

## LMR®-400 Flexible Low Loss Communications Coax

### Ideal for...

- Drop-in replacement for RG-8/9913 Air-Dielectric type Cable
- Juniper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable

• **LMR** standard is a UV Resistant Polyethylene jacketed cable designed for 20-year service outdoor use. The bending and handling characteristics are significantly better than air-dielectric and corrugated hard-line cables.

• **LMR®-DB** is identical to standard LMR plus has the advantage of being watertight. The addition of waterproofing compound in and around the foil/braid insures continuous reliable service should the jacket be inadvertently damaged during installation or in the future.

• **LMR®-FR** is a non-halogen (non-toxic), low smoke, fire retardant cable designed for in-building runs that can be routed anywhere except air handling plenums. LMR-FR is UL/NEC & CSA rated CMR and FT4 respectively, meets FAA FAR25 requirements and is MSHA-P for mining applications.

• **LMR®-FR-PVC** is a general-purpose indoor cable and has a UL/NEC & CSA rating of 'CMR' and 'FT4' respectively. It is less expensive than LMR-FR, however it emits toxic fumes (HCl) and greater smoke density when burned.

• **LMR®-PVC** is designed for low loss general-purpose applications and is somewhat more flexible than the standard polyethylene jacketed LMR.

• **LMR®-PVC-W** is a white-jacketed version of LMR-PVC for marine and other applications where color compatibility is desired.

• **Flexibility** and bendability are hallmarks of the LMR-400 cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

• **Low Loss** is another hallmark feature of LMR-400.



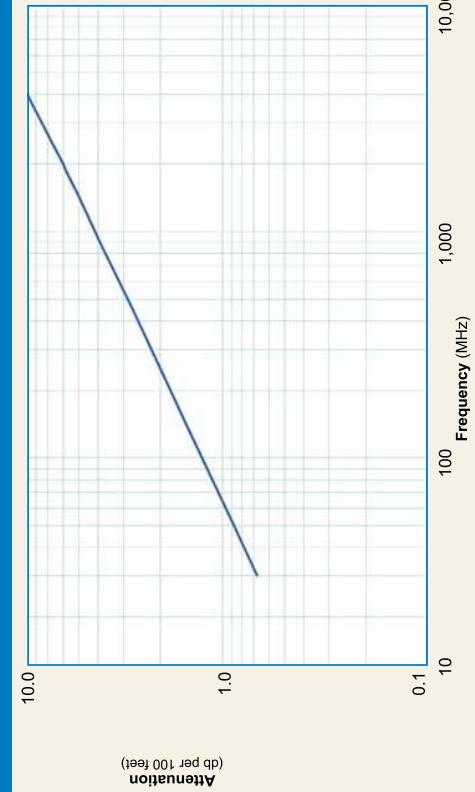
LMR-400  
TIMES MICROWAVE SYSTEMS

Mechanical Specifications		Electrical Specifications	
Performance Property	Units	US (metric)	US (metric)
Bend Radius: installation	in. (mm)	1.00 (25.4)	85
Bend Radius: repeated	in. (mm)	4.0 (101.6)	1.38
Bonding Moment	lb/in (N-m)	0.5 (0.68)	1.20 (3.92)
Weight	lb/ft (kg/m)	0.068 (0.10)	50
Tensile Strength	lb (kg)	160 (72.6)	23.9 (78.4)
Flat Plate Crush	lb/in. (kg/mm)	40 (0.71)	0.060 (0.20)
DC Resistance	ohms/1000ft (km)	>90	>90
Inner Conductor	ohms/1000ft (km)	1.39 (4.6)	1.39 (4.6)
Outer Conductor	ohms/1000ft (km)	1.65 (5.4)	1.65 (5.4)
Voltage Withstand	Volts DC	2500	2500
Jacket Spark	Volts RMS	8000	8000
Peak Power	kW	16	16

### Environmental Specifications

Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+195	-70/+95
Operating Temperature Range	-40/+185	-40/+85

### Attenuation vs. Frequency (typical)

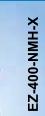
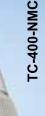
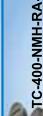


**Calculate Attenuation =**  

$$(0.122290) \cdot \sqrt{f \text{MHz}} + (0.000260) \cdot f \text{MHz}$$
 (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](http://www.timesmicrowave.com/cable_calculators))

**VSWR=1.0, Ambient = +25°C (77°F), Power:**  
 VSWR=1.0; Inner Conductor = 100°C (212°F); Sea Level; dry air; atmospheric pressure; no solar loading

## **-MR®-400 -Flexible Low Loss Communications Coax**

Connectors

Interface	Part Number	Stock Code	VSWR**	Coupling Nut	Outer Finish*	Inner Contact Attach	Body Attach	Length in (mm)	Width in (mm)	Weight lb(g)
Description		Freq. (GHz)								
7-16 DIN Female	Straight Jack	TC-000-T716FC	3190-2524	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	S6 16 (41)	1.13	0.281 (72.5)
7-16 DIN Male	Straight Plug	EZ-400-T716FM-X	3190-2524	<1.251 (2.5)	Hex	Solder	Spring Finger-Crimp	A/G 16 (41)	1.38	0.281 (72.5)
7-16 DIN Male	Straight Plug	EZ-400-T716FM-NC	3190-2527	<1.251 (2.5)	Hex	Solder	Spring Finger-Crimp	S6 14 (36)	1.40	0.286 (121.6)
7-16 DIN Male	Right Angle	TC-000-T716CR-A	3190-1671	<1.251 (2.5)	Hex	Solder	Spring Finger-Crimp	A/G 16 (41)	1.88	0.35 (159)
7-16 DIN Male	Right Angle	TC-000-T716CR-M	3190-2555	<1.351 (6)	Hex	Solder	Spring Finger-Crimp	A/G 16 (41)	1.75	0.44 (134)
BNC Male	Straight Plug	TC-400-BNM-X	3190-2538	<1.251 (2.5)	Krurl	Solder	Spring Finger-Crimp	N/S 1.7 (43)	0.56	0.63 (28.6)
HN Male	Straight Plug	TC-400-BNM-H	3190-2541	<1.251 (2.5)	Krurl	Solder	Spring Finger-Crimp	S6 12.9 (88)	0.88	0.25 (113.4)
HN Male	Straight Plug	TC-400-QDSM	3190-2541	<1.251 (2.5)	Krurl	Solder	Spring Finger-Crimp	A/G 16 (41)	1.56	0.25 (113.4)
QDS Male	Straight Plug	TC-400-QDSM	3190-2520	<1.25 (5)	Krurl	Solder	Spring Finger-Crimp	A/G 16 (46)	1.00	0.198 (56.0)
Mini-UHF	Straight Jack	T-C-400-MUHF	3190-2509	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/G 1.1 (27)	0.70	0.20 (9.1)
N Female	Straight Jack	T-C-400-NMF	3190-2509	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/S 1.6 (41)	0.75	0.19 (5.1)
N Female	Straight Jack	EZ-400-NF	3190-2596	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/S 1.6 (45)	0.66	0.105 (47.6)
Straight Jack	Straight Jack	TC-400-NF	3190-2555	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/S 1.8 (45)	0.66	0.105 (47.6)
Bulkhead Jack	Bulkhead Jack	EZ-400-NF-BH	3190-2518	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/G 1.8 (46)	0.88	0.24 (10.2)
N Male	Straight Plug	TC-400-NFC-BH-(A)	3190-1672	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	A/G 1.8 (46)	0.88	0.24 (10.2)
SC-400-NM	Straight Plug	TC-400-NMC	3190-1454	<1.251 (2.5)	Krurl	Solder	Spring Finger-Crimp	N/G 1.5 (38)	0.75	0.19 (5.1)
SC-400-NM	Straight Plug	EZ-400-NMC	3190-2577	<1.251 (2.5)	Krurl	Solder	Spring Finger-Crimp	N/S 1.5 (38)	0.70	0.17 (4.8)
SC-400-NM	Straight Plug	EZ-400-NMC	3190-2640	<1.251 (2.5)	Hex/Krurl	Spring Finger-Crimp	N/G 1.5 (38)	0.75	0.19 (5.1)	
SC-400-NM	Straight Plug	EZ-400-NMH-X	3190-2590	<1.251 (10)	Hex/Krurl	Spring Finger-Crimp	A/G 1.5 (38)	0.89	0.22 (10.6)	
SC-400-NM	Straight Plug	TC-400-NMH-X	3190-2526	<1.251 (10)	Hex/Krurl	Spring Finger-Crimp	A/G 1.5 (38)	0.89	0.22 (10.6)	
SC-400-NM	Straight Plug	EZ-400-NMK	3190-1661	<1.251 (10)	NA	Spring Finger-Crimp	S6 1.5 (38)	0.75	0.22 (6.3)	
SC-400-NM	Straight Plug	EZ-400-NMH-X	3190-2538	<1.351 (6)	Hex/Krurl	Spring Finger-Crimp	A/G 1.8 (47)	1.42	0.36 (10.8)	
SC-400-NM	Straight Plug	EZ-400-NMH-X	3190-2233	<1.351 (6)	Hex/Krurl	Spring Finger-Crimp	A/G 1.8 (46)	1.25	0.31 (8.0)	
SC-400-NM	Straight Plug	TC-400-NMHCR-A	3190-1670	<1.351 (6)	Hex	Solder	Spring Finger-Crimp	N/S 1.8 (46)	1.25	0.31 (8.0)
SC-400-NM	Straight Plug	TC-400-NMHCR-P	3190-1622	<1.251 (2.5)	Hex	Solder	Spring Finger-Crimp	N/G 1.5 (38)	0.75	0.19 (5.1)
SC-400-NM	Straight Plug	TC-400-SM	3190-1630	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/G 1.2 (29)	0.50	0.12 (3.0)
SC-400-NM	Straight Plug	TC-400-TR-RP	3190-1063	<1.251 (2.5)	NA	Solder	Spring Finger-Crimp	N/G 1.8 (46)	0.55	0.14 (3.6)
SC-400-NM	Reverse Polarity	EZ-400-TR-RP	3190-1796	<1.251 (2.5)	NA	Spring Finger-Crimp	A/G 1.8 (46)	0.55	0.14 (3.6)	
TNC Female	Straight Plug	TC-400-TMX-X	3190-2532	<1.251 (2.5)	Hex/Krurl	Solder	Spring Finger-Crimp	A/G 1.8 (46)	0.67	0.17 (5.0)
TNC Female	Straight Plug	TC-400-TMX	3190-2533	<1.251 (2.5)	Hex/Krurl	Solder	Spring Finger-Crimp	A/G 1.9 (46)	0.67	0.17 (5.0)
TNC Female	Right Angle	TC-400-TMR-A	3190-1442	<1.351 (6)	Hex/Krurl	Solder	Spring Finger-Crimp	N/G 1.7 (43)	0.59	0.085 (14.6)
TNC Female	Right Angle	TC-400-TMR	3190-1662	<1.251 (2.5)	Hex/Krurl	Solder	Spring Finger-Crimp	N/G 1.7 (43)	0.59	0.074 (33.6)
TNC Female	Reverse Polarity	EZ-400-TMR	3190-1794	<1.251 (2.5)	Hex/Krurl	Solder	Spring Finger-Crimp	A/G 1.7 (43)	0.59	0.074 (33.6)

Hardware Accessories

Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	HX-4	3190-200	Crimp Handle
Crimp Dies	Y1719	3190-202	4299 Hex Dies
Crimp Tool	CT-400EZ	3190-666	Crimp tool for LMR 400 connectors
Crimp Rings	CR-400	3190-1972	Crimp rings for FICZ-400 connectors (package of 10)
Strip Tool	ST-400C-2	3190-1972	Prep tool for FICZ-400/NMC-2, two piece clamp style connector
Strip Tool	CST-400	3192-004	Combination prep tool for LMR-400 crimp and clamp style connectors
Mid-Span Strip Tool	GST-400	3190-2174	For ground strap attachment
Replacement Blades	RB-456	3190-421	Replacement blades for Strip Tool
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Cutting Tool	CCT-001	3190-1544	Cable end flush cut tool
Replacement Blade	RB-001	3190-1609	Replacement blade for cutting tool
Tool Kit	TK-400EZ	3190-1601	Tool Pouch for LMR-400 Crimp Connectors (includes CCT-001, CST-400, CT-400/300 Tool Pouch)
Replacement Kit	RB-CST	3192-086	Replacement blade kit for all CST strip tools

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