



Series

521

20 KVDC

GENERAL SPECIFICATIONS

Series 521

A series of high voltage connectors, kits and cable assemblies designed to minimize the risk of electrical shock to personnel through the use of recessed contacts. Both the panel and cable connectors have recessed contacts and will stand off the rated voltage in the unmated condition.

The reduced pressure version is rated at 20 KVDC and will operate at reduced atmospheric pressure. The sea level version is rated at 20 KVDC. The operating temperature of both versions is limited to -40°C to +85°C

Applications

Series 521 connectors are ideal for laboratory and research applications. The connectors are also well suited for use in ground-based power supplies and other components where reliable high voltage connections are essential. These connectors feature a spring finger contact on the plug body which assures a reliable ground circuit prior to engagement of the center contact, further reducing the risk of electric shock.

Interface cleaning

High voltage connectors must always be cleaned prior to mating. The proper cleaning method is to wipe or spray the interface area with isopropyl alcohol and immediately blow an inert gas such as dry nitrogen over the interface area until dry. No other cleaning method should be attempted.

WARNING: These connectors should NEVER be handled, mated or unmated when voltage is applied.



Reduced Pressure Plug Version



Sea Level Plug Version



Receptacle

GENERAL SPECIFICATION

	<u>521 Reduced Pressure</u>	<u>521 Sea Level</u>
Sea level voltage rating	20 KVDC	20 KVDC
Reduced atmospheric pressure rating	20 KVDC	No Rating
Operating temperature range	-40°C to 85°C	-40°C to 85°C
Plug insulator material	Plastic	Plastic
Receptacle insulator material	Plastic	Plastic
Bayonet coupling nut diameter	0.750/19mm	0.750/19mm
Bayonet coupling nut material/finish	Brass/nickel plate	Brass/nickel plate
Male contact diameter (receptacle)	.077/19mm	.077/19mm
Male contact material/finish	Brass/gold plate	Brass/gold plate
Female contact material/finish (plug)	Be Cu/gold plate	Be Cu/gold plate
Spring finger grounding (plug)	Yes	Yes
Crimp braid termination (plug)	Yes	Yes
100% voltage test	41 KVDC (@ 70,000 ft. sim.)	28 KVDC (sea level)

Cable Assembly
Length vs Manufacturing
Tolerance Chart

Length: feet/M	Tolerance: inches/mm
7.5/2.28 or less	0.25/6.3
7.5/2.2 to 12.5/3.8	1.0/25.4
12.5/3.8 to 22.5/6.8	1.50/38.1
22.5/6.8 to 35/10.6	2.0/50.8
35/10.6 to 50/15.2	3.0/76.2
50/15.2 to 70/21.3	4.0/101.6
70/21.3 to 100/30.4	5.0/127



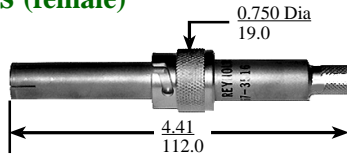
Series

521

20 KVDC

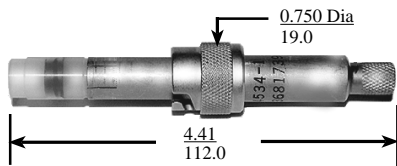
Sea Level and Reduced Atmospheric Pressure Versions
Operating Temperature:
-40°C to +85°C

Plugs (female)



P/N 167-3516 For sea level applications

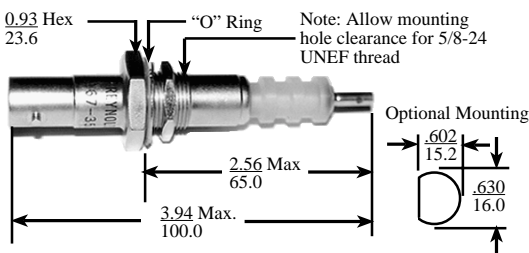
Voltage rating: 20 KVDC
Cable: RG 213/U or RG8/U. For RG 214/U or RG 9/U order connector **P/N 167-3516-1**
Braid termination: Crimp
Max. operating current: (RMS) 20 amps
Insulation resistance: 10⁶ megohms
Mating connector: All series 521 receptacles
For cable preparation and assembly instructions, see p. 44
Bulk cable: See p. 40 for ordering & specifications



P/N 167-4534 For reduced pressure applications

Voltage rating: 20 KVDC
Cable: RG 213/U. For RG 214/U cable, order **P/N 167-4534-1**
Braid termination: Crimp
Max. operating current: (RMS) 20 amps
Insulation resistance: 10⁶ megohms
Mating connector: All series 521 receptacles
For cable preparation and assembly instructions, see p. 44
Bulk cable: See p. 40 for ordering & specifications

Receptacles (male)



P/N 167-3517

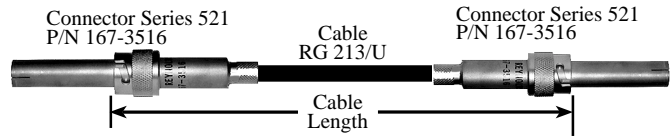
20 KVDC rated
Pressure: Sealed for 15 psi differential pressure. Max. Leakage: 1 X 10⁻⁶ cc/sec. He.
Mounting: Front mount. See mounting note
Mating connector: Mates all series 521 plug cable assemblies

Cable Assembly Ordering Information

Order by Part Number
Use "F" for feet, "N" for inches.
Example: Cable Assembly 178-7034 10 feet 8 inches in length, is ordered as **P/N 178-7034-10F-8N**

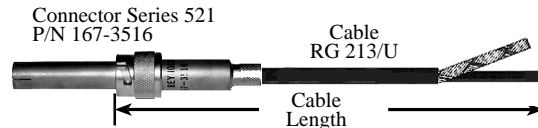
Bulk Cable: See p. 40 for ordering and specifications

Cable Assemblies



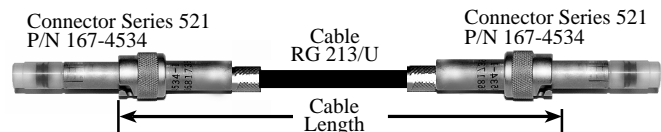
P/N 167-3638

Double-ended 20 KVDC cable assembly for sea level operation
Crimp braid termination
Uses RG213/U cable (shown). **Note:** For RG 214/U cable, please specify when placing cable assembly order
100% voltage test: 28 KVDC @ ambient temperature and pressure
Mates series 521 Panel connector **P/N 167-3517**
Ordering: See cable assembly ordering information



P/N 167-4450

Single-ended 20 KVDC cable assembly for sea level operation
Crimp braid termination and pigtailed
Uses RG213/U cable (shown). **Note:** For RG214/U cable, please specify when ordering cable assembly
100% voltage test: 28 KVDC @ ambient temperature and pressure.
Mates series 521 panel connector **P/N 167-3517**
Ordering: See cable assembly ordering information



P/N 167-4569

Double-ended 20 KVDC for reduced pressure operation
Crimp braid termination
Uses RG213/U cable (shown). **Note:** For RG214/U cable, please specify when ordering cable assembly
Mates series 521 panel connector **P/N 167-3517**
100% voltage test: 41 KVDC @ 70,000 ft. (simulated) & ambient temp.
Ordering: See cable assembly ordering information



P/N 167-4596

Single-ended 20 KVDC cable assembly for reduced pressure operation
Crimp braid termination and pigtailed
Uses RG213/U cable (shown). **Note:** For RG 214/U cable, please specify when ordering cable assembly.
Mates series 521 panel connector **P/N 167-3517**
100% voltage test: 41 KVDC @ 70,000 ft. (simulated) & ambient temp.
Ordering: See cable assembly ordering information



Series

531

10 KVDC

GENERAL SPECIFICATIONS

Series 531

A series of high voltage connectors, kits and cable assemblies designed to minimize the risk of electrical shock to personnel through the use of recessed contacts. Both the panel and cable connectors have recessed contacts and will stand off the rated voltage in the unmated condition.

This series of connectors is rated at 10 KVDC and will operate at altitudes up to 10,000 feet. Operating temperature is from -40°C to +85°C.

Applications

Series 531 connectors are ideal for laboratory and research applications and the plug and receptacle are interchangeable with Kings connectors of the same type. The connectors are also well suited for use in ground based power supplies and other components where reliable high voltage connections are essential. These connectors feature a spring finger contact on the plug body which assures a reliable ground circuit prior to engagement of the center contact, further reducing the risk of electrical shock.

Interface cleaning

High voltage connectors must always be cleaned prior to mating. The proper cleaning method is to wipe or spray the interface area with isopropyl alcohol and immediately blow an inert gas such as dry nitrogen over the interface area until dry. No other cleaning method should be attempted.

WARNING: These connectors should **NEVER** be handled, mated or unmated when voltage is applied.

GENERAL SPECIFICATION

Voltage rating	10 KVDC Sea level to 10,000 feet, maximum
Operating temperature range	?
Plug insulator material	Plastic
Receptacle insulator material	Plastic
Bayonet coupling nut diameter	0.625/15.8mm
Bayonet coupling nut material/finish	Brass/nickel plate
Male contact diameter (receptacle)	.052/1.32mm
Male contact material/finish	Brass/gold plate
Female contact material/finish (plug)	Be Cu/gold plate
Spring finger grounding (plug)	Yes
Crimp braid termination (plug)	Yes

100% voltage test

Cable Assembly
Length vs Manufacturing
Tolerance Chart

15 KVDC @ sea level	
Length: Feet/M	Tolerance: inches/mm
7.5/2.28 or less	0.25/6.3
7.5/2.2 to 12.5/3.8	1.0/25.4
12.5/3.8 to 22.5/6.8	1.50/38.1
22.5/6.8 to 35/10.6	2.0/50.8
35/10.6 to 50/15.2	3.0/76.2
50/15.2 to 70/21.3	4.0/101.6
70/21.3 to 100/30.4	5.0/127

**531 Receptacle
P/N 167- 3555**

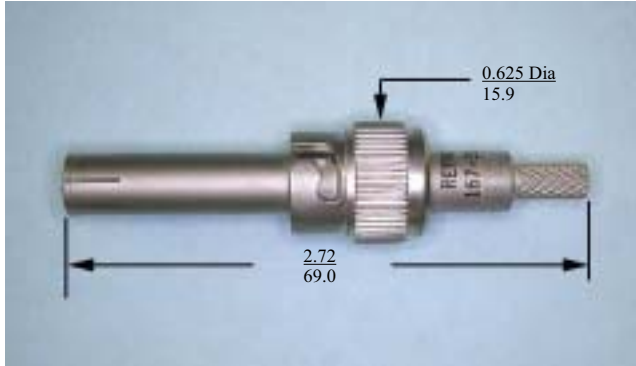


**531 Plug
P/N 167- 3554**

Series **531** 10 KVDC

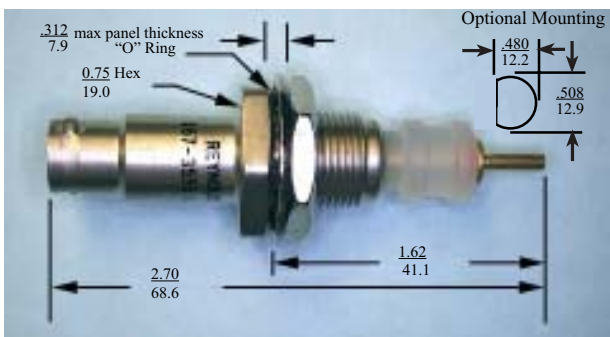
From Sea Level to 10,000 Feet Altitude
 Operating Temperature:
 -40°C to +85°C

Plug (female contact)



P/N 167-3554 For sea level applications
 Voltage rating: 10 KVDC at sea level
 Cable: Reynolds type "C" coaxial cable P/N 167-2669
 Braid termination: Crimp
 Max. operating current: (RMS) 20 amps
 Insulation resistance: 10⁶ megohms
 Mating connector: Reynolds receptacle P/N 167-3555 and Kings receptacle P/N 1064-2
[For cable preparation and assembly instructions](#)
[Bulk cable](#)

Receptacle (male contact)



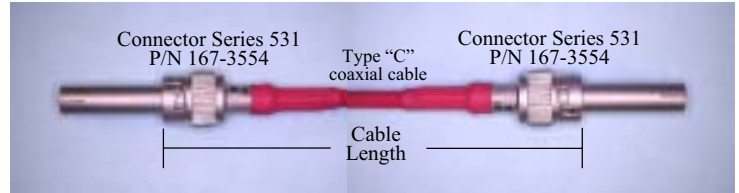
P/N 167-3555
 Voltage rating: 10 KVDC rated at sea level
 Pressure: Sealed for 15 psi differential pressure. Max. Leakage: 1 X 10⁻⁶ cc/sec. He.
 Mounting: Front mount. See optional "D" hole mounting
 Mating connector: Mates all Reynolds series 531 plug cable assemblies and Kings plug cable assemblies using Kings plug connector P/N 1065-2

Cable Assembly Ordering information

Order by Part Number
 Use "F" for feet, "N" for inches.
 Example: Cable Assembly 167-3648 10 feet 8 inches in length, is ordered as **P/N 167-3648-10F-8N**

Bulk Cable ordering information

Cable Assemblies

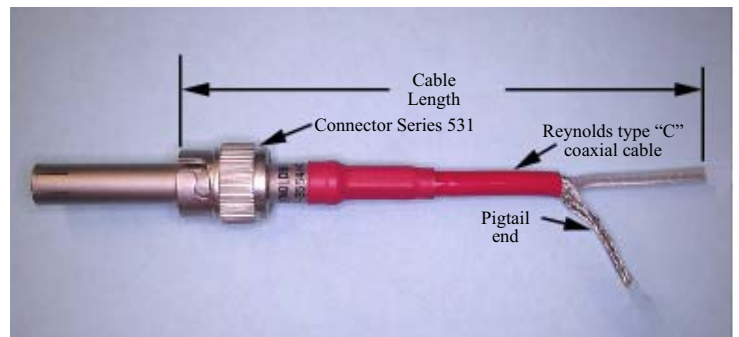


P/N 167-3648

Double ended 10 KVDC cable assembly for sea level operation
 Uses Reynolds type "C" coaxial cable P/N 167-2669
 Mates series 531 panel connector P/N 167-3555 and Kings receptacle P/N 1064-2

100% tests: 15 KVDC applied at sea level and ambient temperature in mated condition for 15 seconds. Continuity test.

Ordering



P/N 167-4451

Single ended 10 KVDC cable assembly for sea level operation
 Pigtail end termination
 Uses Reynolds type "C" coaxial cable P/N 167-2669
 Mates series 531 panel connector P/N 167-3555 and Kings receptacle P/N 1064-2

100% tests: 15 KVDC at sea level and ambient temperature in mated condition for 15 seconds. Continuity test.

Ordering