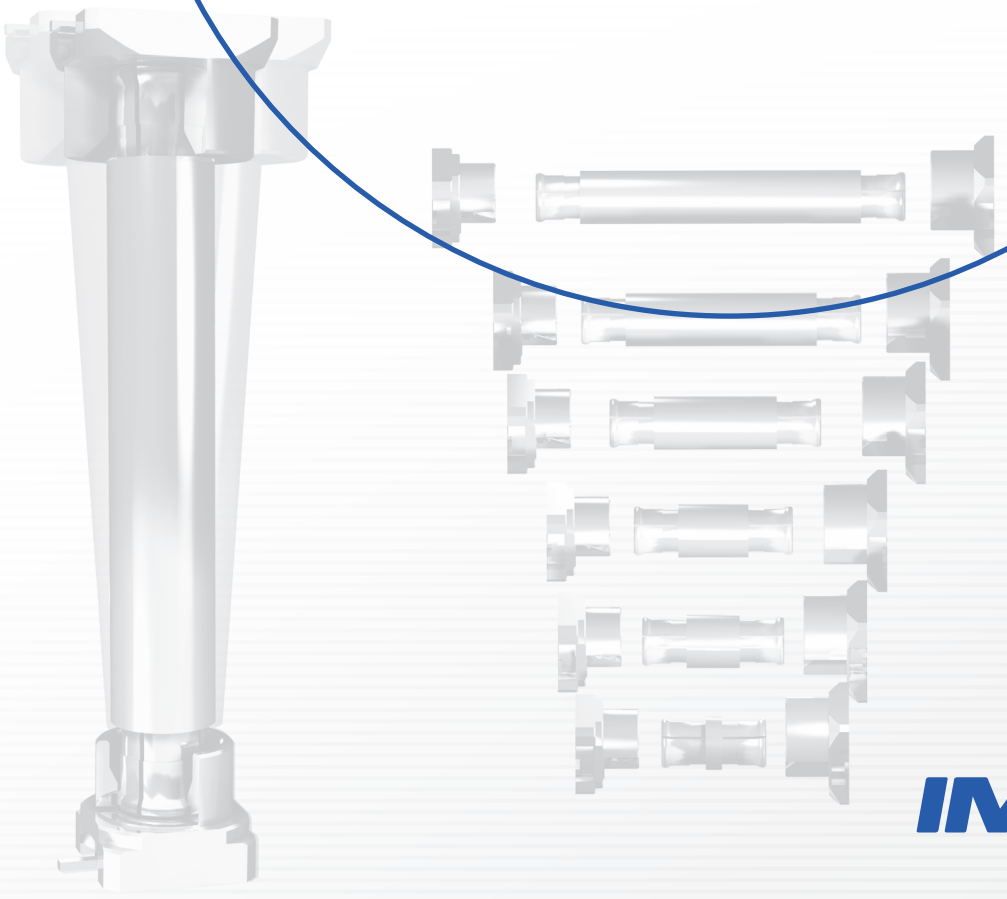
SMP connectors

the easy connection



IMS CONNECTOR SYSTEMS

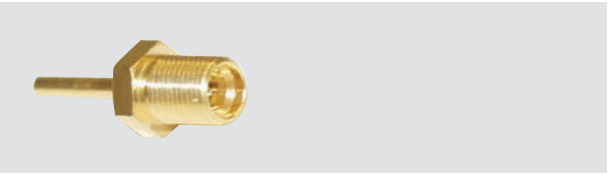
Products overview

PCB mount

SMD mount plug connectors
- Limited Detent and Smooth Bore
- Centre pin in SMD, BGA or throughhole configurations

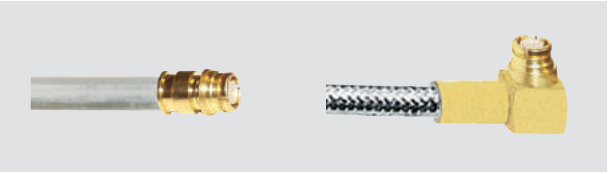
Surface mount technology plug connectors
- Limited Detent and Smooth Bore
- Centre pin in SMD, BGA or throughhole configurations

Bulkhead mount



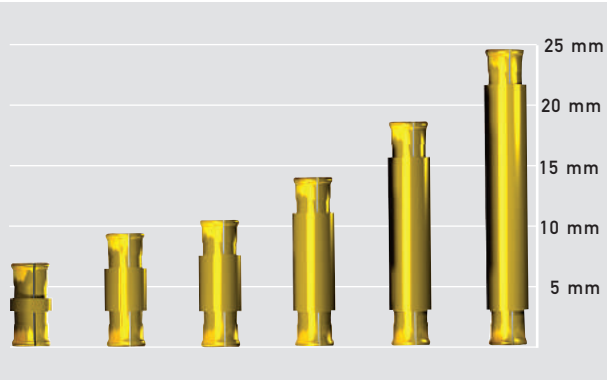
Cable mount

Straight and right angle jacks
- Semi-rigid and semi-flexible UT 47, UT 85

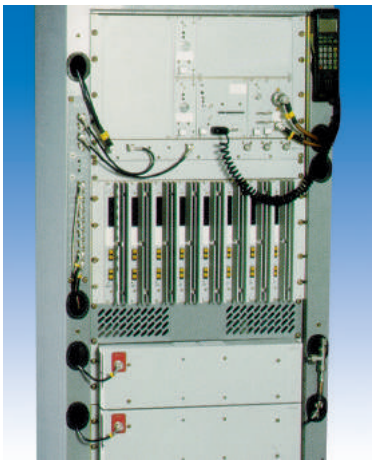


Adapters

- Adapter length from 6.75 to 24.2 mm for PCB distance from 9.8 to 27.2 mm



Applications



The features of the SMP connectors from IMS Connector Systems make them uniquely suited for establishing RF interconnects between closely spaced printed circuit boards (PCBs) in cellular base stations as well as between units in other of today's advanced electronics subsystems, such as Telematics, Baseband Systems and Automotive Systems.

SMP from IMS Connector Systems

The SMP connectors product line from IMS Connector Systems includes a full range of PCB plugs for SMD technology as well as for traditional throughhole mounting in Smooth Bore and Limited Detent versions. The connectors have been optimised for VSWR performance in a microstrip environment and feature excellent matching characteristics. A wide range of adapters, allowing PCB distances from 9,8 to 27,2 mm are available as well as cable plugs for semi-rigid, semi-flexible and flexible cables.

Features

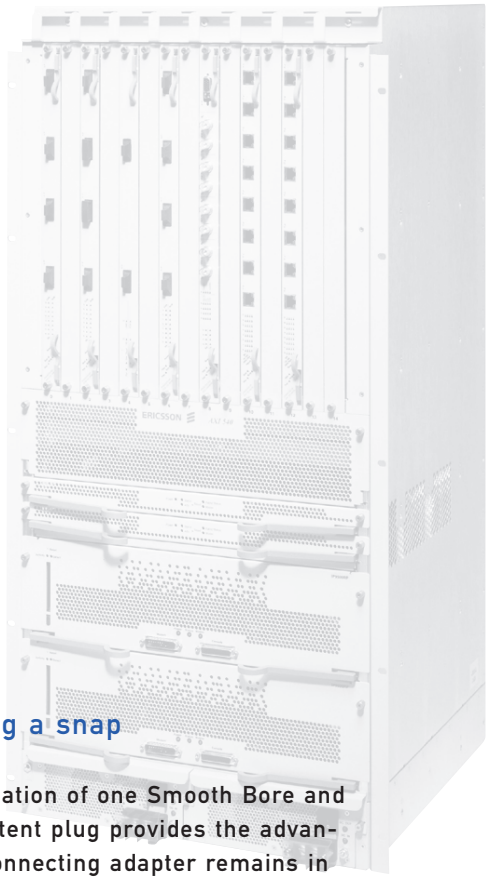
- Quality blind mate microwave connectors
- Absorb tolerances between mating connectors
- Replace complex float-mount coaxial interconnections without sacrificing performance
- Cost effective means of providing board-to-board connections with float-mount like functionality
- Ideal for base station electronics connections

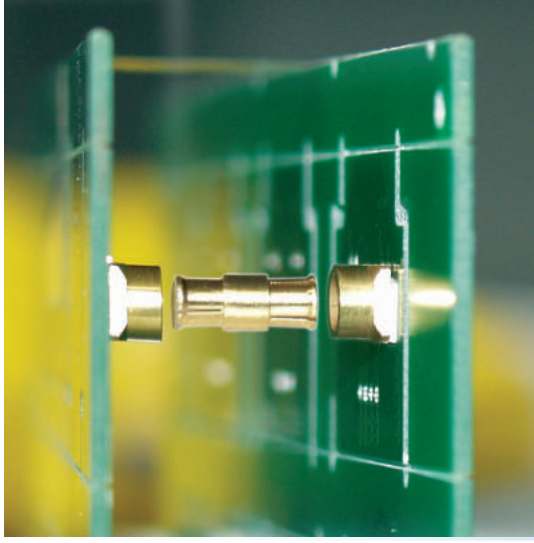
Smooth Bore

which provides slide-on mating with the jack

Limited Detent

which provides snap-fit mating with the jack





Makes testing a snap

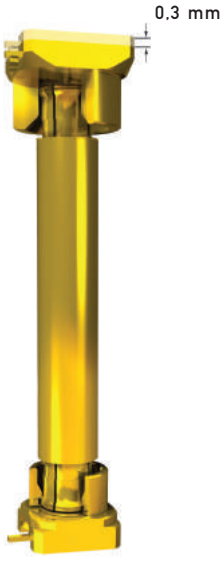
Using a combination of one Smooth Bore and one Limited Detent plug provides the advantage that the connecting adapter remains in a predictable position if the connectors have to be de-mated for test or service purposes.

Smooth Bore and Limited Detent are normally the connectors of choice. They have similar RF performance in mated position.

Tolerance absorbtion

All connections between two units are made through male connectors (plugs) fixed on the units, connected by a female-female (jack-jack) adapter - the so called bullet. This ensures the unique properties of tolerance absorbtion.

A jack mated to a Smooth Bore plug is able to absorb a deviation in unit distance along the axis of the connectors of up to 0.3 mm.



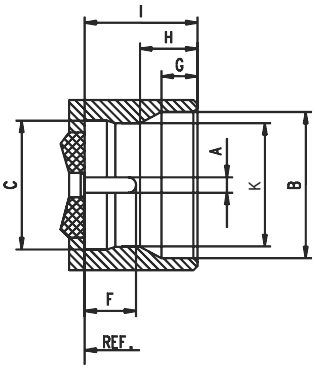
Misalignment

Due to the design of the interface, a mated pair of jack-plug SMP connectors will yield satisfactory performance even if the axes of the two connectors are misaligned as much as 4°.

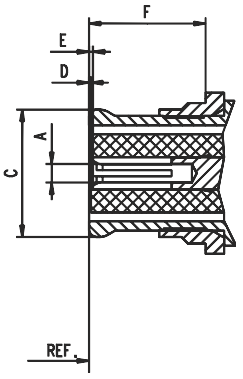
In order to fully explore the advantages of relaxed alignment when inserting an adapter slightly off-centre into the plug, a special version of the Smooth Bore plug is used with a flared entry which provides a wide guide-in range. In some markets this feature is known as “Catcher’s mitt”.

Technical specifications

Plug (Male)

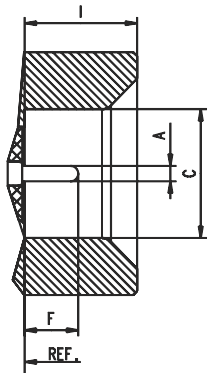


Jack (Female)



	Male (mm)		Female (mm)	
	min.	max.	min.	max.
A	0.35	0.41	1)	
B	3.53	3.69		
C	3.13	3.23		3.43
D			-0.07	0.12
E			0.00	0.20
F	1.14	1.4	3.35	
G	0.84	0.94		
H	1.39	1.45		
I	2.74	2.84		
K	2.90	3.00		

1) resilient, dim. to meet electrical and mechanical requirements



Electrical characteristics	
Impedance	50 Ohm
Working frequency	DC - 12 GHz
Depending on connector type	
VSWR-value	
Straight connector semi-rigid cable	1.03 + 0.02 f (GHz), typ.
Angle connector semi-rigid cable	1.04 + 0.03 f (GHz), typ.
Proof voltage	500 V RMS / 50 Hz
Depending on cable type	
Working voltage	335 V RMS / 50 Hz
Depending on cable type	
RF leakage	
Insulation resistance	≥ 5 GOhm
Contact resistance	
Centre contact	≤ 6 mOhm
Outer contact	<_ 2 mOhm
Contact current max.	1.2 A DC
Admissible power	Application specific

Environmental	
Working temperature range	-55°C .. 155°C
Relative humidity	MIL-STD-202 Meth. 106
Shock	MIL-STD-202 Meth. 213
Vibration	MIL-STD-202 Meth. 204
Temperature cycling	MIL-STD-202 Meth. 107

Mechanical characteristics	
Engagement force	
Limited Detent	45 N max
Smooth Bore	9 N max
Separation force	
Limited Detent	9 N min
Smooth Bore	2.2 N min
Mating cycles	
Limited Detent	> 500
Smooth Bore	> 1000
Misalignment,	
Smooth Bore - Limited Detent pair	
Angular misalignment	< 4°
Axial misalignment	< 0,25 mm

Materials	
Housing	Brass
Centre contacts	Brass
Spring loaded contacts	BeCu
Insulators	PTFE, PEEK, LCP

Plating	
Housing	Au
Centre contacts	Au
Spring loaded contacts	Au

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