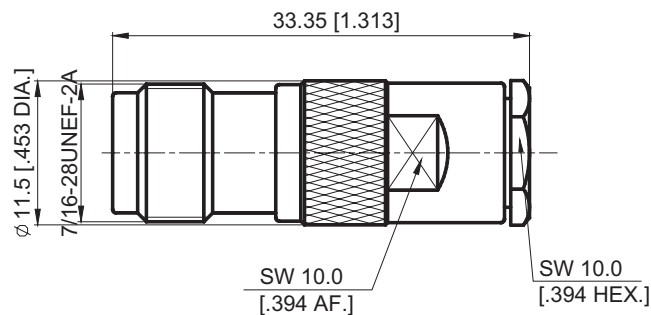
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
80-02-1M18-012	RG58/LMR195	Gold	Nickel	A01	

> 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

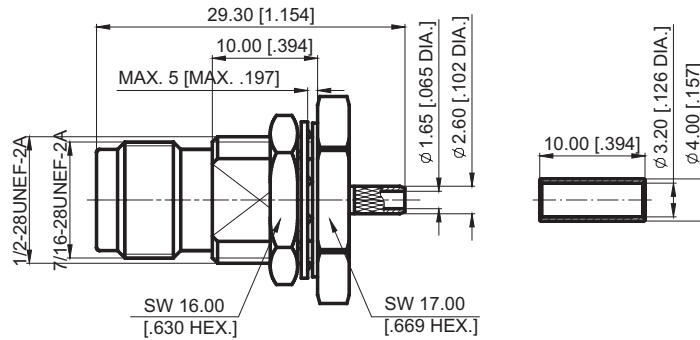


## Straight bulkhead cable jacks (female)



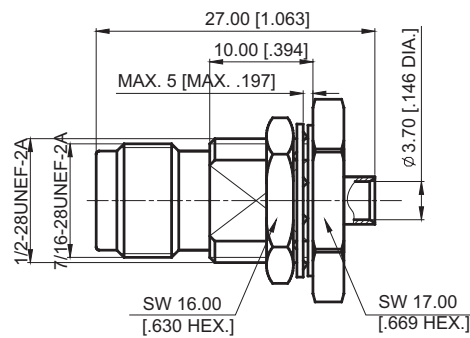
P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		
80-02-1A04-015	LMR100/RG174/RG316	Gold	Nickel	A01	M01

- > 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

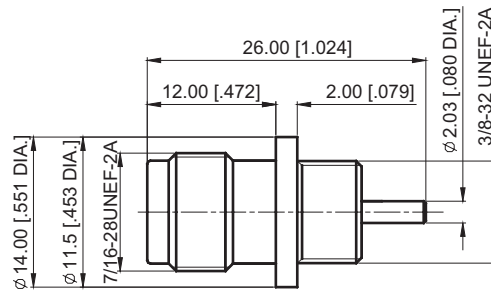


Receptacles, jacks (female)



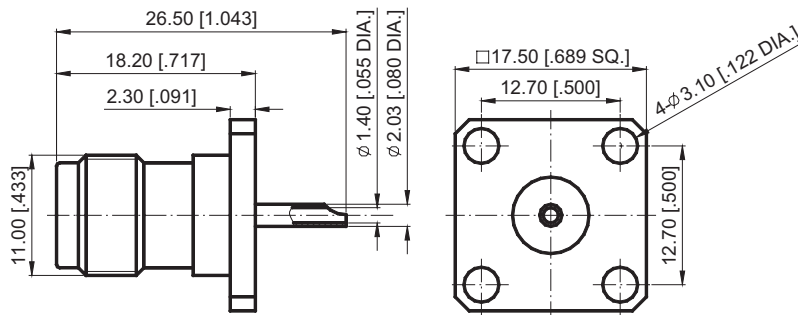
P/N	Mount Hole	Finish		Notes
		Center	Body	
80-02-5B2-018	M02	Gold	Nickel	

> Panel mounted



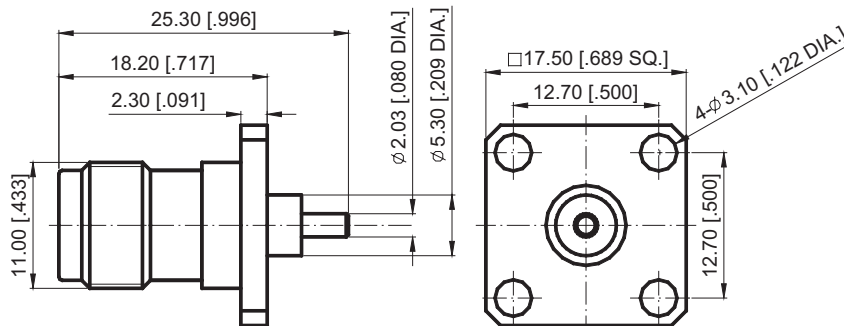
P/N	Mount Hole	Finish		Notes
		Center	Body	
80-02-5F1-019	M03	Gold	Nickel	

> Panel mounted



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

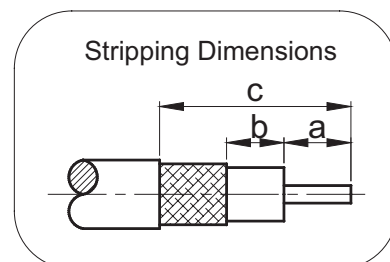
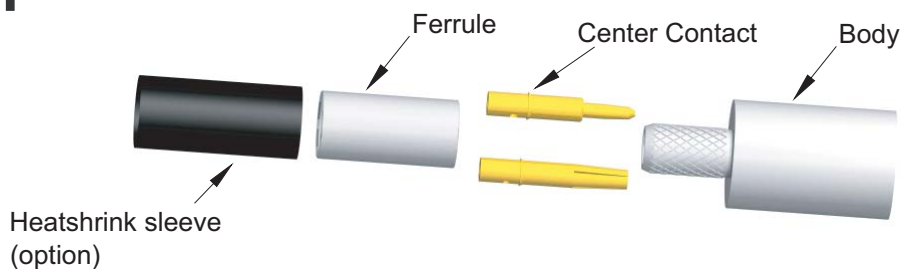
> Panel mounted



# ASSEMBLY INSTRUCTIONS

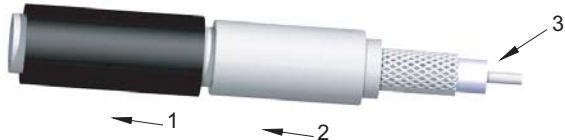


## A01



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.



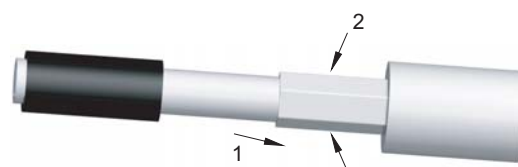
- Fan the braid.



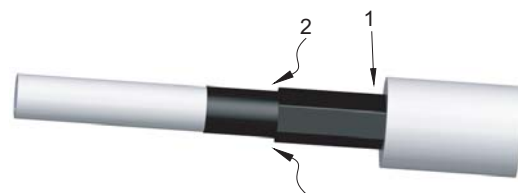
- Slide the cable into the body until stops.



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



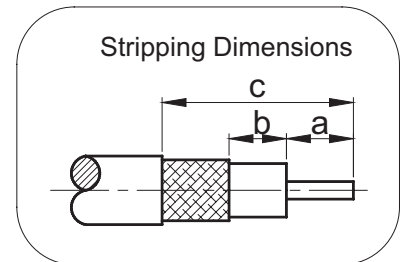
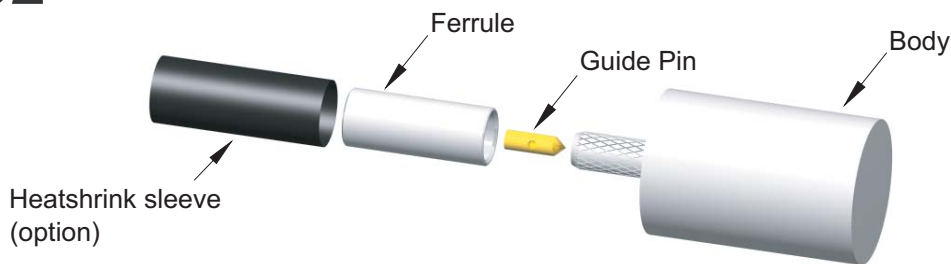
- Cut the excess of braid if necessary.  
Slide the sleeve over the ferrule and heatshrink it in place (option).



# 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					

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



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



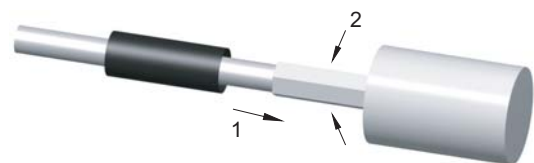
- Fan the braid.



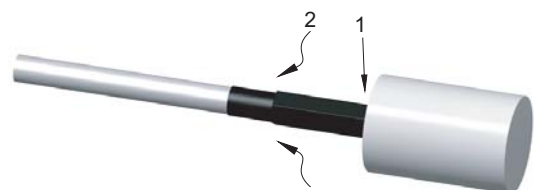
- Slide the cable into the body until stops.



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



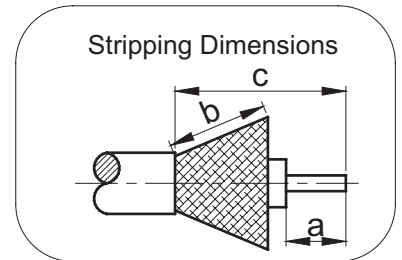
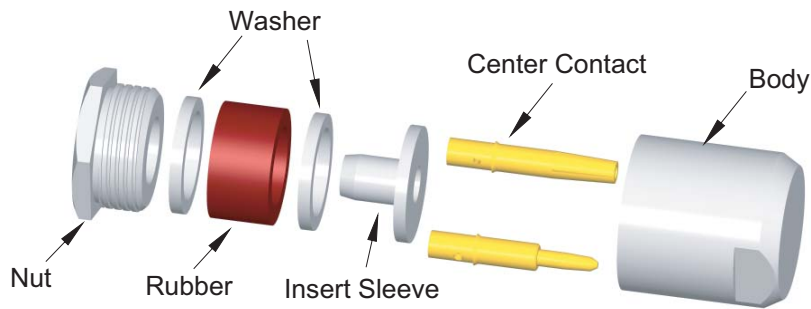
- Cut the excess of braid if necessary.
  - Slide the sleeve over the ferrule and heatshrink it in place (option).



# ASSEMBLY INSTRUCTIONS

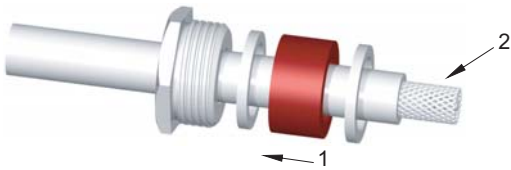


## A03

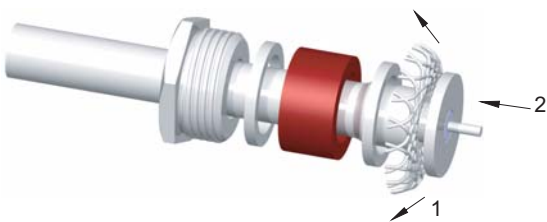


P/N	Cable Type	Stripping Length (mm [in])			Recommended Coupling Torque
		a	b	c	
80-03-4M18-006	LMR195/RG58	3 [.118]	5 [.197]	5 [.197]	450N·cm
80-02-1M21-013					
80-03-4M01-008	LMR400	3.5 [.138]	7 [.276]	9 [.354]	

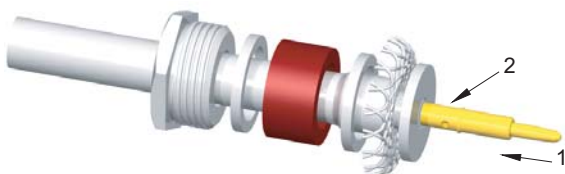
- Slide the nut, the washer, the rubber and another washer onto the cable.
  - Strip the cable as Stripping Dimensions.



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



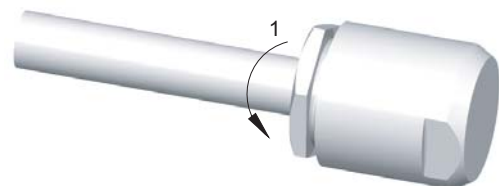
- Slide the center contact on until it bottom against the cable dielectric.
  - Solder the center contact.



- Slide the nut over the cable assembly.



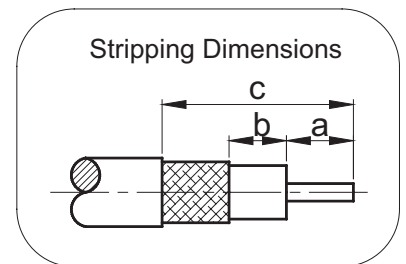
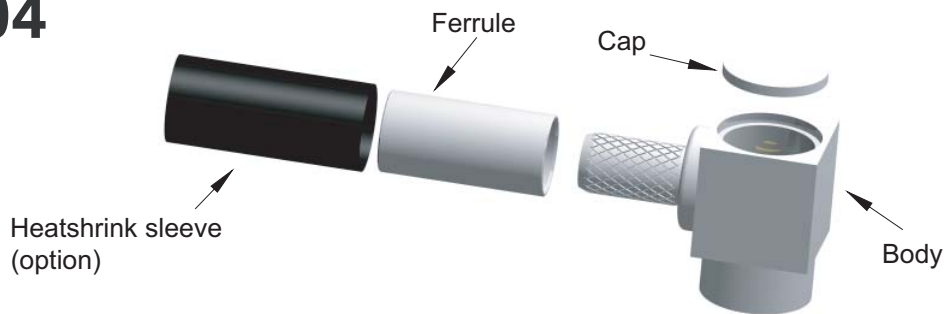
- Screw sub-assembly into the body with wrench, recommended coupling torque see table.



# 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]

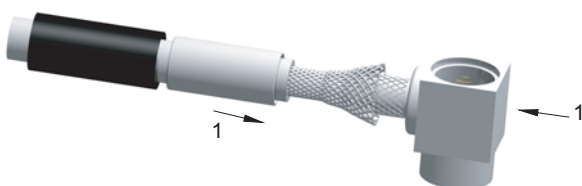
- Slide the heatshrink sleeve onto the cable (option).
  - Slide the ferrule onto the cable.
  - Strip the cable as Stripping Dimensions.



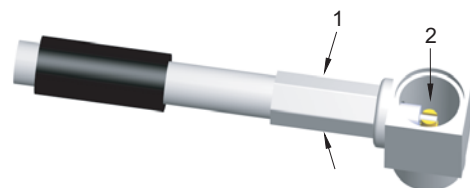
- Fan the braid.



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



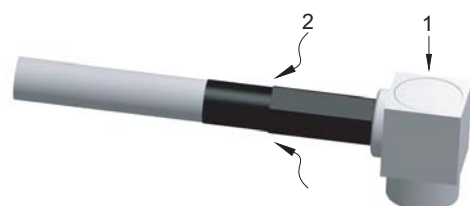
- Crimp the ferrule with crimping tool (see table).
  - Solder the inner conductor.



- Place the cap into the body.



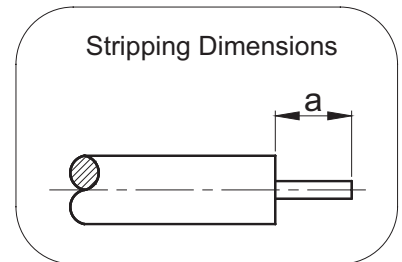
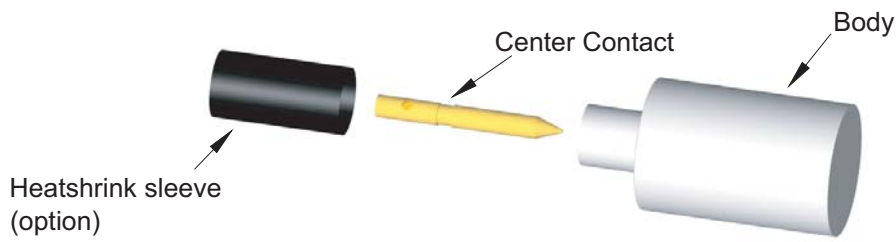
- Press on the cap until stops.
  - Slide the sleeve over the ferrule and heatshrink it in place (option).



# ASSEMBLY INSTRUCTIONS



## A05



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

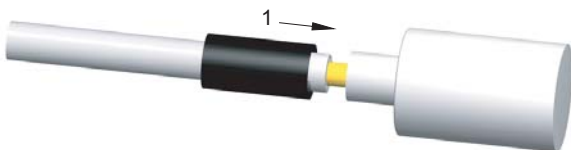
- Slide the heatshrink sleeve onto the cable (option).  
Strip the cable as Stripping Dimensions.



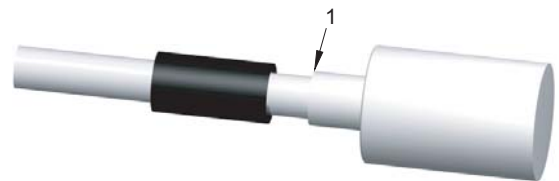
- Slide the center contact on until it bottom against the cable dielectric.  
Solder the center contact onto the cable.



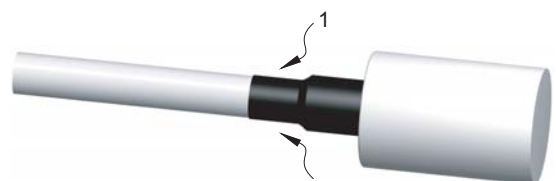
- Slide the cable into the body until it stops.



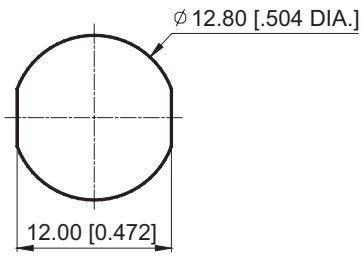
- Solder the body onto the cable.



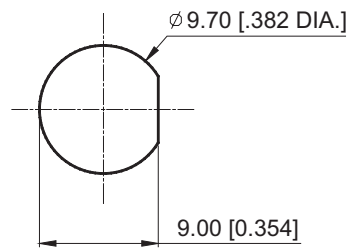
- Slide the heatshrink sleeve over the body and heatshrink it in place (option).



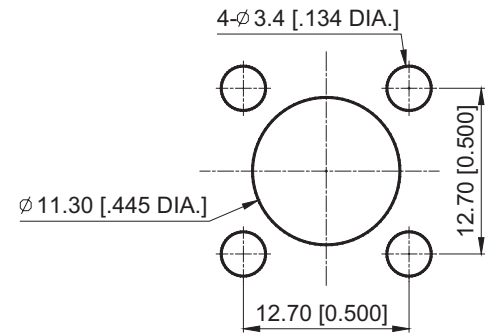
# MOUNTING HOLES



M01



M02



M03