



BNC 75Ω RF CONNECTORS

To meet the need for higher performance, impedance matched cable interconnections, Amphenol offers a full line of 75 ohm BNC connectors. These connectors can be used in a variety of applications where true 75 ohm performance is needed to insure lower signal distortion.

Designed for most popular 75 ohm cables used in broadcast and CATV applications as well as for plenum cables, these connectors feature crimp-crimp cable attachment for quick and reliable installation. We also offer solder and printed circuit board types.

Two distinct types of 75 ohm BNCs are available. Both types mate with each other and with 50 ohm BNC connectors.

- Type 1 is designated 75 ohm BNC-T1 and provides constant 75 ohm performance with low VSWR DC to 4 GHz.
- Type 2 is designated 75 ohm BNC-T2 and is usable with low reflection DC to 1 GHz. For applications above 1 GHz, Type 1 is recommended.

Applications

- Broadcast
- High bandwidth video equipment
- D1/D2 serial digital
- Graphic work stations
- Telephony / Workstations

Options

- Crimp Plugs
- Crimp Jacks
- Crimp Bulkhead Jacks
- Plug to Plug adapters

- Jack to Jack adapters
- Plug to Plug U-Link connectors
- PCB Right angle – plastic
- PCB Right angle - metal

Ordering Codes

We have listed the more common ordering codes in each section. Amphenol offer an extensive range of RF connectors for most applications.

Please visit www.amphenolrf.com for further information. Please contact us if you need any further assistance.

Simple steps to guide you in using this catalogue

- 1) Identify the product group listed in Contents on Page 1 and go directly to that page number.
- 2) Each product group cover page then details information and options available.
- 3) Refer to the product detail pages and identify the product you require pictorially.
- 4) Read the product description column for the products standard features.
- 5) Use variations column to determine your choice.
- 6) Identify part number.
- 7) In the event the particular option you require is not listed please refer to the part number breakdown page at the end of each section.
- 8) Please contact us directly if you have any further problems.





Amphenol manufacture a large range of connectors to suit cables other than those listed below, for example Belden YR23769 and 46899, please contact us to discuss your specific requirements.

[Assembly Instructions Page 66-67](#)

[Specifications: Page 68-69](#)

[Panel Cutouts: Page 70](#)


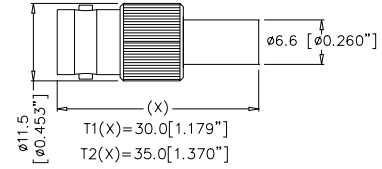

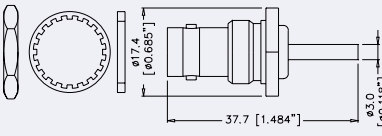

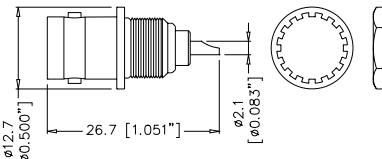

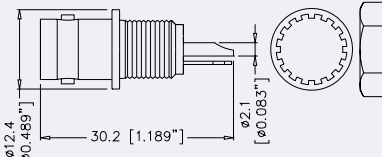

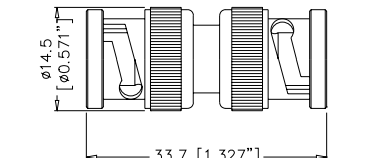

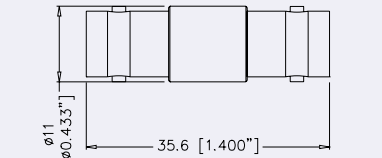

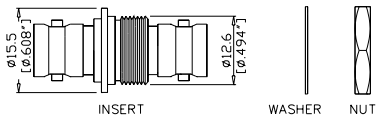

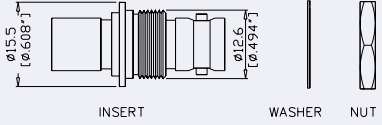
NOTES

CAI = Cable Assembly Instructions

PLT = Plating Code (Refer Specifications)

INS. = Cable Insulator Material (Refer Specifications)

PRODUCT - FIGURE	DRAWING Dimensions in mm (inches)	DESCRIPTION & CABLE TYPE RG-/U	NOTES			75Ω TYPE	PART NUMBER
			CAI	PLT.	INS.		
	 $\phi 14.5$ [$\phi 0.570$ "] $\phi 7.6$ [$\phi 0.299$ "] T1(X)=34.3[1.350"] T2(X)=30.7[1.210"]	Crimp Plug RG-6 Type .295" O.D. max. Belden 9248, 1694A (Single Shield)	C31	P15	D1	T1	31-70000
			C32	P7	D26	T2	31-71000 - RFX
	 $\phi 14.5$ [$\phi 0.570$ "] $\phi 6.6$ [$\phi 0.260$ "] T1(X)=31.7[1.248"] T2(X)=29.8[1.170"]	Crimp Plug 59, 62 Belden 8241, 8263, 8279, 9209	C31	P16	D1	T1	31-70008
			C32	P7	D26	T2	31-71008 - RFX
	 $\phi 14.5$ [$\phi 0.570$ "] $\phi 6.6$ [$\phi 0.260$ "] T1(X)=31.8[1.252"] T2(X)=29.8[1.170"]	Crimp Plug 59 Type (20AWG CC) Belden 1426A, 1505A, 9100, 9278	C31	P15	D1	T1	31-70008 - 3000
			C32	P7	D26	T2	31-71008 - 1RFX
	 $\phi 14.5$ [$\phi 0.570$ "] 31.7 [1.248"] $\phi 6.6$ [$\phi 0.260$ "]	Crimp Plug 59 Type centre conductor, Belden 1505A, 1426A, 9659, 9259, 9240, 8212, 9274, 9275, 9100	C31	P15	D1	T1	31-70008 - 1000
	 $\phi 14.5$ [$\phi 0.570$ "] $\phi 3.0$ [$\phi 0.118$ "] T1(X)=33.5[1.319"] T2(X)=30.2[1.190"]	Crimp Plug Miniature Coax, 179, 187	C31	P15	D1	T1	31-70013
			C32	P17	D26	T2	31-71013 - RFX
	 $\phi 14.5$ [$\phi 0.570$ "] 34.5 [1.358"] $\phi 8.5$ [$\phi 0.335$ "]	Crimp Plug Double Shield 59 (20 AWG CC)	C31	P15	D1	T1	31-70222

PRODUCT - FIGURE	DRAWING Dimensions in mm (inches)	DESCRIPTION & CABLE TYPE RG-/U	NOTES			75Ω TYPE	PART NUMBER
			CAI	PLT.	INS.		
	 $\phi 6.6$ [$\phi 0.260$ "] $\phi 11.5$ [$\phi 0.453$ "] (X) T1(X)=30.0[1.179"] T2(X)=35.0[1.370"]	Crimp Jack 59, Belden 8241, 8263	C31	P17	D1	T1	31-70009
		Crimp Jack 179, 187	C32	P7	D23	T2	31-71014 - RFX
	 $\phi 17.4$ [$\phi 0.685$ "] $\phi 3.0$ [$\phi 0.118$ "] 37.7 [1.484"]	Crimp Bulkhead Jack 179, 187	C31	P17	D1	T1	31-70016
		Crimp Bulkhead Jack 59, Belden 8241, 8263	C32	P15	D1	T2	31-71011
	 $\phi 12.7$ [$\phi 0.500$ "] 26.7 [1.051"] $\phi 2.1$ [$\phi 0.083$ "]	Solder Receptacle Front Mount	-	P7	D23	T2	31-221 - 75RFX
	 $\phi 12.4$ [$\phi 0.489$ "] 30.2 [1.189"] $\phi 2.1$ [$\phi 0.083$ "]	Solder Receptacle - Isolated With Ground Tab	-	P7	D12	T2	31-10-75- RFXG2
	 $\phi 14.5$ [$\phi 0.571$ "] 33.7 [1.327"]	Adapter Plug to Plug - Straight	-	P15	D1	T2	31 - 218 - 75RFX
	 $\phi 11$ [$\phi 0.433$ "] 35.6 [1.400"]	Adapter Jack to Jack - Straight	-	P17	D1	T1	31-70019
			-	P15	D1	T2	31-219-75
	 $\phi 15.5$ [$\phi 0.608$ "] $\phi 12.6$ [$\phi 0.494$ "] INSERT WASHER NUT	Bulkhead Adapter - Isolated Jack to Jack - Straight Bayonet Lock to Bayonet Lock	-	P7	D1	T1	AC-BNC-JJA-75
	 $\phi 15.5$ [$\phi 0.608$ "] $\phi 12.6$ [$\phi 0.494$ "] INSERT WASHER NUT	Bulkhead Adapter - Isolated Jack to Jack - Straight Push on to Bayonet Lock	-	P7	D1	T1	AC-BNC-PJA-75



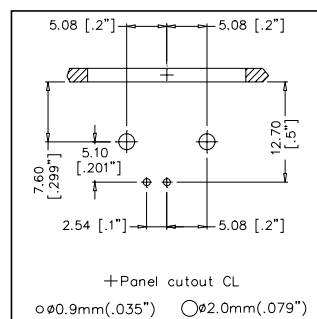
PRODUCT - FIGURE	DRAWING	Dimensions in mm (inches)	DESCRIPTION & CABLE TYPE RG-/U	NOTES			75Ω TYPE	PART NUMBER
				CAI	PLT.	INS.		
			Bulkhead Adapter - Isolated, 'D' Metal Shell Housing Jack to Jack, Bayonet Lock to Bayonet Lock, Nickel Finish	-	P7	D1	T2	AC - BNC - JJ - 75
			Bulkhead Adapter - Isolated, 'D' Metal Shell Housing Jack to Jack, Bayonet Lock to Bayonet Lock, Black Finish	-	P7	D1	T2	AC - BNC - JJ - 75B
			Bulkhead Adapter - Isolated, 'D' Metal Shell Housing Jack to Jack, Push on to Bayonet Lock, Nickel Finish	-	P7	D1	T2	AC - BNC - PJ - 75
			Bulkhead Adapter - Isolated, 'D' Metal Shell Housing Jack to Jack, Push on to Bayonet Lock, Black Finish	-	P7	D1	T2	AC - BNC - PJ - 75B
			U - Link Centre to Centre - 20.6 mm Note: Custom Sizes available please contact us.	-	P7	D1	T2	BNC - U-LINK 75*1

NOTE: Solder versions and 50Ω versions available contact us.

BNC 75Ω RF CONNECTORS FOR PRINTED CIRCUIT BOARD


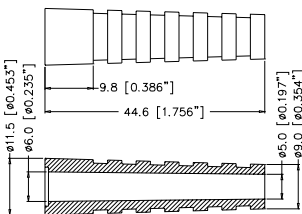

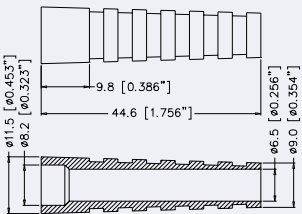

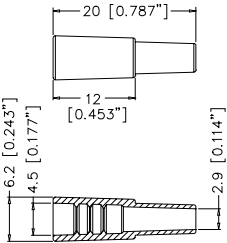

PRODUCT - FIGURE	DRAWING	Dimensions in mm (inches)	DESCRIPTION	VARIATIONS	PART NUMBER
			Right Angle PCB mount jack, White plastic body	Profile Dimension -15.88 mm	31-71047-10RFX
			Right Angle PCB mount jack, Metal body	Profile Dimension -15.88 mm	31-71043-RFX

PCB FOOTPRINT - CONNECTOR SIDE OF PCB

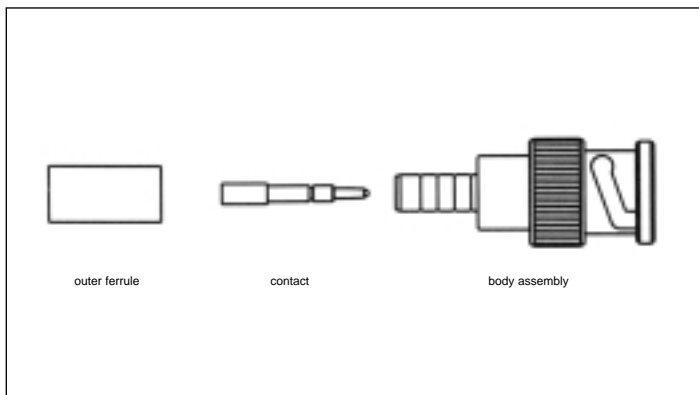


31-71047-10RFX
31-71043-RFX

BNC 75Ω ACCESSORIES AND TOOLING

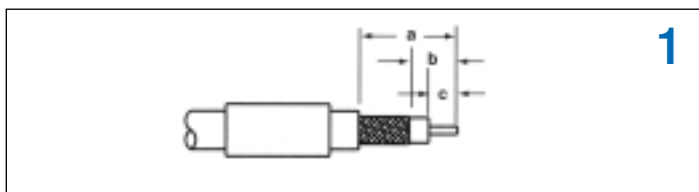
PRODUCT - FIGURE	DRAWING <small>Dimensions in mm (inches)</small>	DESCRIPTION	CABLE TYPE	COLOUR	PART NUMBER
		Strain - Relief boots	58	Black	60015 - 000
				Blue	60016 - 000
				Green	60017 - 000
				Red	60018 - 000
				Yellow	60019 - 000
				Orange	60020 - 000
				Grey	60026 - 000
		Strain - Relief boots	59	Black	60030 - 000
				Blue	60031 - 000
				Green	60032 - 000
				Red	60033 - 000
				Yellow	60034 - 000
				Orange	60035 - 000
				Grey	60042 - 000
		Strain - Relief boots	174	Black	60052 - 000
				Blue	60053 - 000
				Red	60054 - 000
				Orange	60055 - 000
				Green	60056 - 000
				Yellow	60057 - 000
	N/A	Crimp tool with Die Set	55/ 58/ 59/ 62/ 141/ 142/ 223/ 303/ 400	Not Applicable	47-10070
			6/ 174/ 188/ 316/ 179/ 187	Not Applicable	47-10200
			59/ 62/ 174/ 188/ 316/ 179/ 187	Not Applicable	47-10220
			6/ 59	Not Applicable	47-10110





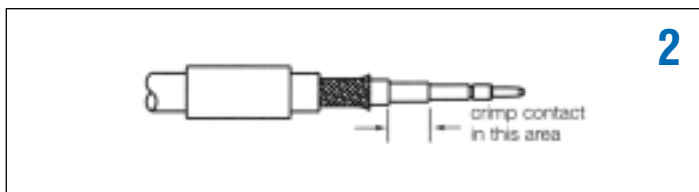
CRIMP TERMINATION FOR TYPE 1 - 75Ω CONNECTORS

AMPHENOL PART No.	TYPE	CABLE RG-/U	HEX CRIMP DATA			STRIPPING DIMENSIONS, mm (inches)		
			CAVITY FOR CONTACT	CAVITY FOR OUTER FERRULE	CRIMP TOOL	A	B	C
31-70000	Plug	6, Belden 9248, Plenum 6	1.3(0.52")sq.	8.2 (.324")	47-10110	14.7 (.577")	5.9 (.234")	3.6 (.140")
31-70008	Plug	59	1.3(0.52")sq.	6.5 (.225")	47-10110	14.7 (.577")	5.9 (.234")	3.6 (.140")
31-70008-1000	Plug	59 (20AWG CC)	1.3(0.52")sq.	6.5 (.225")	47-10110	14.7 (.577")	5.9 (.234")	3.6 (.140")
31-70008-3000	Plug	59 0.81 (.032" CC)	1.3(0.52")sq.	6.5 (.225")	47-10110	14.7 (.577")	5.9 (.234")	3.6 (.140")
31-70009	Jack	59	1.3(0.52")sq.	6.5 (.225")	47-10110	14.1 (.557")	5.4 (.214")	4.0 (.156")
31-70013	Plug	179, 187	1.3(0.52")sq.	4.5 (.178")	47-10220	14.7 (.577")	5.9 (.234")	3.6 (.140")
31-70016	Jack	179, 187	1.3(0.52")sq.	4.5 (.178")	47-10220	22.5 (.886")	11.4 (.451")	3.6 (.140")
31-70222	Plug	DB Shield 59	1.3(0.52")sq.	8.2 (.324")	47-10110	14.7 (.577")	5.9 (.234")	3.6 (.140")

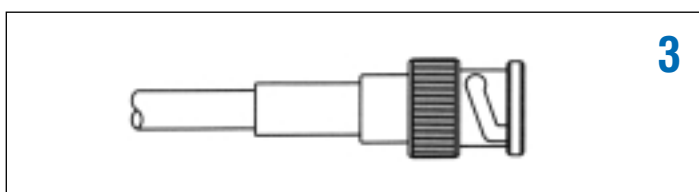


Slide outer ferrule over cables shown. Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule.
IMPORTANT: DO NOT COMB OUT BRAID.

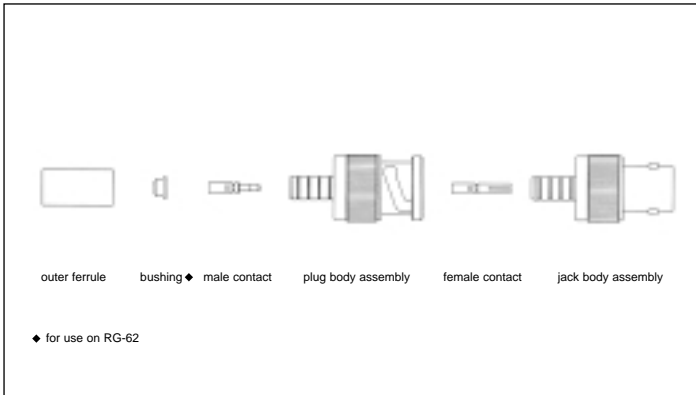
■ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back 2.5mm (.100") as shown. Before attaching centre contact, slide TFE sleeve (not shown) over cable dielectric and under braid. The centre contact should butt against the dielectric and TFE sleeve.



Place contact onto centre conductor so it butts against cable dielectric. Crimp contact in place.

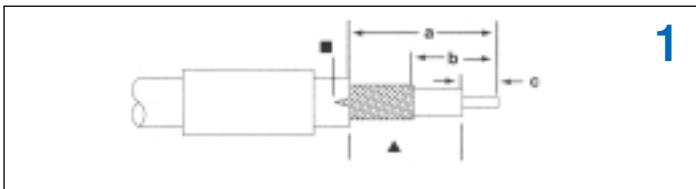


Install cable assembly into body assembly so inner ferrule slides over sleeve and under braid. Push cable assembly forward until contact seats in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule.



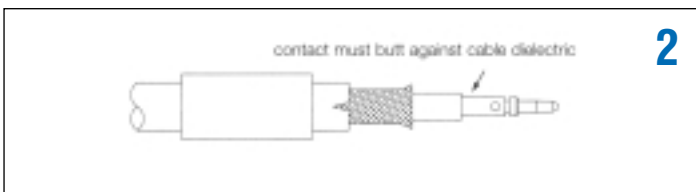
CRIMP TERMINATION FOR TYPE 2 - 75Ω CONNECTORS

AMPHENOL PART No.	TYPE	CABLE RG-/U	HEX CRIMP DATA			STRIPPING DIMENSIONS, mm (inches)		
			CAVITY FOR CONTACT	CAVITY FOR OUTER FERRULE	CRIMP TOOL	A	B	C
31-71000-RFX	Plug	6	1.7 (.068")	8.2 (.324")	47-10200	15.1 (.593")	6.4 (.250")	4.0 (.156")
31-71008-RFX	Plug	59, 62	1.7 (.068")	6.5 (.255")	47-10070	16.0 (.630")	7.7 (.303")	4.0 (.156")
31-71008-1RFX	Plug	59 (20AWG CC)	1.7 (.068")	6.5 (.255")	47-10070	16.0 (.630")	7.7 (.303")	4.0 (.156")
31-71013-RFX	Plug	179, 187	1.7 (.068")	4.5 (.178")	47-10200	15.0 (.590")	8.2 (.323")	3.0 (.118")
31-71014-RFX	Jack	179, 187	1.7 (.068")	4.5 (.178")	47-10200	14.5 (.571")	7.7 (.303")	4.0 (.156")
31-71011	Jack	59, 62	1.7 (.068")	6.5 (.255")	47-10070	15.1 (.593")	6.4 (.250")	4.0 (.156")

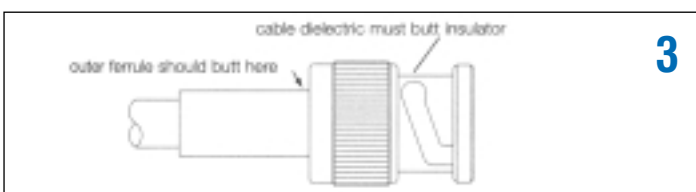


Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62, cable, trim an additional 1.0mm (.039") of insulation off centre conductor and add bushing] All cuts are to be sharp and square. **IMPORTANT: DO NOT NICK BRAID, DIELECTRIC AND CENTRE CONDUCTOR.** Slide outer ferrule onto cable as shown.

▲■ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back 2.5mm (.100") as shown. Before attaching centre contact, slide TFE sleeve (not shown) over cable dielectric and under braid. The centre contact should butt against the dielectric and TFE sleeve.



Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. **IMPORTANT: DO NOT COMB OUT BRAID.** Place contact on cable centre conductor so that it butts against cable dielectric. Crimp contact in place using Crimp Tool indicated in table above. When using RG-62, install bushing over centre conductor before installing contact.



Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Crimp Tool specified in table above.



STANDARD DATA BNC 75Ω RF CONNECTORS

		VALUE	
GENERAL CHARACTERISTICS	Mating	Bayonet Lock	
	Cable Attachment	Crimp - Crimp / Solder	
ELECTRICAL CHARACTERISTICS	Impedance	75Ω	
	Frequency Range	0 - 4 GHz	
	Voltage Rating	300V RMS	
	Dielectric withstanding voltage	1500 Volts RMS	
	VSWR		
	Type 1	1.5 + 0.1 f(GHz) DC to 4 GHz	
Type 2	1.0 + 0.25 f(GHz) DC to 1 GHz		
Insulation Resisance	500 MΩ min.		
MATERIALS	Part	Material	Finish
	Body, Coupling sleeves	Brass	Nickel
	Crimp Ferrule	Copper Alloy	Nickel
	Male Contact	Brass	Gold
	Female Contact	Beryllium Copper or Phosphor Bronze	Gold
	XLR Housing	Diecast Zinc Alloy	Satin Nickel or Black Polyester
INSULATOR / DIELECTRIC CODES	Code	Material	Finish
	D1	TFE or equiv. Per MIL-P-19468A	Natural
	D12	Noryl GFN2 20% Glass filled	Natural
	D23	Delrin	Natural
	D26	TPX	Natural
PLATING CODES	Code	Body	Contact
	P7	Nickel	Gold
	P15	Nickel	Gold over Nickel
	P16	Gold over Nickel	Gold over Nickel
	P17	Nickel	Gold over Copper



		VALUE
ENVIRONMENTAL	Shock	Mil-Std. 202 method 202
	Vibration	Mil-Std. 202 method 204 (test cond. D)
	Moisture Resistance	Mil-Std. 202 method 106
	Corrosion	Mil-Std. 202 method 101 (test cond. B)
	Temperature Cycling	Mil-Std. 202 method 102 (test cond. D)

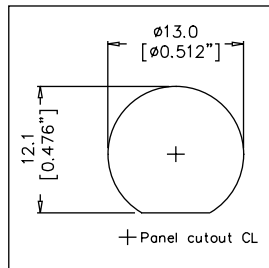
NOTE: These characteristics are typical and may not apply to all connectors.



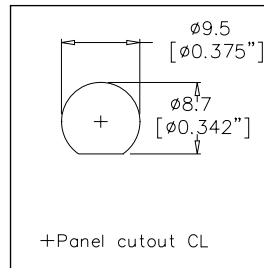
Amphenol

PANEL CUTOUTS - FRONT VIEW

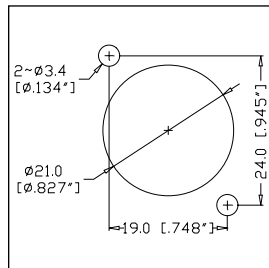
31-70016
31-71011



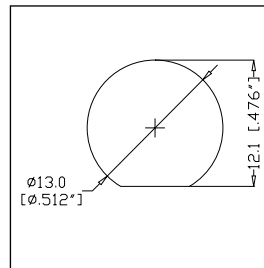
31-10-75RFXG2



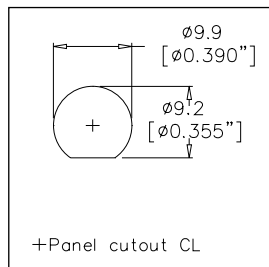
AC-BNC-PJ-75
AC-BNC-JJ-75



AC-BNC-PJA-75
AC-BNC-JJA-75



31-221-75RFX



31-71047-10RFX

