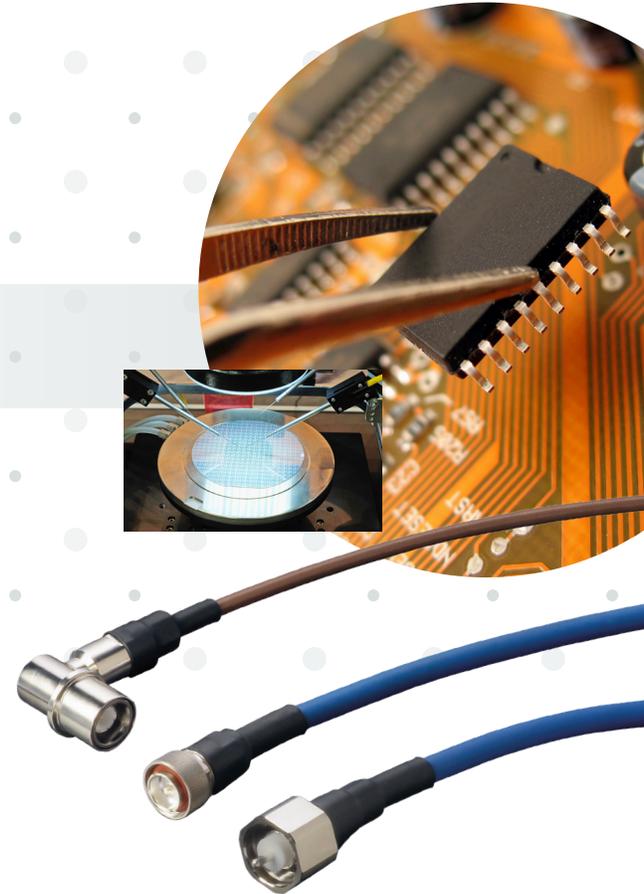




TRUflex™ PWR Series

TRUflex PWR Series cable assemblies offers an extensive line of flexible RF cable assembly and connector solutions for applications that require RF high power/voltage capability as well as reliable, high quality performance. Our long heritage in high power design has made us a premier supplier in high power markets including critical safety applications in the industrial equipment segment.





Tru products are now under the Tru-Win™ brand from Winchester Interconnect.

TRUflex PWR Series

Our unique TRUtie™ cable termination method provides superior mechanical retention capabilities to eliminate the cable junction as a point of mechanical failure. Our innovative Quick Connect/Disconnect interfaces, TRU-SQS®, TRU-QRM™, and TRU-QDS®, provide highly efficient and repeatable high power solutions without the need for added hand tools to securely mate.

In addition to the broad range of standard configurations in this series, Winchester Interconnect can also provide custom design solutions for your challenging applications. Our experienced Applications Engineering team is available to personally work with your design team to answer all your technical questions.

Visit our website to contact a technical expert for additional support and product information at winconn.com

High Power RF Cable Assemblies

- Broad range of connector and cable combinations
- kW power handling capabilities
- Quick Connect/Disconnect interface technology
- Flexible cable solutions
- Test and adapter solutions available
- Experience in high power design and safety innovations

Specifying TRUflex PWR Series Cable Assemblies

Specifying the optimal assembly for your application is simplified by the broad selection of straight and right-angle connector configurations and interface options, as well as the extensive range of cable choices. Our cables are specifically designed for their power capability and reliability.

Ordering Specifications

Cable Codes	Description
217	TRU RG-217
393	TRU RG-393
45B	TRU-450
50B	TRU-500
56B	TRU-560

Connector Codes*	Description
17	TRU-SQS® straight (m)
67	TRU-SQS® right-angle (m)
19	TRU-QRM™ straight (m)
69	TRU-QRM™ right-angle (m)
21	TRU-QDS® straight (m)
71	TRU-QDS® right-angle (m)
11	N straight (m)
61	N right-angle (m)
25	HN straight (m)
75	HN right-angle (m)
23	SC straight (m)
73	SC right-angle (m)
13	7-16 straight (m)
63	7-16 right-angle (m)
27	LC straight (m)
77	LC right-angle (m)
29	MEIA™-875 straight (m)
31	MEIA™-1625 straight (m)
15	EIA 7/8 straight (m)
16	EIA 1-5/8 straight (m)

Nomenclature

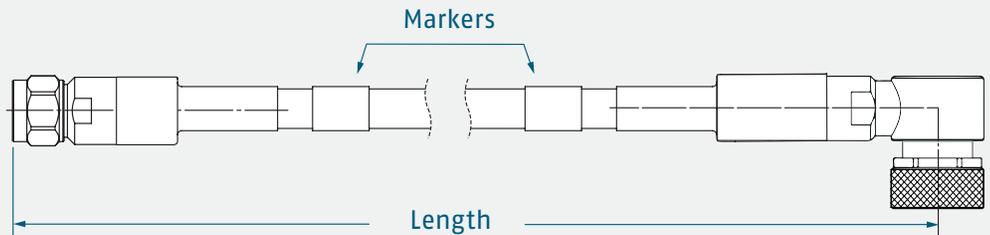
TRU - XXX XXXX - XXX

1 2 3 4

1. Cable type
2. Connector type 1
3. Connector type 2
4. Length measured end to end.
Ex: 125 is 12.5 feet**
Add "M" as suffix for metric.
Ex: 305M is 30.5 meters†

Standard Cable Assembly Length Tolerances

Lengths ≤ 50 in (1.270 mm), tolerance = +/- 0.50 in (12.7 mm)
Lengths > 50 in (1.270 mm), tolerance = +/- 1% of length



* Designate the lower number connector code first in the part number specification sequence

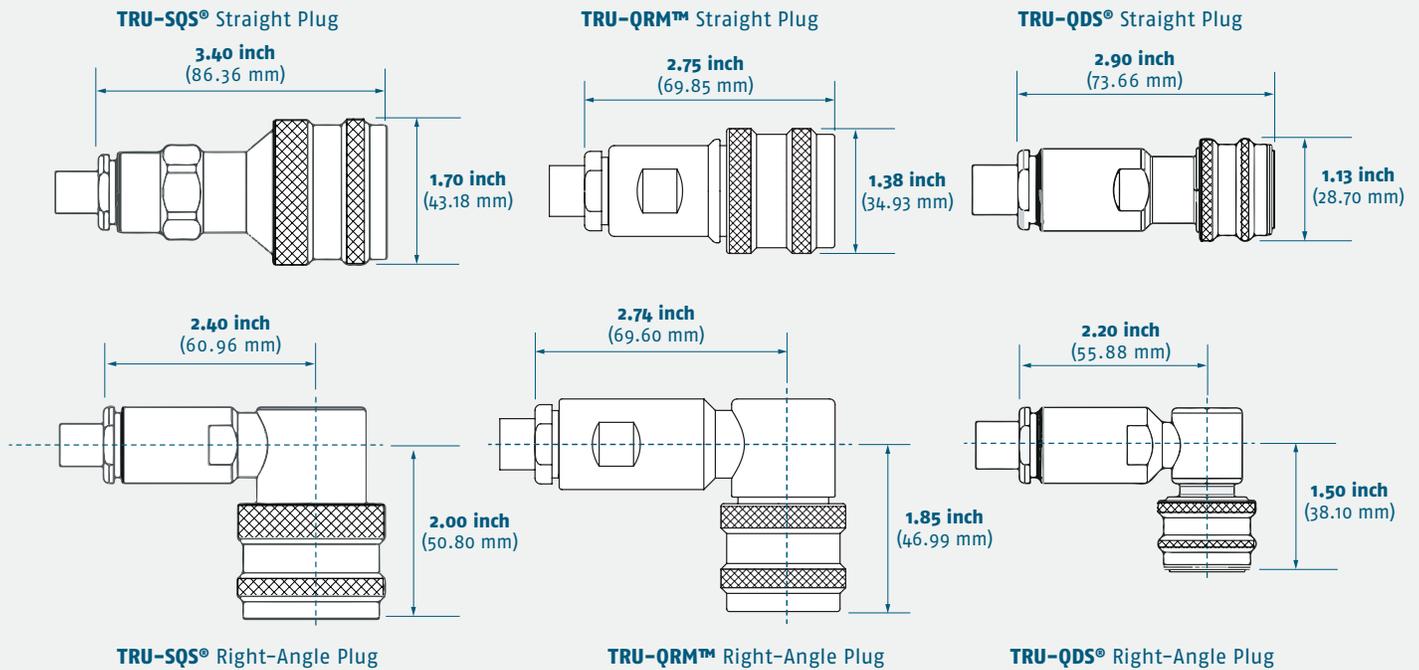
Example: TRU-XXB1163-XXX

** Specify length in 0.5 ft increments

† Specify length in 0.1 m increments

TRUflex PWR Series Quick Connect/Disconnect Connector Configurations

Winchester's Quick-Connect/Disconnect RF interface provides reliable mating with fast connect/disconnect capability. These interfaces feature a positive locking mechanism employing a spring-loaded sleeve on the male plug that is drawn back to let self-contained bearings "click" into grooves on the mating female receptacle, and slide forward. A fully mated and safe condition is visually represented with full coverage of our TRU-Redline™ indicator. These designs provide exceptionally fast and reliable hand mating that will not vibrate loose.



TRU-SQS® right-angle cable plug and panel mount receptacle shown in unmated condition.



TRU-SQS® spring-loaded sleeve is retracted and interfaces engaged. Note TRU-Redline™ indicator is still visible until sleeve is released and a fully mated condition is present.



TRU-SQS® interfaces shown in a fully mated condition. The right-angle assembly can be mated at any position along a 360° arc offering optimal flexibility in the assembly orientation.

Specifications subject to change without notice. For additional specifications or other products, visit us online or call us at 1-800-262-9878.

	TRUflex 560	TRUflex RG-217
Cable Outer Diameter	0.565 inch (14.4 mm) nominal	0.545 inch (13.8 mm) nominal



Electrical

Frequency (maximum)	6.0 GHz	3.0 GHz
Impedance	50 Ohms nominal	50 Ohms nominal
Velocity of Propagation	77% nominal	66% nominal
Capacitance pF/ft(pF/m)	26.8 (105.0)	32.2 (82.0)
Voltage	12 kV	12 kV
Shielding Effectiveness	> -75 dB	> -60 dB

Mechanical

Weight lbs/ft (Kg/m)	0.240 (0.260)	0.225 (0.270)
Cable Jacket	PVC blue	PVC black
Minimum Bend Radius (Dynamic)	2.80 inch (17.1 mm)	N/A
Minimum Bend Radius (Static)	1.70 inch (43.2 mm)	2.75 inch (69.9 mm)
Shield Type	Silver-plated Copper Flat and Round	Bare Copper Round
Shields	2	2
Center Conductor	7 Strand	Solid
Cable Dielectric	Tape-E/PTFE	PE

Environmental

Temperature	-55 to +105°C	-40 to +85°C
--------------------	---------------	--------------

Power Rating (kW)*

	TRU-560	TRU RG-217	TRU-500	TRU-450	TRU RG-393
50 MHz	40.00	3.11	40.00	25.52	10.37
100 MHz	28.50	1.80	28.50	16.00	6.00
200 MHz	19.00	1.02	19.00	11.50	4.39
400 MHz	13.50	0.58	13.50	7.20	2.49
500 MHz	12.50	0.50	12.50	6.50	3.00
1,000 MHz	8.30	0.35	8.30	4.20	1.65
2,000 MHz	5.10	0.30	5.10	2.80	1.05
3,000 MHz	4.40	0.25	4.40	2.30	0.80
4,000 MHz	3.50		3.50	1.90	0.69
5,000 MHz	3.20		3.20	1.60	0.60
6,000 MHz	3.00		3.00	1.45	0.50
7,000 MHz				1.30	
8,000 MHz				1.15	
9,000 MHz				1.10	
10,000 MHz				1.05	

* Sea level 40°C, matched load

TRUflex 5000.490 inch (12.4 mm)
nominal**TRUflex 450**0.450 inch (11.4 mm)
nominal**TRUflex RG-393**0.390 inch (9.9 mm)
nominal

6.0 GHz

10.0 GHz

6.0 GHz

50 Ohms nominal

50 Ohms nominal

50 Ohms nominal

77% nominal

83% nominal

70% nominal

26.8 (87.9)

25.0 (10.3)

32.0 (87.9)

12 kV

8 kV

10 kV

> -75 dB

> -90 dB

> -60 dB

0.230 (0.340)

0.180 (0.335)

0.175 (0.354)

FEP blue

FEP blue

FRP brown

2.45 inch (62.2mm)

2.50 inch (63.5 mm)

N/A

1.50 inch (38.1 mm)

1.50 inch (38.1 mm)

1.50 inch (38.1 mm)

Silver-plated Copper
Flat and RoundSilver-plated Copper
Flat and Round
with InterlayerTin-plated Copper
Round

2

3

2

7 Strand

7 Strand

7 Strand

Tape-E/PTFE

Tape-E/PTFE

PTFE

-55 to +200°C

-65 to +200°C

-55 to +200°C

Attenuation (db/100 ft typical)*

	TRU-560	TRU RG-217	TRU-500	TRU-450	TRU RG-393
50 MHz	0.75	1.00	0.75	0.81	1.50
100 MHz	1.05	1.50	1.05	1.20	2.10
200 MHz	1.50	2.20	1.50	1.70	3.38
400 MHz	2.13	3.28	2.13	2.40	5.17
500 MHz	2.40	3.50	2.40	2.30	6.00
1,000 MHz	3.40	5.50	3.40	3.75	9.00
2,000 MHz	5.00	8.50	5.00	5.60	14.00
3,000 MHz	6.30	10.70	6.30	7.00	18.00
4,000 MHz	7.45		7.45	8.40	21.00
5,000 MHz	8.55		8.55	10.00	24.00
6,000 MHz	9.50		9.50	11.00	27.00
7,000 MHz				11.60	
8,000 MHz				12.30	
9,000 MHz				12.90	
10,000 MHz				13.30	

* 20°C, matched load

Specifications subject to change without notice. For additional specifications or other products, visit us online or call us at 1-800-262-9878.

Selecting a Connector Interface

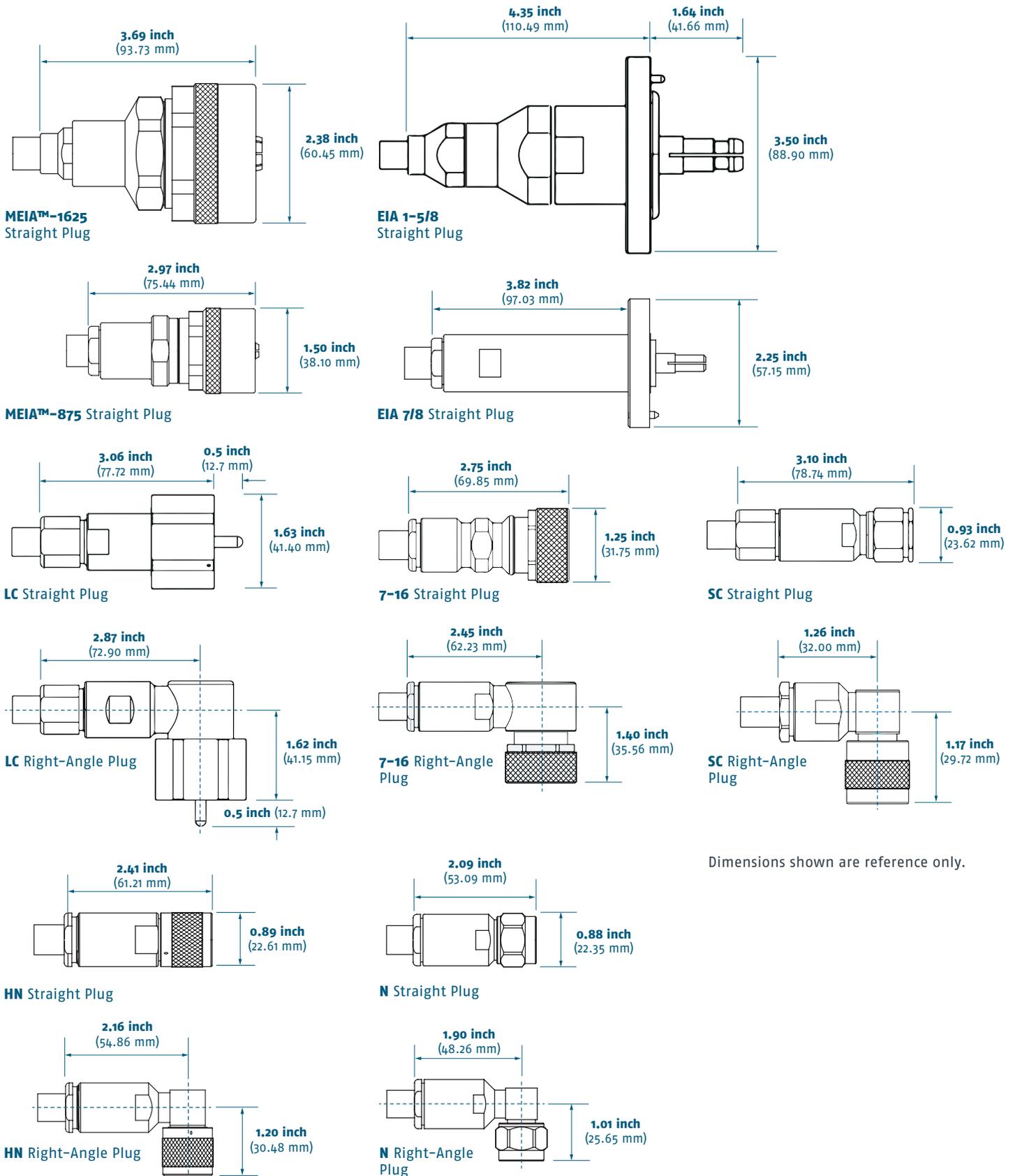
Mating Style	Attributes	Interface	Maximum Frequency (GHz)	Mating Cycles (Minimum)	Voltage Rating (Vrms)
Threaded	Provides positive mechanical engagement and tight environmental seal when torqued properly. Conforms to standard industry interface specifications.	MEIA™-875	6.0	> 500	2,800
		MEIA™-1625	3.0	> 500	5,100
		LC	1.0	> 500	3,000
		7-16	7.5	> 500	2,700
		HN	4.0	> 500	1,500
		SC	11.0	> 500	1,200
		N	18.0	> 500	1,000
Flange Mount	Direct mechanical attachment using screw/bolt fasteners. Requires tools. Robust connection but labor intensive.	EIA 7/8	6.0	> 500	2,800
		EIA 1-5/8	3.0	> 500	5,100
Quick Connect/ Disconnect	Positive-locking interface, hand-mated without the need for tooling. TRU-Redline™ indicator ensures full engagement. Provides safety measure in high power environments. Can be used with interlock safety switches.	TRU-SQS®	0.5	> 2,500	4,000
		TRU-QRM™	1.0	> 2,500	3,500
		TRU-QDS®	6.0	> 2,500	1,200

Power Rating (kW)*

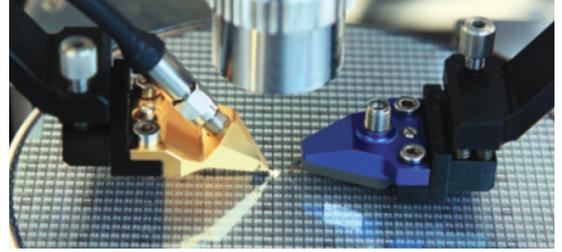
	MEIA™-1625	EIA 1-5/8	MEIA™-875	EIA 7/8	LC	7-16	HN	SC	N	TRU-SQS®	TRU-QRM™	TRU-QDS®
10 MHz	50.00	50.00	18.00	18.00	25.60	17.8	15.00	12.00	10.00	33.00	24.00	12.00
50 MHz	23.00	23.00	8.00	8.00	11.60	7.75	7.00	5.40	4.60	15.50	11.00	5.40
100 MHz	17.00	17.00	5.60	5.60	8.50	5.40	4.80	3.80	3.10	11.00	8.00	3.80
500 MHz	7.00	7.00	2.50	2.50	3.50	2.40	2.10	1.80	1.40	5.00	3.30	1.80
1,000 MHz	4.80	4.80	1.80	1.80	2.50	1.70	1.48	1.30	1.00		2.30	1.30
2,000 MHz	3.50	3.50	1.30	1.30		1.20	1.03	0.90	0.70			0.90
3,000 MHz	2.90	2.90	1.10	1.10		0.98	0.85	0.74	0.59			0.74
4,000 MHz			1.00	1.00		0.88	0.73	0.64	0.50			0.64
5,000 MHz			0.90	0.90		0.80		0.58	0.46			0.58
6,000 MHz			0.84	0.84		0.74		0.52	0.40			0.52
7,000 MHz						0.70		0.48	0.37			
8,000 MHz								0.45	0.34			
9,000 MHz								0.43	0.32			
10,000 MHz								0.40	0.31			
11,000 MHz									0.29			
12,000 MHz									0.28			
13,000 MHz									0.27			
14,000 MHz									0.26			
15,000 MHz									0.25			
16,000 MHz									0.24			
17,000 MHz									0.23			
18,000 MHz									0.22			

* Sea level 40°C, matched load

Threaded and Flange Mount Connector Configurations



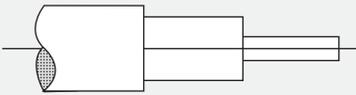
Dimensions shown are reference only.



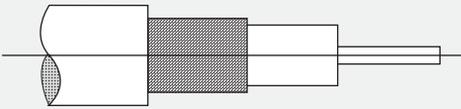
Cable Performance

Typical Coaxial Cable Constructions

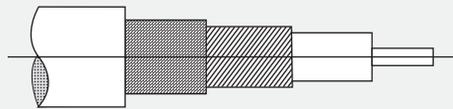
Single Shield, extruded (PE) dielectric
VoP=66%
RG-218 types



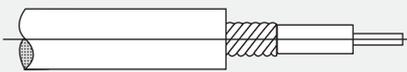
High performance coaxial cable
(expanded PTFE tape, flat and round braids)
VoP=76% to 85%
TRU-500, TRU-560, TRU-920 types



Double Shield, extruded (PE or PTFE) dielectric
VoP=66% to 70%
RG-214, RG-217, RG-303 types



Corrugated coaxial cable types
VoP=80% to 85%



Inner Conductor Types Comparison

	Solid	Stranded	Multi-Stranded
Attenuation	Lowest	Moderate	Highest
Signal Distortion	Lowest	Moderate	Highest
Flexibility	Lowest	Moderate	Highest
Torque Resistance	Highest	Moderate	Lowest
Cost	Lowest	Moderate	Highest

Dielectric Types Comparison

	PE Solid	PE Foamed	PTFE Solid	PTFE Expanded
Attenuation	High	Lowest	Moderate	Low
VoP	Low	Highest	Moderate	High
Flexibility	Lowest	Moderate	Low	High
Temperature	Lowest	Low	Moderate	High
Crush Resistance	High	Low	Highest	Moderate
Weight	Highest	Low	High	Moderate
Cost	Low	Lowest	Moderate	High

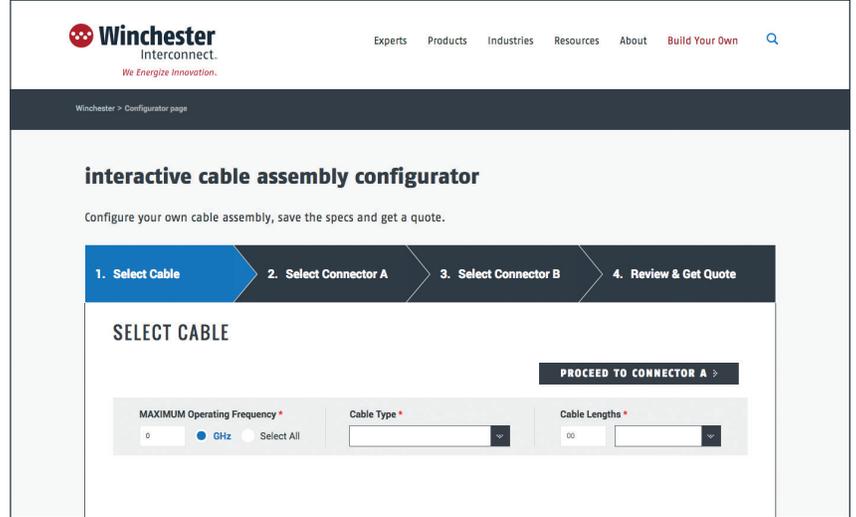
Jacket Types Comparison

	PVC	Mesh Braid	FEP	Corrugated
Flexibility	High	Moderate	Low	Lowest
Temperature	Low	High	High	Moderate
Moisture Resistance	High	Low	High	Low
Chemical Resistance	Low	Low	High	Moderate
Flammability	High	Moderate	Low	Low
Stress Cracking	Low	Low	Moderate	High
Cost	Low	High	Moderate	Moderate

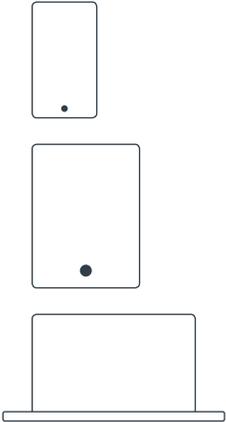
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Adapts For Use on Laptops & Mobile Devices



Simple Navigation

With our online Cable Configurator you can build the right cable assembly for your specific requirements. The Cable Configurator takes you through a series of filtered fields where you choose a Cable Type, Length and Frequency, and also specify Connector Types.

It's an easy-to-follow, prompted process that results in a fully assembled configuration, from which you can Request a Quote.

Contact Information

245 Lynnfield Street
Peabody MA 01960

978 717.2500 *office*
800 262.9878 *toll free*



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Interconnect Solutions That Fuel Customer Success

At Winchester Interconnect, we believe that design creativity and streamlined execution can solve any connectivity challenge.

We are passionate about helping to deliver the power and data your designs need when failure is not an option. We focus on designing and delivering precision-engineered interconnect solutions for your exact needs, whatever your design challenge.

Winchester Product Brands

Stronger and more unified, Winchester Interconnect now offers solutions under four powerful product brands. Be assured that all of the solutions you rely on today are available from Winchester Interconnect.

For more information, talk to your current sales expert or visit winconn.com/brands.

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