

SMP Connectors



Contents

	Page
Description	1
Characteristics	2
Interface Dimensions	3
Applications	4
Male shrouds with bullet adapter	4
Male shrouds with cable connectors.....	5
Products	6
Cable connectors	6
PCB mounts	7
Flange mounts	7
Thread-in shrouds	8
Press-in shrouds	9
Hermetic shrouds	9
Hermetic seal	10
Adapters	10
Mounting Holes	11
Assembly Instructions	12
Indexes	14

Description

The new Anoisn SMP BLIND-MATE 8 GHz CONNECTORS offer customers a low cost alternative for those applications where the small size of an SMP is desired, but not the need for high frequency. They are compatible with all industry standard SMP and GPO® connectors.

Anoisn SMP micro-miniature connectors have been optimized for VSWR performance in microstrip designs and feature excellent matching characteristics. Cable connectors will accept flexible cable, conformable and semi-rigid cables. Hermetically sealed male connectors are available for those applications where the ingress of liquid, air or gas needs to be eliminated. These hermetic versions of our popular SMP connectors are small, compact and light, owing to their single component hermetic design.

The Full Detent interface is generally used for cable connections, where a more secure mating is required. The Limited Detent is typically selected as the snap-on interface for PCB mount and blind-mate applications.

The Smooth compensate for axial and radial misalignment, and have the same engage / disengage force. However the Smooth compensate interface design makes it easier to connect more accurately, and is generally used for blind-mate applications.



Characteristics

Electrical:

- Impedance: 50 Ω
- Frequency Range: DC to 8 GHz
- VSWR:
 - Semi-Rigid Straight Cabled Connectors.....≤1.10 (DC to 8 GHz)
 - Semi-Rigid Right Angle Cabled Connectors.....≤1.15 (DC to 8 GHz)
- RF Leakage: -80dB to 3 GHz, -65dB from 3 to 26.5 GHz

Mechanical:

- Interface Design: MIL-STD-348A, Series SMP
- Engagement Force:
 - Full Detent (FD) 15 lbs (66.7 N) max.
 - Limited Detent (LD) 10 lbs (44.5 N) max.
 - Smooth Bore (SB) 2 lbs (8.9 N) max.
- Disengagement Force:
 - Full Detent (FD) 5 lbs (22.25 N) min.
 - Limited Detent (LD) 2 lbs (8.9 N) min.
 - Smooth Bore (SB) 0.5 lbs (2.2 N) min.
- Contact Retention: 1.5 pounds min. axial force
- Axial Misalignment: .000/.010"
- Radial Misalignment: .010" centerline to centerline(.020" with special shrouds)
- Durability:
 - Full Detent (FD) 100 mating cycles min.
 - Limited Detent (LD) 500 mating cycles min.
 - Smooth Bore (SB) 1000 mating cycles min.

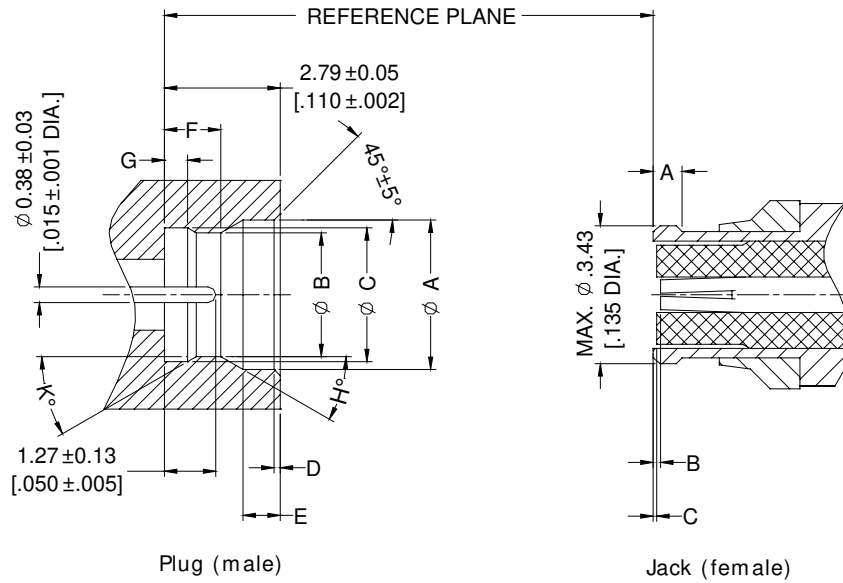
Environmental:

- Temperature: -55°C to +155°C
- Thermal Shock: MIL-STD-202, Method 107, Condition B (except high temp +155°C or max high temp of cable)
- Corrosion: MIL-STD-202, Method 101, Condition B
- Shock (specified pulse): MIL-STD-202, Method 213, Condition I
- Vibration: MIL-STD-202, Method 204, Condition D
- Moisture Resistance: MIL-STD-202, Method 106 (except step 7b omitted)

Material:

- Body: Stainless Steel, Type 303, per ASTM A582, Passivated per MIL-DTL-14072 (EL 300); Beryllium Copper Alloy per ASTM B196, Gold Plated per MIL-DTL-45204 (.00005" min.)
- Contact: Beryllium Copper per ASTM B196, Gold Plated per MIL-DTL-45204 (.00005" min.)
- Dielectric: PTFE Fluorocarbon per ASTM D1710
- Hermetic Seal: Glass bead

Interface Dimensions

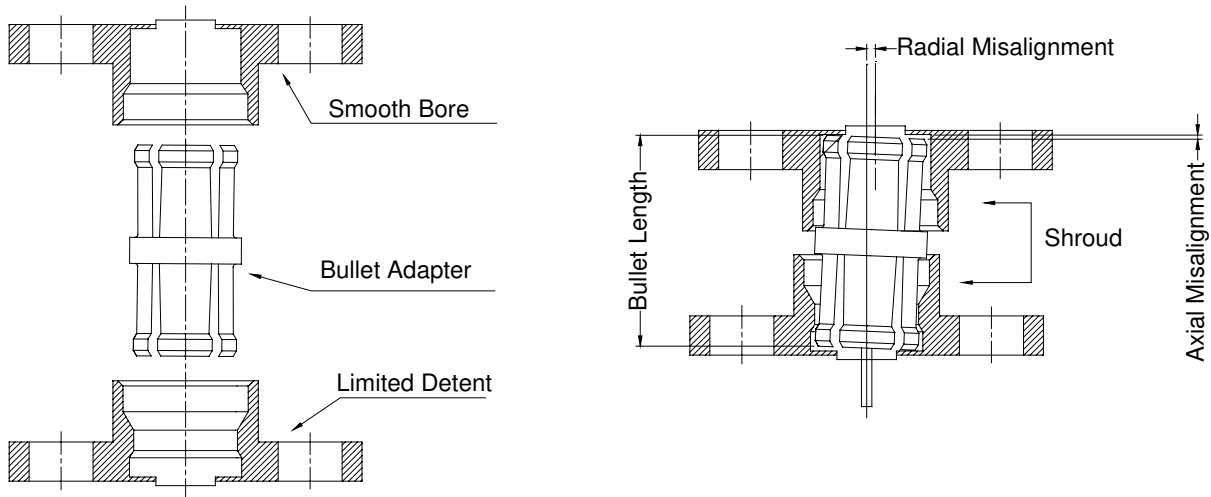


SMP Jack (female)				
	Cabled		Uncabled	
	min.	max.	min.	max.
A	0.64/.025	0.89/.035	0.46/.018	0.64/.025
B	0.00/.000	0.20/.008	0.00/.000	0.20/.008
C	0.00/.000	-	0.00/.000	-

SMP Plug (male)						
	Full Detent		Limited Detent		Smooth Bore	
	min.	max.	min.	max.	min.	max.
A	3.53/.139	3.68/.145	3.53/.139	3.68/.145	3.53/.139	3.68/.145
B	2.92/.114	3.00/.118	3.00/.118	3.10/.122	3.12/.123	3.23/.127
C	3.15/.124	3.20/.126	3.15/.124	3.20/.126	-	-
D	0.08/.003	0.20/.008	0.08/.003	0.20/.008	0.08/.003	0.20/.008
E	0.84/.033	0.94/.037	0.84/.033	0.94/.037	0.84/.033	0.94/.037
F	1.30/.051	1.45/.057	1.37/.054	1.52/.060	1.50/.059	1.65/.065
G	0.52/.0205	0.60/.0235	0.52/.0205	0.60/.0235	-	-
H	35° REF	35° REF	35° REF	35° REF	35° REF	35° REF
k	30° REF	30° REF	30° REF	30° REF	-	-

Applications

Male shrouds with bullet adapters



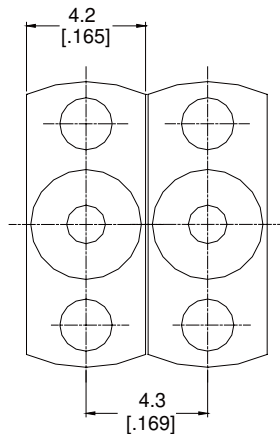
In blind-mate applications, panel mount shrouds are used with “bullet” adapters to provide axial and radial “float” for proper mating.

The bullet adapter mates with the pins of hermetic seals soldered into the panels.

In these applications, one shrouds connectors will be typically specified as a “limited detent” type, and the other as a “smooth bore” type. This pairing keeps mating and unmating forces to a minimum, and retains the bullet adapter in the “limited detent” shroud when the panels are separated.

The space between panels when mated can be changed by the use of different-length bullet adapters.

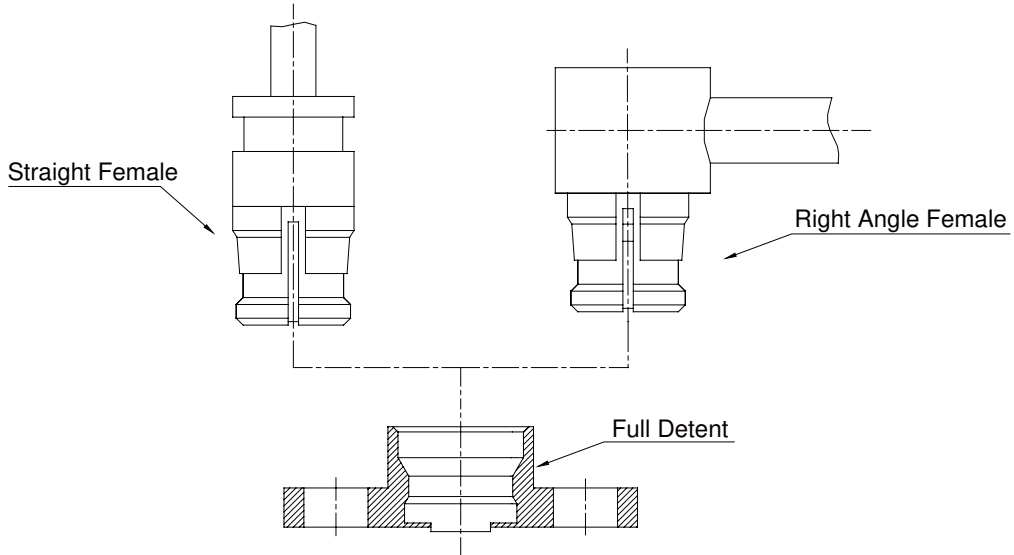
Spacing for Mounted Shrouds



Shrouds may be mounted with centerline spacing as little as 4.3 [.169] for units with 4.2 [.165] wide flanges.

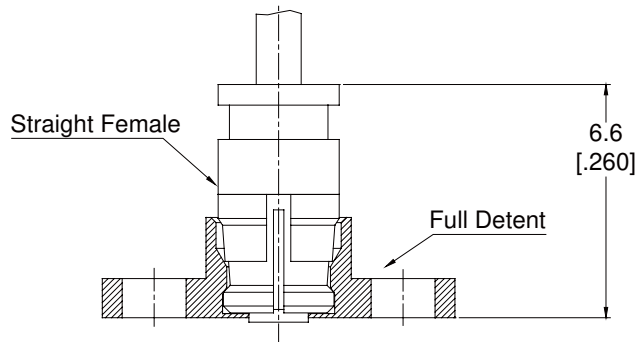
Applications

Male shrouds with cable connectors

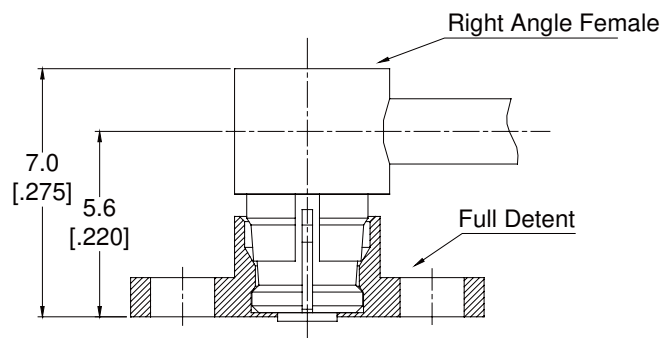


The Full Detent interface is used in application with cable connectors to provide secure mating.

Height above panel for typical straight cable connector



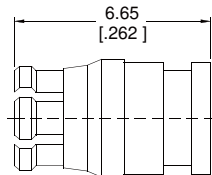
Height above panel for typical right angle cable connector



Products

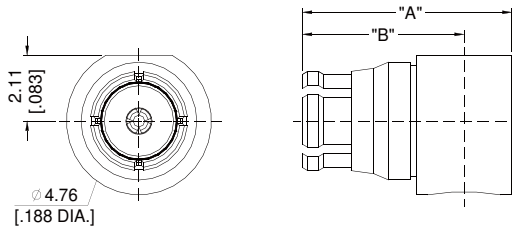
Cable Connectors

Straight solder type cabled jacks (female)



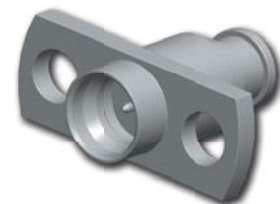
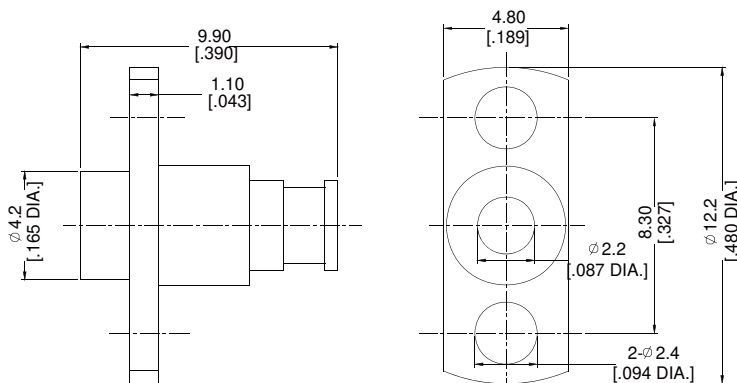
Part No.	Cable Group (Example)	Plating Body	Assembly Instruction
ANO 9312-2011	2/50/S (RG178)	Gold	AI 01
ANO 9312-2002	.047/50 (.047 semi-rigid)	Gold	AI 01
ANO 9312-2001	.083/.085/50 (.086 semi-rigid/RG405)	Gold	AI 03

Right angle solder type cabled jacks (female)



Part No.	Cable Group (Example)	Plating Body	Assembly Instruction	Dimension "A"	Dimension "B"
ANO 9322-2012	2/50/S (RG178)	Gold	AI 02	7.10/.279	5.28/.208
ANO 9322-2004	.047/50 (.047 semi-rigid)	Gold	AI 02	7.10/.279	5.28/.208
ANO 9322-2003	.083/.085/50 (.086 semi-rigid/RG405)	Gold	AI 04	7.55/.297	5.73/.226

Right angle solder type cabled plug (male) — flange mount

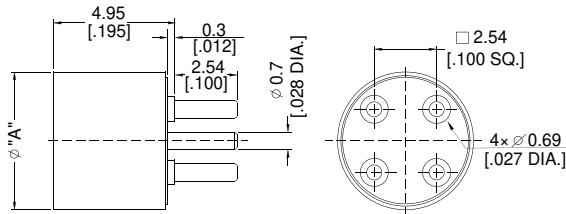


Part No.	Cable Group (Example)	Plating Body	Interface	Mounting Hole	Assembly Instruction
ANO 9311-2013	.083/.085/50 (.086 semi-rigid/RG405)	Gold / Passivation	Full detent	MH 10	AI 03

Products

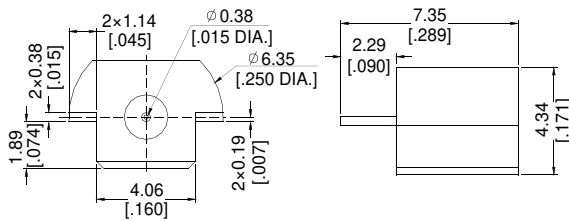
PCB Mounts

Straight PCB mount receptacle plugs (male)



Part No.	Plating Body	Interface	Mounting Hole
ANO 9311-4005-1	Gold / Passivation	Full detent	MH 29
ANO 9311-4005-2	Gold / Passivation	Limited detent	MH 29
ANO 9311-4005-3	Gold / Passivation	Smooth bore	MH 29

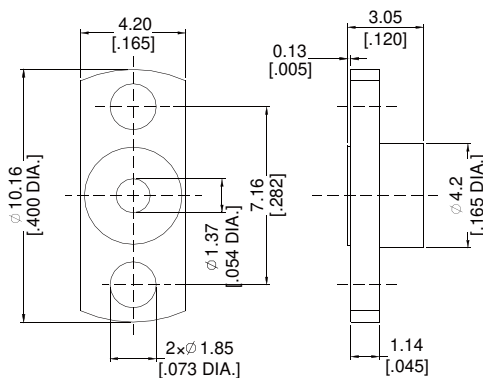
End launch receptacle plugs (male) – Surface mount



Part No.	Plating Body	Interface	Mounting Hole
ANO 9311-4006-1	Gold	Full detent	MH 31
ANO 9311-4006-2	Gold	Limited detent	MH 31
ANO 9311-4006-3	Gold	Smooth bore	MH 31

Flange Mounts

2-hole flange mount plugs (male) shroud – Without contact

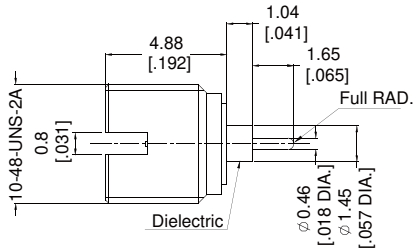


Part No.	Plating Body	Interface
ANO 9311-3007-1	Passivation	Full detent
ANO 9311-3007-2	Passivation	Limited detent
ANO 9311-3007-3	Passivation	Smooth bore

Products

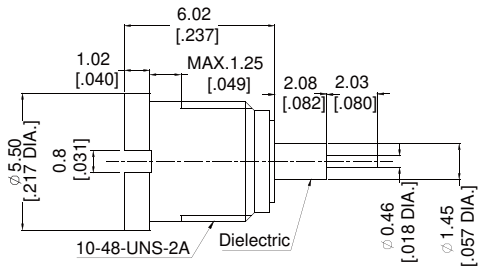
Thread-in Shrouds

Straight thread-in terminal, .018" contact plugs (male)



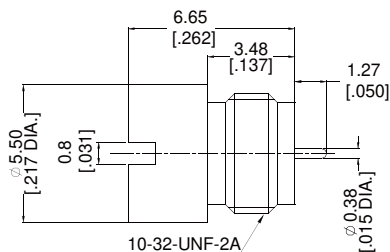
Part No.	Plating Body	Interface
ANO 9311-5014-1	Gold	Full detent
ANO 9311-5014-2	Gold	Limited detent
ANO 9311-5014-3	Gold	Smooth bore

Straight thread-in terminal, .018" contact plugs (male)



Part No.	Plating Body	Interface
ANO 9311-5015-1	Gold	Full detent
ANO 9311-5015-2	Gold	Limited detent
ANO 9311-5015-3	Gold	Smooth bore

Straight thread-in hermetic, .015" contact plugs (male)

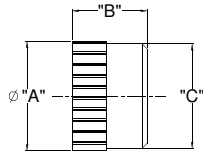


Part No.	Plating Body	Interface
ANO 9311-5016-1	Gold	Full detent
ANO 9311-5016-2	Gold	Limited detent
ANO 9311-5016-3	Gold	Smooth bore

Products

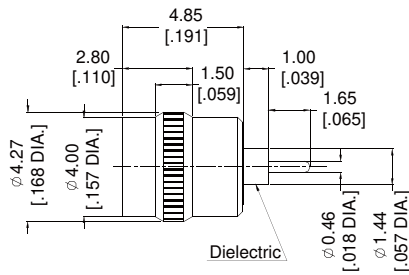
Press-in Shrouds

Straight press-in shroud plugs (male), no center conductor



Part No.	Plating Body	Interface	"A"	"B"	"C"	Mounting Hole
ANO 9311-5017	Gold	Limited detent	4.42/.174	3.10/.120	4.32/.170	MH 36
ANO 9311-5019	Gold	Limited detent	3.90/.154	2.00/.080	3.60/.143	MH 35

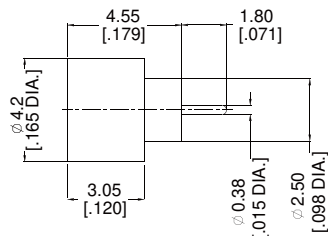
Straight press-in terminal plugs (male)



Part No.	Plating Body	Interface
ANO 9311-5018-1	Gold	Limited detent
ANO 9311-5018-2	Gold	Smooth bore

Hermetic Shrouds

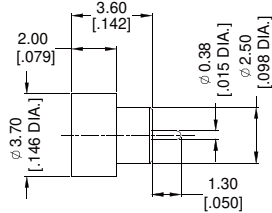
Hermetic Shroud plugs (male), full shroud full body



Part No.	Plating Body	Interface	Mounting Hole
ANO 9311-6010-1	Gold	Full detent	MH 32 / MH 33
ANO 9311-6010-2	Gold	Limited detent	MH 32 / MH 33
ANO 9311-6010-3	Gold	Smooth bore	MH 32 / MH 33

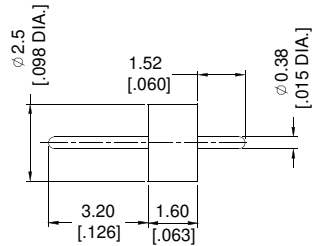
Products

Hermetic Shroud plugs (male), half shroud full body



Part No.	Plating Body	Interface	Mounting Hole
ANO 9311-6009-1	Gold	Full detent	MH 32 / MH 33
ANO 9311-6009-2	Gold	Limited detent	MH 32 / MH 33
ANO 9311-6009-3	Gold	Smooth bore	MH 32 / MH 33

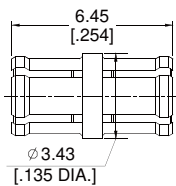
Hermetic Seal



Part No.	Plating Body	Mounting Hole
HS-04	Gold	MH 34

Bullet Adapter

Female to female

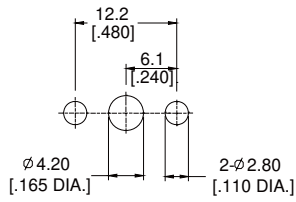


Part No.	Plating Body
ANO 932-932-1082	Gold

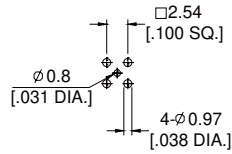
Mounting Holes

Recommended Mounting Hole Dimensions

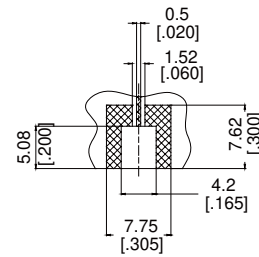
MH 10



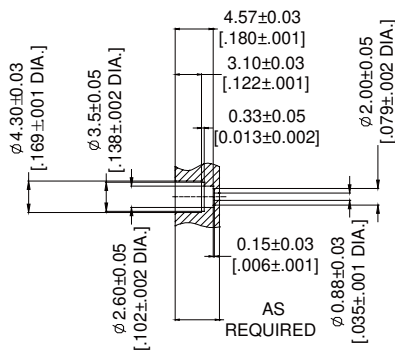
MH 29



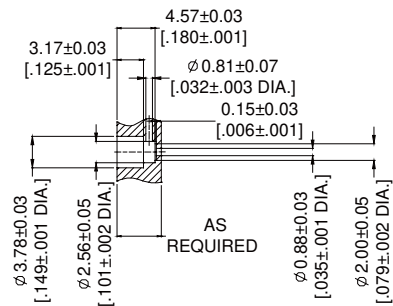
MH 31



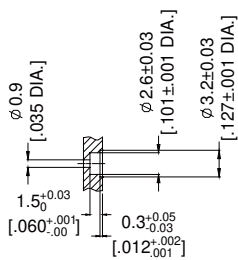
MH 32



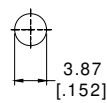
MH 33



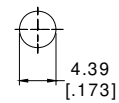
MH 34



MH 35



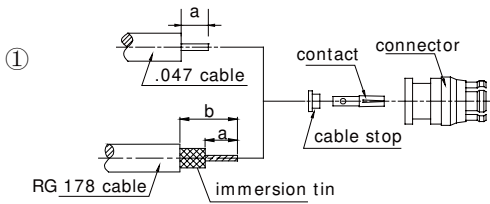
MH 36



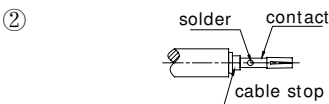
Assembly Instructions

AI 01

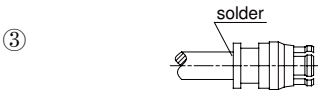
Part No.	Cable Group (Example)	Stripping Length	
		a (mm/ inch)	b (mm/ inch)
ANO 9312-2002	.047/50 (ANO SR047)	2.2/.087	-
ANO 9312-2011	2/50/S (RG178)	2.2/.087	5.5/.216



- 1.1 Strip the cable. RG 178 cable need to immersion tin.
- 1.2 Insert center conductor into the cable stop as show and place contact onto center conductor.



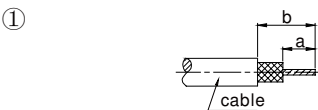
- 2.1 Solder the center conductor onto the cable.
- 2.2 Clean soldering area



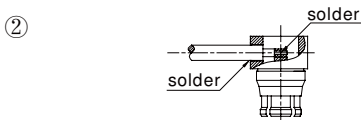
- 3.1 Solder the body onto the cable.
- 3.2 Clean soldering area.

AI 02

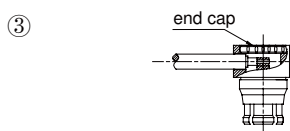
Part No.	Cable Group (Example)	Stripping Length	
		a (mm/ inch)	b (mm/ inch)
ANO 9322-2004	.047/50 (ANO SR047)	0.9/.035	1.6/.063
ANO 9322-2012	2/50/S (RG178)	0.9/.035	1.6/.063



- 1.1 Strip the cable. RG 178 cable need to immersion tin.



- 2.1 Solder contact to center conductor through rear access port in connector body using a minimum amount of solder and heat for a good joint.
- 2.2 After center conductor solder joint has cooled, solder connector body to cable jacket.
- 2.3 Clean soldering area.



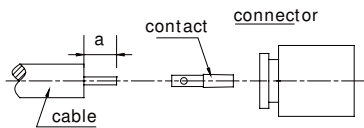
- 3.1 Press end cap into rear access.

Assembly Instructions

AI 03

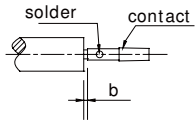
Part No.	Cable Group (Example)	Stripping Length	
		a (mm/ inch)	b (mm/ inch)
ANO 9312-2001	.083/.085/50 (ANO SR086 / RG405)	1.78/.070	0.25/.070
ANO 9311-2013	.083/.085/50 (ANO SR086 / RG405)	2.20/.087	-

①



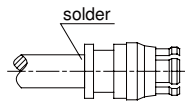
- 1.1 Strip the cable. Clean all debris from prepared cable.
- 1.2 place contact onto center conductor, insert solder shim between cable jacket and contact.

②



- 2.1 Solder the center conductor onto the cable.
- 2.2 Clean soldering area

③

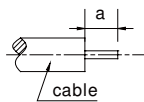


- 3.1 Solder the body onto the cable.
- 3.2 Clean soldering area.

AI 04

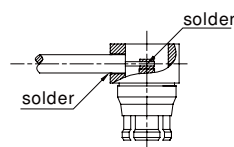
Part No.	Cable Group (Example)	Stripping Length
		a (mm/ inch)
ANO 9322-2003	.083/.085/50 (ANO SR086 / RG405)	1.89/.075

①



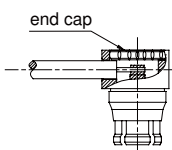
- 1.1 Strip the cable. Clean all debris from prepared cable.

②



- 2.1 Solder contact to center conductor through rear access port in connector body using a minimum amount of solder and heat for a good joint.
- 2.2 After center conductor solder joint has cooled, solder connector body to cable jacket.
- 2.3 Clean soldering area.

③



- 3.1 Press end cap into rear access.

Indexes

ANOISON P/ N	Description	Page
ANO 9312-2011	SMP straight jack (female) solder for RG178 cable	6
ANO 9312-2002	SMP straight jack (female) solder for .047" semi-rigid cable	6
ANO 9312-2001	SMP straight jack (female) solder for RG405/ .086" semi-rigid cable	6
ANO 9322-2012	SMP right angle jack (female) solder for RG178 cable	6
ANO 9322-2004	SMP right angle jack (female) solder for .047" semi-rigid cable	6
ANO 9322-2003	SMP right angle jack (female) solder for RG405/ .086" semi-rigid cable	6
ANO 9311-2013	SMP straight plug (male), 2-hole flange mount solder for RG405/ .086 semi-rigid cable	6
ANO 9311-4005-1	SMP straight plug (male), full detent, PCB mount receptacle	7
ANO 9311-4005-2	SMP straight plug (male), limited detent, PCB mount receptacle	7
ANO 9311-4005-3	SMP straight plug (male), smooth bore, PCB mount receptacle	7
ANO 9311-4006-1	SMP straight plug (male), full detent, surface mount receptacle	7
ANO 9311-4006-2	SMP straight plug (male), limited detent, surface mount receptacle	7
ANO 9311-4006-3	SMP straight plug (male), smooth bore, surface mount receptacle	7
ANO 9311-3007-1	SMP straight plug (male) , full detent, 2-hole flange mount shroud-without contact	7
ANO 9311-3007-2	SMP straight plug (male) , limited detent, 2-hole flange mount shroud-without contact	7
ANO 9311-3007-3	SMP straight plug (male) , smooth bore, 2-hole flange mount shroud-without contact	7
ANO 9311-5014-1	SMP straight plug (male), full detent, thread-in terminal, .018" contact	8
ANO 9311-5014-2	SMP straight plug (male), limited detent, thread-in terminal, .018" contact	8
ANO 9311-5014-3	SMP straight plug (male), smooth bore, thread-in terminal, .018" contact	8
ANO 9311-5015-1	SMP straight plug (male), full detent, thread-in terminal, .018" contact	8
ANO 9311-5015-2	SMP straight plug (male), limited detent, thread-in terminal, .018" contact	8
ANO 9311-5015-3	SMP straight plug (male), smooth bore, thread-in terminal, .018" contact	8
ANO 9311-5016-1	SMP straight plug (male), full detent, thread-in hermetic, .015" contact	8
ANO 9311-5016-2	SMP straight plug (male), limited detent, thread-in hermetic, .015" contact	8
ANO 9311-5016-3	SMP straight plug (male), smooth bore, thread-in hermetic, .015" contact	8
ANO 9311-5017	SMP straight plug (male), limited detent, press-in, no contact	9
ANO 9311-5019	SMP straight plug (male), limited detent, press-in, no contact	9
ANO 9311-5018-1	SMP straight plug (male), limited detent, press-in terminal	9
ANO 9311-5018-2	SMP straight plug (male), smooth bore, press-in terminal	9
ANO 9311-6010-1	SMP straight plug (male) shroud, full detent, solder-in hermetic, full shroud full body	9
ANO 9311-6010-2	SMP straight plug (male) shroud, limited detent, solder-in hermetic, full shroud full body	9
ANO 9311-6010-3	SMP straight plug (male) shroud, smooth bore, solder-in hermetic, full shroud full body	9
ANO 9311-6009-1	SMP straight plug (male) shroud, full detent, solder-in hermetic, half shroud full body	10
ANO 9311-6009-2	SMP straight plug (male) shroud, limited detent, solder-in hermetic, half shroud full body	10
ANO 9311-6009-3	SMP straight plug (male) shroud, smooth bore, solder-in hermetic, half shroud full body	10
ANO HS-04	SMP hermetic seal	10
ANO 932-932-1082	"Bullet" adapter, straight jack (female) to jack (female)	10



Contact

Anoison Electronics, LLC
508 Union Street
Portsmouth, NH 03801

Tel: (603) 431-1414
Fax: (603) 431-4511
Email: sales@anoison.com
Http://www.anoison.com