

20kV - STRAIGHT COAXIAL CONNECTOR SERIES

■ FEATURES

- Rated Voltage 20kV_{DC}
- Recessed contacts
- Coaxial design
- Bayonet Coupling
- Intermateable with industry standard 20kV coaxial connectors
- Completed cable assemblies available
- RoHS compliant

■ APPLICATIONS

- Instrument High Voltage Connections
- High voltage power supplies / amplifiers
- Medical electronics
- Nuclear instrumentation
- Test and measurement equipment
- High voltage laboratory wiring
- General high voltage testing

20kV reverse polarity coaxial high voltage connectors designed to minimize the risk of electrical shock to personnel through the use of recessed contacts. Both the cable connectors and the bulkhead receptacles have recessed contacts and will stand off the rated voltage in unmated condition.

The front mount receptacles are hermetically sealed.

The straight crimp cable plug HC52P and the rear mount crimp receptacles HC52RB are compatible with RG 213 or RG 214 coaxial cable. The straight cable plug HC52P-HTV30S is compatible with our 30kV rated **HTV-30S-22-2** coaxial cable.

A suitable crimping tool is available on request.
The connectors are RoHS compliant.

The connectors should never be mated or unmated when energized.

Please see the HC51 series for 10kV_{DC} models.
HC52 series connectors are not intermateable with SHV or HC51 series connectors.

■ SPECIFICATIONS

Operating voltage:	max. 20kV _{DC} (at sea level)
Test voltage:	30kV _{DC}
Impedance:	non constant
Insulation resistance:	1000GΩ
Center contact resistance:	≤ 3mΩ
Outer contact resistance:	≤ 2mΩ
Operating temperature:	-55 to +85°C
Leak rate	< 1x10 ⁻⁶ mbar*l/s @ 1bar differential pressure (applies to front mount bulkhead receptacles only)

Ratings listed above apply to clean mated connector pairs in standard atmospheric conditions. When connectors are used in an adverse environment (such as high temperature, humidity, pollution content, extreme mechanical exposure, etc.) the connector should be derated. The fitness for use must be proved by extended operational tests.



■ MODEL OVERVIEW - PLUGS

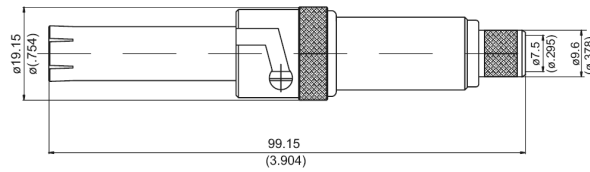
Part Number Description	Termination Center Contact	Contact Pin Material/ Plating	Insulator Material	Body Material/ Plating	Gasket Material	Weight
HC52P-213 /-214 Straight Crimp Cable Plug 	Crimp	Beryllium Copper/ Au over Ni over Cu	High Density PE	Brass/ Ni over Cu	Silicone	51.2g
HC52P-HTV30S Straight Crimp Cable Plug 	Crimp	Beryllium Copper/ Au over Ni over Cu	High Density PE	Brass/ Ni over Cu	Silicone	51.2g

■ MODEL OVERVIEW - RECEPTACLES

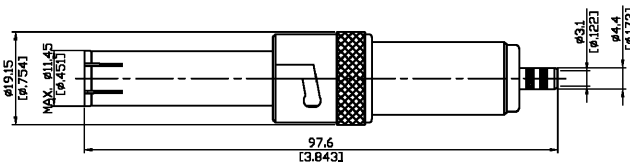
Part Number Description	Termination Center Contact	Contact Pin Material/ Plating	Insulator Material	Body Material/ Plating	Gasket Material	Weight
HC52RB-213 Rear Mount Bulkhead Crimp Receptacle 	Crimp	Brass/ Au over Ni over Cu	High Density PE	Brass/ Sn-Zn-Cu Alloy over Cu	Silicone	
HC52RB-A Front Mount Bulkhead Receptacle (long insulator) 	Solder	Brass/ Au over Ni over Cu	High Density PE	Brass/ Sn-Zn-Cu Alloy over Cu	Silicone	58g
HC52RB-B Front Mount Bulkhead Receptacle (short insul.) 	Solder	Brass/ Au over Ni over Cu	High Density PE	Brass/ Ni over Cu	Silicone	61g

■ DIMENSIONS

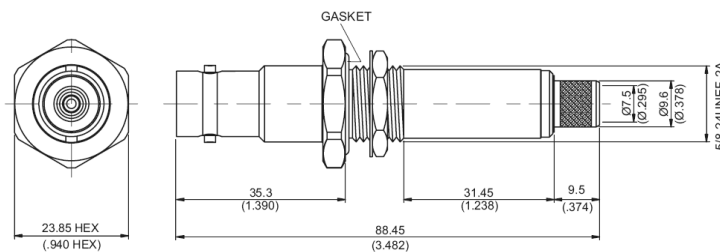
HC52P-213 /-214



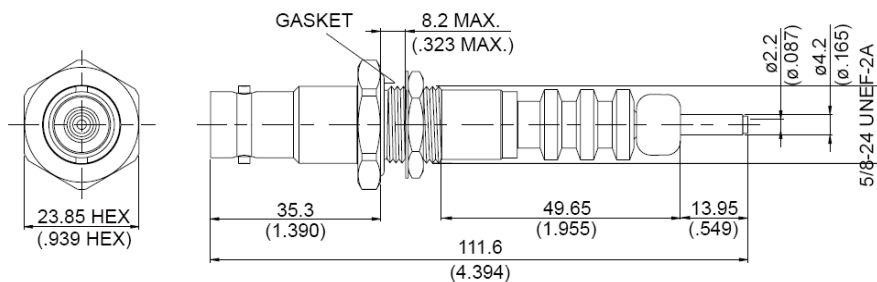
HC52P-HTV30S



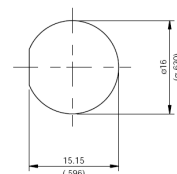
HC52RB-213



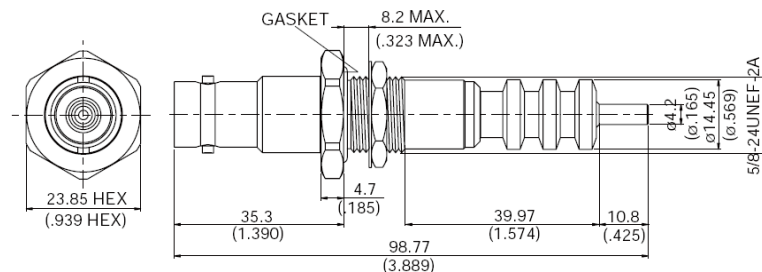
HC52RB-A



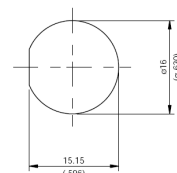
PANEL CUT-OUT



HC52RB-B



PANEL CUT-OUT



- All dimensions are in mm (inch); drawings not to scale.
- All values and dimensions without given tolerances are nominal.

■ ORDERING INFORMATION

20kV Straight Crimp Cable Plug (female) for RG 213
20kV Straight Crimp Cable Plug (female) for RG 214
20kV Straight Crimp Cable Plug (female) for HTV-30S-22-2
20kV Rear Mount Bulkhead Crimp Receptacle (male) for RG 213
20kV Front Mount Bulkhead Receptacle (male, long insulator)
20kV Front Mount Bulkhead Receptacle (male, short insulator)

HC52P-213
HC52P-214
HC52P-HTV30S
HC52RB-213
HC52RB-A
HC52RB-B

Bespoke ready-to-use high voltage cable assemblies based on different high voltage cable types are available. The cable assemblies are fully tested. Please contact hivolt.de for details.



Examples:

Cable: HTV-30S-22-2; Length: 2m; **HC52P-HTV30S** plug assembled on both ends
Cable: RG 213; Length: 10m; **HC52P-213** plug assembled on one end,
HC52RB-213 receptacle on the other end

HCA-020-H52C-002-H52C-T
HCA-020-H52A-010-H52R-X

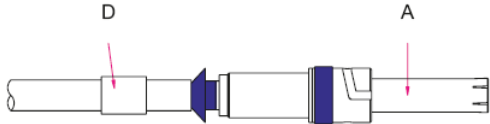
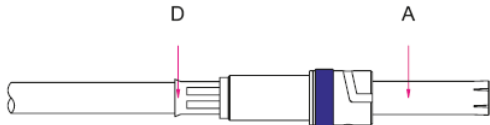
Disclaimer

The information given in this data sheet is technical data, not assured product characteristics. It has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. The user has to ensure by adequate tests that the product is suitable for his application regarding safety and technical aspects. hivolt.de GmbH & Co. KG does not assume any liability arising out of the application or use of any product described.

Safety Advice

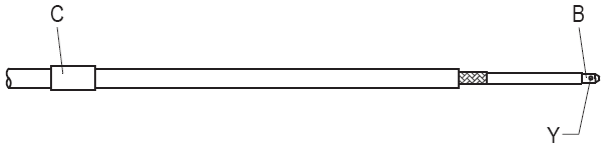
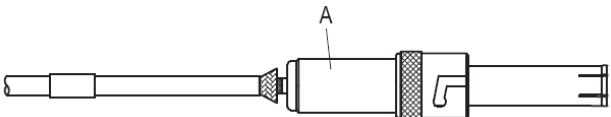
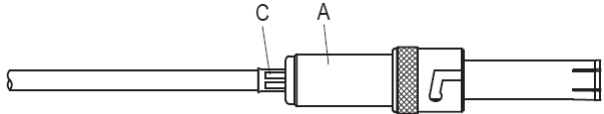
Design, installation and inspection of machinery and devices carrying high voltage require accordingly trained and qualified personnel. Appropriate safety rules and directives must be complied with. Improper handling of high voltage can mean severe injuries or death and may cause serious collateral damage!

■ CABLE ASSEMBLY INSTRUCTIONS HC52P-213 AND HC52P-214

A  BODY	B  CONTACT PIN	C  GASKET	D  FERRULE
	Step 1: strip as shown. Make sure not to scratch the isolation!		
	Step 2: slide ferrule "D" and gasket "C" over cable. Step 3: put pin "B" on center conductor and solder in "Y".		
	Step 4: loosen braiding and slide connector "A" in place.		
	Step 5: slide ferrule "D" towards the connector "A" and crimp. Use 10.7mm/0.421" hex crimp die insert.		

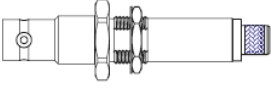
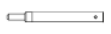
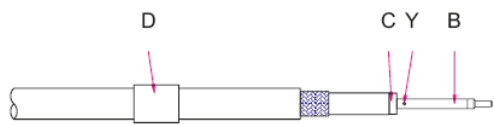
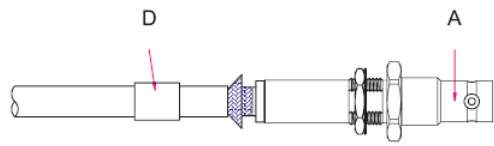
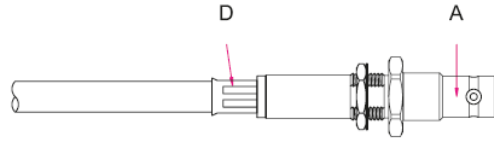
All dimensions are in mm [inch]; drawings not to scale

■ CABLE ASSEMBLY INSTRUCTIONS HC52P-HTV30S

A  BODY	B  CONTACT PIN	C  FERRULE
	Step 1: strip as shown. Make sure not to scratch the isolation!	
	Step 2: slide ferrule "C" over cable. Step 3: put pin "B" on center conductor and solder in "Y".	
	Step 4: loosen braiding and slide connector "A" in place.	
	Step 5: slide ferrule "C" towards the connector "A" and crimp. Use 5.9mm/0.232inch hex crimp die insert.	

All dimensions are in mm [inch]; drawings not to scale

■ CABLE ASSEMBLY INSTRUCTIONS HC52RB-213

A  BODY + GASKET + WASHER + HEX NUT	B  CONTACT PIN	C  GASKET	D  FERRULE
	Step 1: strip as shown. Make sure not to scratch the isolation!		
	Step 2: slide ferrule "D" and gasket "C" over cable. Step 3: put pin "B" on center conductor and solder in "Y".		
	Step 4: loosen braiding and slide connector "A" in place.		
	Step 5: slide ferrule "D" towards the connector "A" and crimp. Use 10.7mm/0.421" hex crimp die insert.		

All dimensions are in mm [inch]; drawings not to scale