



RF Coaxial Connectors Catalog

MMCX



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MMCX Series Coaxial Connectors



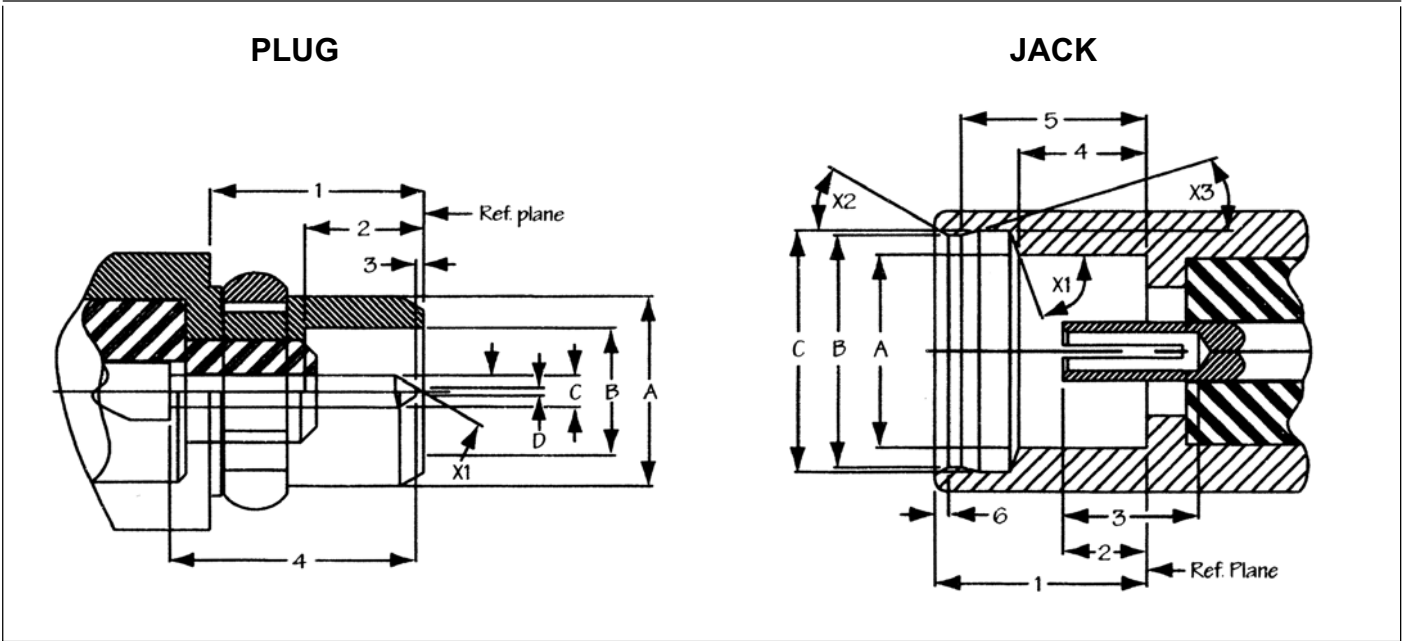
DESCRIPTION

MMCX Connectors are 45% smaller than the SMB, Developed during the 1990s, is one of the smallest and Micro-miniature RF coaxial connectors. MMCX series was designed to have snap-on mating, are available for rf cables, PCB type and SMT type.

MMCX gets low RF leakage from the nonslotting of its outer contact and it maintains solid electronic performance from DC-6 GHz. Though increasingly being replaced by smaller connectors, like the U.FL (MHF), MMCX Connector is still the standard for wireless and PCS applications.

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	mm		inch	
	min.	max.	min.	max.
1	2.70		.106	
2	1.45		.057	
3	0	0.25		.010
4		3.15		.124
A	2.40		.095	
B	1.58	1.62	.062	.064
C	0.38	0.42	.015	.017
D		0.20		.008
X1	29°	31°		

	mm		inch	
	min.	max.	min.	max.
1	2.60		.102	
2	0.90	1.20	.035	.047
3	1.40		.055	
4	1.57	1.63	.062	.064
5	2.30	2.34	.091	.092
6		0.23		.009
A	2.41		.095	
B	2.88	2.90	.113	.114
C	3.00	3.04	.118	.120
X1	68°	72°		
X2	28°	32°		
X3	13°	17°		

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	DC 0-6 GHz
Voltage Rating	335 VRMS(max at sea level)
V.S.W.R.	Straight styles: 1.20 Right angle styles: 1.25
Dielectric Withstanding Voltage	10,000 M Ω
Contact resistance	Center contact: 5 Ω ; Outer contact: 2.5 Ω

MECHANICAL DATA	
Contact captivation	$\geq 10\text{N}/2.3\text{ lbs}$
Durability(matings)	500 mating

MATERIAL DATA	
Male Contact	Brass
Centre contacts	Brass
Insulator	Teflon
Crimp Ferrule	Copper

ENVIRONMENTAL	
Temperature Range	-55 °C ...+ 155 °C/-67°F ...+ 311 °F
Thermal shock	MIL-STD-202, Method 107,Condition F
Moisture resistance	MIL-STD-202, Method 106
Corrosion	Saltspray test acc.to MIL-STD-202
Vibration	MIL-STD-202, Method 204, Condition D

CABLE CONNECTORS



Straight cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

31-03-1M12-001

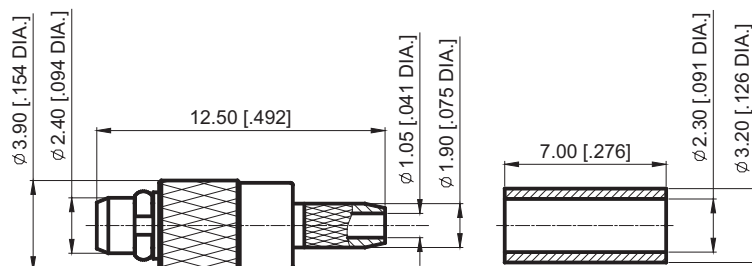
RG178

Gold

Gold

A01

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

31-03-1M04-002

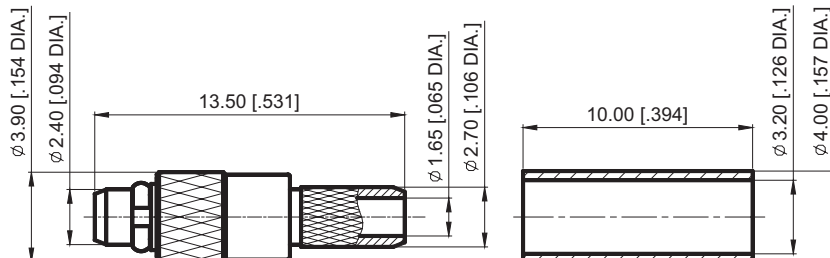
LMR100/RG174/RG316

Gold

Gold

A01

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

31-03-2M11-004

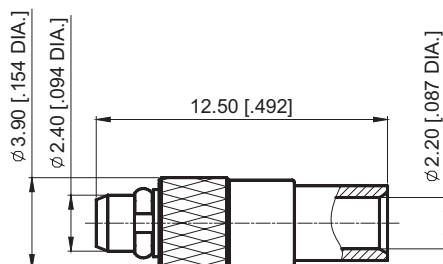
Semi-rigid .086/RG405

Gold

Gold

A02

- > Cable entry soldered
- > Centre contact soldered



CABLE CONNECTORS



Right angle cable plugs (male)



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

31-13-1M12-015

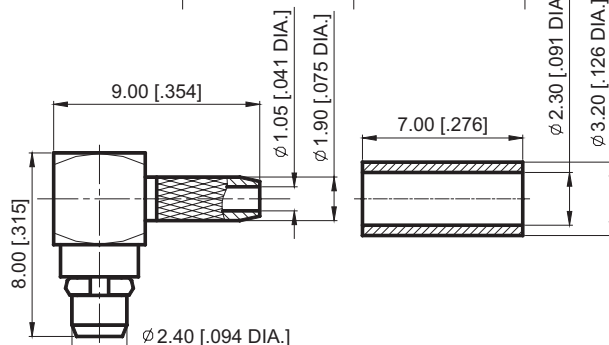
RG178

Gold

Gold

A03

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

31-13-1M04-011

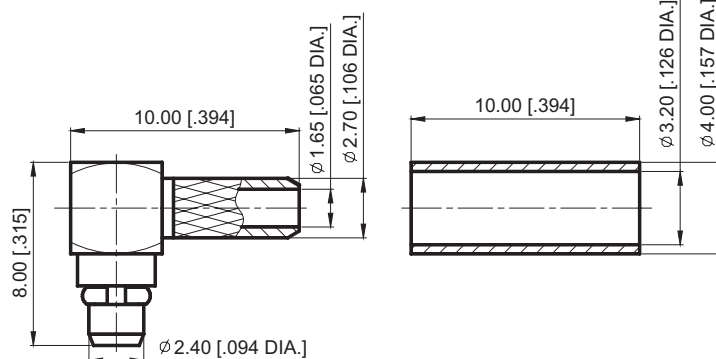
RG316/LMR100/RG174

Gold

Gold

A03

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		

31-13-2M11-007

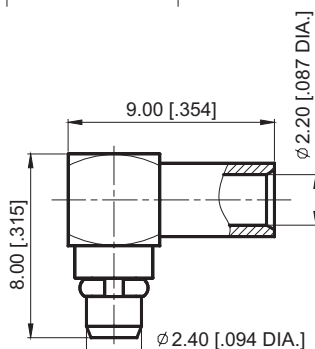
RG405/Semi-rigid .086

Gold

Gold

A04

- > Cable entry soldered
- > Centre contact soldered



CABLE CONNECTORS

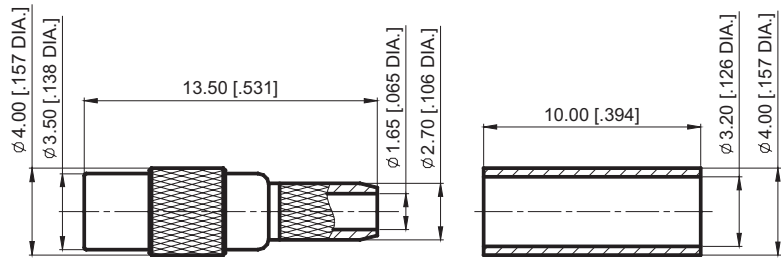


Straight cable jacks (female)



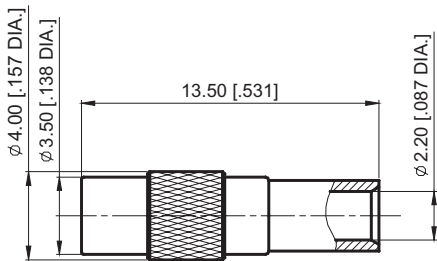
P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
31-02-1M04-010	RG316/LMR100/RG174	Gold	Gold	A01	

- > Cable entry crimp
- > Centre contact soldered



P/N	Cable Type	Finish		Assembly Instruction	Notes
		Center	Body		
31-02-2M11-013	RG405/Semi-rigid .086	Gold	Gold	A02	

- > Cable entry soldered
- > Centre contact soldered



PCB CONNECTORS

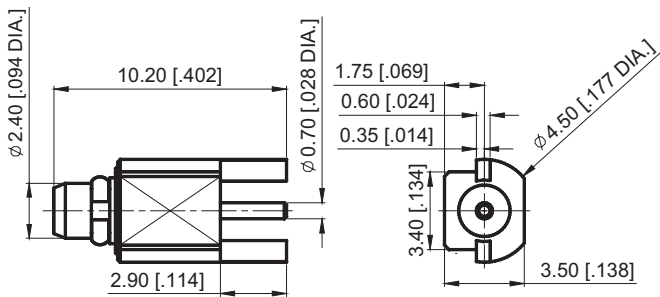


Straight PCB plugs(male)



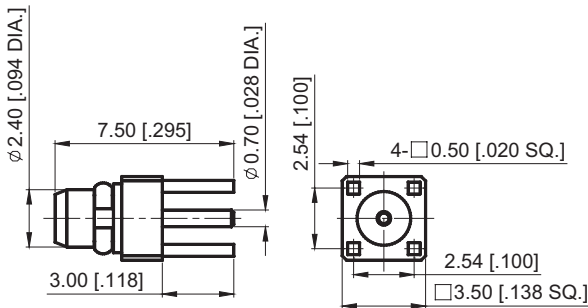
P/N	Mount Hole	Finish		Notes
		Center	Body	
31-03-6L2-016	M01	Gold	Gold	

> SMT mounted



P/N	Soldering Pads	Finish		Notes
		Center	Body	
31-03-5L2-017	M02	Gold	Gold	

> Without stand-off



PCB CONNECTORS

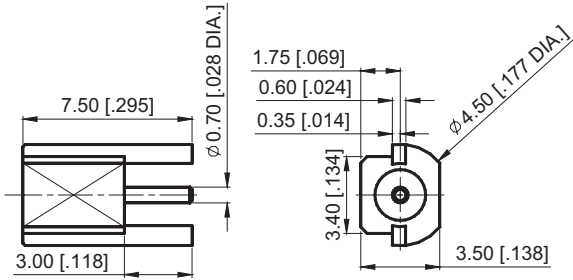


PCB jacks(female)



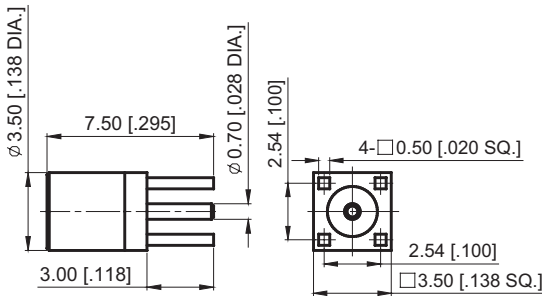
P/N	Mount Hole	Finish		Notes
		Center	Body	
31-02-6L2-018	M01	Gold	Gold	

> SMT mounted



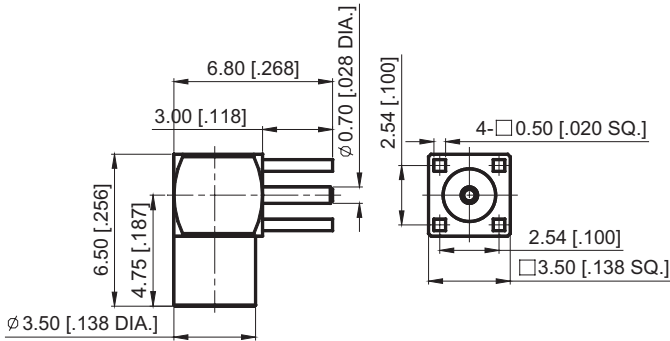
P/N	Soldering Pads	Finish		Notes
		Center	Body	
31-02-5L2-019	M02	Gold	Gold	

> Without stand-off



P/N	Mount Hole	Finish		Notes
		Center	Body	
31-12-5L2-020	M02	Gold	Gold	

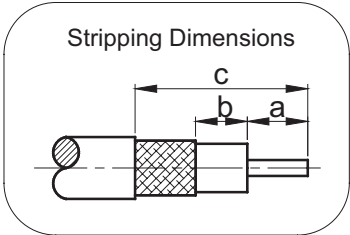
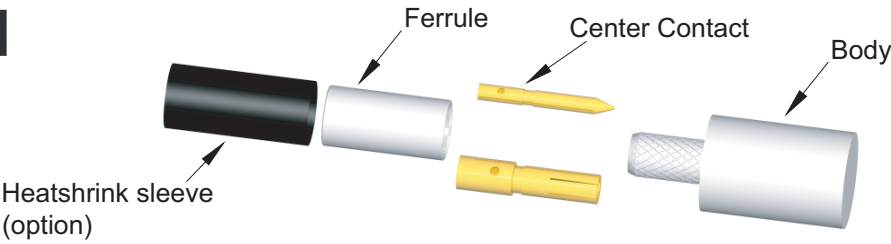
> Without stand-off



ASSEMBLY INSTRUCTIONS

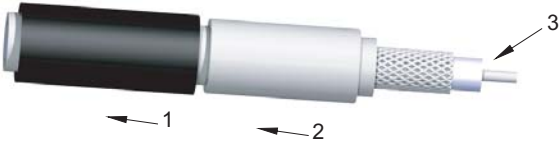


A01



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])		
			a	b	c
31-03-1M12-001	RG178	2.54 [.100]	1.8 [.071]	2 [.079]	8.5 [.335]
31-03-1M04-002	LMR100/RG174/RG316	3.25 [.128]	1.8 [.071]	2 [.079]	10 [.394]
31-02-1M04-010					

1. • Slide the heatshrink sleeve onto the cable (option).
• Slide the ferrule onto the cable.
• 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.



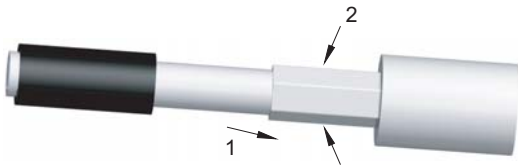
3. • Fan the braid.



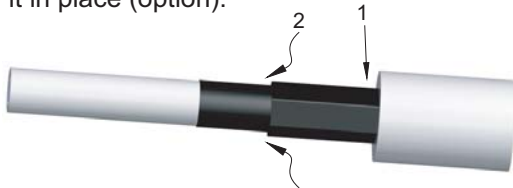
4. • Slide the cable into the body until stops.



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



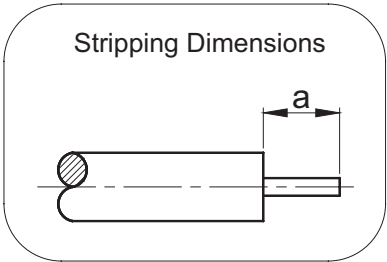
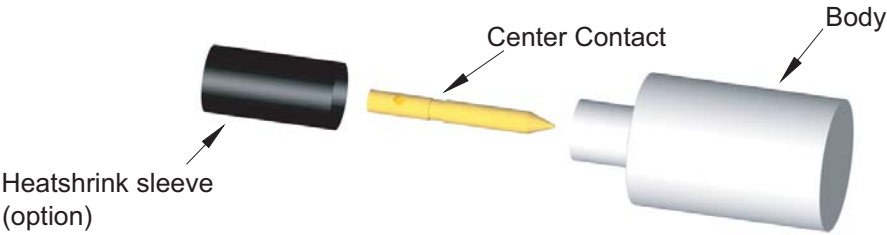
6. • Cut the excess of braid if necessary.
• Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A02



P/N	Cable Type	Stripping Length (mm [in])	Notes
31-03-2M11-004	RG405/Semi-rigid .086	1.8 [.071]	
31-02-2M11-013			

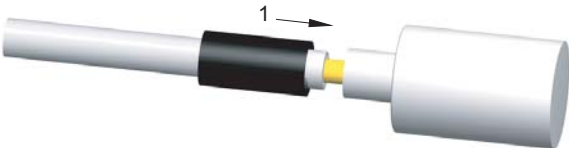
1. • Slide the heatshrink sleeve onto the cable (option).
• Strip the cable as Stripping Dimensions.



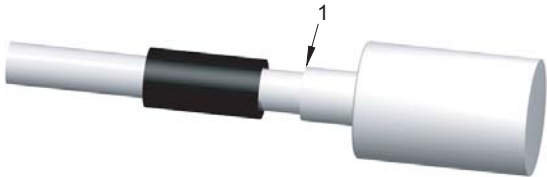
2. • Slide the center contact on until it bottom against the cable dielectric.
• Solder the center contact onto the cable.



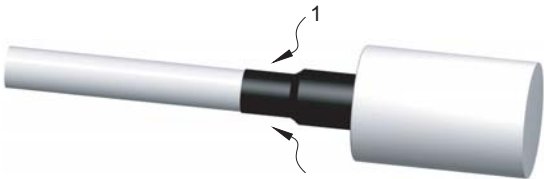
3. • Slide the cable into the body until it stops.



4. • Solder the body onto the cable.



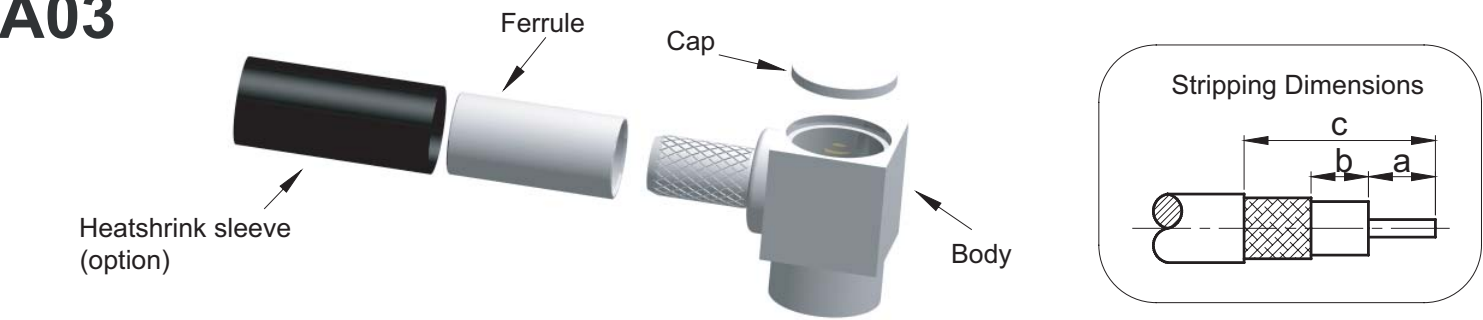
5. • Slide the heatshrink sleeve over the body and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A03



P/N	Cable Type	HEX. Crimp Tool (mm [in])	Stripping Length (mm [in])		
			a	b	c
31-13-1M12-015	RG178	2.54 [.100]	1.2 [.047]	1.3 [.051]	8 [.315]
31-13-1M04-011	LMR100/RG174/RG316	3.25 [.128]	1.2 [.047]	1.3 [.051]	9 [.354]

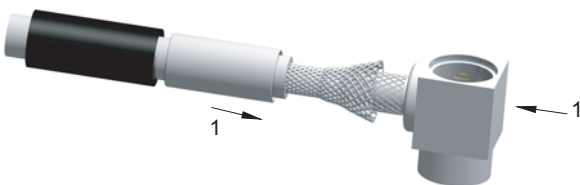
1. • Slide the heatshrink sleeve onto the cable (option).
• Slide the ferrule onto the cable.
• Strip the cable as Stripping Dimensions.



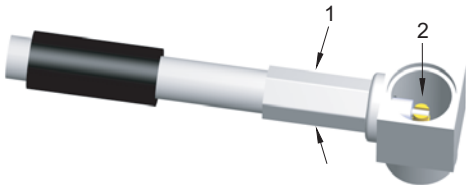
2. • Fan the braid.



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



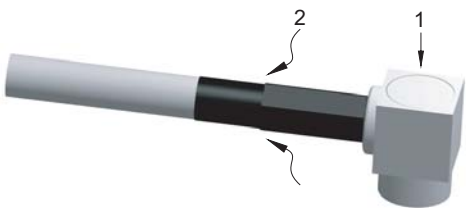
4. • Crimp the ferrule with crimping tool (see table).
• Solder the inner conductor.



5. • Place the cap into the body.



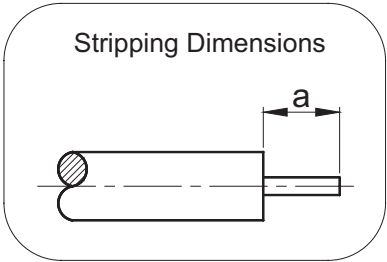
6. • Press on the cap until stops.
• Slide the sleeve over the ferrule and heatshrink it in place (option).



ASSEMBLY INSTRUCTIONS



A04

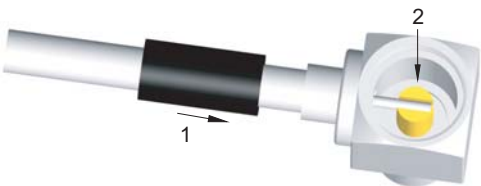


P/N	Cable Type	Stripping Length (mm [in])	Notes
31-13-2M11-007	RG405/Semi-rigid .086	1.1 [.043]	

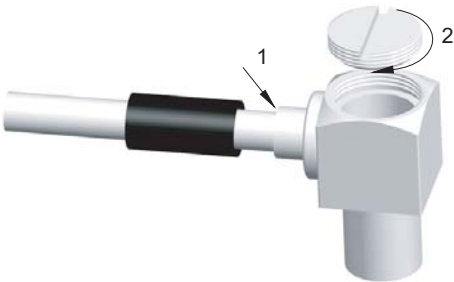
1. • Slide the heatshrink sleeve onto the cable (option).
• Strip the cable as Stripping Dimensions.



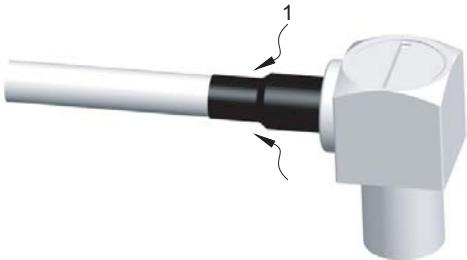
2. • Slide the cable into the body until it stops.
• Solder the inner conductor.



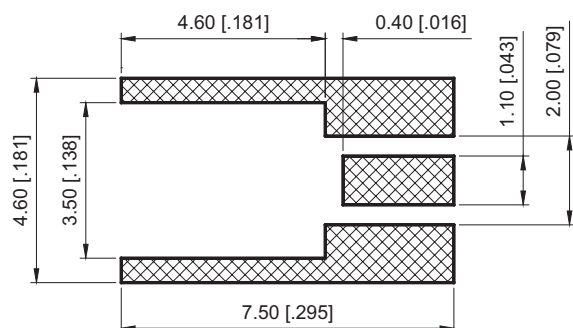
3. • Solder the cable onto the body.
• Screw the back nut onto the body.



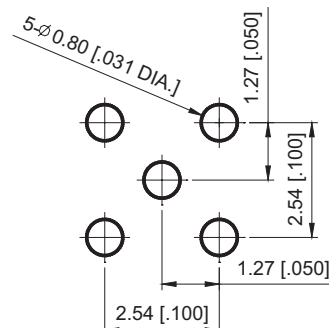
4. • Slide the sleeve over the body and heatshrink it in place (option).



MOUNTING HOLES



M01



M02