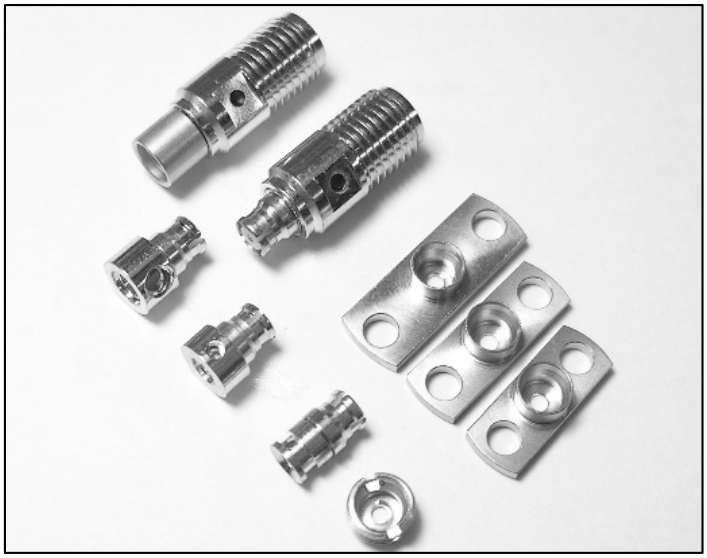
# SMP Series



## Description

The SMP interface is a subminiature interface in the same scale as MMCX connectors but offers a frequency range of DC to 65 GHz. It is commonly used in miniaturized high frequency coaxial modules and is offered in both push-on and snap-on mating styles.

## Applications

- Aerospace
- Board to Board Interconnect
- Broadband
- Instrumentation
- Mil/Aero
- Optical Nodes and Routers
- Telecommunications

## Features

- Designed to accommodate both radial and axial misalignment.
- Cable connector designs for both flexible and semi-rigid cables

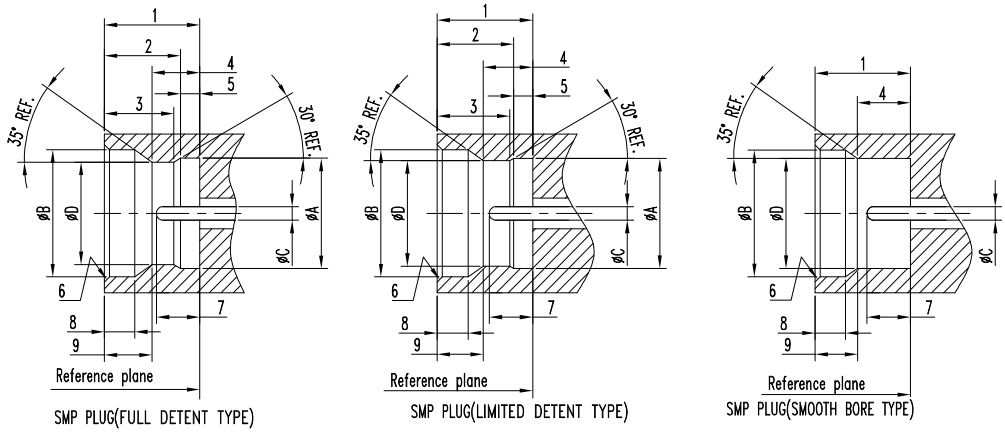
## SMP - Specification

SMP bullet connectors at high frequencies up to DC to 40 GHz. The SMP bullet connector was developed to meet the need for a smaller high frequency compact design that incorporated ease of use and functionality.

The SMP bullet connector is the heart of this unique design. The bullet is designed to allow the joining of two RF Modules by captivating the bullet between the two shrouds. This mounting method allows for higher density of connectors and by design the SMP bullet connector allows for misalignment to compensate for tolerance stack up. With significant withdrawal forces on the full detent shroud the SMP connector has become a standard for quick and effective interconnects using both semi-rigid and flexible cables. The "Push-on" design allows the installer to mate connectors without the need for threads or wrenches. Today's industry requires both innovation and flexibility, and the SMP bullet connector meets that challenge.

## Interface Mating Dimensions:

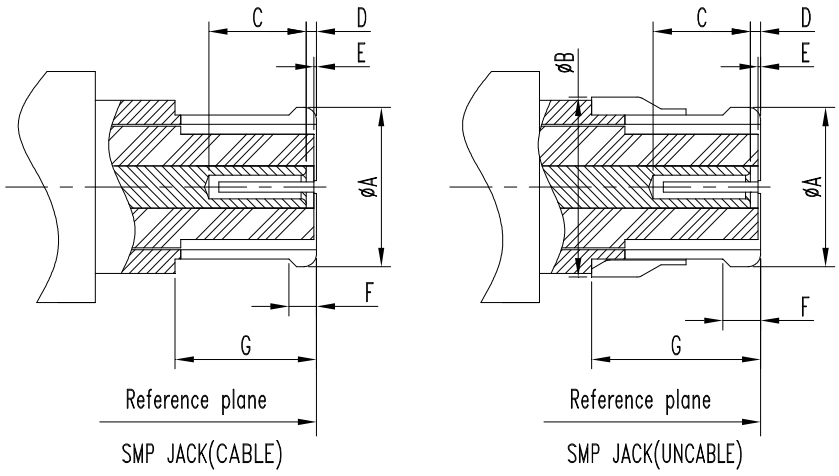
SMP PLUG CONNECTOR




| Letter | FULL DETENT TYPE Millimeters(Inches) | | LIMITED DETENT TYPE Millimeters(Inches) | | SMOOTH BORE TYPE Millimeters(Inches) | |
|---|---|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum |
| øA | 3.15(.124) | 3.20(.126) | 3.15(.124) | 3.20(.126) | N/A | |
| øB | 3.53(.139) | 3.68(.145) | 3.53(.139) | 3.68(.145) | 3.53(.139) | 3.68(.145) |
| øC | 0.36(.014) | 0.41(.016) | 0.36(.014) | 0.41(.016) | 0.36(.014) | 0.41(.016) |
| øD | 2.90(.114) | 3.00(.118) | 3.00(.118) | 3.10(.122) | 3.15(.124) | 3.20(.126) |
| 1 | 2.74(.108) | 2.84(.112) | 2.74(.108) | 2.84(.112) | 2.74(.108) | 2.84(.112) |
| 2 | 2.29(.090) | 2.19(.086) | 2.29(.090) | 2.19(.086) | N/A | |
| 3 | 1.98(.078) | 2.08(.082) | 1.98(.078) | 2.08(.082) | N/A | |
| 4 | 1.30(.051) | 1.45(.057) | 1.37(.054) | 1.52(.060) | 1.50(.059) | 1.65(.065) |
| 5 | 0.60(.0235) | 0.52(.0205) | 0.60(.0235) | 0.52(.0205) | N/A | |
| 6 | 0.07(.003) | 0.20(.008) | 0.07(.003) | 0.20(.008) | 0.07(.003) | 0.20(.008) |
| 7 | 1.14(.045) | 1.40(.055) | 1.14(.045) | 1.40(.055) | 1.14(.045) | 1.40(.055) |
| 8 | 0.84(.033) | 0.94(.037) | 0.84(.033) | 0.94(.037) | 0.84(.033) | 0.94(.037) |
| 9 | 1.40(.056) | 1.45(.057) | 1.40(.056) | 1.45(.057) | 1.40(.056) | 1.45(.057) |

## Interface Mating Dimensions:

SMP JACK CONNECTOR




| Letter | JACK(CABLE) Millimeters(Inches) | | JACK(UNCABLE) Millimeters(Inches) | |
|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum |
| øA | – | 3.43(.135) | – | 3.43(.135) |
| øB | N/A | | – | 3.68(.145) |
| C | 1.78(.070) | – | 1.78(.070) | – |
| D | – | 0.20(.008) | – | 0.20(.008) |
| E | – | 0.25(.010) | – | 0.25(.010) |
| F | 0.46(.018) | 0.64(.025) | 0.64(.025) | 0.89(.035) |
| G | 2.84(.112) | – | 2.84(.112) | – |

# **SMP** Series

## Electrical :

| | |
|---|---|
| lmpedance | 50ohm |
| Frequency Range | 0 to 40.0 GHz |
| VSWR | DC to 26.5 GHz→1.15 max.<br>26.5 to 40GHz→1.35 max. |
| Voltage Rating | 170 volts rms max. |
| Dielectric withstanding Voltage | 500 volts rms at sea level |
| Contact resistance | Center Contact : 6.0 Milliohms Max. .<br>Outer Contact : 2.0 Milliohms Max. |
| RF Leakage | -80dB min. at 3GHz<br>-65dB min. form 3 to 26.5GHz MIN. |
| Insulator resistance | 5,000 Megaohms min. |

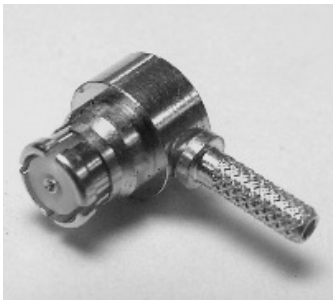
## Mechanical & Environmental :

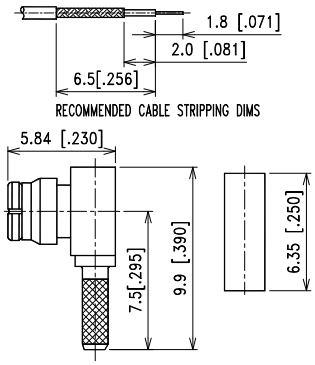
| | |
|---|---|
| Durability | 100 matings min.(Full Detent)<br>500 matings min.(Limited Detent)<br>1000 matings min.(Smooth Bore) |
| Engagement force | 15 lbs Max(Full Detent)<br>10 lbs Max (Limited Detent)<br>2 lbs Max (Smooth Bore) |
| Disengagement force | 5 lbs Min(Full Detent)<br>2 lbs Min(Limited Detent)<br>0.5 lbs Min(Smooth Bore) |
| Vibration | MIL-STD-202,Method 204,Condition D |
| Salt Spray | MIL-STD-202,Method 101,Condition B |
| Shock | MIL-STD-202,Method 213,Condition I |
| Temperature Range | -65°C to +165°C |
| Thermal Shock | MIL-STD-202,Method 107,Condition B |
| Moisture Resistance | MIL-STD-202,Method 106 |

## Material :

| | Material | Plating |
|---|---|---|
| Connector Body | Shorud:Stainless steel | Passivated |
| | Mele:Beryllium-Copper or Brass | Gold |
| | Female:Beryllium-Copper or Brass | Gold |
| Center Contact | Beryllium-Copper | Gold |
| Insulation | Teflon | None |

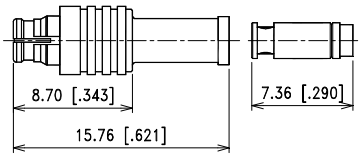
## CRIMP ATTACHMENTS FOR FLEXIBLE CABLE






**RIGHT ANGLE CRIMP JACK**

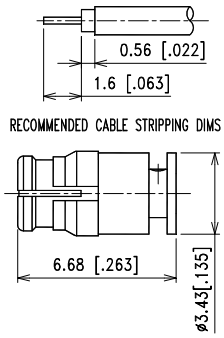
| P/N | Cable Group | Impedance |
|---|---|---|
| 145-F050 | 34 | 50 |




**STRAIGHT CRIMP JACK**

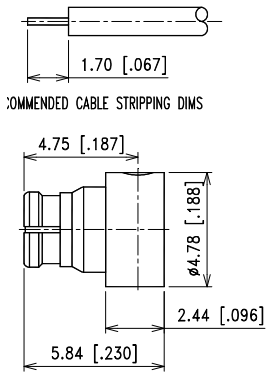
| P/N | Cable Group | Impedance |
|---|---|---|
| 145-F071 | 34 | 50 |

## DIRECT SOLDER FOR SEMI-RIGID CABLE




**STRAIGHT SOLDER TYPE CABLE JACK**

| P/N | Cable Group | Impedance |
|---|---|---|
| 145-F120 | 27 | 50 |
| 145-F140 | 25 | 50 |

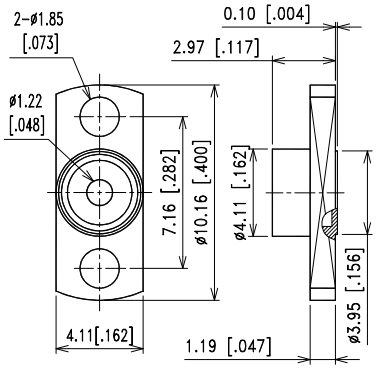



**RIGHT ANGLE SOLDER TYPE CABLE JACK**

| P/N | Cable Group | Impedance |
|---|---|---|
| 145-F110 | 27 | 50 |
| 145-F130 | 25 | 50 |

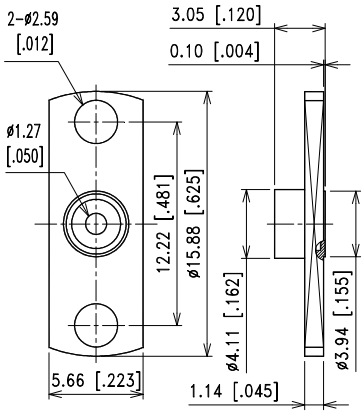
# FLANGE MOUNT SHROUD





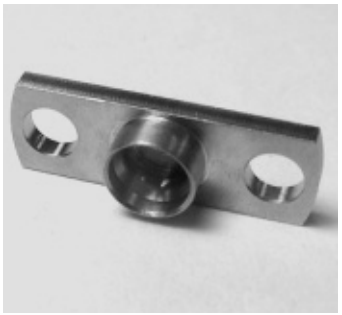

**2-HOLE FLANGE MOUNT PLUG SHROUD -WITHOUT CONTACT**

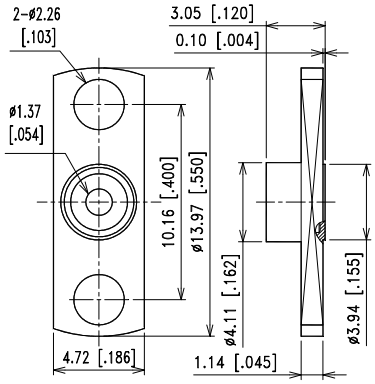
| P/N | INTERFACE | Impedance |
|---|---|---|
| 145-M310 | FULL DETENT | 50 |
| 145-M311 | LIMITED DETENT | 50 |
| 145-M312 | SMOOTH BORE | 50 |




**2-HOLE FLANGE MOUNT PLUG SHROUD -WITHOUT CONTACT**

| P/N | INTERFACE | Impedance |
|---|---|---|
| 145-M330 | FULL DETENT | 50 |
| 145-M331 | LIMITED DETENT | 50 |
| 145-M332 | SMOOTH BORE | 50 |

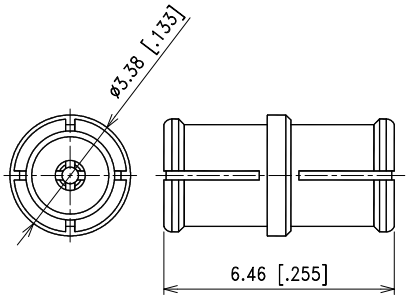





**2-HOLE FLANGE MOUNT PLUG SHROUD -WITHOUT CONTACT**

| P/N | INTERFACE | Impedance |
|---|---|---|
| 145-M340 | FULL DETENT | 50 |
| 145-M341 | LIMITED DETENT | 50 |
| 145-M342 | SMOOTH BORE | 50 |

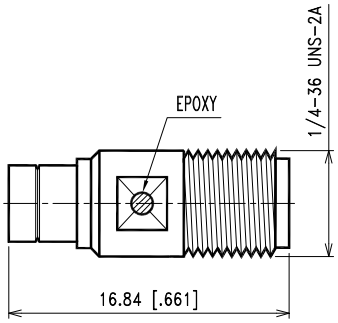
## IN-SERIES ADAPTER




**STRAIGHT JACK TO JACK ADAPTER**

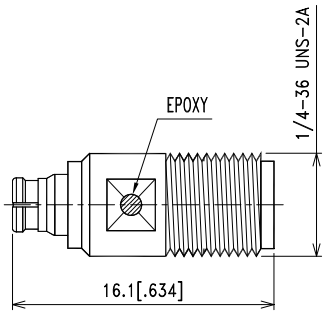
| P/N | Cable Group | Impedance |
|---|---|---|
| 145-A011 | N/A | 50 |

## BETWEEN-SERIES ADAPTER




**SMP PLUG TO SMA JACK ADAPTER**

| P/N | INTERFACE | Impedance |
|---|---|---|
| 145-A035 | SMOOTH BORE | 50 |
| 145-A036 | LIMITED DETENT | 50 |
| 145-A037 | FULL DETENT | 50 |




**SMP JACK TO SMA JACK ADAPTER**

| P/N | Cable Group | Impedance |
|---|---|---|
| 145-A041 | N/A | 50 |