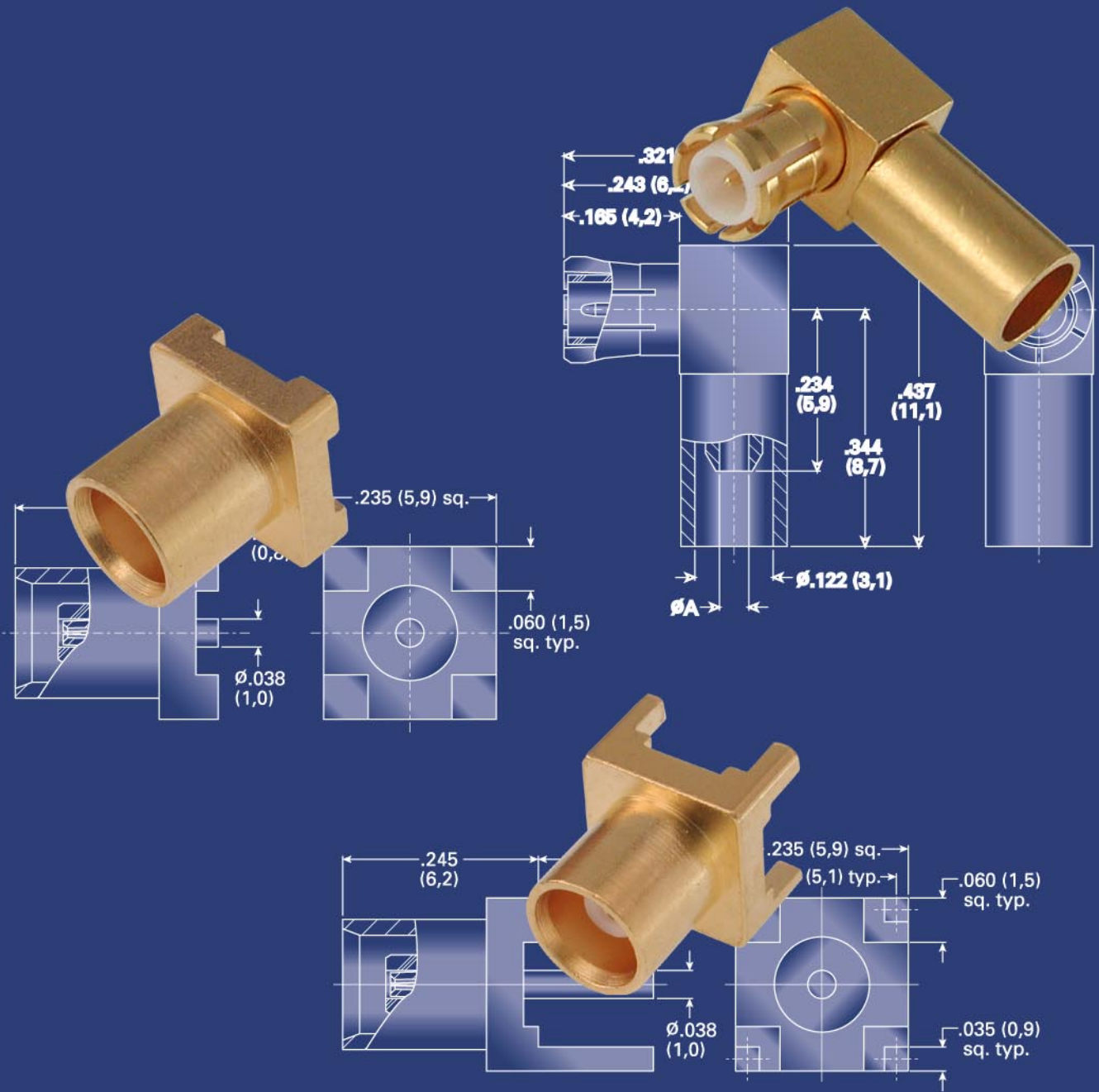


# MCX Miniature Coaxial Connectors



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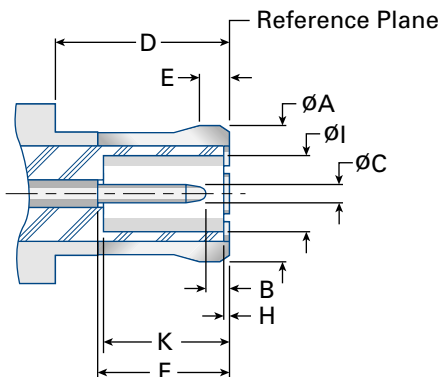
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# MCX Miniature Coaxial Connectors

## Mating Interfaces

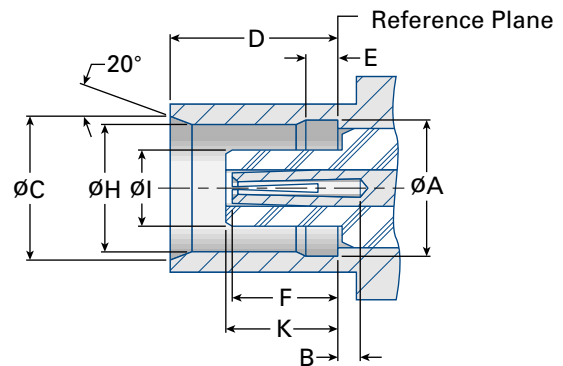
### Plug interface dimensions



Dimension	Min. inches (mm)	Max. inches (mm)
A	*	*
B	.006 (0,15)	—
C	.018 (0,48)	.021 (0,53)
D	.163 (4,15)	—
E	—	.029 (7,4)
F	.110 (2,80)	.126 (3,20)
H	—	.012 (0,30)
I	.079 (2,00)	—
K	.110 (2,80)	—

\*Dimension to meet engagement and disengagement forces.

### Jack interface dimensions



Dimension	Min. inches (mm)	Max. inches (mm)
A	.142 (3,60)	.148 (3,75)
B	.000	—
C	.150 (3,80)	—
D	.157 (4,00)	.162 (4,12)
E	.030 (0,75)	.033 (0,85)
F	.091 (2,3)	.110 (2,80)
H	.135 (3,42)	.137 (3,48)
I	—	.078 (1,98)
K	.102 (2,60)	.110 (2,80)

## Specifications (MIL-PRF-39012 as applicable)

### Materials:

**Plug spring fingers, female center contacts:** Beryllium copper per ASTM B196, Condition HT.  
**Crimp sleeves:** Seamless copper tube per ASTM B75, type C12000, temper: light anneal 050.  
**Other metal parts:** Brass per ASTM B16, Alloy 360, 1/2 hard.  
**Insulators:** Teflon (TFE) per ASTM D1710.

### Finish:

**Center contacts:** Gold plated per MIL-G-45204 Type II, Class 0, Grade C, over .00010 to .00020 sulfamate nickel per QQ-N-290.

**Other metal parts:** Gold or nickel plated to meet MIL-PRF-39012 corrosion requirements.

### Mechanical:

**Force to engage:** 6 pounds max.  
**Force to disengage:** 1.8 pounds min.  
**Contact retention:** 2.3 pounds min axial force.  
**Durability:** 500 mating cycles.

### Electrical:

**Impedance:** 50Ω.  
**Frequency range:** DC–6 GHz.  
**Voltage Rating:** 250VRMS (RG-178 cable); 335 VRMS (RG-316 cable).  
**Insulation Resistance:** 1,000 megohms minimum.

### Contact Resistance:

**Center contact:** 5.0 milliohms maximum.  
**Outer contact:** 2.5 milliohms maximum.

<b>VSWR:</b>	Frequency	Straight connector	Right angle connector
	1 GHz	1.22:1 max.	1.35:1 max.
	6 GHz	1.35:1 max.	1.50:1 max.

### Environmental (MIL-STD-202):

**Temperature range:** -65° C to +165° C.  
**Thermal shock:** Method 107, condition C.  
**Corrosion:** Method 101, condition B, 5% salt solution.  
**Vibration (Method 204):** Condition D.  
**Moisture resistance:** Method 106.

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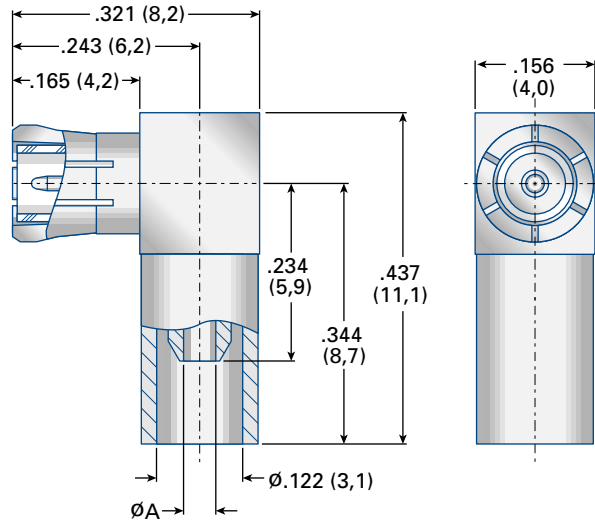
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# MCX Miniature Coaxial Connectors

Click on part number to go directly to cable assembly instructions

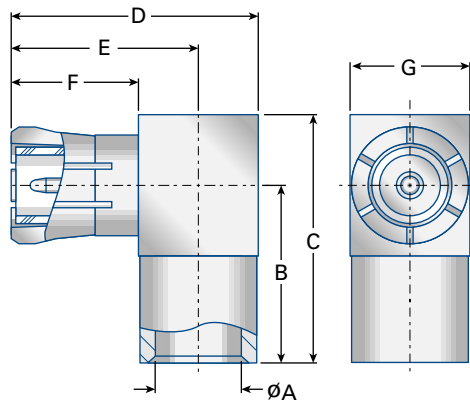
## Right Angle Cable Plugs

Crimp type for flexible cable



CABLE TYPES	Dim. A	AEP P/N
RG178, RG196, M17/93, M17/169	.040 (1,0)	<a href="#">8955-1521-002</a>
RG174, RG316, M17/113, M17/119, M17/172, M17/189	.067 (1,7)	<a href="#">8955-1521-003</a>

Direct solder for semi-rigid cable

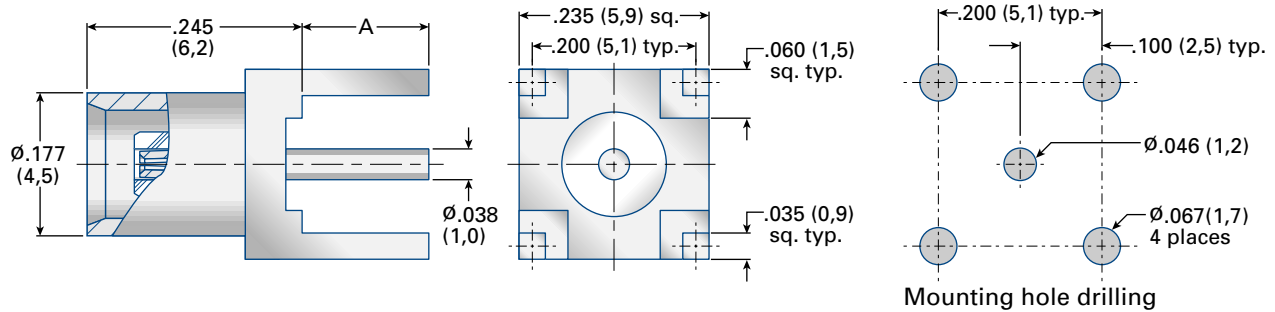


CABLE TYPES	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. G	AEP P/N
.085" semi-rigid, RG405, M17/133	.089 (2,3)	.210 (5,3)	.303 (7,7)	.321 (8,2)	.243 (6,2)	.165 (4,2)	.156 (4,0)	<a href="#">8955-1561-010</a>
.141" semi-rigid, RG402, M17/130	.144 (3,1)	.242 (6,1)	.335 (8,5)	.359 (9,1)	.266 (6,8)	.172 (4,4)	.187 (4,7)	<a href="#">8955-1561-009</a>



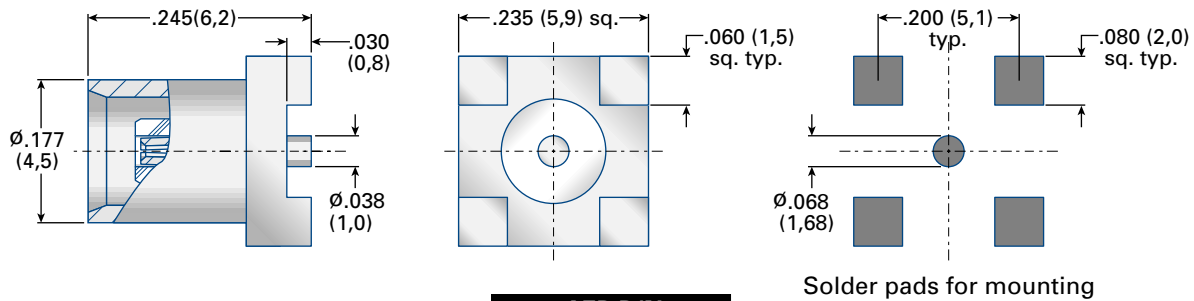
# MCX Miniature Coaxial Connectors

## Straight P.C. Board Jacks • Through-hole legs with standoff



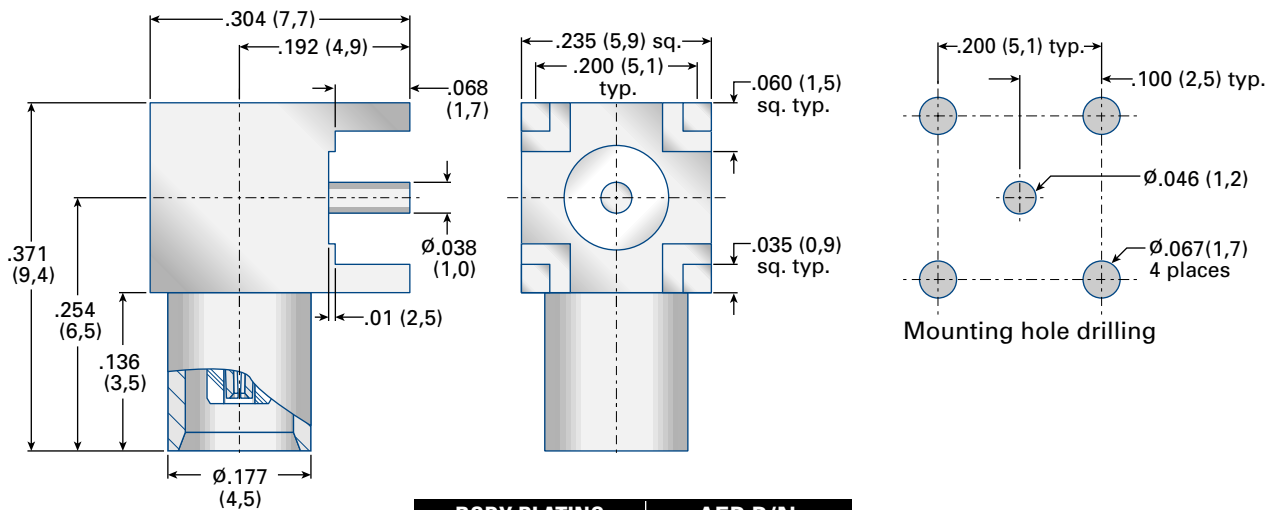
LEG LENGTH (A)	BODY PLATING	AEP P/N
.155	GOLD	8959-1511-000
.068	GOLD	8959-1511-002
.068	NICKEL	8959-7511-002

## Straight P.C. Board Jack • Surface mount



AEP P/N
8959-1511-003

## Right Angle P.C. Board Jack • Through-hole legs with standoff

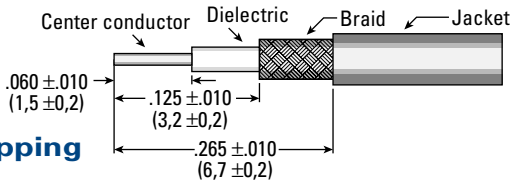


BODY PLATING	AEP P/N
GOLD	8960-1511-001
NICKEL	8960-7511-001

# MCX Miniature Coaxial Connectors

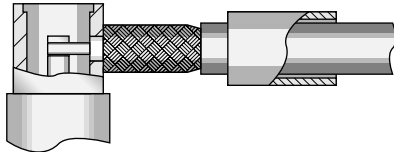
## Assembly Instructions

### Right Angle Connectors—Flexible Cable



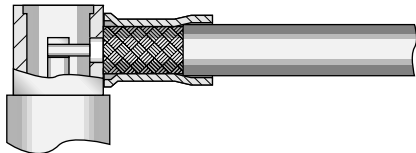
#### Cable stripping

**1**



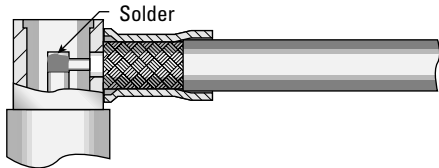
- Trim cable as shown; tin end of center conductor.
- Slide crimp sleeve over cable.
- Flare cable braid by rotating dielectric and slide cable into crimp tail.

**2**



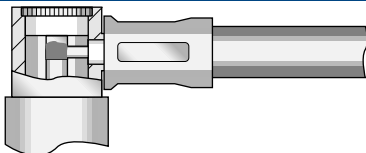
- Position cable so braid touches rear of body assembly.
- Slide crimp sleeve forward to touch rear of body assembly.
- Crimp braid with appropriate die size from chart below.

**3**



- Solder center conductor into notch in rear of contact with .025–.032" diameter chisel-tip soldering iron.
- Solder should cover center conductor, but not extend over top of notch in contact, or exceed contact diameter.

**4**

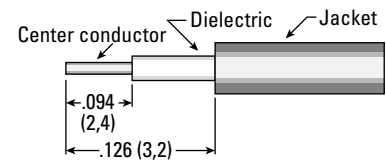


- Place insulator in body cavity, and press cap into place with .125" diameter flat punch. Cap will be slightly below end of body assembly.

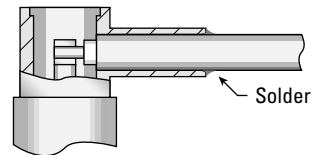
CABLE GROUP (last two digits of part number)	HEX DIE SIZE
02	.105
03	.128

### Right Angle Connectors—Semi-Rigid Cable

#### Cable stripping

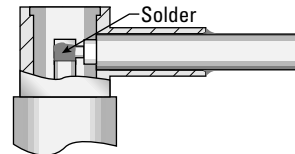


**1**



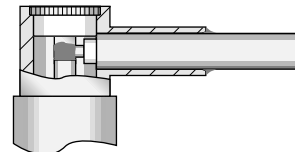
- Trim cable as shown; tin end of center conductor.
- Insert trimmed cable into body until jacket bottoms on step inside body and center conductor is in contact slot.
- Solder cable jacket to body assembly.

**2**



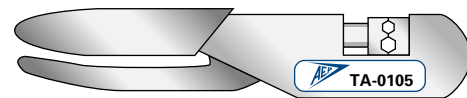
- Solder center conductor into notch in rear of contact with .025–.032" diameter chisel-tip soldering iron.
- Solder should cover center conductor, but not extend over top of notch in contact, or exceed contact diameter.

**3**



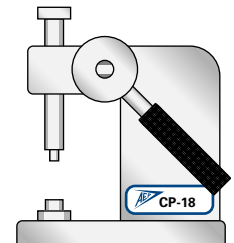
- Place insulator in body cavity, and press cap into place with .125" diameter flat punch. Cap will be slightly below end of body assembly.

## Assembly Tools



DESCRIPTION	AEP P/N
Crimp tool with .105" and .128" hex dies	TA-0105

DESCRIPTION	AEP P/N
Capping tool (arbor press) with bases for MCX right angle plugs.	CP-18



## About AEP

Since our foundation in 1973, we have always believed that having our customers take a look "inside AEP" is important in fostering strong vendor/customer relationships. We are proud of our physical plant and equipment, but even more so of our dedicated staff. When customers see first-hand how AEP's people keep a constant focus on maintaining and improving customer service and satisfaction, the reason for our consistently strong on-time delivery and quality records becomes clear.

We invite you to see for yourself. Call us to arrange a plant tour—or, if you can't make a visit, ask for your copy of *INSIDE AEP*, our facilities and capabilities brochure.



## Other AEP Products

The MIL-PRF-39012 QPL connectors in this brochure are only part of our complete line of coaxial connectors and cable assemblies, including:

- SMA
- SMB
- SMC
- SSMB
- SSMC
- SLB (Slide-on version of SMB)
- SLB/SA Self-aligning P.C. board receptacles
- SSLB (Slide-on version of SSMB)
- 75 ohm Miniature SMB
- 75 ohm Snap-on mating
- 75 ohm Screw-on mating
- MMCX edge mount
- Adapters within and between series
- Flexible cable assemblies
- Semi-rigid cable assemblies

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