

dB MISER™

ULTRA LOW LOSS CABLE ASSEMBLIES



COST-EFFECTIVE, HIGH- PERFORMANCE SOLUTIONS FOR LOW LOSS CHALLENGES



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™ 130

0.959 dB/ft nom @ 50 GHz

dB Miser™ 160

0.678 dB/ft nom @ 40 GHz

dB Miser™ 190

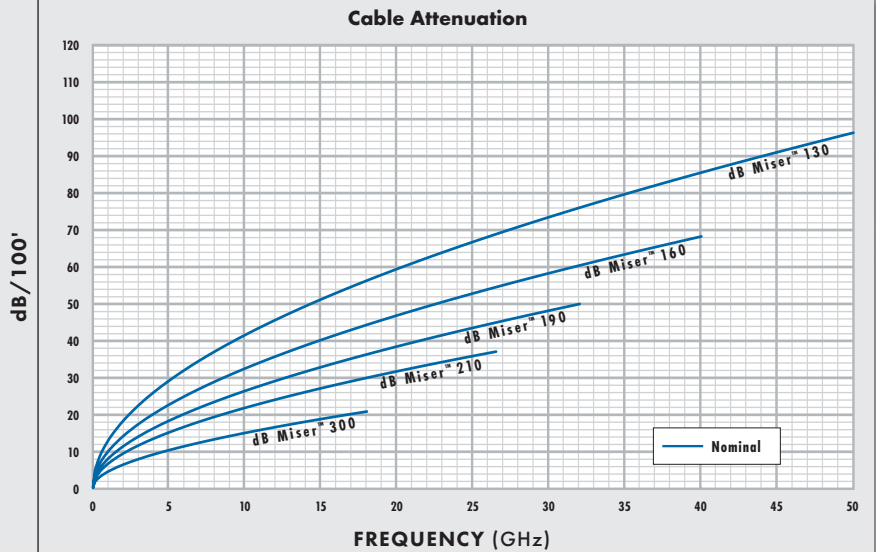
0.496 dB/ft nom @ 32 GHz

dB Miser™ 210

0.367 dB/ft nom @ 26.5 GHz

dB Miser™ 300

0.205 dB/ft nom @ 18 GHz



**TELEDYNE
STORM MICROWAVE**
Everywhereyoulook™

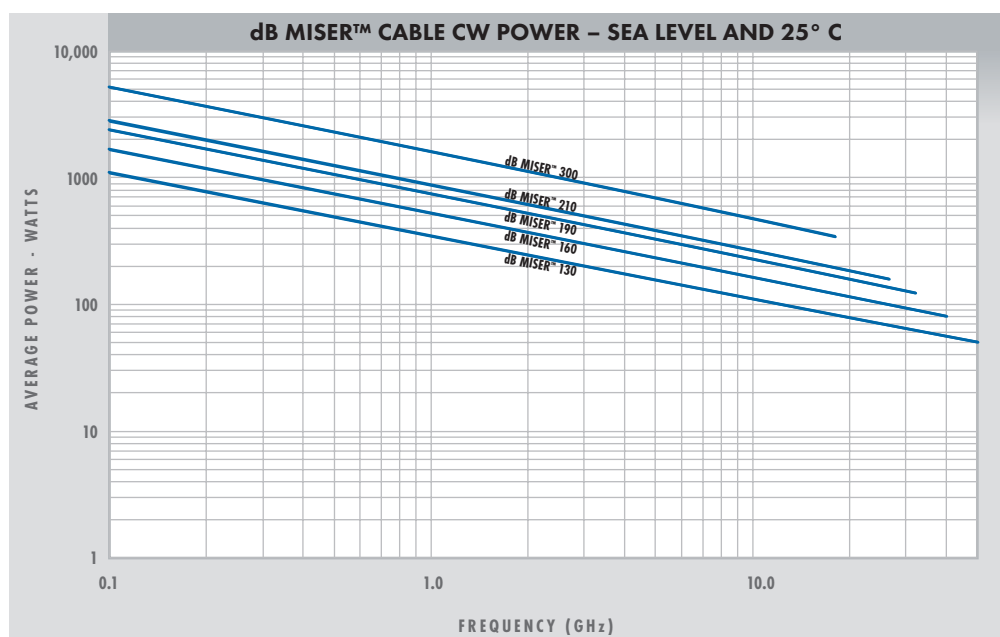
High value microwave and
electronic interconnect solutions

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SPECIFICATIONS	dB MISER™		
	130	160	
Cable Designator	88	84	
Diameter (in/mm)	0.127/3.23	0.159/4.04	
Operating Frequency (Max, GHz)	50	40	
Attenuation–Nom @ 2 GHz (dB/ft)	0.181	0.139	
Attenuation–Nom @ 10 GHz (dB/ft)	0.412	0.321	
Attenuation–Nom @ 18 GHz (dB/ft)	0.559	0.439	
Attenuation–Nom @ 26.5 GHz (dB/ft)	0.684	0.541	
Attenuation–Nom @ 32 GHz (dB/ft)	0.756	0.600	
Attenuation–Nom @ 40 GHz (dB/ft)	0.851	0.678	
Attenuation–Nom @ 50 GHz (dB/ft)	0.959	–	
Power Handling -- Avg Power in Watts @ 1 GHz	348	528	
Phase Stability vs. Flexure† (@ 18 GHz, nom)	±2.7°	±3.5°	
Shielding Effectiveness–Min‡ (dB @ 1 GHz)	> – 90	> –90	
Typical VSWR (2 straight connectors)	1.35 to 50 GHz	1.28 to 40 GHz	
Min Bend Radius (in/mm)	Static	0.625/15.9	0.75/19.1
	Dynamic	1.25/31.8	1.5/38.2
Connector Retention to 18 GHz, pull (lbs/kg)	25/11.34	20/9.07	
Velocity of Propagation (%)	84.0	87.0	
Weight (grams/ft & /m)	9.24/30.31	12.12/39.76	
Operating Temperature Range (°C)	–55 to +125 (FEP jacket) –55 to +100 (LSZH jacket)		

† ± 360 degree bends around a 20 x cable OD mandrel. ‡ Subject to connector choice.

Specifications subject to change without notice.



SPECIFICATIONS	dB MISER™		
	190	210	300
Cable Designator	83	82	81
Diameter (in/mm)	0.187/4.75	0.210/5.33	0.299 / 7.59
Operating Frequency (Max, GHz)	32	26.5	18
Attenuation–Nom @ 2 GHz (dB/ft)	0.112	0.092	0.062
Attenuation–Nom @ 10 GHz (dB/ft)	0.261	0.215	0.147
Attenuation–Nom @ 18 GHz (dB/ft)	0.359	0.296	0.205
Attenuation–Nom @ 26.5 GHz (dB/ft)	0.446	0.367	–
Attenuation–Nom @ 32 GHz (dB/ft)	0.496	--	--
Attenuation–Nom @ 40 GHz (dB/ft)	--	–	–
Attenuation–Nom @ 50 GHz (dB/ft)	--	–	–
Power Handling -- Avg Power in Watts @ 1 GHz	750	878	1615
Phase Stability vs. Flexure† (@ 18 GHz, nom)	±4°	±4.5°	±8°
Shielding Effectiveness–Min‡ (dB @ 1 GHz)	> –90	> –90	> –90
Typical VSWR (2 straight connectors)	1.25 to 32 GHz	1.22 to 26.5 GHz	1.22 to 18 GHz
Min Bend Radius (in/mm)	Static	0.95/24.1	1.0/25.4
	Dynamic	1.9/48.3	2.0/50.8
Connector Retention to 18 GHz, pull (lbs/kg)	40/18.14	50/22.68	75/34.02
Velocity of Propagation (%)	82.4	84.0	84.6
Weight (grams/ft & /m)	16.65/54.63	19.40/63.65	39.00/127.95
Operating Temperature Range (°C)	–55 to +125 (FEP jacket) –55 to +100 (LSZH jacket)		

† ± 360 degree bends around a 20 x cable OD mandrel. ‡ Subject to connector choice.

Specifications subject to change without notice.

dB MISER™ FEATURES & BENEFITS

FEATURES

- ~ Low density, low loss ePTFE dielectric
- ~ Helically wrapped SPC primary shield
- ~ Fully captivated connectors
- ~ Combination hex/knurl coupling nuts
- ~ Diameters of 0.127", 0.159", 0.187", 0.210" and 0.299"

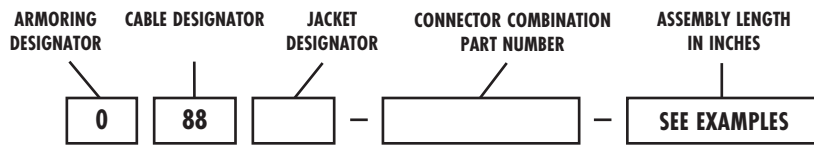
ADVANTAGES

- ~ Reduced cable loss
- ~ Increased thermal stability
- ~ Reduced cable loss
- ~ Reduced leakage
- ~ Increased connector retention
- ~ Easier to tighten, while still able to torque
- ~ Sizes and frequencies to fit a wide range of applications

BENEFITS

- ~ Meet challenging system gain or signal-to-noise requirements
- ~ Meet challenging system power or Mean Time Between Failures (MTBF) requirements
- ~ Meet challenging system gain or signal-to-noise requirements
- ~ Improved system performance
- ~ Reduced chance of degradation after install or use
- ~ Reduced fatigue, increased repeatability
- ~ Enhanced design-in options

dB MISER™ ORDERING INFORMATION: Part Number Designation



Armoring Designator: **0** - Unarmored **A** - Armored

Jacket Designator: **Blank** - Standard FEP **Z** - Low Smoke Zero Halogen (LSZH)

dB MISER™ 130

CONNECTOR OPERATING FREQUENCY

CONNECTOR COMBINATION PART NUMBERS*	26.5 GHz		40 GHz		50 GHz	
	SMA SP	SMK (2.92 mm†) SP	SMK (2.92 mm†) SJ	2.4 mm SP	2.4 mm SJ	
26.5 GHz	SMA SP	0101	0105	0115	0106	0116
40 GHz	SMK (2.92 mm†) SP	0105	0505	0515	0506	0516
	SMK (2.92 mm†) SJ	0115	0515	1515	0615	1516
50 GHz	2.4 mm SP	0106	0506	0615	0606	0616
	2.4 mm SJ	0116	0516	1516	0616	1616

CONNECTOR CODES	
SP	Straight Plug
SJ	Straight Jack

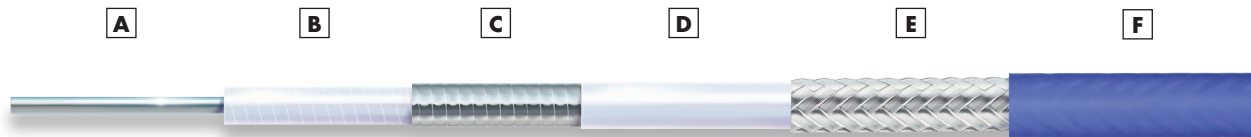
EXAMPLES:

088-0606-048 = Unarmored dB Miser™ 130 with standard FEP jacket, 2.4 mm SP to 2.4 mm SP (assembly operates to 50 GHz), **48 inches**

088Z-0115-150 = Unarmored dB Miser™ 130 with LSZH jacket, SMA SP to SMK (2.92 mm†) SJ (assembly operates to 26.5 GHz), **150 inches**

* OTHER CONNECTOR STYLES AVAILABLE; CONSULT STORM
† IEEE STANDARD 287

dB MISER™ 130 CABLE CONSTRUCTION

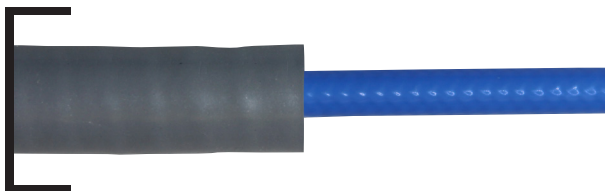


- A** Silver-plated copper center conductor
- B** Expanded PTFE dielectric
- C** Helically wrapped SPC flat wire shield
- D** PTFE
- E** Silver-plated copper braid
- F** Extruded blue FEP jacket standard; blue LSZH (low smoke zero halogen) jacket on request

ARMORING OPTION FOR dB MISER™ 130

ARMORED

Armoring Designator: **A**

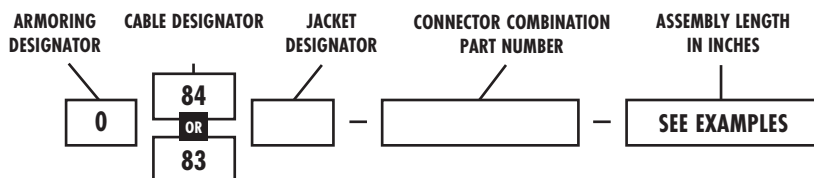


Design for both inside and outside environments where the application requires more cut and crush resistance. This armor option is extremely flexible and light while still providing protection. The cable is covered with a stainless steel flat wire spiral, fiberglass braid, and silicone jacket.

Temperature: -55° C thru +125° C

Diameter: **0.276"/7.00 mm**

dB MISER™ ORDERING INFORMATION: Part Number Designation



Armoring Designator†: **O** - Unarmored **A** - Hard Armored (polyolefin jacket)
AN - Hard Armored (no polyolefin jacket)

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

Jacket Designator: **Blank** - Standard FEP **Z** - Low Smoke Zero Halogen (LSZH)

dB MISER™ 160

CONNECTOR COMBINATION PART NUMBERS*	CONNECTOR OPERATING FREQUENCY								
	26.5 GHz				40 GHz				
	3.5 mm SP	SMA SP	SMA RAP	SMA FFRAP	SMK (2.92 mm [†]) SP	SMK (2.92 mm [†]) FFRAP	2.4 mm SP	2.4 mm FFRAP	
26.5 GHz	3.5 mm SP	0404	0104	0421	0451	0405	0455	0406	0456
	SMA SP	0104	0101	0121	0151	0105	0155	0106	0156
	SMA RAP	0421	0121	2121	2151	0521	2155	0621	2156
	SMA FFRAP	0451	0151	2151	5151	0551	5155	0651	5156
40 GHz	SMK (2.92 mm [†]) SP	0405	0105	0521	0551	0505	0555	0506	0556
	SMK (2.92 mm [†]) FFRAP	0455	0155	2155	5155	0555	5555	0655	5556
	2.4 mm SP	0406	0106	0621	0651	0506	0655	0606	0656
	2.4 mm FFRAP	0456	0156	2156	5156	0556	5556	0656	5656

* Other connector styles available; consult Storm

† IEEE Standard 287

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

EXAMPLES:

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

AN84Z-0606-180 = Hard Armored (no polyolefin jacket) dB Miser™ 160 with LSZH jacket, 2.4 mm SP to 2.4 mm SP (assembly operates to 40 GHz), 180 inches

dB MISER™ 190

CONNECTOR COMBINATION PART NUMBERS*	CONNECTOR OPERATING FREQUENCY							
	18 GHz	26.5 GHz		32 GHz				
	SMA SP	SMA SJ	3.5 mm SP	3.5 mm SJ	SMK (2.92 mm [†]) SP	SMK (2.92 mm [†]) SJ	SMK (2.92 mm [†]) FFRAP	
18 GHz	SMA SP	0101	0111	0104	0114	0105	0115	0155
	SMA SJ	0111	1111	0411	1115	0511	1115	1155
26.5 GHz	3.5 mm SP	0104	0411	0404	0414	0405	0415	0455
	3.5 mm SJ	0114	1115	0414	1414	0514	1415	1455
32 GHz	SMK (2.92 mm [†]) SP	0105	0511	0405	0514	0505	0515	0555
	SMK (2.92 mm [†]) SJ	0115	1115	0415	1415	0515	1515	1555
	SMK (2.92 mm [†]) FFRAP	0155	1155	0455	1455	0555	1555	5555

* Other connector styles available; consult Storm

† IEEE Standard 287

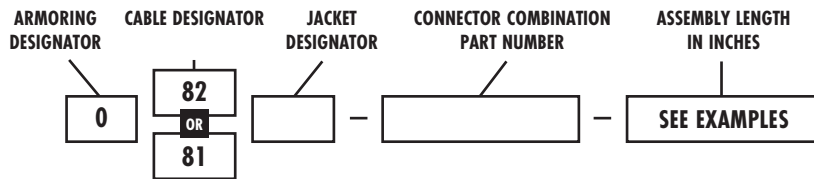
CONNECTOR CODES	
SP	Straight Plug
SJ	Straight Jack
FFRAP	Factory Formed Right-Angle Plug

EXAMPLES:

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

A83Z-0505-180 = Hard Armored (polyolefin jacket) dB Miser™ 190 with LSZH jacket, 2.92 mm SP to 2.92 mm SP (assembly operates to 32 GHz), 180 inches

dB MISER™ ORDERING INFORMATION: Part Number Designation



Armoring Designator†: **O** - 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.

Jacket Designator: **Blank** - Standard FEP **Z** - Low Smoke Zero Halogen (LSZH)

dB MISER™ 210

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 with standard FEP jacket, 3.5 mm SP to 3.5 mm SP (assembly operates to 26.5 GHz), 48 inches

R82Z-4141-120 = Ruggedized dB Miser™ 210 with LSZH jacket, SMA SP to SMA SP (assembly operates to 26.5 GHz), 120 inches

dB MISER™ 300

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 with standard FEP jacket, N SP to N SP (assembly operates to 18 GHz), 36 inches

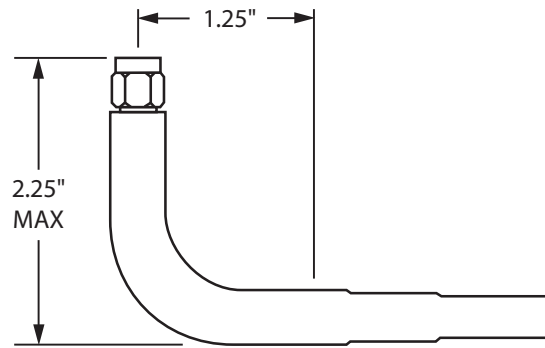
AN81Z-0101-108 = Hard Armored (no polyolefin jacket) dB Miser™ 300 with LSZH jacket, SMA SP to SMA SP (assembly operates to 18 GHz), 108 inches

FACTORY FORMED RIGHT-ANGLE (FFRA) CONNECTORS

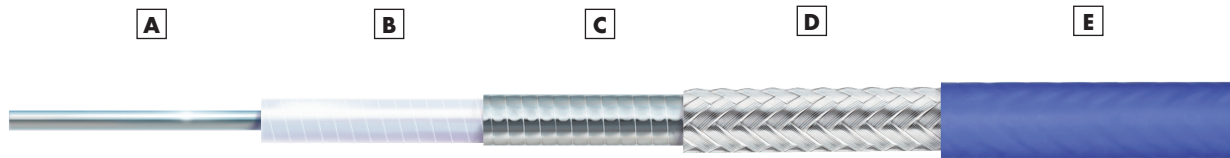
Designed using straight connectors and a shrink tubing–strain relief combination, FFRA connectors offer a moderate right-angle space advantage at a significant cost savings over traditional right-angle connectors.

FFRA connectors are available for most dB Miser™ cable sizes. See the Connector tables for specific connectors available as FFRA's.

Note: The dimensions given here are for dBM 160 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 standard; blue LSZH (low smoke zero halogen) jacket on request

ARMORING & RUGGEDIZING OPTIONS

The Hard Armored option (with and without polyolefin jacket) is available for dB Miser™ 160, 190, 210, and 300 cables. And, when specifying FFRAP connectors, custom part numbering must be used. Call Storm for details.

The Ruggedized option (with polyurethane jacket) is available for dB Miser™ 210 and 300 cables, 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: -55° 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**



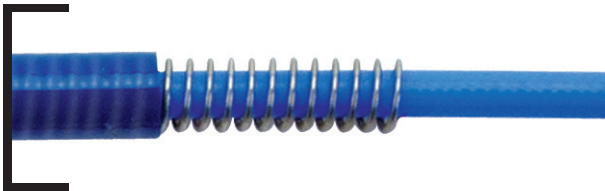
Designed for both inside and outside environments where flexibility and weight are not as critical, but where the application requires the ultimate in cut and crush resistance (500 lbs/in). The cable is covered with a stainless steel interlocked armor.

Temperature: -55° 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: -55° C thru +100° C

Diameter: dB Miser™ 210 – 0.348"/8.84 mm
dB Miser™ 300 – 0.454"/11.53 mm