



RF Coaxial Connectors Catalog

SMA



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SMA Series Coaxial Connectors



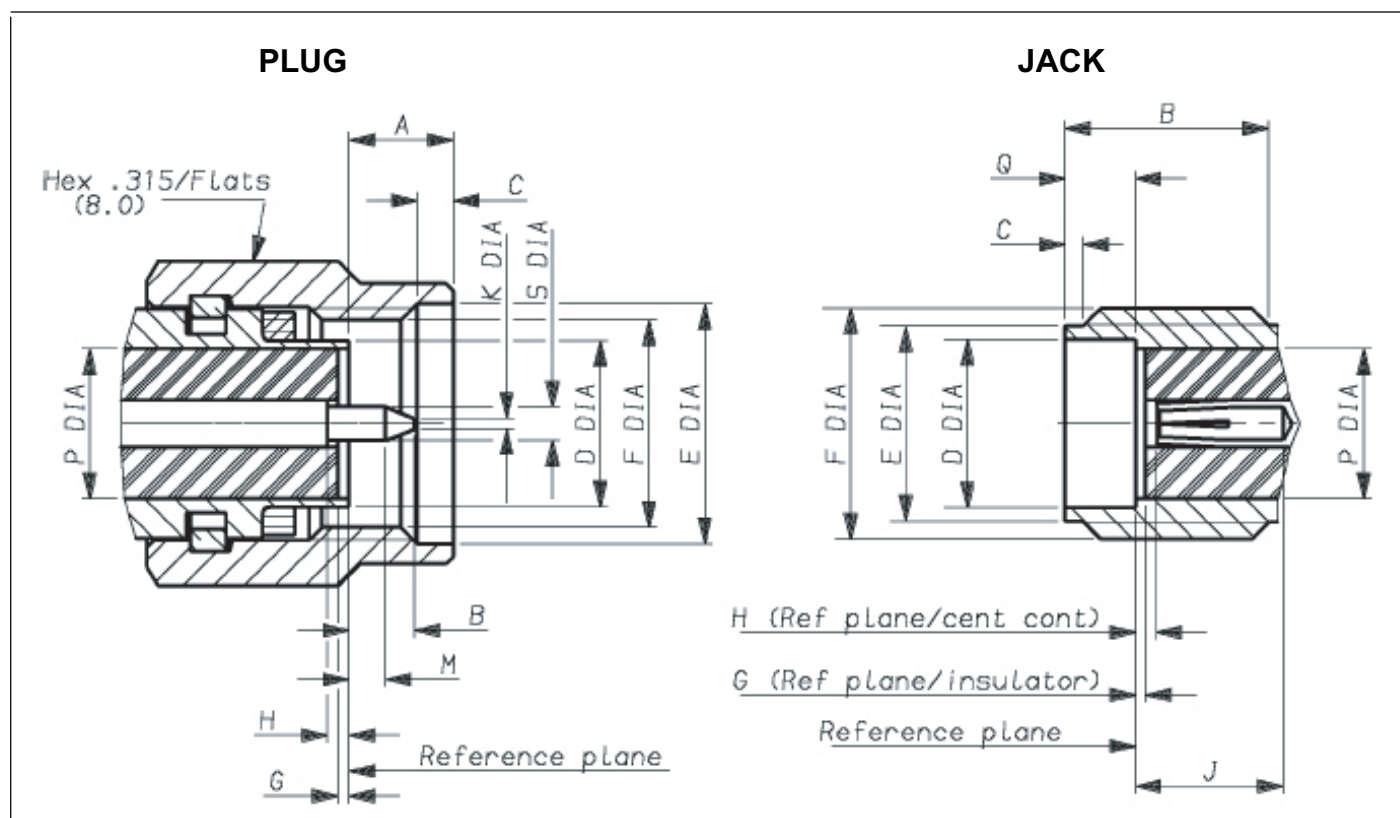
DESCRIPTION

Originally designed in 1960 and known by a different name, it was not until 1968 that the SMA, after being incorporated into MIL-C-39012, became known as the SubMiniature A. Then and now, SMA's compact design, high durability and outstanding electronic performance have made it one of the most widely used connectors in RF and Microwave applications across the board. Normally utilized in frequency ranges from DC-18 GHz, there are also precision versions that can reach as high as 26.5GHz.

SMA is available both in Standard and Reverse Polarity. where the male and female interface is switched. Regarding to extensive small scale coaxial which join whorl that has a reliable characteristic with long life-span that the width, performance are excellent, high frequently. Suitable for the microwave equipment and body of the digital communication system and join in the cable for the micro-strip line frequency in the loop frequently.

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LETTER	mm		inch	
	min.	max.	min.	max.
A		3.43		.135
B		2.54		.100
C	0.38	1.14	0.15	0.45
D DIA		4.59		
E DIA	6.35		.250	
F DIA	1/4 36 UNS 2B			
G*	0.0	-0.20	0.0	-0.08
H*	0.0	-0.25	0.0	-0.10
J				
K DIA		0.38		0.15
M	1.27		0.05	
P DIA	4.10 nom.		.161 nom.	
Q DIA				
S DIA	0.09	0.94	.035	.037

LETTER	mm		inch	
	min.	max.	min.	max.
A				
B	4.31		.170	
C	0.38	1.14	0.15	0.45
D DIA	4.596		.181	
E DIA	5.28	5.49	.208	.216
F DIA	1/4 36 UNS 2A			
G*	0.0	-0.20	0.0	-0.08
H*	0.0	-0.25	0.0	-0.10
J	2.92		0.115	
K DIA				
M				
P DIA	4.10 nom.		.161 nom.	
Q DIA	1.88	1.98	.074	.078
S DIA				

Interface dimensions conformable to the standards:

International: **IEC 61169-4**
 Europe: **CECC 22190**
 Germany: **DIN 47223, VG 95250**

IP rating (interface, mated) IP68

TECHNICAL DATA



ELECTRICAL DATA	
Impedance	50 Ohm
Frequency range	.141" & .085" semi-rigid cable: 0-18 GHz; Flexible cables: 0- 12.4 GHz
Dielectric withstanding voltage	.141" & RG-58 Cables: 1,000 VRMS
V.S.W.R.	straight connectors: 1.2 max 0-18 GHz; right angle connectors: 1.25 max 0-18 GHz
Insulation resistance	5,000 M Ω
Contact resistance	Body: 2.0 m Ω ; Braid to body: 0.5 m Ω
RF leakage	-60 dB minimum

MECHANICAL DATA	
Mating	.250-36 threaded coupling
Connector Durability (matings)	500 mating and unmating cycles at 12 cycles per minute

MATERIAL DATA	
Body and Outer Contacts	Brass per QQ-B-626, gold or nickel plated
Insulator	PTEF PER ASTM-D1457
Gasket	Silicone rubber
Crimp Ferrule	Copper

ENVIRONMENTAL	
Temperature Range	TFE: -65°C to +165°C
Mechanical Shock	MIL STD 202, method 213
Moisture resistance	MIL STD 202, method 106
Corrosion	MIL STD 202, method 101, condition B,
Vibration	MIL STD 202, method 204, condition D, 20g

CABLE CONNECTORS

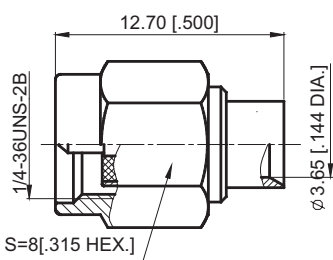


Straight cable plugs (male)



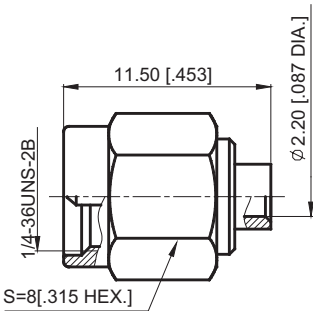
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
60-03-2M06-001	Semi-rigid .141/RG402	Gold	Gold	A01	

- > Cable entry soldered
- > Centre contact soldered



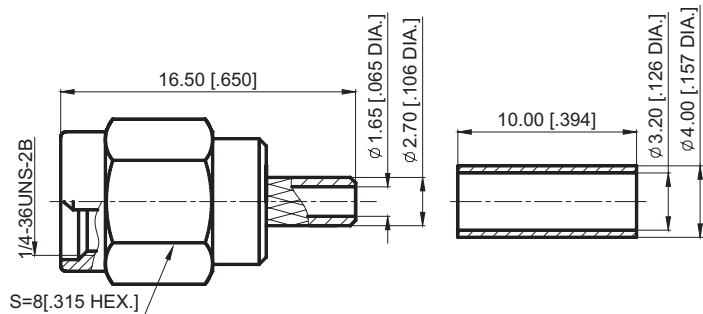
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
60-03-2M11-002	Semi-rigid .086/RG405	Gold	Gold	A01	

- > Cable entry soldered
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
60-03-1M04-003	LMR100/RG174/RG316	Gold	Gold	A02	

- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS



Straight cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-03-1M18-004

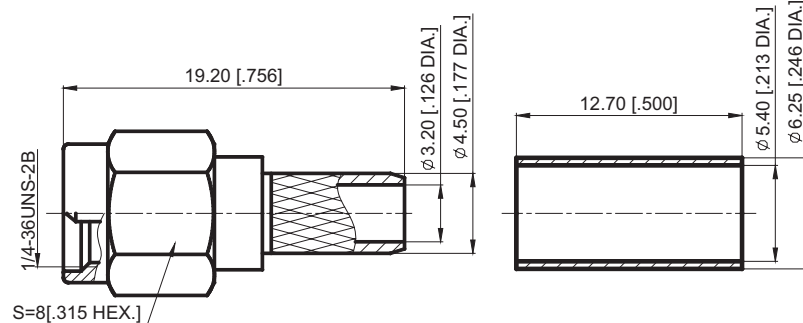
LMR195/RG58

Gold

Gold

A02

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-03-1M01-005

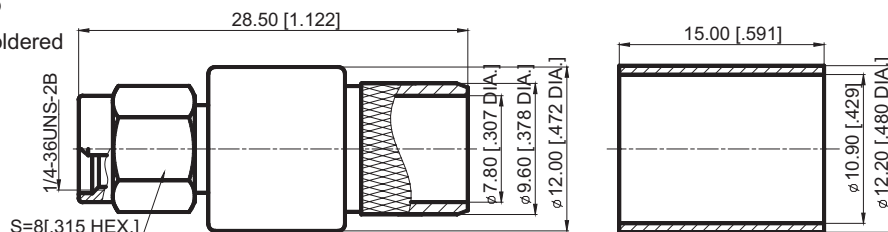
LMR400

Gold

Gold/Nickel

A02

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-03-1M10-006

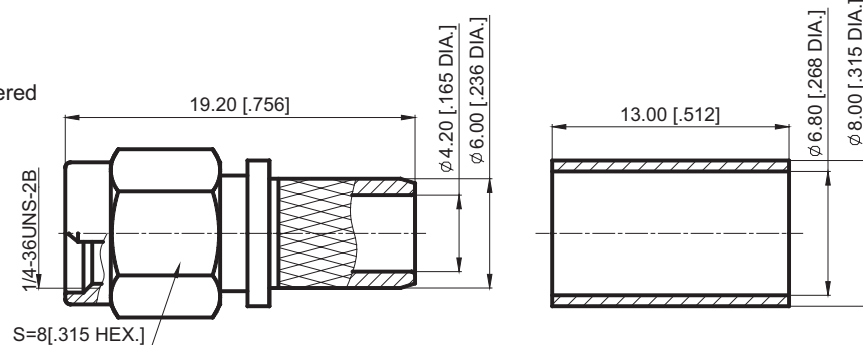
LMR240

Gold

Gold

A02

- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS



Straight cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-03-1M17-007

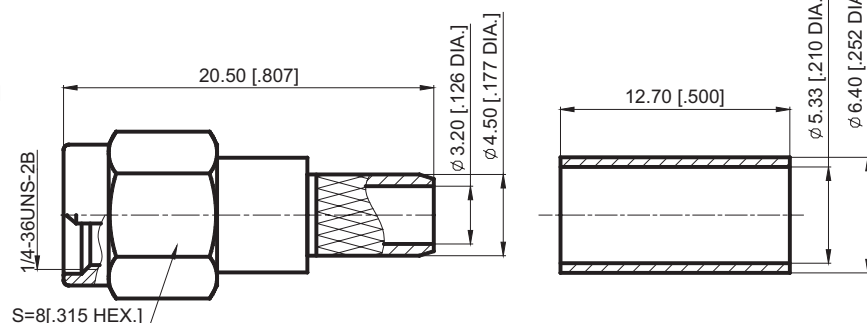
LMR200

Gold

Gold

A02

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-03-1M12-008

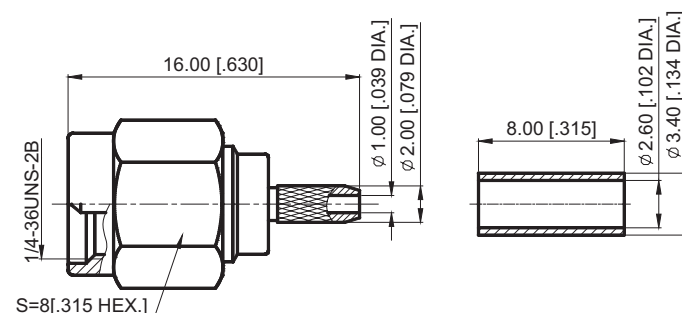
RG178

Gold

Gold

A02

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-03-1M20-009

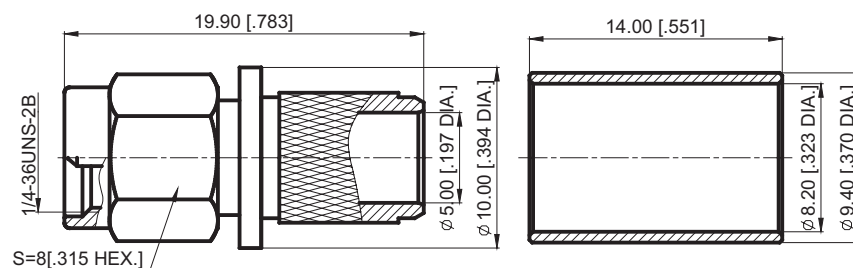
LMR300

Gold

Gold

A02

- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS



Right angle cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-13-1M00-016

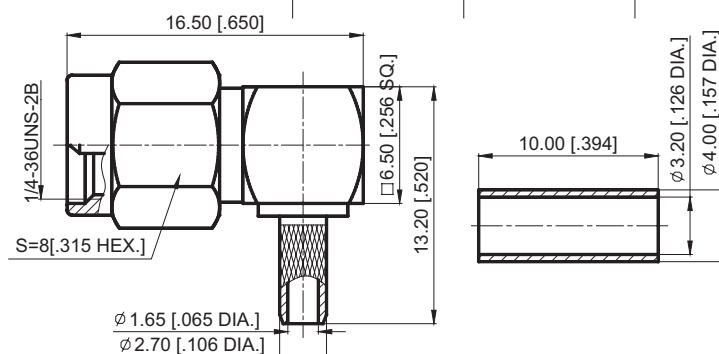
LMR100/RG174/RG316

Gold

Gold

A03

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-13-1M18-017

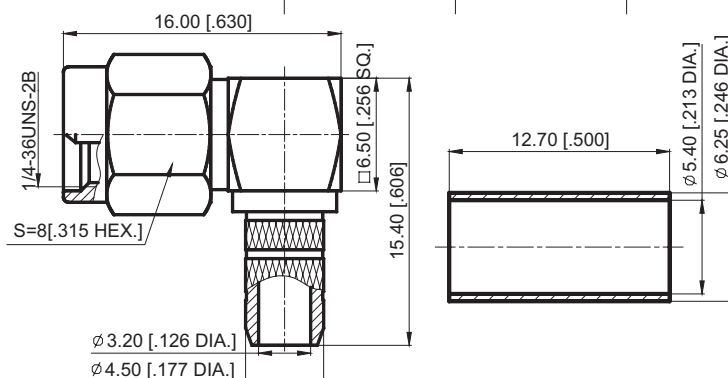
RG58/LMR195

Gold

Gold

A03

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

60-13-2M06-018

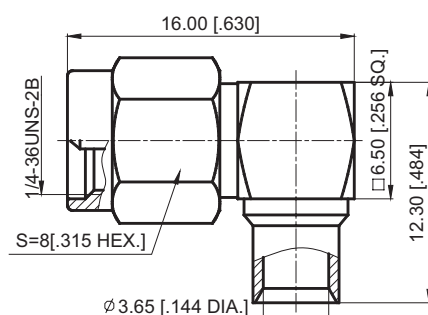
RG402/Semi-rigid .141

Gold

Gold

A04

- > Cable entry crimp
- > Centre contact soldered



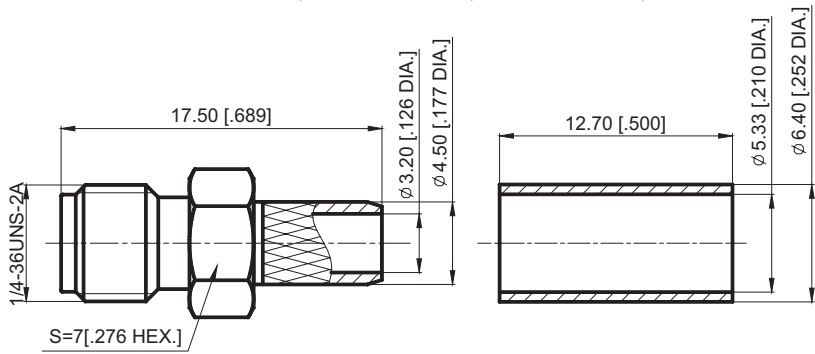
CABLE CONNECTORS



Straight cable jacks (female)

P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
60-02-1M17-022	LMR200	Gold	Gold	A02	

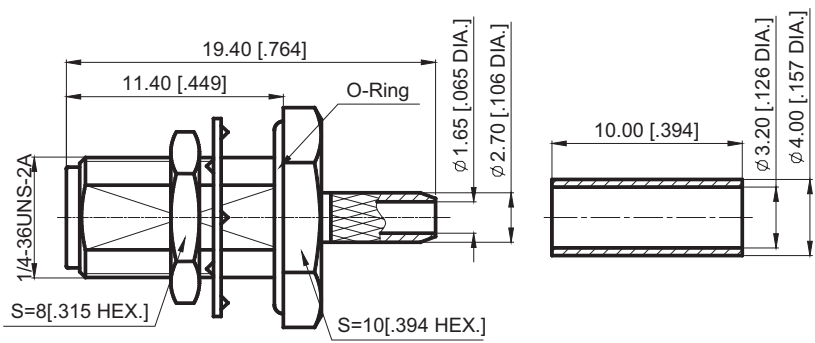
- > Cable entry crimp
- > Centre contact soldered



Straight bulkhead cable jacks(female)

P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		
60-02-1B00-020	RG174/LMR100/RG316	Gold	Gold	A02	M01

- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS

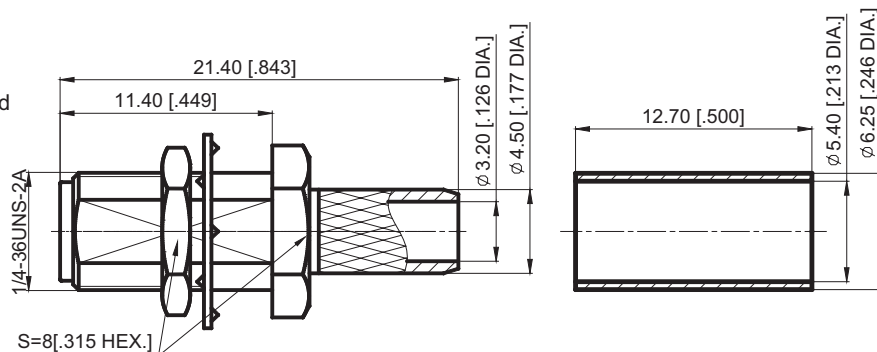


Straight bulkhead cable jacks(female)



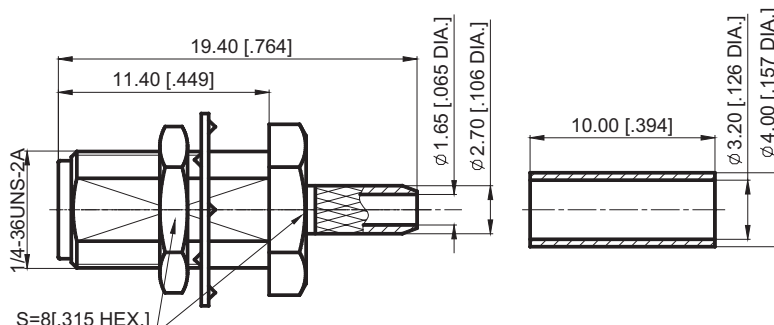
P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		
60-02-1B18-021	RG58/LMR195	Gold	Gold	A02	M01

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		
60-02-1B00-023	RG174/LMR100/RG316	Gold	Gold	A02	M01

- > Cable entry crimp
- > Centre contact soldered



CABLE CONNECTORS



Straight panel cable jacks(female)



P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		

60-02-5E06-024

RG402/Semi-rigid .141

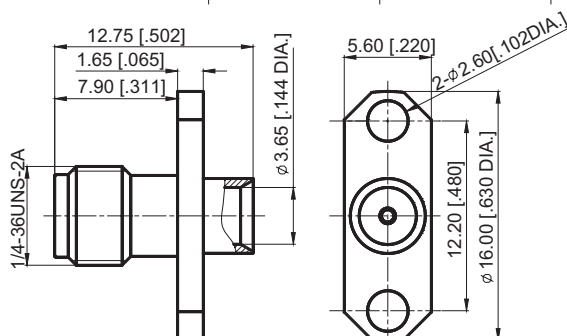
Gold

Gold

A01

M02

- > Cable entry soldered
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		

60-02-5E11-025

RG405/Semi-rigid .086

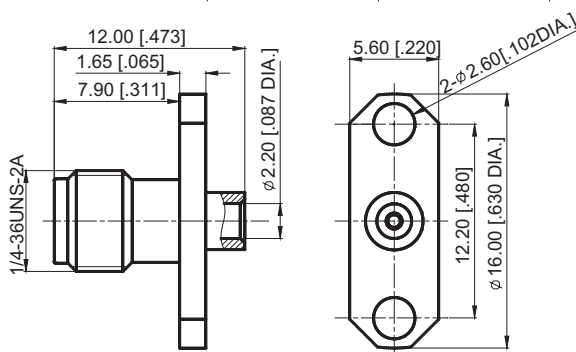
Gold

Gold

A01

M02

- > Cable entry soldered
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Mount Hole
		Center	Body		

60-02-5F04-026

LMR100/RG174/RG316

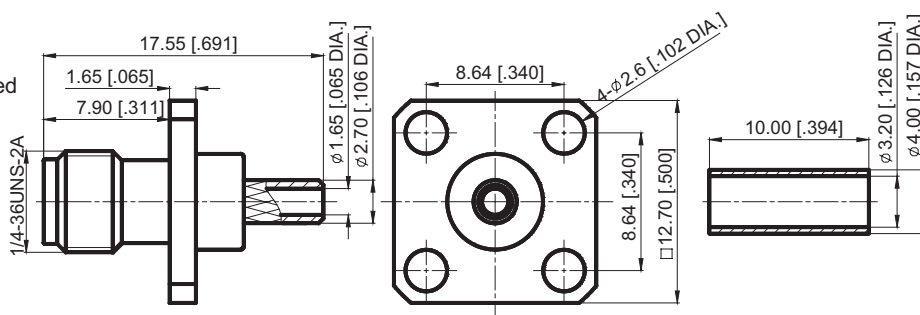
Gold

Gold

A02

M02

- > Cable entry clamp
- > Centre contact soldered



RECEPTACLES WITH SOLDER END

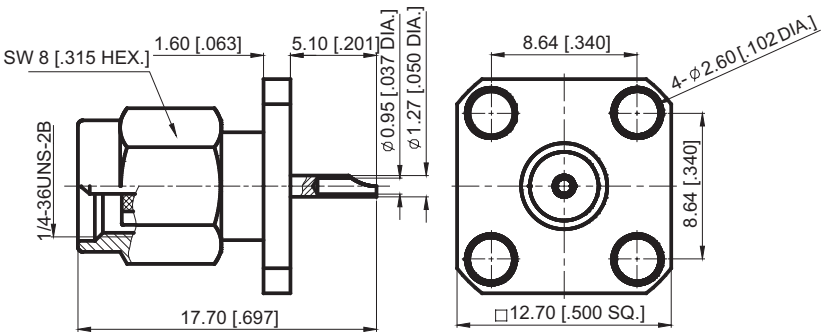


Receptacles, plugs (male)



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-03-8F1-027	M02	Gold	Gold	

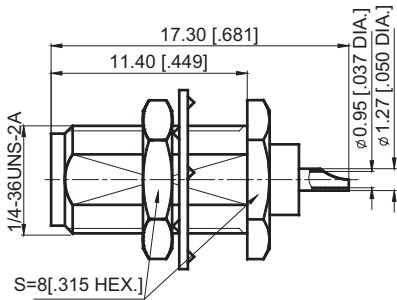
> Panel mounted



Receptacles, jacks (female)

P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-8B1-046	M01	Gold	Golder	

> Bulkhead mounted



RECEPTACLES WITH SOLDER END

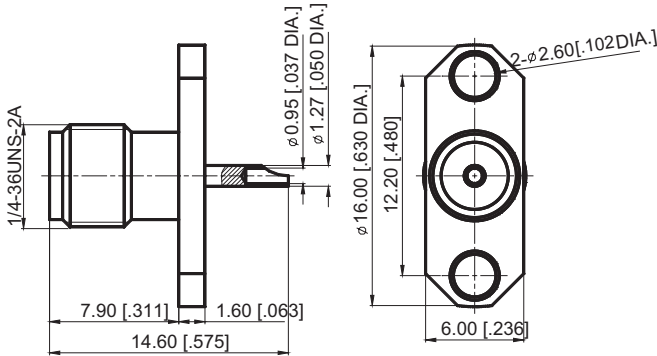


Receptacles, jacks (female)



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-8E1-037	M03	Gold	Gold	

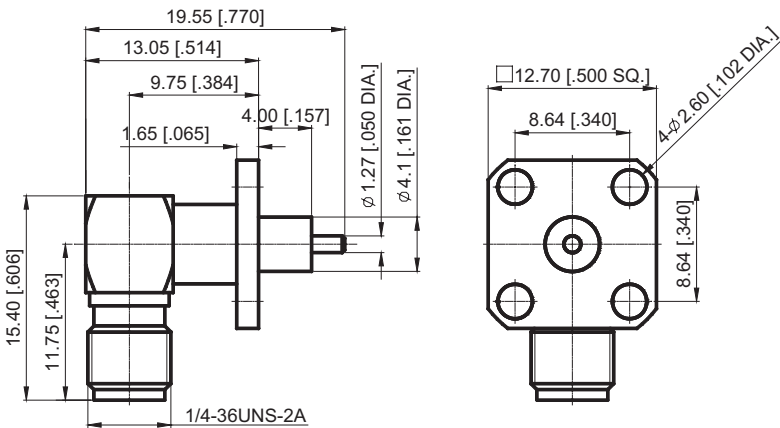
> Panel mounted



Right angle Receptacles, jacks(female)

P/N	Mount Hole	Finish		Notes
		Center	Body	
60-12-8F7-029	M04	Gold	Gold	

> Panel mounted



RECEPTACLES WITH SOLDER END

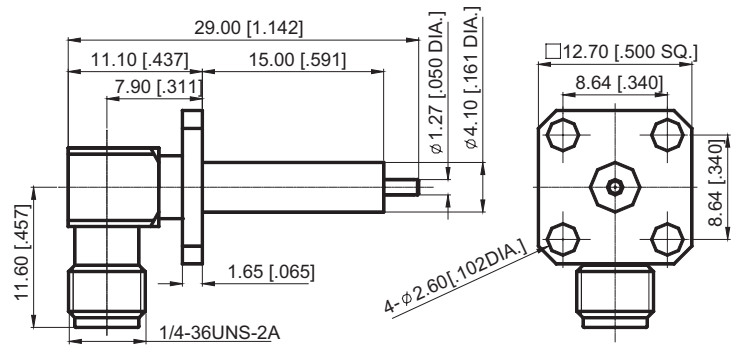


Right angle Receptacles, jacks(female)



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-12-8F7-030	M04	Gold	Gold/Nickel	

> Panel mounted

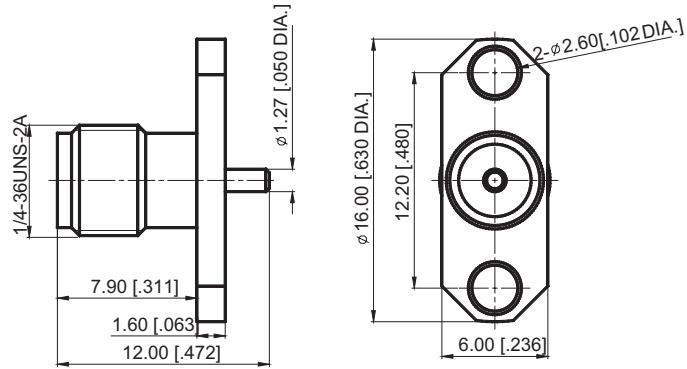


RECEPTACLES WITH COAXIAL END

Receptacles, jacks(female)

P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-8E2-038	M03	Gold	Gold	

> Panel mounted



RECEPTACLES WITH COAXIAL END



Receptacles, jacks(female)



P/N	Mount Hole	Finish		Notes
		Center	Body	

60-02-8F2-041

M04

Gold

Nickel

> Panel mounted

P/N	Mount Hole	Finish		Notes
		Center	Body	

60-02-8F7-042

M04

Gold

Gold

> Panel mounted

P/N	Mount Hole	Finish		Notes
		Center	Body	

60-02-8E7-047

M03

Gold

Gold

> Panel mounted

RECEPTACLES WITH TAB

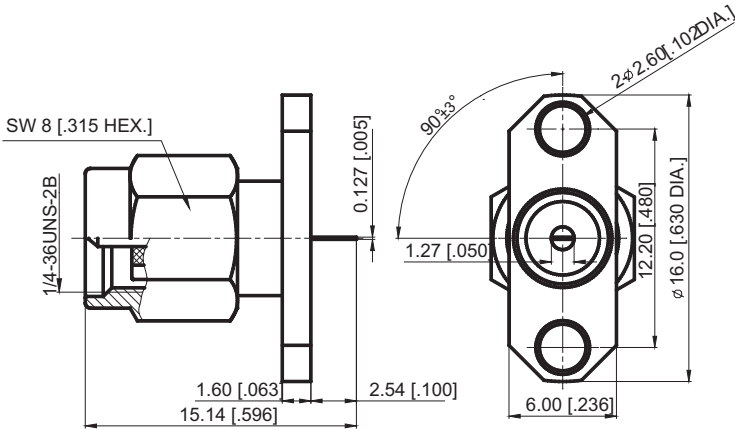


Panel Launchers,male



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-03-8E6-048	M03	Gold	Gold/Nickel	

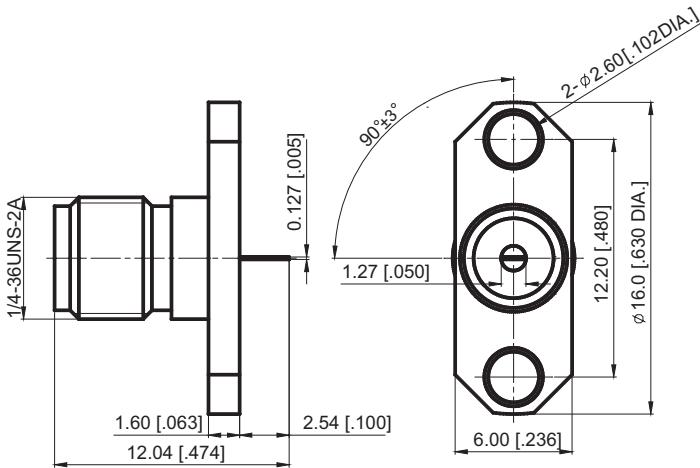
> Panel mounted



Panel Launchers,female

P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-8E6-040	M03	Gold	Gold/Nickel	

> Panel mounted



RECEPTACLES WITH SLOT

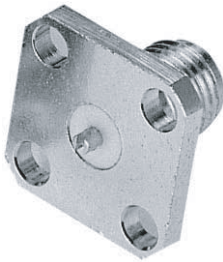
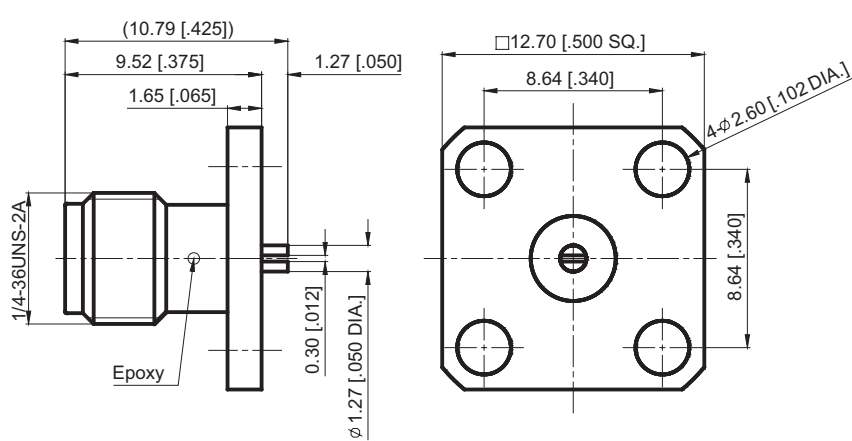


Panel Launchers,female



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-8F3-043	M04	Gold	Gold	

> Panel mounted

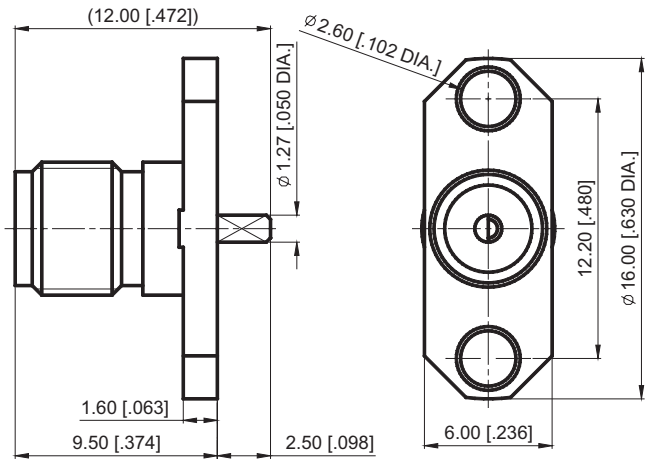


RECEPTACLES WITH HALF ROUND

Panel Launchers,female

P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-8E4-045	M03	Gold	Gold	

> Panel mounted



PCB CONNECTORS

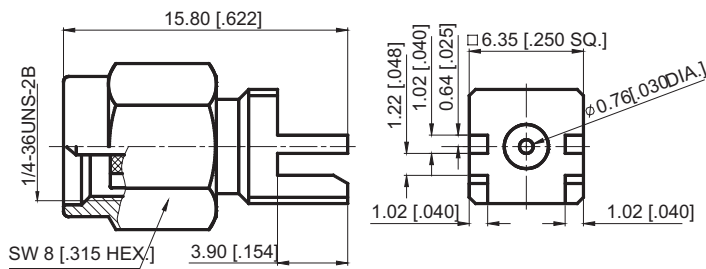


Straight PCB plugs(male)



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-03-7L2-031		Gold	Gold	1mm Thickness PCB Board

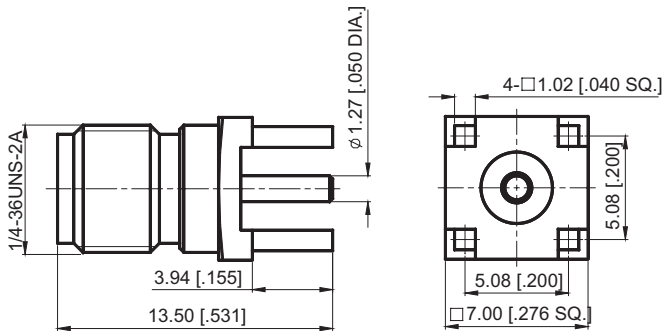
> Without stand-off



Straight PCB jacks(female)

P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-5L2-033	M05	Gold	Gold/Nickel	

> With stand-off



PCB CONNECTORS

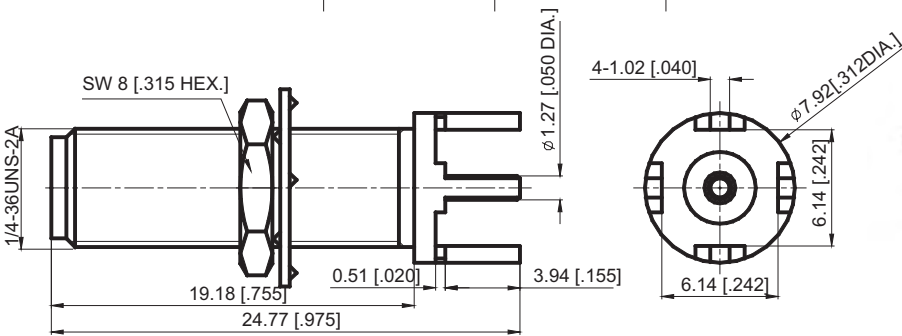


Straight PCB jacks(female)



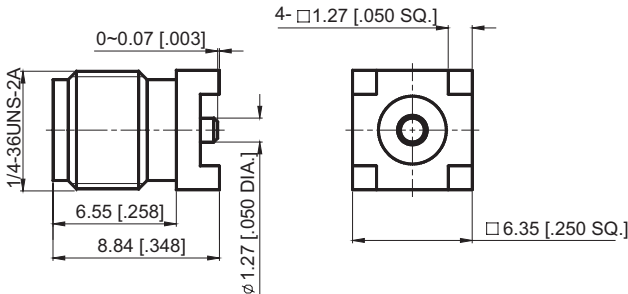
P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-5L2-032	M05	Gold	Gold/Albaloy	

> With stand-off



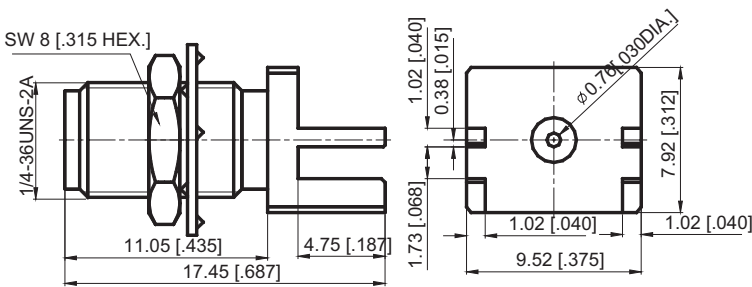
P/N	Soldering Pads	Finish		Notes
		Center	Body	
60-02-6L2-034	M06	Gold	Gold	

> SMT mounted



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-02-5L2-035		Gold	Gold	1.57mm[.062] Thickness PCB Board

> Without stand-off



PCB CONNECTORS

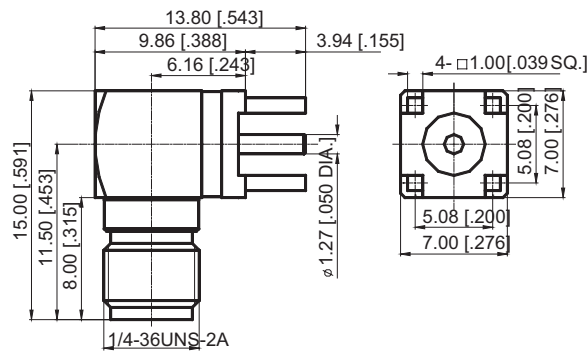


Right Angle PCB jacks(female)



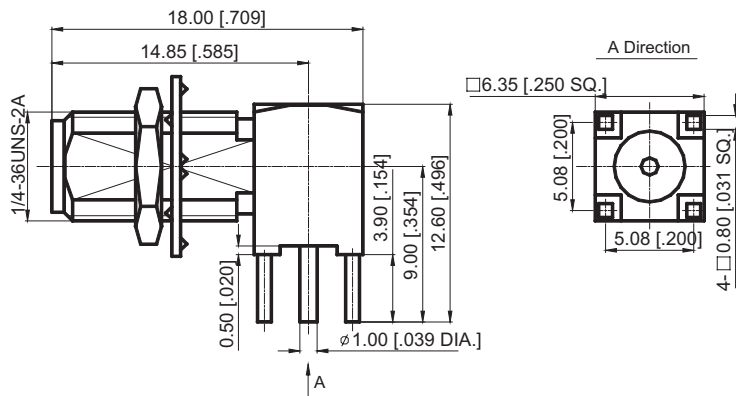
P/N	Mount Hole	Finish		Notes
		Center	Body	
60-12-5M8-049	M05	Gold	Gold/Nickel	

> With stand-off



P/N	Mount Hole	Finish		Notes
		Center	Body	
60-12-5M8-051	M01,M07	Gold	Gold	

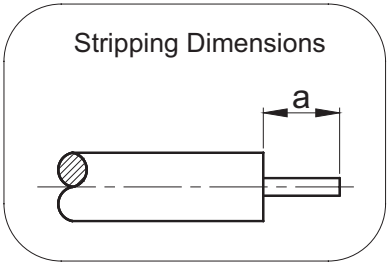
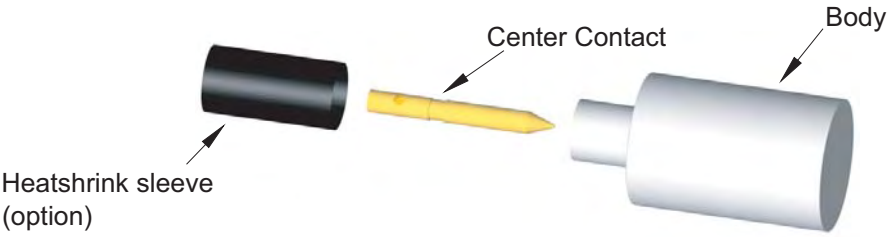
> SMT mounted



ASSEMBLY INSTRUCTIONS



A01



P/N	Cable Type	Stripping Length (mm [in])	Notes
60-03-2M06-001	RG402/Semi-rigid .141	3.00 [.118]	
60-02-5E06-024			
60-03-2M11-002	RG405/Semi-rigid .086		
60-02-5E11-025			

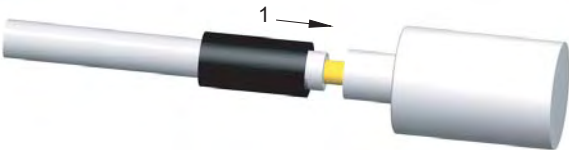
1. • Slide the heatshrink sleeve onto the cable (option).
• Strip the cable as Stripping Dimensions.



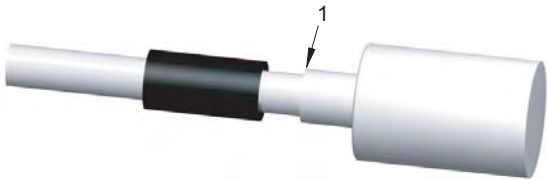
2. • Slide the center contact on until it bottom against the cable dielectric.
• Solder the center contact onto the cable.



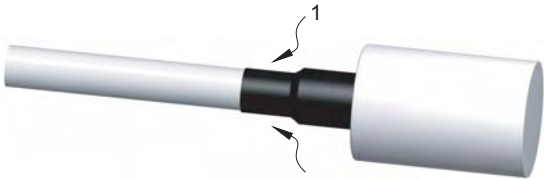
3. • Slide the cable into the body until it stops.



4. • Solder the body onto the cable.

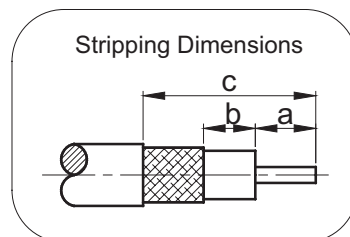
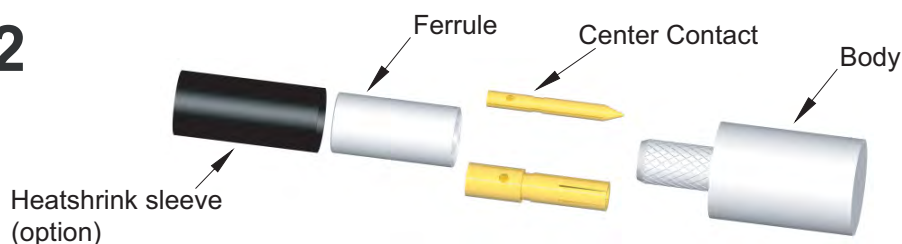


5. • Slide the heatshrink sleeve over the body and heatshrink it in place (option).



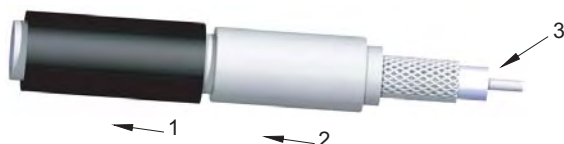
ASSEMBLY INSTRUCTIONS

A02



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])			
			a	b	c	
60-03-1M12-008	RG178	2.54 [.100]	2.5 [.098]	1 [.039]	9 [.354]	
60-03-1M04-003	LMR100/RG174/RG316	3.25 [.128]		0 [.000]	10 [.394]	
60-02-1B00-020						
60-02-1B00-023						
60-02-5F04-026						
60-03-1M18-004	LMR195/RG58	5.41 [.213]			8 [.315]	
60-02-1B18-021						
60-03-1M17-007	LMR200				1 [.039]	10 [.394]
60-02-1M17-022						
60-03-1M10-006	LMR240	6.8 [.268]	3 [.118]	1 [.039]	10 [.394]	
60-03-1M20-009	LMR300	8.2 [.323]	4 [.157]		11 [.433]	
60-03-1M01-005	LMR400	10.9 [.429]				

- 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.



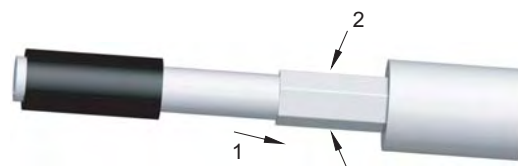
- Fan the braid.



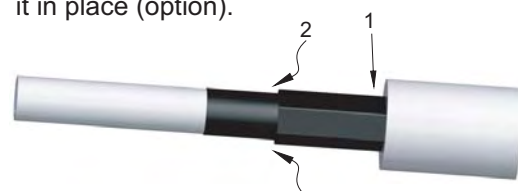
- Slide the cable into the body until stops.



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



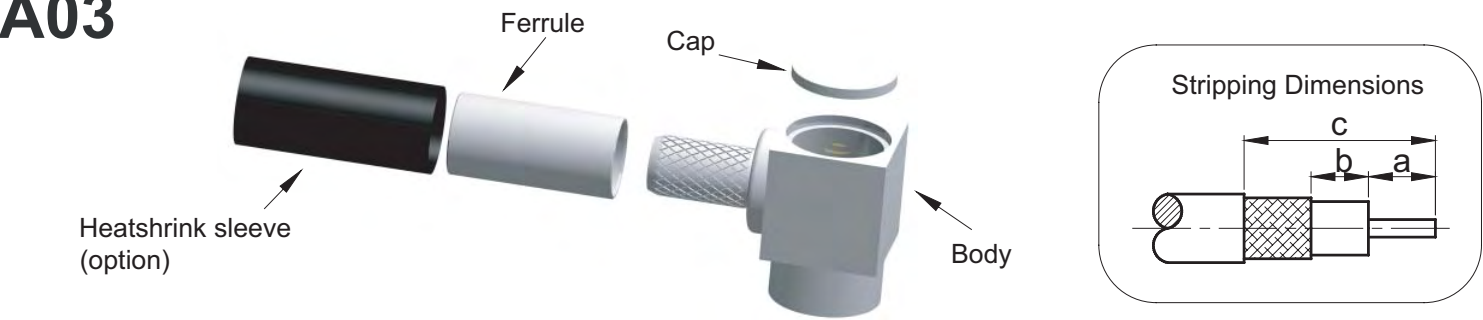
- Cut the excess of braid if necessary.
Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A03



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])		
			a	b	c
60-13-1M00-016	LMR100/RG174/RG316	3.25 [.128]	1.5 [.059]	3 [.118]	11 [.433]
60-13-1M18-017	LMR195/RG58	5.41 [.213]	1.7 [.067]	4 [.157]	13 [.512]

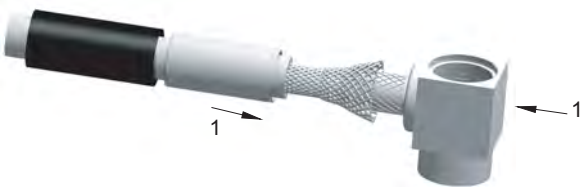
1. • Slide the heatshrink sleeve onto the cable (option).
• Slide the ferrule onto the cable.
• Strip the cable as Stripping Dimensions.



2. • Fan the braid.



3. • Push the body under the braid.
• Slide the ferrule over the braid.



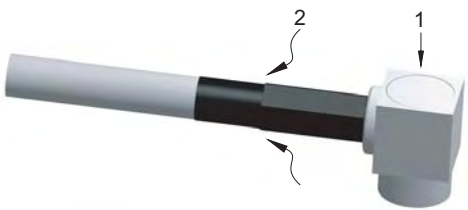
4. • Crimp the ferrule with crimping tool (see table).
• Solder the inner conductor.



5. • Place the cap into the body.



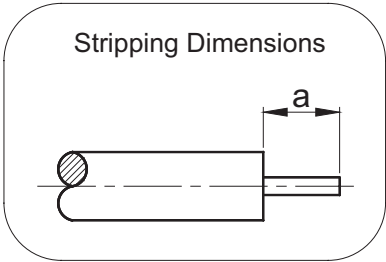
6. • Press on the cap until stops.
• Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A04

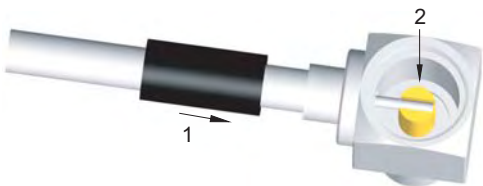


P/N	Cable Type	Stripping Length (mm [in])	Notes
60-13-2M06-018	RG402/Semi-rigid .141	3.5 [.138]	

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



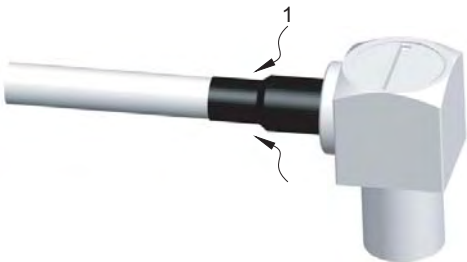
2. • Slide the cable into the body until it stops.
• Solder the inner conductor.



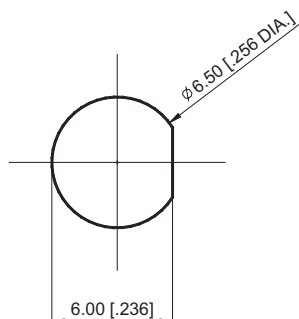
3. • Screw the back nut onto the body.



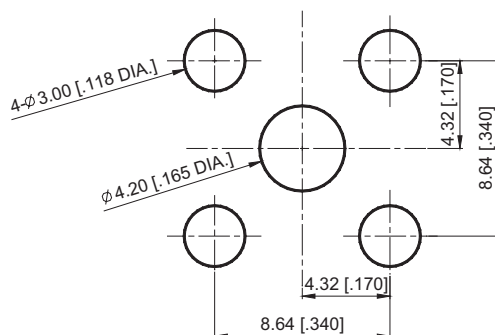
4. • Slide the sleeve over the body and heatshrink it in place (option).



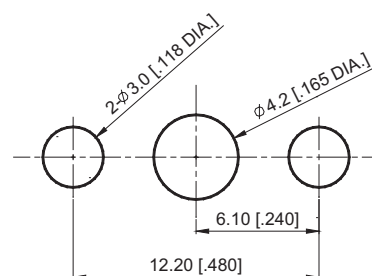
MOUNTING HOLES



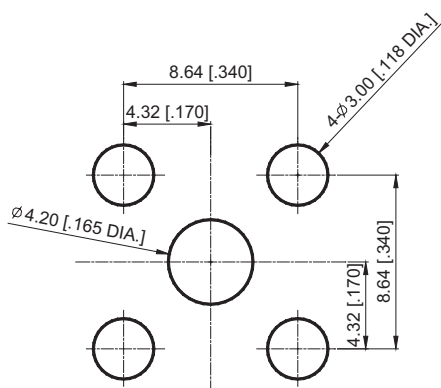
M01



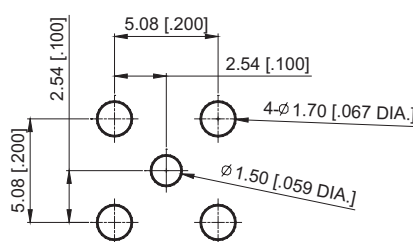
M02



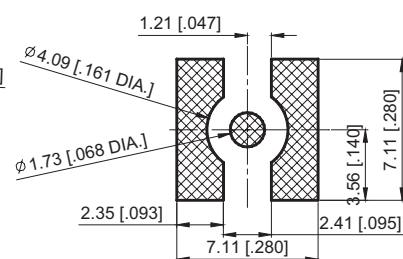
M03



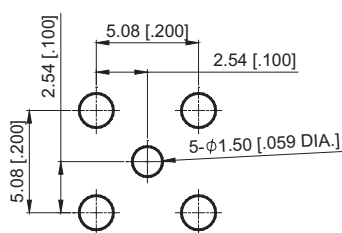
M04



M05



M06



M07