dB MISER™

ULTRA LOW LOSS CABLE ASSEMBLIES

Are you a design or test engineer fighting a challenging loss budget?

Consider **dB Miser**™ ultra low loss cable assemblies.

High performance materials, careful attention to design detail, and stringent process control yields:

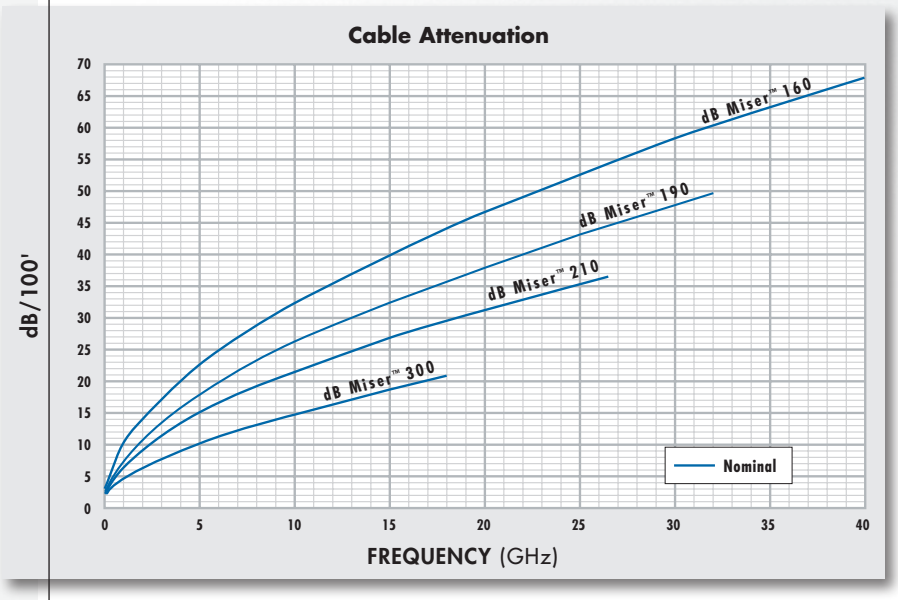
- *Ultra low insertion loss over the specified frequency range*
- *Excellent amplitude stability with flexure*
- *Stable performance over operating temperature range*
- *Increased shielding effectiveness*
- *Greater connector retention*

dB Miser™ 300
0.205 dB/ft nom @ 18 GHz

dB Miser™ 210
0.367 dB/ft nom @ 26.5 GHz

dB Miser™ 190
0.496 dB/ft nom @ 32 GHz

dB Miser™ 160
0.678 dB/ft nom @ 40 GHz



TELEDYNE
STORM MICROWAVE
Everywhereyoulook™

High value microwave and electronic interconnect solutions

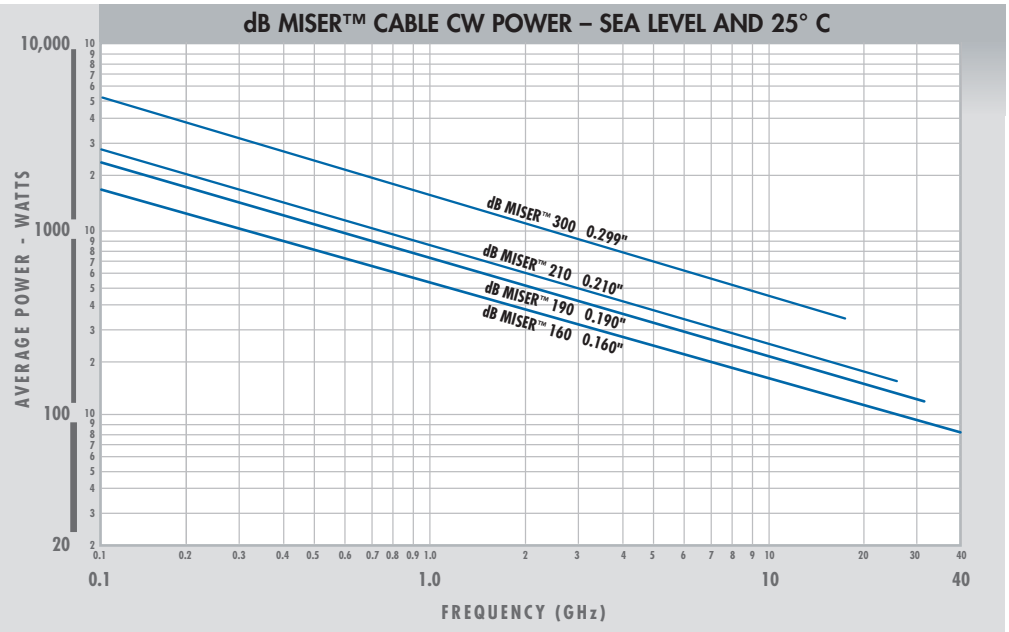
www.teledynestorm.com

SPECIFICATIONS		dB MISER™ 160	190	210	300
Cable Designator		**84**	**83**	**82**	**81**
Diameter (in/mm)		0.160/4.06	0.190/4.83	0.210/5.33	0.299 / 7.59
Operating Frequency (Max, GHz)		40	32	26.5	18
Attenuation–Max @ 2 GHz (dB/ft)		0.150	0.121	0.099	0.067
Attenuation–Max @ 10 GHz (dB/ft)		0.347	0.282	0.232	0.159
Attenuation–Max @ 18 GHz (dB/ft)		0.474	0.388	0.320	0.221
Attenuation–Max @ 26.5 GHz (dB/ft)		0.585	0.481	0.396	–
Attenuation–Max @ 32 GHz (dB/ft)		0.648	0.535	–	–
Attenuation–Max @ 40 GHz (dB/ft)		0.732	–	–	–
Power Handling – Avg Power in Watts @ 1 GHz		527	759	878	1615
Phase Stability vs. Flexure† (@ 18 GHz, nom)		±3.5°	±4°	±4.5°	±8°
Shielding Effectiveness–Min‡ (dB @ 1 GHz)		> –90	> –90	> –90	> –90
Typical VSWR (2 straight connectors)		1.28 to 40 GHz	1.25 to 32 GHz	1.22 to 26.5 GHz	1.22 to 18 GHz
Min Bend Radius (in/mm)	Static	0.75/19.1	0.95/24.1	1.0/25.4	1.5/38.1
	Dynamic	1.5/38.2	1.9/48.3	2.0/50.8	3.0/76.2
Connector Retention to 18 GHz, pull (lbs/kg)		20/9.07	40/18.14	50/22.68	75/34.02
Velocity of Propagation (%)		87.0	82.4	84.0	84.6
Weight (grams/ft & /m)		12.12/39.76	16.65/54.63	19.40/63.65	39.00/127.95
Operating Temperature Range (°C)		–55 to +125	–55 to +125	–55 to +125	–55 to +125

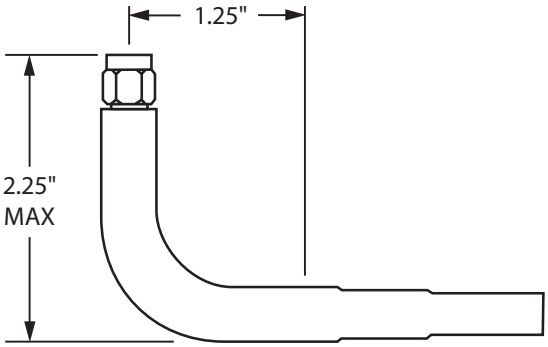
† ± 360 degree bends around a 3" mandrel (dBM 160), 3.8" mandrel (dBM 190), 4" mandrel (dBM 210) and 6" mandrel (dBM 300)

‡ Subject to connector choice.

Specifications subject to change without notice.



FACTORY FORMED RIGHT-ANGLE (FFRA) CONNECTORS

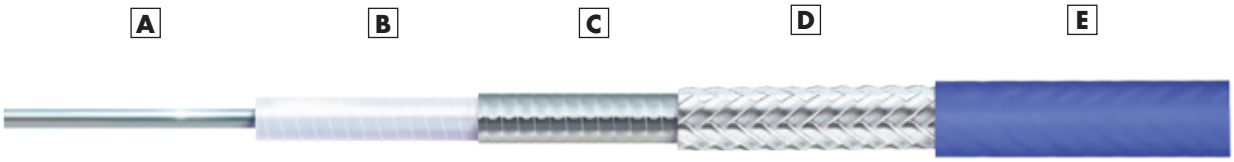


Designed using straight connectors and a shrink tubing–strain relief combination, FFRA connectors offer a moderate right-angle space advantage at a significant cost savings over traditional right-angle connectors.

FFRA connectors are available for all dB Miser™ cable sizes. See the Connector tables for specific connectors available as FFRAs.

Note: The dimensions given here are for dBM160 with an SMK connector. Larger cables will have proportionally larger dimensions. Contact Storm for specifics.

dB MISER™ CABLE CONSTRUCTION



A **Silver-plated copper center conductor**

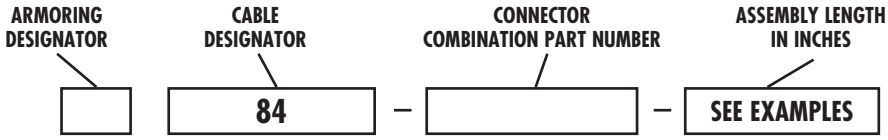
B **Expanded PTFE dielectric**

C **Helically wrapped SPC flat wire shield**

D **Silver-plated copper braid**

E **Extruded blue FEP jacket**

dB MISER™ 160



Armoring Designator†

0 - Unarmored **A** - Hard Armored (polyolefin jacket) **AN** - Hard Armored (no polyolefin jacket)

† *Hard armoring with FFRA connectors is a custom part number; call Storm.*

CONNECTOR COMBINATION PART NUMBERS*

CONNECTOR OPERATING FREQUENCY

40 GHz

40 GHz	SMK (2.92 mm†) SP	SMK (2.92 mm†) FFRAP	2.4 mm SP	2.4 mm FFRAP
SMK (2.92 mm†) SP	0505	0555	0506	0556
SMK (2.92 mm†) FFRAP	0555	5555	0655	5556
2.4 mm SP	0506	0655	0606	0656
2.4 mm FFRAP	0556	5556	0656	5656

* *Other connector styles available; consult Storm*

† *IEEE Standard 287*

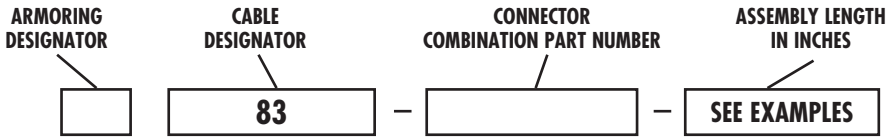
CONNECTOR CODES	
SP	Straight Plug
FFRAP	Factory Formed Right-Angle Plug

EXAMPLES:

084-0505-**048** = Unarmored dB Miser™ 160, SMK (2.92 mm) SP to SMK (2.92 mm) SP (assembly operates to 40 GHz), **48 inches**

AN84-0606-**180** = Hard Armored (no polyolefin jacket) dB Miser™ 160, 2.4 mm SP to 2.4 mm SP (assembly operates to 40 GHz), **180 inches**

dB MISER™ 190



Armoring Designator†

0 - Unarmored **A** - Hard Armored (polyolefin jacket) **AN** - Hard Armored (no polyolefin jacket)

† *Hard armoring with FFRA connectors is a custom part number; call Storm.*

CONNECTOR COMBINATION PART NUMBERS*

CONNECTOR OPERATING FREQUENCY

32 GHz

32 GHz	2.92 mm SP	2.92 mm FFRAP
2.92 mm SP	0505	0555
2.92 mm FFRAP	0555	5555

* *Other connector styles available; consult Storm*

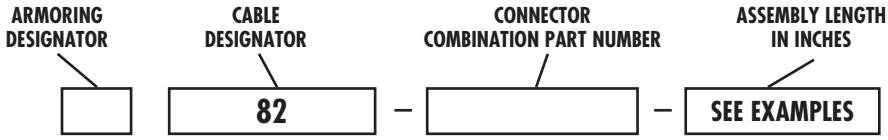
CONNECTOR CODES	
SP	Straight Plug
FFRAP	Factory Formed Right-Angle Plug

EXAMPLES:

083-5555-**048** = Unarmored dB Miser™ 190, 2.92 mm FFRAP to 2.92 mm FFRAP (assembly operates to 32 GHz), **48 inches**

A83-0505-**180** = Hard Armored (polyolefin jacket) dB Miser™ 190, 2.92 mm SP to 2.92 mm SP (assembly operates to 32 GHz), **180 inches**

dB MISER™ 210



Armoring Designator†

0 - Unarmored **R** - Ruggedized (polyurethane jacket)

A - Hard Armored (polyolefin jacket) **AN** - Hard Armored (no polyolefin jacket)

† *Hard armoring with FFRA connectors is a custom part number; call Storm.*

Ruggedizing not available with FFRA connectors.

CONNECTOR COMBINATION PART NUMBERS*

		26.5 GHz		18 GHz							
		3.5 mm SP	3.5 mm FFRAP	SMA SP	SMA SP	SMA RAP	SMA FFRAP	TNC SP	TNC FFRAP	N SP	N FFRAP
26.5 GHz	3.5 mm SP	0404	0454	0441	0104	0421	0451	0204	0452	0304	0453
	3.5 mm FFRAP	0454	5454	4154	0154	2154	5154	0254	5254	0354	5354
	SMA SP	0441	4154	4141	0141	2141	4151	0241	4152	0341	4153
18 GHz	SMA SP	0104	0154	0141	0101	0121	0151	0102	0152	0103	0153
	SMA RAP	0421	2154	2141	0121	2121	2151	0221	2152	0321	2153
	SMA FFRAP	0451	5154	4151	0151	2151	5151	0251	5152	0351	5153
	TNC SP	0204	0254	0241	0102	0221	0251	0202	0252	0203	0253
	TNC FFRAP	0452	5254	4152	0152	2152	5152	0252	5252	0352	5253
	N SP	0304	0354	0341	0103	0321	0351	0203	0352	0303	0353
	N FFRAP	0453	5354	4153	0153	2153	5153	0253	5253	0353	5353

* *Other connector styles available; consult Storm*

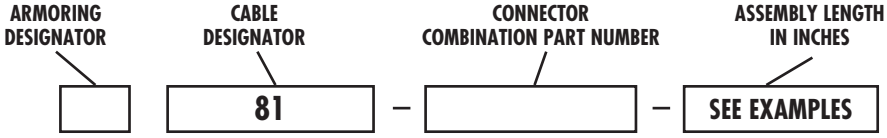
CONNECTOR CODES	
SP	Straight Plug
RAP	Right-Angle Plug
FFRAP	Factory Formed Right-Angle Plug

EXAMPLES:

082-0404-**048** = Unarmored dB Miser™ 210, 3.5 mm SP to 3.5 mm SP (assembly operates to 26.5 GHz), **48 inches**

R82-4141-**120** = Ruggedized dB Miser™ 210, SMA SP to SMA SP (assembly operates to 26.5 GHz), **120 inches**

dB MISER™ 300



Armoring Designator†

0 - Unarmored **A** - Hard Armored (polyolefin jacket) **AN** - Hard Armored (no polyolefin jacket)

† *Hard armoring with FFRA connectors is a custom part number; call Storm.*

CONNECTOR COMBINATION PART NUMBERS*

		18 GHz					
		SMA SP	SMA FFRAP	TNC SP	TNC FFRAP	N SP	N FFRAP
18 GHz	SMA SP	0101	0151	0102	0152	0103	0153
	SMA FFRAP	0151	5151	0251	5152	0351	5153
	TNC SP	0102	0251	0202	0252	0203	0253
	TNC FFRAP	0152	5152	0252	5252	0352	5253
	N SP	0103	0351	0203	0352	0303	0353
	N FFRAP	0153	5153	0253	5253	0353	5353

* *Other connector styles available; consult Storm*

CONNECTOR CODES	
SP	Straight Plug
FFRAP	Factory Formed Right-Angle Plug

EXAMPLES:

081-0303-**036** = Unarmored dB Miser™ 300, N SP to N SP (assembly operates to 18 GHz), **36 inches**

AN81-0101-**108** = Hard Armored (no polyolefin jacket) dB Miser™ 300, SMA SP to SMA SP (assembly operates to 18 GHz), **108 inches**

The Hard Armored option (with and without polyolefin jacket) is available for all dB Miser™ cables. However, when specifying FFRAP connectors, custom part numbering must be used. Call Storm for details.

The Ruggedized option (with polyurethane jacket) is available only for dB Miser™ 210 cable, but not with FFRAP connectors.

HARD ARMORED – Polyolefin jacket

Armoring Designator: **A**

Designed for both inside and outside environments where flexibility and weight are not as critical, but where the application requires the ultimate in cut and crush resistance (500 lbs/in). The cable is covered with a stainless steel interlocked armor and a cross-linked polyolefin jacket.

Temperature: −54° C thru +125° C

Diameter: **dB Miser™ 160 – 0.300"/7.62 mm**
dB Miser™ 190 – 0.430"/10.92 mm
dB Miser™ 210 – 0.430"/10.92 mm
dB Miser™ 300 – 0.525"/13.34 mm

HARD ARMORED – No polyolefin jacket

Armoring Designator: **AN**

Designed for both inside and outside environments where flexibility and weight are not as critical, but where the application requires the ultimate in cut and crush resistance (500 lbs/in). The cable is covered with a stainless steel interlocked armor.

Temperature: −54° C thru +125° C

Diameter: **dB Miser™ 160 – 0.265"/6.73 mm**
dB Miser™ 190 – 0.395"/10.03 mm
dB Miser™ 210 – 0.395"/10.03 mm
dB Miser™ 300 – 0.475"/12.07 mm

RUGGEDIZED – Polyurethane jacket

Armoring Designator: **R**

For applications similar to the above, where weight, flexibility, and moderate compression resistance (300 lbs/in) are important, but where abrasion resistance is also critical. The cable is covered with a flexible wound helix of passivated stainless steel wire and an extruded polyurethane jacket.

Temperature: −54° C thru +100° C

Diameter: **dB Miser™ 210 – 0.360"/9.14 mm**

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STORM MICROWAVE
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AS9100/ISO 9001 REGISTERED

10221 Werch Drive
Woodridge, Illinois 60517

Tel 630.754.3300
Fax 630.754.3500
Toll Free 888.347.8676
storm_microwave@teledyne.com

www.teledynestorm.com