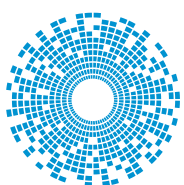




Non Magnetic Connectors

Product Catalog



cinch
CONNECTIVITY SOLUTIONS
a bel group

belfuse.com/cinch

NON-MAGNETIC RF CONNECTORS

Introduction



Johnson’s Non-Magnetic Connector Additions Offer Solutions to MR Imaging Technology

Johnson, a product line of Cinch Connectivity Solutions, has expanded the connector product groups in its popular line of Non-Magnetic RF coaxial connectors and cable assemblies.

MCX and MMCX micro-miniature connectors have been added to satisfy the needs of the RF coil manufacturers that are building smaller coils for MRI equipment. Customized flex coils and array coils can image smaller parts of the body such as wrists, feet, hands and other appendages.

The Non-Magnetic MCX and MMCX is the perfect micro-miniature connector for small multichannel coil packages as they provide a positive snap-on coupling design with high mating cycles for rugged, high density connectivity.

The Type N Non-Magnetic connector provides a perfect RF solution for high Tesla fields considered for future designs. These deep tissue MR images will require the rugged interface of the N connector as well as the tri-alloy plating to eliminate inter-modulation issues.

All the connectors in Johnson’s Non-Magnetic line are made from high purity copper alloys assuring no ferrous materials are in the connectors manufactured. Cinch Connectivity Solutions continues to work with our customers to develop new solutions as the MR industry transitions to high-end field applications and improved resolution at greater physical depths within the body.

Products are offered through authorized distributors and international sales channels including a direct sales force and a network of manufacturers’ representatives. For more information, please call (800) 247-8256.

About Johnson

Cinch Connectivity Solutions, located in Waseca, MN, manufactures Johnson® RF Connectors such as Ultra-miniature (UMC), Micro-miniature (MCX, MCX 75, MMCX and SMP), Sub-miniature (SMA, SMB, SMB Mini-75 Ohm, SMK) and Medium (Type N) in the most popular styles including PC Board Mount, End Launch, Bulkhead Mount and Cable Mounts (Flexible, Semi-rigid and Conformable).

Table of Contents

MMCX Non-Magnetic RF Connectors	2
MCX Non-Magnetic RF Connectors	6
SMA Non-Magnetic RF Connectors	11
SMB Non-Magnetic RF Connectors	15
Type N Non-Magnetic RF Connectors	19
Assembly Instructions	22
The Johnson Combination	
MRI Connectors and Modular Customization	30
Competitor Cross Reference	31

NON-MAGNETIC RF CONNECTORS

MMCX Non-Magnetic RF Connectors



ELECTRICAL SPECIFICATIONS

Impedance:	50 Ohms		
Frequency Range	0-6 GHz		
VSWR: (f = GHz)		Straight Cable Connectors	Right Angle Cable Connectors
	.047 dia flexible	1.20	1.14 + .07f
	RG-178, RG-316, RG-316 DS	1.20	1.25
Working Voltage	170 VRMS at sea level		
Dielectric Withstanding Voltage	500 VRMS at sea level		
Insulation Resistance	1000 megohms minimum		
Contact Resistance (milliohms maximum)		Initial	After Environmental
Center Contact (straight cabled connectors, uncabled receptacles)		5.0	8.0
Center Contact (right angle cabled connectors)		5.0	15.0
Outer Contact		1.0	1.5
Braid to Body		1.5	N/A
Corona Level:	190 volts min at 70,000 feet		
Insertion Loss (dB maximum, tested at 1 GHz)			
	Straight Cable Connectors		0.1
	Right Angle Cable Connectors		0.2
	Uncabled Receptacles		N/A
RF Leakage (dB minimum tested at 2.5 GHz)			
	Flexible Cable Connectors		-60 dB
RF High Potential Withstanding Voltage	tested at 4 and 7 MHz		
	VRMS minimum		400

MECHANICAL SPECIFICATIONS

Engagement Design	Series MMCX		
Engagement Force	8 lbs. max axial engagement, 1.4 lbs. min axial disengagement		
Contact Retention	2.0 pounds min. axial force, 1 inch-ounce min. torque (uncabled receptacles)		
Cable Retention		Axial Force* (lbs)	Torque (in-oz)
	Connectors for .047 flexible	3.5	N/A
	Connectors for RG-178	7.0	N/A
	Connectors for RG-316	20.0	N/A
	Connectors for RG-316 DS	25.5	N/A
	Connectors for .086 Semi-Rigid	30.0	16
	*Or cable breaking strength whichever is less.		
Durability:	500 cycles minimum		

ENVIRONMENTAL SPECIFICATIONS (Meets or Exceeds the Applicable Paragraph of MIL-RF-39012)

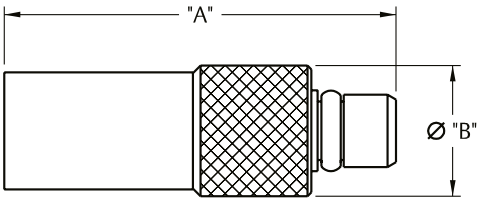
Temperature Range	-65°C to +165°C
Thermal Shock	MIL-STD-202, Method 107, Condition C (Except -55°C to 115°C)
Corrosion	MIL-STD-202, Method 101, Condition B
Shock	MIL-STD-202, Method 213, Condition B
Vibration	MIL-STD-202, Method 204, Condition D
Moisture Resistance	MIL-STD-202, Method 106

NON-MAGNETIC RF CONNECTORS



MMCX Non-Magnetic RF Connectors For Flexible Cable and PC Mount

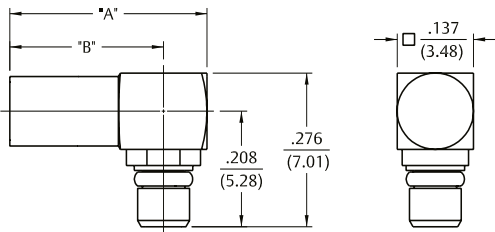
Straight Crimp Type Plug - Solder or Crimp Contact - Captivated Contact



Cable Type	Gold Plated	"A"	"B"	Termination
RG-316/U, 188, 161, 174	135-9403-001	.509 (12.93)	.173 (4.39)	Crimp Sleeve
RG-178/U, 196	135-9402-001	.462 (11.73)	.137 (3.48)	Crimp Insert
.047 Dia. Flex	135-9436-001	.462 (11.73)	.137 (3.48)	Crimp Insert

See assembly instructions page 22

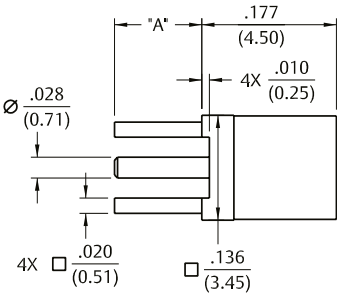
Right Angle Crimp Type Plug - Captivated Contact



Cable Type	Gold Plated	"A"	"B"	Termination
RG-316/U, 188, 187, 179, 161, 174	135-9403-101	.412 (10.46)	.334 (8.48)	Crimp Sleeve
RG-178/U, 196	135-9402-111	.412 (10.46)	.334 (8.48)	Crimp Sleeve
.047 Dia. Flex	135-9436-101	.354 (8.99)	.276 (6.98)	Crimp Insert

See assembly instructions page 23

Straight Jack Receptacle



Gold Plated	"A"
135-9701-201	.115 (2.92)
135-9701-211	.068 (1.73)

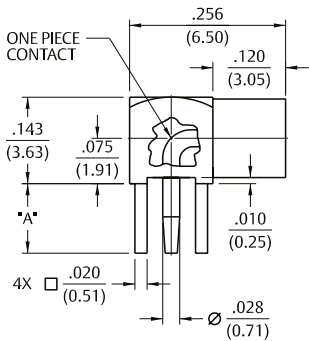
Mounting hole layout figure 1 on page 5

NON-MAGNETIC RF CONNECTORS



MMCX Non-Magnetic RF Connectors For PC Mount

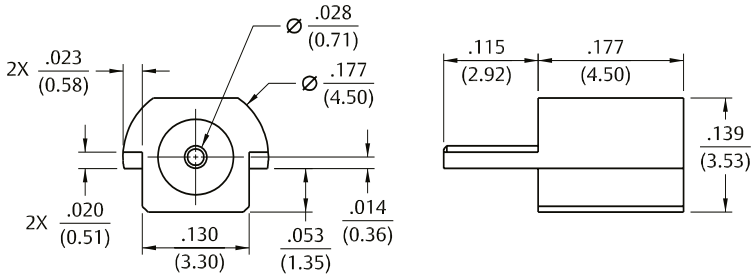
Right Angle Jack Receptacle



Gold Plated	"A"
135-9701-301	.155 (3.94)
135-9701-311	.068 (1.73)

Mounting hole layout figure 1 on page 5 below

End Launch Jack Receptacle - Surface Contact



Gold Plated	Packaging
135-9711-801	Stock
135-9711-802	Tape and Reel 1000 pcs/reel

Recommended land pattern figure 2 on page 5

Mounting Hole Layout

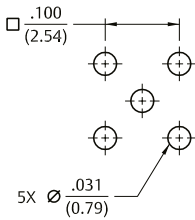


Fig 1

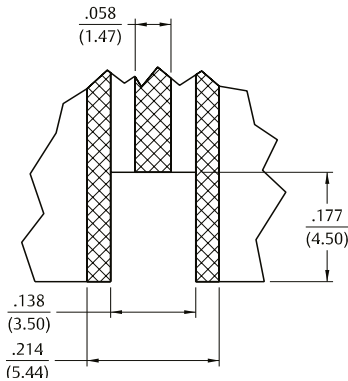


Fig 2

NON-MAGNETIC RF CONNECTORS

MCX Non-Magnetic RF Connectors



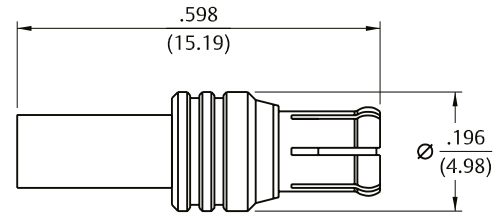
ELECTRICAL SPECIFICATIONS				
Impedance:		50 Ohms		
Frequency Range		0-6 GHz		
VSWR: (f = GHz)		Straight Cable Connectors	Right Angle Cable Connectors	
RG-178 cable		1.17 + .09f	1.07 + .06f	
RG-316 cable		13 + .04f	1.07 + .04f	
Uncabled Receptacles		N/A	N/A	
Working Voltage (VRMS maximum)		Connectors for Cable Type	Sea Level	70K Feet
RG-178		250	65	
RG-316		335	85	
Dielectric Withstanding Voltage (VRMS minimum at sea level)				
Connectors for RG-178, Uncabled Receptacles		750		
Connectors for RG-316, Uncabled Receptacles		1000		
Insulation Resistance		10,000 megohms minimum		
Contact Resistance (milliohms maximum)		Initial	After Environmental	
Center Contact (straight cabled connectors, uncabled receptacles)		5.0	8.0	
Center Contact (right angle cabled connectors)		5.0	15.0	
Outer Contact		1.0	1.5	
Braid to Body		1.0	N/A	
Corona Level (Volts minimum at 70,000 feet)				
Connectors for RG-178 Uncabled Receptacles		190		
Connectors for RG-316, Uncabled Receptacles		250		
Insertion Loss (dB maximum, tested at 1 GHz)				
Straight Cable Connectors		0.1		
Right Angle Cable Connectors		0.2		
Uncabled Receptacles		N/A		
RF Leakage (dB minimum tested at 2.5 GHz)				
Cable connectors		-55		
Uncabled receptacles		N/A		
RF High Potential Withstanding Voltage (VRMS minimum, tested at 4 and 7 MHz)				
Connectors for RG 178		500		
Connectors for RG 316		700		
Uncabled Receptacles		600		
MECHANICAL SPECIFICATIONS				
Engagement Design		Compatible with CECC 22220, Series MCX		
Engagement / Disengagement Force		5.6 pounds maximum axial force / 8 pounds maximum axial force, 1 pound min		
Contact Retention		2.3 pounds min. axial force (captivated contacts); 1 inch-ounce min. torque (uncabled receptacles)		
Cable Retention		Axial Force* (lbs)	Torque (in-oz)	
Connectors for RG178		10	N/A	
Connectors for RG316		20	N/A	
Connectors for RG316 DS		25	N/A	
*Or cable breaking strength whichever is less.				
Durability:		500 cycles minimum		
ENVIRONMENTAL SPECIFICATIONS (Meets or Exceeds the Applicable Paragraph of MIL-RF-39012)				
Temperature Range		-65°C to +165°C		
Thermal Shock		MIL-STD-202, Method 107, Condition C (Except -55°C to 115°C)		
Corrosion		MIL-STD-202, Method 101, Condition B		
Shock		MIL-STD-202, Method 213, Condition B		
Vibration		MIL-STD-202, Method 204, Condition D		
Moisture Resistance		MIL-STD-202, Method 106		

NON-MAGNETIC RF CONNECTORS

MCX Non-Magnetic RF Connectors



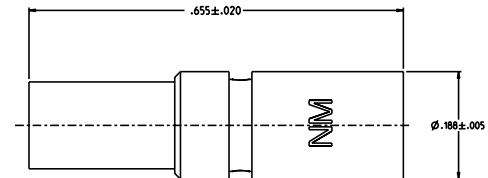
Straight Crimp Type Plug - Solder or Crimp Contact - Captivated Contact



Cable Type	Gold Plated
RG-178	133-9402-001
RG-316/U, 188, 174	133-9403-001
RG-316 DS, 188 DS	133-9404-001

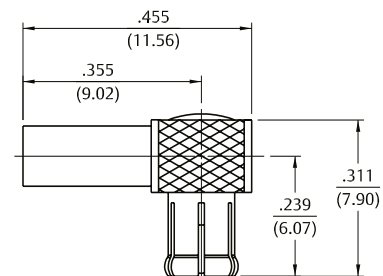
See assembly instructions page 24

Straight Crimp Type Jack Receptacle



Cable Type	Gold Plated
RG-316	133-9303-001

Right Angle Crimp Type Plug - Captivated



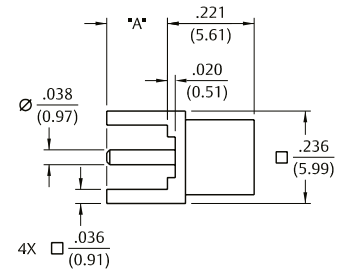
Cable Type	Gold Plated	Silver Plated
RG-316/U, 188, 174	133-9403-101	133-9403-104
RG-316 DS, 188 DS	133-9404-101	
RG-178/U, 196	133-9402-101	

See assembly instructions page 24

MCX Non-Magnetic RF Connectors For Flexible Cables



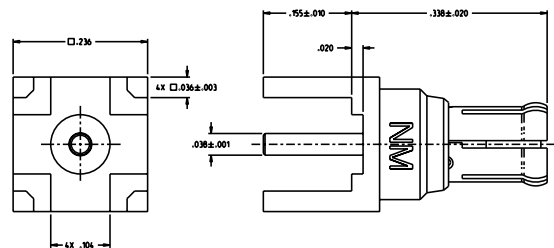
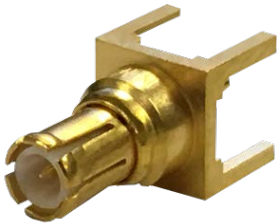
Straight Jack Receptacle



Gold Plated	Silver Plated	"A"
133-9701-201	133-9701-204	.155 (3.94)
133-9701-211		.110 (2.79)

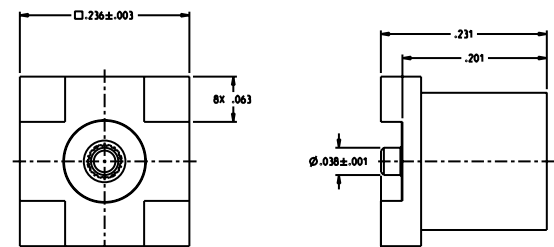
Mounting hole layout figure 4 on page 10

Straight Plug Receptacle, PCB Mount



Gold Plated
133-9801-201

Straight Surface Mount, Jack Assembly



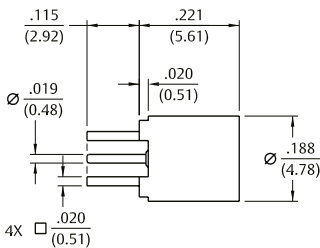
Gold Plated
133-9711-201

NON-MAGNETIC RF CONNECTORS



MCX Non-Magnetic RF Connectors For Flexible Cables

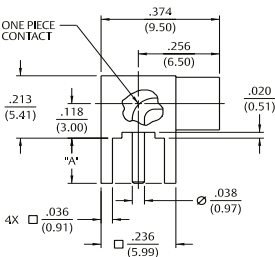
Straight Jack Receptacle - .100" Layout



Gold Plated
133-9701-231

Mounting hole layout figure 3 on page 10

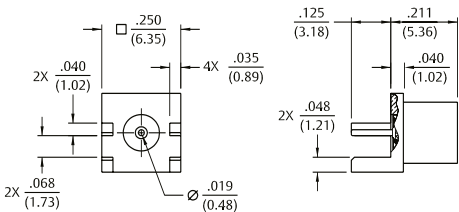
Right Angle Jack Receptacle



Gold Plated	Silver Plated	"A"
133-9701-301	133-9701-304	.155 (3.94)
133-9701-311		.110 (2.79)

Mounting hole layout figure 4 on page 10

End Launch Jack Receptacle - Round Contact



Gold Plated	Board Thickness
133-9701-801	.062 (1.57)

MCX Non-Magnetic RF Connectors For PC Mount

Mounting Holes Layout

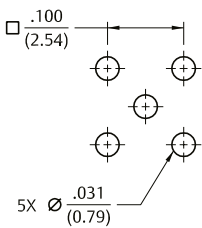


Fig 3

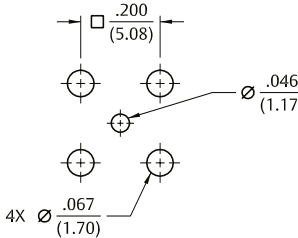


Fig 4

NON-MAGNETIC RF CONNECTORS



SMA Non-Magnetic RF Connectors

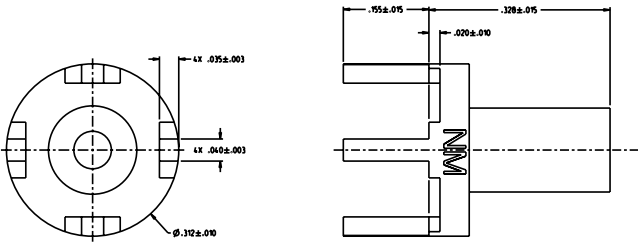
ELECTRICAL SPECIFICATIONS			
Impedance:		50 Ohms	
Frequency Range		Flexible cable connectors Uncabled Receptacles	0-12.4 GHz 0-18.0 GHz
VSWR: (f = GHz)		Straight Cable Connectors	Right Angle Cable Connectors
		RG-316 RG-58 Uncabled Receptacles	1.15 + .02f 1.15 + .01f N/A
Working Voltage (VRMS maximum)		Connectors for Cable Type	Sea Level
		RG-316 RG-58, Uncabled Receptacles	250 335
Dielectric Withstanding Voltage (VRMS minimum at sea leve)			
		Connectors for RG-316 Connectors for RG-58, Uncabled Receptacles	750 1000
Insulation Resistance		5000 megohms minimum	
Contact Resistance (milliohms maximum)		Initial	After Environmental
Center Contact (straight cabled connectors, uncabled receptacles)		3.0	4.0
Center Contact (right angle cabled connectors)		4.0	6.0
Outer Contact		2.0	N/A
Braid to Body		0.5	N/A
Corona Level (Volts minimum at 70,000 feet)			
		Connectors for RG-316 Connectors for RG-58, Uncabled Receptacles	190 250
Insertion Loss (dB maximum, tested at 1 GHz)			
		Straight Cable Connectors Right Angle Cable Connectors Uncabled Receptacles	0.06 √f(GHz), tested at 6 GHz 0.15 √f(GHz), tested at 6 GHz N/A
RF Leakage (dB minimum tested at 2.5 GHz)			
		Cable connectors Uncabled Receptacles	-60 dB N/A
RF High Potential Withstanding Voltage		(VRMS minimum, tested at 4 and 7 MHz)	
		Connectors for RG-316 Connectors for RG-58,Uncabled receptacles	500 670
MECHANICAL SPECIFICATIONS			
Engagement Design		MIL-STD-348, Series SMA	
Engagement / Disengagement Force		2 inch-pounds maximum	
Contact Retention		6 lb minimum axial force (captivated contacts); 4 inch-ounce minimum torque (uncabled receptacles)	
Mating Torque		7 to 10 inch-pounds	
Coupling Proof Torque		15 inch-pounds minimum	
Coupling Nut Retention		60 pounds minimum	
Cable Retention		Axial Force* (lbs)	Torque (in-oz)
		Connectors for RG-316 Connectors for RG-58 *Or cable breaking strength whichever is less.	20 40 N/A
Durability:		500 cycles minimum	
ENVIRONMENTAL SPECIFICATIONS (Meets or Exceeds the Applicable Paragraph of MIL-RF-39012)			
Temperature Range		-65°C to +165°C	
Thermal Shock		MIL-STD-202, Method 107, Condition B	
Corrosion		MIL-STD-202, Method 101, Condition B	
Shock		MIL-STD-202, Method 213, Condition I	
Vibration		MIL-STD-202, Method 204, Condition D	
Moisture Resistance		MIL-STD-202, Method 106	

NON-MAGNETIC RF CONNECTORS



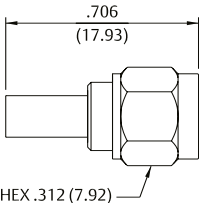
SMA Non-Magnetic RF Connectors For Flexible and Semi-Rigid Cable

Straight Solder Type Plug, Semi Rigid Cable



Gold Plated
142-9003-201

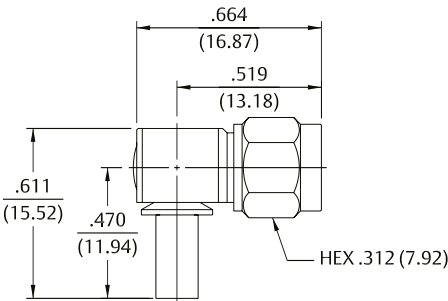
Straight Crimp Type Plug (3-piece) - Captivated Contact



Cable Type	VSWR & Freq. Range	Gold Plated
RG-316/U, 188, 174	1.15 + .02f (GHz) 0-12.4 GHz	142-9403-011
RG-316 DS, 188 DS	1.15 + .02f (GHz) 0-12.4 GHz	142-9404-011
RG-58/U, 141	1.15 + .01f (GHz) 0-12.4 GHz	142-9407-001

See assembly instructions page 25

Right Angle Crimp Type Plug - Captivated Contact



Cable Type	VSWR & Freq. Range	Gold Plated	Silver Plated
RG-316/U, 188, 174	1.15 + .03f (GHz) 0-12.4 GHz	142-9403-101	142-9403-104
RG-316 DS, 188 DS	1.15 + .03f (GHz) 0-12.4 GHz	142-9404-101	
RG-58/U, 141	1.15 + .02f (GHz) 0-12.4 GHz	142-9407-101	142-9407-104

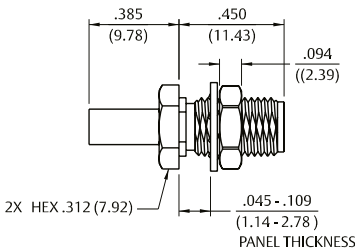
See assembly instructions page 25

NON-MAGNETIC RF CONNECTORS



SMA Non-Magnetic RF Connectors For PC Mount

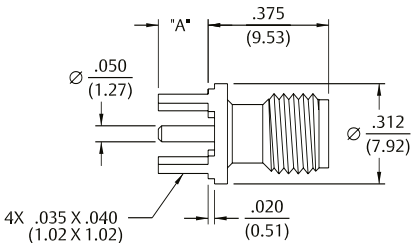
Straight Crimp Type Blukhead Jack (3-piece) - Captivated Contact



Cable Type	VSWR & Freq. Range	Gold Plated
RG-316/U, 188, 174	1.15 + .02f (GHz) 0-12.4 GHz	142-9303-411

See assembly instructions page 25
Mounting hole layout figure 5 on page 14

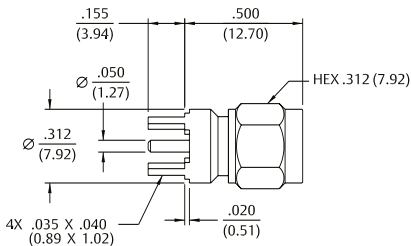
Straight Jack Receptacle



Frequency Range	Gold Plated	"A"
0-18 GHz	142-9701-201	.155 (3.94)
0-18 GHz	142-9701-211	.110 (2.79)

Mounting hole layout figure 6 on page 14

Straight Plug Receptacle



Frequency Range	Gold Plated
0-18 GHz	142-9801-201

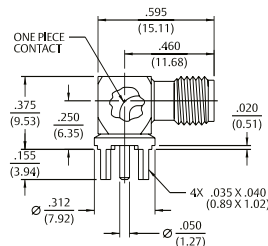
Mounting hole layout figure 6 on page 14

NON-MAGNETIC RF CONNECTORS



SMA Non-Magnetic RF Connectors For PC Mount

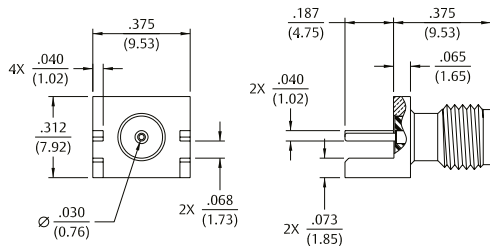
Right Angle Receptacle



Frequency Range	Gold Plated
0-18 GHz	142-9701-301

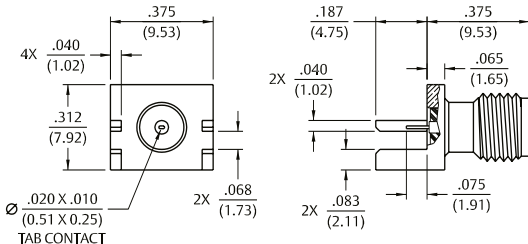
Mounting hole layout figure 6 on page 14

End Launch Receptacle - Round Contact



Frequency Range	Gold Plated	Board Thickness
0-10 GHz	142-9701-801	.062 (1.57)

End Launch Receptacle - Tab Contact



Frequency Range	Gold Plated	Board Thickness
0-10 GHz	142-9701-811	.062 (1.57)

Mounting hole layout

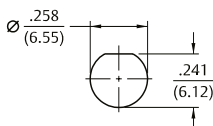


Fig 5

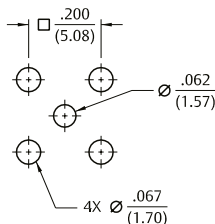


Fig 6

NON-MAGNETIC RF CONNECTORS



SMB Non-Magnetic RF Connectors

ELECTRICAL SPECIFICATIONS			
Impedance:		50 Ohms	
Frequency Range		Connectors	0 - 4 GHz
VSWR: (f = GHz)			
		Straight Cable Connectors	Right Angle Cable Connectors
	RG-316 Uncabled Receptacles	1.25 + .04f N/A	1.35 + .04f N/A
Working Voltage (VRMS maximum)	Connectors for Cable Type		
	RG-316, Uncabled Receptacles	Sea Level	70K Feet
		335	85
Dielectric Withstanding Voltage (VRMS minimum at sea level)			
	Connectors for RG-316, Uncabled Receptacles		1000
Insulation Resistance		1000 megohms minimum	
Contact Resistance (milliohms maximum)		Initial	After Environmental
	Center Contact (straight cabled connectors, uncabled receptacles)	6.0	8.0
	Center Contact (right angle cabled connectors)	12.0	16.0
	Outer Contact	1.0	1.5
	Braid to Body	.10	N/A
Corona Level (Volts minimum at 70,000 feet)			
	Connectors for RG-316 Uncabled Receptacles		250 N/A
Insertion Loss (dB maximum, tested at 1.5 GHz)			
	Straight Cable Connectors		0.3 dB
	Right Angle Cable Connectors		0.6 dB
	Uncabled Receptacles		N/A
RF Leakage (dB minimum tested at 2.5 GHz)			
	Cable Connectors		-55 dB
	Uncabled Receptacles		N/A
RF High Potential Withstanding Voltage (VRMS minimum, tested at 4 and 7 MHz)			
	Connectors for RG-316 Uncabled Receptacles		700 600

MECHANICAL SPECIFICATIONS			
Engagement Design		MIL-STD-348, Series SMB	
Engagement / Disengagement Force		2 pounds min to 14 pounds maximum axial force / 4 lb minimum axial force (captivated contacts)	
Contact Retention		4 lb minimum axial force (captivated contacts); 1 inch-ounce minimum torque (uncabled receptacles)	
Cable Retention			
	Connectors for RG316	Axial Force* (lbs)	Torque (in-oz)
	*Or cable breaking strength whichever is less.	20	N/A
Durability:		500 cycles minimum	

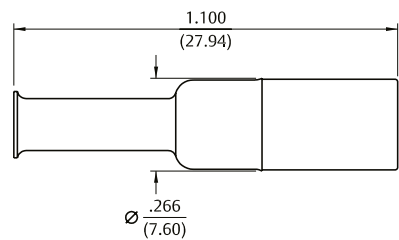
ENVIRONMENTAL SPECIFICATIONS (Meets or Exceeds the Applicable Paragraph of MIL-RF-39012)	
Temperature Range	-65°C to +165°C
Thermal Shock	MIL-STD-202, Method 107, Condition B
Corrosion	MIL-STD-202, Method 101, Condition B
Shock	MIL-STD-202, Method 213, Condition I

NON-MAGNETIC RF CONNECTORS



SMB Non-Magnetic RF Connectors For Flexible Cable

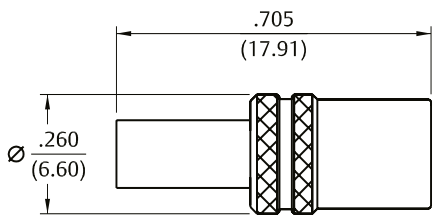
Straight Crimp Type Plug - Solder or Crimp Captivated Contact



Cable Type	Gold Plated
RG-316/U, 188, 174, 179, 187	131-9403-001
RG-316 DS, 188 DS, 179 DS, 187 DS	131-9404-001

See assembly instructions page 27

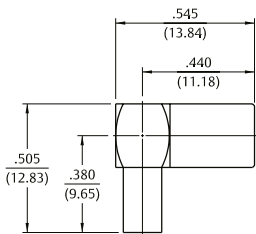
Straight Crimp Type Plug (3-piece), Solder or Crimp Captivated Contact



Cable Type	Gold Plated
RG-316/U, 188, 174, 179, 187	131-9403-021
RG-316 DS, 188 DS, 179 DS, 187 DS	131-9404-021

See assembly instructions page 27

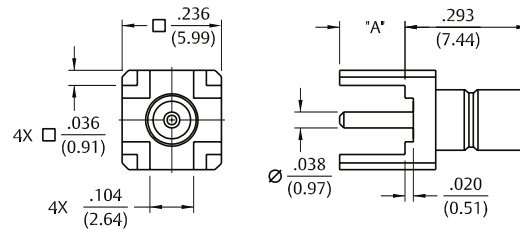
Right Angle Crimp Type Plug - Captivated Contact



Cable Type	Gold Plated
RG-316/U, 188, 174, 179, 187	131-9403-101
RG-316 DS, 188 DS, 179 DS, 187 DS	131-9404-101

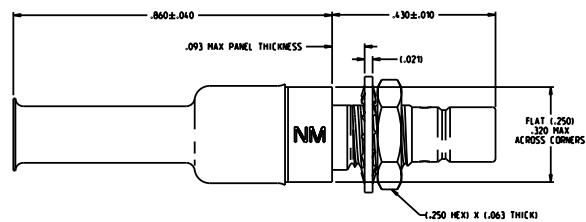
See assembly instructions page 27

Straight Jack Receptacle

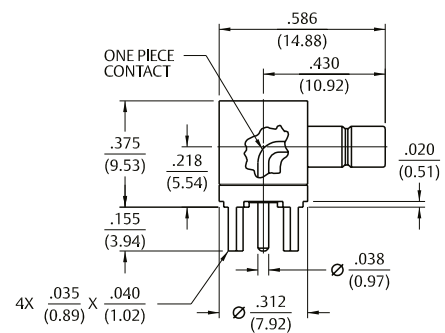


Gold Plated	"A"
131-9701-201	.155 (3.94)
131-9701-211	.095 (2.41)

Straight Bulkhead Jack, Crimp Type, Flexible Cable



Gold Plated
131-9303-401



Gold Plated
131-9701-301

16

NON-MAGNETIC RF CONNECTORS



SMB Non-Magnetic RF Connectors For Flexible Cable

Mounting hole layout

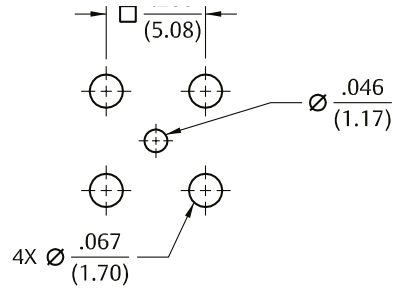


Fig 7

NON-MAGNETIC RF CONNECTORS



Type N Non-Magnetic RF Connectors

ELECTRICAL SPECIFICATIONS			
Impedance:		50 Ohms	
Frequency Range	Flexible Cabled and Receptacles	0-11 GHz	
VSWR: (f = GHz)		0-11 GHz	
	Straight Flexible Cabled Uncabled Receptacles	1.3 max N/A	
Working Voltage (VRMS maximum)	Connectors for Cable Type	Sea Level	70K Feet
	RG-55/U	335	85
	RG-214, LMR-400 Cabled	1000	250
	Uncabled Receptacles	1000	250
Dielectric Withstanding Voltage (VRMS minimum at sea level)			
	RG-55	1000	
	RG-214, LMR-400 Cabled	2500	
	Uncabled Receptacles	2500	
Insulation Resistance	5000 megohms minimum		
Contact Resistance (milliohms maximum)		Initial	After Environmental
	Straight Cabled (non-captivated)	1.0	1.5
	Straight Cabled (captivated)	2.5	3.0
	Uncabled Receptacles	1.0	1.5
	Outer contact	0.2	N/A
	Braid to body	0.05	N/A
Corona Level (Volts minimum at 70,000 feet)			
	RG-55	250	
	RG-214, LMR-400 Cabled	500	
	Uncabled Receptacles	N/A	
Insertion Loss (dB maximum, tested at 9 GHz)			
	Straight Cable Connectors	0.15 max	
	Right Angle Cable Connectors	0.30 max	
	Uncabled Receptacles	N/A	
RF Leakage (dB minimum tested at 2.5 GHz)			
	Cable connectors	90	
	Uncabled receptacles	N/A	
RF High Potential Withstanding Voltage	(VRMS minimum, tested at 4 and 7 MHz)		
	RG-55	670	
	RG-214, LMR-400 Cabled	1500	
	Uncabled Receptacles	1500	
IMP3		Typically < -90 dBm	

(tested per IEC Guidelines using 20 W inputs swept over 1930-1990 MHz)

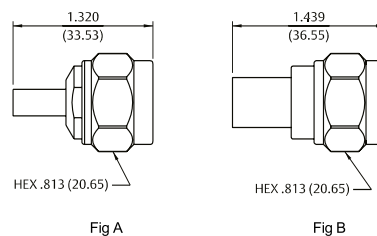
MECHANICAL SPECIFICATIONS			
	Cabled Connectors	Axial Force (lbs)	Torque (in-oz)
	Uncabled Receptacles	6	N/A
		6	4
Cable Retention (minimum*)		Axial Force (lbs)	Torque (in-oz)
	RG-55 Cabled	45	N/A
	RG-214, LMR-400 Cabled	90	N/A
	*Or cable breaking strength whichever is less.		
ENVIRONMENTAL SPECIFICATIONS			
Engagement Design	MIL-STD-348A, Series N	Bulkhead Mounting Nut Torque	15 inch-pounds recommended
Engagement / Disengagement Force	6 inch-pounds maximum	Coupling Proof Torque	15 inch-pounds minimum
Durability	500 Cycles minimum	Coupling Nut Retention	100 pounds minimum
Mating Torque	7 to 10 inch-pounds	Contact Retention	minimum - captivated contacts only

NON-MAGNETIC RF CONNECTORS



Type N Non-Magnetic RF Connectors For Flexible Cable

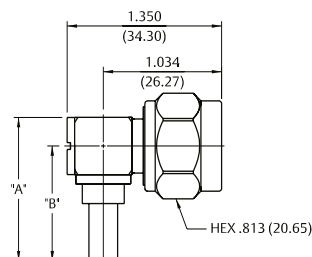
Straight Crimp Type Plug – Solder or Crimp Contact



Cable Type	VSWR & Freq. Range	Tri-Alloy Plated Figure	
RG-55/U, 142, 223, 400	1.30 Max, 0-11 GHz	138-9408-007	A
LMR-400, BELDEN 9913	1.30 Max, 0-11 GHz	138-9449-007	B

See assembly instructions page 28

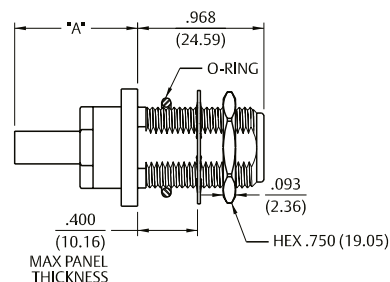
Right Angle Crimp Type Plug – Captivated Contact



Cable Type	VSWR & Freq. Range		Tri-Alloy Plated	"A"	"B"
RG-55/U, 142, 223, 400	1.35 Max, 0-9 GHz	1.50 Max, 9-11 GHz	138-9408-107	1.253 (31.83)	1.003 (25.48)
RG-9/U, 214	1.35 Max, 0-9 GHz	1.50 Max, 9-11 GHz	138-9418-107	1.365 (34.67)	1.115 (28.32)

See assembly instructions page 28

Straight Crimp Type Bulkhead Jack – Solder or Crimp Contact



Cable Type	VSWR & Freq. Range	Tri-Alloy Plated	"A"
RG-55/U, 142, 223, 400	1.30 Max, 0-11 GHz	138-9308-407	.943 (23.95)
LMR-400, BELDEN 9913	1.30 Max, 0-11 GHz	138-9349-407	.997 (25.32)

See assembly instructions page 28

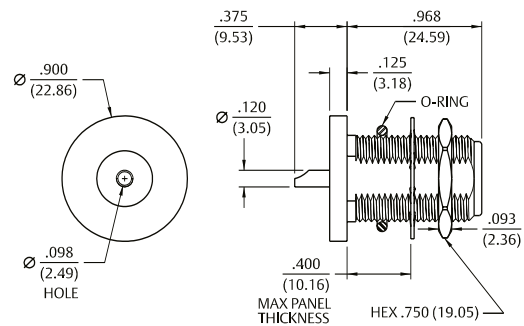
Mounting hole layout figure 8 on page 21

NON-MAGNETIC RF CONNECTORS



Type N Non-Magnetic RF Connectors For Bulkhead and Flange Mount

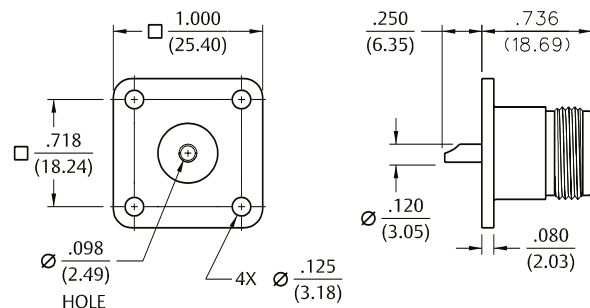
Rear Mount Bulkhead Jack Receptacle



Freq. Range	Tri-Alloy Plated
0-11 GHz	138-9701-407

Mounting hole layout figure 8 on page 21 (below)

4-Hole Flange Mount Jack Receptacle – Flush Dielectric



Freq. Range	Tri-Alloy Plated
0-11 GHz	138-9701-607

Mounting hole layout figure 8 on page 21 (below)

Mounting Hole Layout

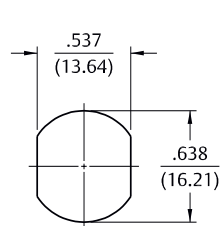


Fig 8

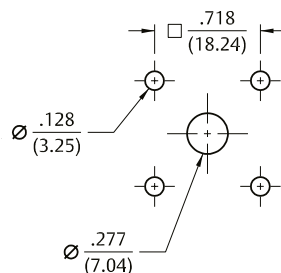


Fig 9



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