

- Easy, quick installation
- Outstanding cable-retention force
- Solder-solder connection type (center conductor and braid)

RF one-step BNC/TNC connectors for coaxial cable termination

Applications

RF one-step BNC/TNC connectors are single-piece assemblies for terminating the center conductor and the braid of a broad range of coaxial cables.

The connectors are fully intermateable with MIL-C-39012 connectors and are available in 50-ohm and 75-ohm versions.

Features/Benefits

- One-step termination for easy, quick installation and lower installed cost.
- Exceptional cable retention force to withstand high vibration and frequent mates and demates.
- Fully soldered center conductor and braid.
- Excellent built-in strain relief against vibration and excessive handling.
- Long-term reliability.
- Controlled soldering termination.
- Use with standard RG/U cables and Raychem Cheminax cables.
- Three product sizes to accommodate a wide range of cables.
- Meets performance requirements of MIL-C-39012 up to 2.8 GHz.

Product Options and Dimensions (mm/in)

BNC

Fig. 1
Straight
plug

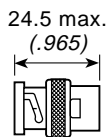


Fig. 2
Right-
angle
plug

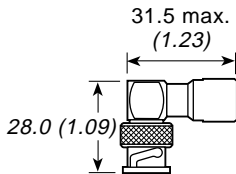


Fig. 3
Straight
bulkhead
jack

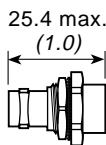


Fig. 4
Straight
jack

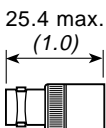
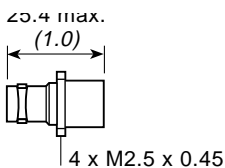


Fig. 5
Straight
panel
jack



TNC

Fig. 6
Straight
plug

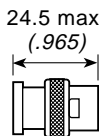


Fig. 7
Right-
angle
plug

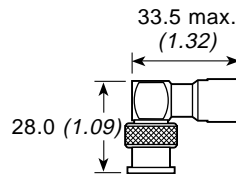


Fig. 8
Straight
bulkhead
jack

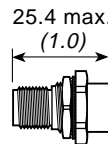


Fig. 9
Straight
jack

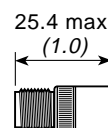
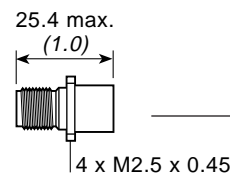
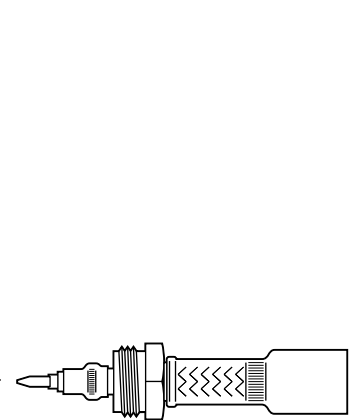


Fig. 10
Straight
panel
jack

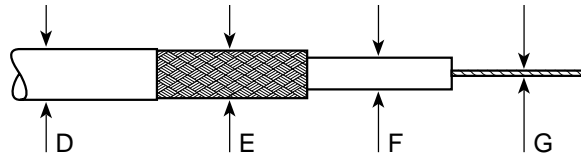


**Contact/cable transition
(male or female—
see part number selection table)**



Part Selection Process

1. From Product Options and Dimensions on the first page, select the connector style you need (BNC or TNC, plug or jack, male or female contacts) and note the Figure number of the style you selected.
2. From the tables that follow, find the appropriate table for the connector style and Figure you selected.
3. From the appropriate table, select the connector part number based on the RG cable type or Raychem cable part number. For cable types not shown use the cable dimensions.



Note: The cable dimensions in each table are keyed to the diagram on the right.

Part Number Selection

BNC Coaxial Connectors

Cable type Impedance (ohms)	Cable dimensions in millimeters (inches)		D (min.-max.)	E (min.-max.)	F (max.)	G (max.)	Part Number
	RG cables	Raychem cables					
BNC straight plugs, male contacts (Figure 1)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5-5.5 (.060-.217)	0.9-3.0 (.035-.118)	1.55 (.060)	0.65 (.025)	RBD-50-S-00
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5-7.0 (.138-.276)	2.1-5.0 (.083-.197)	3.0 (.118)	1.25 (.050)	RBD-50-M-00
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0-12.5 (.197-.500)	4.1-9.5 (.161-.375)	7.3 (.287)	2.45 (.100)	RBD-50-L-00
75	RG-179, RG-187	7530A1317	1.5-5.5 (.060-.217)	0.9-3.0 (.035-.118)	1.55 (.060)	0.65 (.025)	RBD-75-S-00
75		7524A1311, 7528A1317	3.5-7.0 (.138-.276)	2.1-5.0 (.083-.197)	3.0 (.118)	1.25 (.050)	RBD-75-M-00
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0-12.5 (.197-.500)	4.1-9.5 (.161-.375)	7.3 (.287)	2.45 (.100)	RBD-75-L-00
BNC right-angle plugs, male contacts (Figure 2)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5-5.5 (.060-.217)	0.9-3.0 (.035-.118)	1.55 (.060)	0.65 (.025)	RBD-50-S-01
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5-7.0 (.138-.276)	2.1-5.0 (.083-.197)	3.0 (.118)	1.25 (.050)	RBD-50-M-01
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0-12.5 (.197-.500)	4.1-9.5 (.161-.375)	7.3 (.287)	2.45 (.100)	RBD-50-L-01
75	RG-179, RG-187	7530A1317	1.5-5.5 (.060-.217)	0.9-3.0 (.035-.118)	1.55 (.060)	0.65 (.025)	RBD-75-S-01
75		7524A1311, 7528A1317	3.5-7.0 (.138-.276)	2.1-5.0 (.083-.197)	3.0 (.118)	1.25 (.050)	RBD-75-M-01
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0-12.5 (.197-.500)	4.1-9.5 (.161-.375)	7.3 (.287)	2.45 (.100)	RBD-75-L-01

BNC Coaxial Connectors

Cable type			Cable dimensions in millimeters (<i>inches</i>)				Part number
Impedance (ohms)	RG cables	Raychem cables	D (min.–max.)	E (min.–max.)	F (max.)	G (max.)	
BNC straight bulkhead jacks, female contacts (Figure 3)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RBD-50-S-02
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RBD-50-M-02
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RBD-50-L-02
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RBD-75-S-02
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RBD-75-M-02
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RBD-75-L-02
BNC straight jacks, female contacts (Figure 4)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RBD-50-S-03
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RBD-50-M-03
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RBD-50-L-03
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RBD-75-S-03
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RBD-75-M-03
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RBD-75-L-03
BNC straight panel jacks, female contacts (Figure 5)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RBD-50-S-04
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RBD-50-M-04
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RBD-50-L-04
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RBD-75-S-04
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RBD-75-M-04
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RBD-75-L-04

TNC Coaxial Connectors

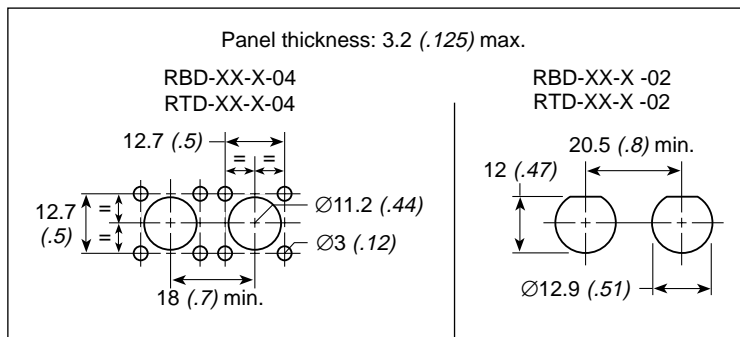
Cable type		Cable dimensions in millimeters (<i>inches</i>)				Part number	
Impedance (ohms)	RG cables	Raychem cables	D (min.–max.)	E (min.–max.)	F (max.)		G (max.)
TNC straight plugs, male contacts (Figure 6)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-50-S-00
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-50-M-00
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-50-L-00
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-75-S-00
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-75-M-00
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-75-L-00
TNC right-angle plugs, male contacts (Figure 7)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-50-S-01
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-50-M-01
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-50-L-01
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-75-S-01
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-75-M-01
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-75-L-01
TNC straight bulkhead jacks, female contacts (Figure 8)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-50-S-02
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-50-M-02
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-50-L-02
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-75-S-02
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-75-M-02
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-75-L-02

TNC Coaxial Connectors

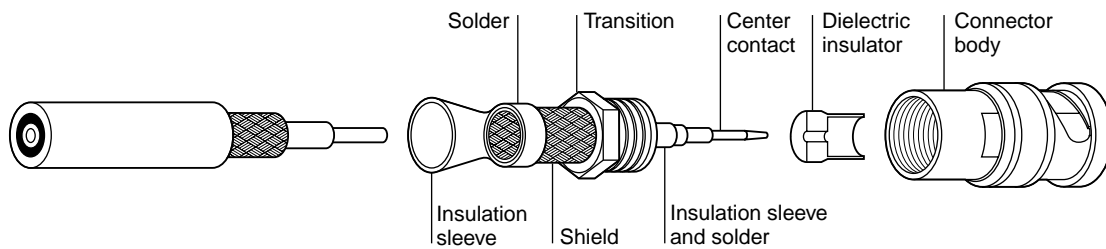
Cable type			Cable dimensions in millimeters (<i>inches</i>)				Part number
Impedance (ohms)	RG cables	Raychem cables	D (min.–max.)	E (min.–max.)	F (max.)	G (max.)	
TNC straight jacks, Female contacts (Figure 9)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-50-S-03
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-50-M-03
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-50-L-03
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-75-S-03
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-75-M-03
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-75-L-03

TNC straight panel jacks, female contacts (Figure 10)							
50	RG-174, RG-178, RG-188, RG-196, RG-316	5026A1311, 5028A1317, 5030A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-50-S-04
50	RG-58, RG-141, RG-142, RG-303, RG-400	5019D3318, 5021D1331, 5020A1311	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-50-M-04
50	RG-165, RG-215, RG-213, RG-225, RG-214	5012F3332, 5012A3311	5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-50-L-04
75	RG-179, RG-187	7530A1317	1.5–5.5 (.060–.217)	0.9–3.0 (.035–.118)	1.55 (.060)	0.65 (.025)	RTD-75-S-04
75		7524A1311, 7528A1317	3.5–7.0 (.138–.276)	2.1–5.0 (.083–.197)	3.0 (.118)	1.25 (.050)	RTD-75-M-04
75	RG-6, RG-11, RG-12, RG-59 RG-144, RG-216		5.0–12.5 (.197–.500)	4.1–9.5 (.161–.375)	7.3 (.287)	2.45 (.100)	RTD-75-L-04

Hole pattern for panel-mounted products (mm/in)



Product characteristics



Material

Center contact	Gold-plated beryllium copper (female) Gold-plated brass (male)
Dielectric insulator	PTFE
Transition	Silver-plated brass
Connector body	Nickel-plated brass
Solder and flux	Sn63Pb37, RMA flux
Braided shield	Tin-plated copper wire per ASTM B3
Insulation sleeve	Radiation-crosslinked, heat-shrinkable polyvinylidene fluoride (Kynar), transparent blue
Strain relief/sealing sleeve	Radiation-crosslinked, heat-shrinkable modified polyolefin with adhesive, black

Typical Performance

Dielectric withstand voltage	1500 V
Insulation resistance	5000 megohms
Temperature rating	-55°C to 150°C
Contact resistance-straight	Inner = 1.5 milliohms, outer = 1.0 milliohm
Contact resistance-right angle	Inner = 2.5 milliohms, outer = 1.5 milliohms
Cable retention force	295N (66 lb) to 822N (196 lb)
Voltage rating	500 V RMS
Connector durability	500 mating cycles minimum

Electrical Performance

Nominal impedance	50 and 75 ohms
Frequency range	Up to 2.8 GHz

Specifications

Raychem
RB-115

Installation

For proper installation of these devices, the correct heating tool and reflector attachment must be used.

Any one of the following Raychem heating tools is recommended:

- Steinel Model HL1802E
- CV-1981

Refer to Raychem installation procedure RPIP 683-00 for detailed instructions.

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