DB Integrations

50 OHM COAX CABLE
ULTRA LOW LOSS PERFORMANCE
DBC-50-310

PHYSICAL PROPERTIES:	
JACKET	PURPLE FEP
INNER CONDUCTOR	SOLID AG-PLATED CU
DIELECTRIC	PTFE TAPE
OUTER CONDUCTOR	AG-PLATED CU STRIP AG-PLATED CU FLAT BRAID
OUTER DIAMETER	0.310 INCHES (0.787 CM)
MIN. BEND RADIUS	1.75 INCHES (4.445 CM)
WEIGHT	0.09 LBS/FT (0.134 KG/M)

ELECTRICAL PROPERTIES:	
MAX. FREQUENCY	18.0 GHz
IMPEDANCE	50 OHMS NOMINAL
PROPAGATION VELOCITY	84% NOMINAL
TIME DELAY	1.21 NS/FT (3.97 NS/M)
SHIELDING EFFECTIVENESS	-110 dB MINIMUM
DIELECTRIC WITHSTANDING VOLTAGE	15.0 kV @ 60 Hz
CAPACITANCE	24.0 pF/FT (78.7 pF/M)

STANDARD COMPLIANCE:	
CABLE MIL	MIL-C-17
CABLE FAA	TITLE 14 CFR, PART 25.869 (A)(4) AMENDMENT 25-113 APPENDIX F, PART I (A)(3)
CONNECTOR INTERFACE	MIL-STD-348
CONNECTOR MATERIAL	MIL-PRF-39012

AVAILABLE CONNECTORS:	
TNC PLUG, STRAIGHT	DBT-310-PTS
TNC PLUG, 90 DEGREES	DBT-310-PTR
TNC JACK, STRAIGHT	DBT-310-JTS
TNC JACK, BULKHEAD	DBT-310-BTS
SMA PLUG, STRAIGHT	DBT-310-PSS
SMA PLUG, 90 DEGREES	DBT-310-PSR
N PLUG, STRAIGHT	DBT-310-PNS

ATTENUATION: **(0.04687 x √freqGHZ) + (0.00173 x freqGHZ):**	
500 MHz	0.034 dB/FT, CONNECTOR 0.009 dB
1000 MHz	0.049 dB/FT, CONNECTOR 0.014 dB
1600 MHz	0.062 dB/FT, CONNECTOR 0.020 dB
1750 MHz	0.065 dB/FT, CONNECTOR 0.022 dB
2000 MHz	0.070 dB/FT, CONNECTOR 0.024 dB
2400 MHz	0.077 dB/FT, CONNECTOR 0.027 dB
3000 MHz	0.086 dB/FT, CONNECTOR 0.032 dB
5000 MHz	0.113 dB/FT, CONNECTOR 0.048 dB
8000 MHz	0.146 dB/FT, CONNECTOR 0.070 dB
10000 MHz	0.166 dB/FT, CONNECTOR 0.084 dB
12750 MHz	0.190 dB/FT, CONNECTOR 0.110 dB
14500 MHz	0.204 dB/FT, CONNECTOR 0.115 dB
18000 MHz	0.230 dB/FT, CONNECTOR 0.139 dB

CERTIFICATIONS:
ISO 9001
AS9100
FAA-PMA
AC 00-56B

CALL OR EMAIL FOR AVAILABILITY

DB INTEGRATIONS
3405 Airport Road
Allentown, PA 18109
(610) 443-0201
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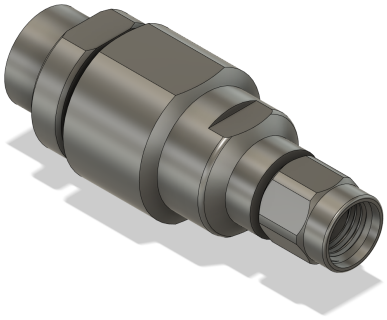
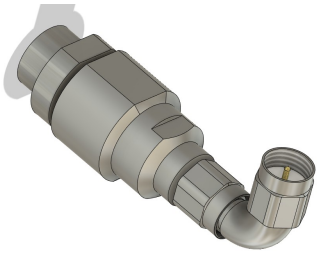
AVAILABLE CONNECTORS

DBT-310-PSS *(PLUG, SMA, STRAIGHT)*

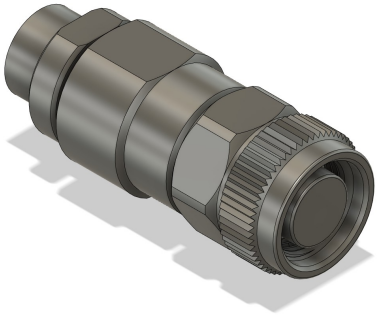


DBT-310-PSR *(PLUG, SMA, 90 DEGREES)*

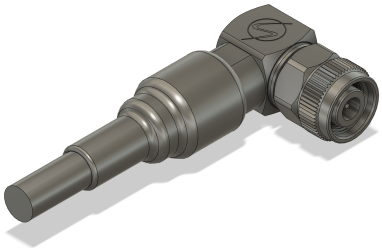


** 90-DEGREE ADAPTER MAY BE DISCARDED TO BE USED AS A STRAIGHT CONNECTOR*

DBT-310-PTS *(PLUG, TNC, STRAIGHT)*

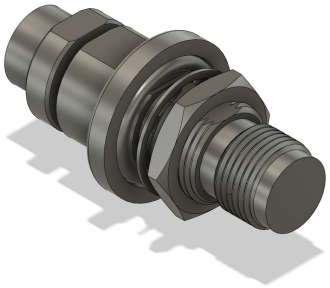


DBT-310-PTR *(PLUG, TNC, 90 DEGREES)*

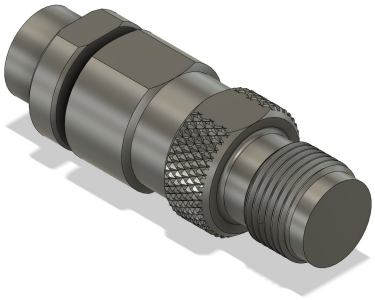


** 90-DEGREE ADAPTER MAY BE DISCARDED TO BE USED AS A STRAIGHT CONNECTOR*

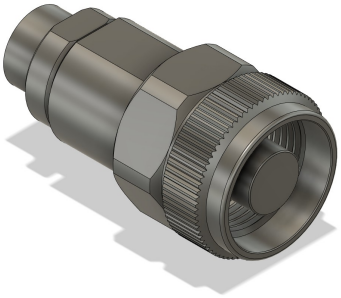
DBT-310-BTS *(PLUG, TNC, BULKHEAD)*



DBT-310-JTS *(PLUG, TNC, IN-LINE JACK)*



DBT-310-PNS *(PLUG, N, STRAIGHT)*



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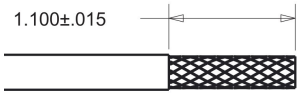
TERMINATION INSTRUCTIONS

Note: Due to the potentially high frequencies related to, P/N: DBT-50-310 cable, soldered connectors are required. It is recommended to use kit, P/N: DBC-TERM-001 to assist with terminations. Tooling may be substituted as desired.

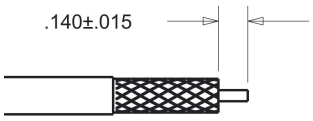
Additional required tooling:	***Included in kit, P/N: DBC-TERM-001*** **(contact DBI to rent of purchase)**	
File	Cable cutter	Soldering iron
Wrenches	Flush cutter	Flux
Heat gun	Solder pot	Solder
Razor blade	Coax jacket stripper	Desoldering wick
	Holding fixture	

1. Using a razor blade, lightly score around at 1.100 inches from the end and remove the outer jacket. Take caution not to cut into the braiding.



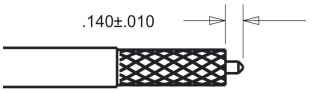
2. Using a solder pot, dip the exposed braiding into the solder for the minimum amount of time required for the solder to uniformly flow into the braiding. If there are high spots, lightly smooth them out with a soldering iron.

3. If using the coax jacket stripper provided with the DBC-TERM-001 kit, insert the cable into the tear drop shaped cut slot until it just reaches the other side (this is so the cable stays square to the blade during cutting). Rotate until it cuts through the soldered braiding. Use a razor blade to remove the rest of the dielectric. Then flush cut the center conductor so that 0.140 inches is exposed from the dielectric.

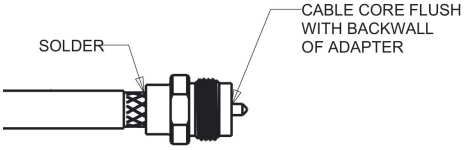


Note: *An alternative would be to use a razor blade to cut through the soldered braiding. Make this cut at 0.140 inches from the end of the cable.*

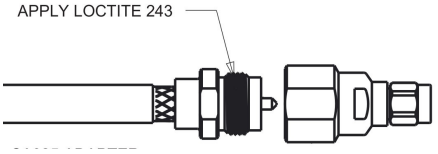
4. Using a small file, debur the center conductor so that it flows into the connector receptacle smoothly. It is recommended to put at least a 45 degree chamfer on the end.



5. Slide on the connector base until it bottoms out against the dielectric and braiding. Fixture the cable and solder the base to the tinned braiding using a soldering iron. Make sure to only apply heat to the base and let it transfer to the cable. Apply the heat for only the time needed for solder flowing. It is very easy to overheat the dielectric. Add solder until it stops flowing into the base and forms a nice even ramp to the braiding.



6. Apply a small amount of Loctite 243 to the threads and screw on the desired connector end. Torque to 20 – 25 in-lb. Once the base is soldered, the connector ends become interchangeable for future repairs or coax version changes.



7. Heat down the supplied shrink tubing covering the exposed braids and threaded area, ending where desired at the connector end.

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