

**T TIMES**  
MICROWAVE SYSTEMS  
AN AMPHENOL COMPANY

**LMR**<sup>®</sup>  
CABLES • CONNECTORS • TOOLS • ASSEMBLIES



# GUIDE

Cables  
Connectors  
Tools



Made in the USA

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The LMR® cable solution offers a complete line of highly flexible, rugged, low-loss braided cables with the fastest, easiest connector installation available. LMR cables provide superior performance compared to RG cables of similar size. They also provide significantly better attenuation, shielding effectiveness, and UV resistance.

LMR® system is a complete solution with ultimate simplicity. Its ruggedness, weatherability, and proven construction provide the reliable and durable solutions end users require that will stand the test of time.

LMR® is not just a family of cables – LMR products include an extensive variety of connectors– including X-series EZ design connectors featuring common interface types and non-solder center pins. These connectors can be easily terminated using Times Microwave Systems' prep tools included within the LMR system.

### Product line includes:

- An array of industry standard options for cable types, jackets, and cable sizes
- A complete line of cable, connectors (including EZ), tools, and accessories
- Full range of cables sizes, from LMR-100 (0.110") all the way up to LMR-1200- DB (1.200")
- A complete line of cable prep and connector installation tools –everything needed to get from the antenna to the equipment– so users always have the right tools
- Supported by Times Microwave Systems extensive distribution network and unsurpassed technical support

Visit Us at [www.timesmicrowave.com](http://www.timesmicrowave.com) to learn more about how the LMR system can power your critical communications infrastructure.

LMR® and LLPX® are registered trademarks of Times Microwave Systems.

Cable Family	Description	Center Conductor	Dielectric	Outer Conductor	Connectors	Installation
<b>Standard</b>	General use 50 Ohm coaxial cable	Solid	Foam PE	Tape & copper	Crimp (EZ) or Solder (TC)	Indoor/Outdoor
<b>UltraFlex</b>	Flexible construction	Stranded	Foam PE	Tape & copper	Solder (TC)	Indoor/Outdoor
<b>LLPX</b>	Plenum rated for indoor applications	Solid	ePTFE	Tape & copper	Crimp (EZ) or Solder (TC)	Indoor
<b>75 Ohm</b>	General use 75 Ohm coaxial cable	Solid	Foam PE	Tape & copper	Crimp (EZ) or Solder (TC)	Indoor/Outdoor

## LMR® Standard

High-performance broadband, flexible, low-loss 50 Ohm coaxial cables. Features include 100% effective shielding, available as pre-terminated assemblies, and rugged resistance to UV, sunlight, and weather.

### Ideal for...

- Jumper Assemblies in Wireless Systems
- Short Antenna Feeder runs
- Applications requiring an easily routed, low loss RF cable

## LMR® LLPX®

Indoor highly fire-retardant cable designed for runs within return air handling plenums (e.g. dropped ceilings, raised floors).

### Ideal for...

- Indoor Plenum Feeder runs
- UL/NEC/CSA listed CMP/FT6
- Any wireless application

### Applications:

#### STANDARD

The industry standard in high-performance broadband, flexible, low-loss 50 Ohm coaxial cables. Features include 100% effective shielding, availability as pre-terminated assemblies, and rugged resistance to UV, sunlight, and weather.

#### FIRE RETARDANT

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 listed 'CMR' and 'FT4' respectively, meets FAA FAR25 requirements and is MSHA-P listed for mining applications.

#### DIRECT BURIAL

LMR-DB is a waterproof version of the LMR. The addition of a waterproofing compound in and around the foil/braid ensures continuous reliable service should the jacket be inadvertently damaged during installation or in the future.

## LMR® UltraFlex

A stranded center conductor and rubber outer jacketed cable designed for multiple bending/flexing cycles. It is used for both indoor and outdoor applications.

### Ideal for...

- Communications Systems
- Short Antenna Feeder runs
- Any application that requires additional flexibility

## LMR® 75 Ohm

UV Resistant Polyethylene jacketed cable designed for 30-year service outdoor use. The bending and handling characteristics are significantly better than other smooth wall or corrugated hard-line cables.

### Ideal for...

- Satellite Applications
- Video Applications-CCTV, CATV, base/broadband
- In-Building Feeder Runs
- Any 75 Ohm Wireless Application

## Connectors

LMR® connectors include a wide variety of interface types. Advantage™ -X series feature of solderless contact and a 'no braid trim' design, improving assembly, reducing FOD, and making them the preferred choice for quick and reliable field installations. Most interfaces are also available in a solder-pin TC version.



### Connector features & benefits

- **Albaloy/Tri-Plate plating** resulting in superior Corrosion/Salt Fog resistance performance.
- **Solderless** rapid assembly design.
- **IP 67 Waterproof** rated when used with the Times WSB strain relief Weather Sealing Boots.
- **Compatible with Times Microwave Systems assembly tooling** such as CST and CT strip/crimp tools.
- **"No braid trim" feature** saves time during termination.
- **Rugged Design with hex Coupling nut feature on Male connectors** enabling the use of torque tools to ensure proper mating force.
- **Excellent broadband VSWR performance.** Centre pins plated with substantial 50 micro inches of gold- enhanced mate/de-mate life.
- **Indelible Laser marked** with the Times part number.
- **Superior pull strength /connector** retention designs.

**EZ connectors are the preferred choice for quick and reliable field installation.**

Times Microwave Systems offers a complete line of site installation hardware and accessories- everything you need to get from the antenna to the equipment:

**Ground kits:** Perfectly sized to each LMR cable, with never a chance of the ground strap being too tight (crushed cable), or too loose (poor grounding)

**Hangers:** Snap-in, butterfly

**Hoisting grips:** Stainless steel cable pull hoisting grips

**Weatherproofing kits:** Tape and cold shrink

## Tools

Identifying the proper tools for a job, making sure that you have all of the necessary tools and storing them in a way that is quickly accessible when working remote on a job site, has been a timeless struggle.

The Times Microwave Systems hard case tool kits include hard foam cut-outs that will keep all of the tools required for a specific job all in one place. All it takes is a quick flip of the lid to make sure you have everything you need.

### TK-195/200/240EZ-HC

- For LMR-195, 200 and 240 • X series connectors
- **CT-240/200/195/100**  
Crimp tool for LMR 100/195/200/240 connectors
- **CST-240A**  
Prep tool for LMR-240
- **CST-195/200**  
Prep tool for LMR-195/200 connectors
- **CCT-03**  
Cable cutting tool for LMR-100 through LMR-400



660-1206



### TK-400/400-75EZ-HC

- For LMR-400 and 400-75 • X series connectors
- **CT-400/300**  
Crimp Tool for LMR 400 and LMR 300
- **CST-400-75**  
Prep tool for LMR 400-75
- **CST-400**  
Prep tool for LMR 400
- **CCT-03**  
Cable cutting tool for LMR-100 through LMR-400



660-1266



### TK-CST-HC (Prep Tool Kit)

- For LMR, LMR-DB, and LMR-FR
- **CST-195/200**  
Prep tool for LMR 195/200
- **CST-240A**  
Prep tool for LMR 240
- **CST-400**  
Prep tool for LMR 400
- **CST-600**  
Prep tool for LMR 600
- **CST-240-PX**  
Prep tool for LMR 240-LLPX
- **CST-400-PX**  
Prep tool for LMR 400-LLPX
- **CST-600-PX**  
Prep tool for LMR 600-LLPX



660-1268



## Attenuation (dB per 100 feet; +25C)

Size	7/8" LDF	LMR 1200	LMR 900	1/2" LDF	LMR 600	1/2" SuperFlex	3/8" LDF
	1.090"	1.200"	0.870"	0.630"	0.590"	0.520"	0.440"

### Frequency (MHz)

30	0.197	0.209	0.288	0.369	0.421	0.561	0.567
50	0.257	0.272	0.374	0.479	0.547	0.730	0.736
150	0.458	0.481	0.658	0.845	0.964	1.29	1.3
220	0.560*	0.589	0.803	1.05*	1.18	1.58*	1.59*
450	0.834	0.864	1.17	1.51	1.72	2.32	2.30
900	1.23*	1.27	1.70	2.21*	2.50	3.41*	3.36*
1500	1.66	1.69	2.24	2.93	3.31	4.57	4.43
2000	1.97	1.99	2.63	3.45	3.90	5.41	5.21
2500	2.27*	2.26	2.98	3.91*	4.42	6.71*	5.91*
5800	N/A	N/A	4.9	6	7.3	10.3	9.7
8000	N/A	N/A	N/A	7.26	8.8	12.6	11.66

LMR 400	3/8" SuperFlex	RG213/214	1/4" SuperFlex	LMR 240	RG8X	LMR 195	RG-58
0.405"	0.415"	0.405"	0.300"	0.240"	0.242"	0.195"	0.195"

0.7	0.654	1.2	0.98	1.3	2.0	2.0	2.5
0.9	0.848	1.6	1.27	1.7	2.5	2.6	3.1
1.5	1.49	2.8	2.23	3.0	4.7	4.4	6.2
1.8	1.82*	3.5	2.72	3.7	6.0	5.4	7.4
2.7	2.66	5.2	3.93	5.3	8.6	7.8	10.6
3.9	3.86*	8.0	5.67*	7.6	12.8	11.1	16.5
5.1	5.12	N/A	7.47	9.9	N/A	14.5	N/A
6.0	6.01	N/A	8.73	11.5	N/A	16.9	N/A
6.8	6.84*	N/A	9.85*	12.9	N/A	19.0	N/A
10.8	11.1	N/A	15.8	20.4	N/A	29.9	N/A
13	13.5	N/A	19	24.3	N/A	35.7	N/A

Competitor's Data As Published

\* = Estimated from published data

\*Trademarks are exclusive property of their respective owners

## Power Handling (kW; +40C; Sea Level)

Size	7/8" LDF	LMR 1200	LMR 900	1/2" LDF	LMR 600	1/2" SuperFlex	3/8" LDF
	1.090"	1.200"	0.870"	0.630"	0.590"	0.520"	0.440"

### Frequency (MHz)

30	14.0	12.6	8.9	6.31	5.5	5.75	4.14
50	10.7	9.7	6.8	4.85	4.3	4.42	3.19
150	6.04	5.5	3.9	2.75	2.4	2.49	1.81
220	4.94*	4.5	3.2	2.23*	1.9	2.04*	1.49*
450	3.32	3.1	2.2	1.53	1.3	1.38	1.02
900	2.24	2.1	1.5	1.05*	0.93	0.944*	0.703*
1500	1.66	1.6	1.1	0.793	0.70	0.705	0.530
2000	1.40	1.3	1.0	0.673	0.59	0.597	0.451
2500	1.21*	1.2	0.9	0.594*	0.52	0.547*	0.398*
5800	N/A	N/A	0.52	0.38	0.32	0.31	0.18
8000	N/A	N/A	N/A	0.32	0.26	0.26	0.2

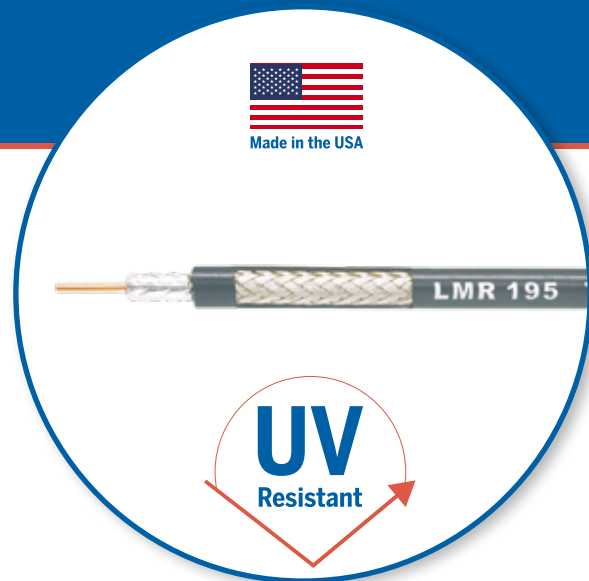
LMR 400	3/8" SuperFlex	RG213/214	1/4" SuperFlex	LMR 240	RG8X	LMR 195	RG-58
0.405"	0.415"	0.405"	0.300"	0.240"	0.242"	0.195"	0.195"

3.3	3.97	1.8	2.28	1.49	0.35	0.89	0.40
2.6	3.06	1.2	1.76	1.15	0.28	0.68	0.30
1.5	1.74	0.62	1.00	0.66	0.15	0.39	0.16
1.2	1.44*	N/A	0.825*	0.54	N/A	0.32	N/A
0.83	0.975	0.30	0.567	0.38	0.08	0.22	0.08
0.58	0.674*	0.18	0.393*	0.26	0.05	0.15	0.05
0.44	0.507	N/A	0.299	0.20	N/A	0.12	N/A
0.37	0.431	N/A	0.256	0.17	N/A	0.10	N/A
0.33	0.379*	N/A	0.255*	0.15	N/A	0.09	N/A
0.21	0.23	N/A	0.14	0.1	N/A	0.06	N/A
0.17	0.19	N/A	0.12	0.08	N/A	0.04	N/A

Competitor's Data As Published

\* = Estimated from published data

\*Trademarks are exclusive property of their respective owners



### Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

#### Units

Diameter	in (mm)	0.195 (4.95)
Weight	lb/ft (kg/m)	0.021 (0.03)
Bend Radius: Installation	in (mm)	0.5 (12.7)
Bend Radius: Repeated	in (mm)	2.0 (50.8)
Bending Moment	ft-lb (N-m)	0.2 (0.27)
Tensile Strength	lb (kg)	40 (18.2)
Flat Plate Crush	lb/in. (kg/mm)	15 (0.27)
Maximum Frequency	GHz	8
Velocity of Propagation	%	80
Dielectric Constant	NA	1.56
Time Delay	nS/f (nS/m)	1.27 (4.38)
Capacitance	pF/ft (pF/m)	25.4 (89.12)
Inductance	uH/ft (uH/m)	0.064 (0.21)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	7.6 (24.9)
Outer Conductor	Ohms/1000ft (/km)	4.9 (16.1)
Voltage Withstand	Volts DC	1000
Jacket Spark	Volts RMS	3000
Peak Power	kW	2.5

### Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.36042759	1.182562923
K2	0.0004747	0.001557491

### Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code		
7/16 Din	Male	Straight Plug	Hex/Knurl	<b>EZ-195-200-716M-X</b>	3190-8102	DM	
		Right Angle	Hex/Knurl	<b>EZ-195-200-716M-RA-X</b>	3190-8103	DMR	
BNC	Male	Straight Plug	Knurl	<b>EZ-195-BM-X</b>	3190-6141	BM	
FME	Female	Straight Jack	Hex	<b>TC-195-FMEF-X</b>	3190-6249	FMEF	
N	Female	Bulkhead	N/A	<b>EZ-195-NF-BH-X</b>	3190-6401	NFB	
	Male	Straight Plug	Hex/Knurl	<b>EZ-195-NMH-X</b>	3190-6497	NM	
		Right Angle	Hex/Knurl	<b>TC-195-NMH-RA-D</b>	3190-6542	NMR	
QMA	Female	Straight Jack	N/A	<b>EZ-195-QF-X</b>	3190-6384	QF	
	Male	Straight Plug	Knurl	<b>EZ-195-QM-X</b>	3190-6383	QM	
QN	Female	Straight Jack	N/A	<b>EZ-195-200-QNF-X</b>	3190-8040	QNF	
	Male	Straight Plug	N/A	<b>EZ-195-200-QNM-X</b>	3190-8038	QNM	
SMA	Male	Straight Plug	Hex	<b>EZ-195-SM-X</b>	3190-6140	SM	
		Right Angle Plug	Hex	<b>EZ-195-SM-RA-X</b>	3190-6431	SMR	
TNC	Female	Straight Jack	N/A	<b>EZ-195-TF-RP-X</b>	3190-6166	TFRP	
	Male	Straight Plug	Hex/Knurl	<b>EZ-195-TM-X</b>	3190-6496	TM	
			Right Plug	Hex	<b>EZ-195-200-TM-RA-X</b>	3190-8003	TMR
			Right Plug	Hex	<b>TC-195-TM-X</b>	3190-6568	TM
UHF	Male	Right Angle Plug	Knurl	<b>EZ-195-200-UM-RA-X</b>	3190-8006	UMR	

\*Connector part numbers in bold text are the default connectors for LMR-195 cable assemblies

<b>INNER CONDUCTOR</b> Solid BC 0.037 in (0.94 mm)	<b>OUTER CONDUCTOR</b> Aluminum Tape 0.116 in (2.95 mm)	<b>JACKET</b> (Part Description table) 0.195 in (4.95 mm)
<b>DIELECTRIC</b> Foam PE 0.110 in (2.79 mm)	<b>OVERALL BRAID</b> Tinned Copper 0.139 in (3.53 mm)	

### Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-195	Outdoor	PE	Black	54110	LMR195
LMR-195-DB	Outdoor/Watertight	PE	Black	54113	LDB195
LMR-195-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54111	LF195
LMR-195-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54158	LPF195
LMR-195-MA	Mobile Antennas	PVC	Black	54210	LMA195
LMR-195-PVC	General Purpose	PVC	Black	54215	LPV195

### Assembly Ordering Guide

XXXXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 9 to select your desired connector



## Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.240 (6.10)
Weight	lb/ft (kg/m)	0.034 (0.05)
Bend Radius: Installation	in (mm)	0.75 (19.1)
Bend Radius: Repeated	in (mm)	2.5 (63.5)
Bending Moment	ft-lb (N-m)	0.25 (0.34)
Tensile Strength	lb (kg)	80 (36.3)
Flat Plate Crush	lb/in. (kg/mm)	20 (0.36)
Maximum Frequency	GHz	8
Velocity of Propagation	%	83
Dielectric Constant	NA	1.42
Time Delay	nS/f (nS/m)	1.21 (3.97)
Capacitance	pF/ft (pF/m)	24.5 (80.6)
Inductance	uH/ft (uH/m)	0.060 (0.20)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	3.2 (10.5)
Outer Conductor	Ohms/1000ft (/km)	3.89 (12.8)
Voltage Withstand	Volts DC	1500
Jacket Spark	Volts RMS	5000
Peak Power	kW	5.6

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.2445	0.8022045
K2	0.00033	0.00108273

### INNER CONDUCTOR

Solid BC 0.056 in (1.42 mm)

### OUTER CONDUCTOR

Aluminum Tape 0.155 in (3.94 mm)

### JACKET

(Part Description table) 0.240 in (6.10 mm)

### DIELECTRIC

Foam PE 0.150 in (3.81 mm)

### OVERALL BRAID

Tinned Copper 0.178 in (4.52 mm)

## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-240	Outdoor	PE	Black	54021	LMR240
LMR-240-DB	Outdoor/Watertight	PE	Black	54090	LDB240
LMR-240-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54029	LFR240
LMR-240-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54214	LPF240
LMR-240-PVC	General Purpose	PVC	Black	54140	LPV240
LMR-240-MA	Indoor & Mobile Antenna	PVC	Black	54046	LMA240

## Assembly Ordering Guide

XXXXXX

Cable Code

-XXX

Connector A

XXX-

Connector B

XX.X

Length

X

Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 11 to select your desired connector

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
1.0/2.3	Male	Straight Plug	Knurl	<b>EZ-240-1023M-X</b>	3190-6283	1023M
4.3/10	Male	Straight Plug	Hex	<b>TC-240-4310M-X</b>	3190-6385	43M
7/16 DIN	Male	Straight Plug	Hex	<b>TC-240-716M</b>	3190-2982	DM
		Right Angle Plug	Hex	<b>TC-240-716M-RA-D</b>	3190-2983	DMR
BNC	Male	Straight Plug	Knurl	<b>EZ-240-BM-X</b>	3190-6406	BM
			Knurl	<b>TC-240-BM-X</b>	3190-6380	BM
		Right Angle Plug	Knurl	<b>EZ-240-BM-RA-X</b>	3190-2868	BMR
F	Male	Straight Plug	Hex	<b>TC-240-FM-X</b>	3190-6773	FM
			Hex	<b>TC-240-FMEM-X</b>	3190-6251	FMEM
Mini UHF	Male	Straight Plug	Knurl	<b>TC-240-MUHF</b>	3190-445	MUF
N	Female	Straight Jack	N/A	<b>EZ-240-NF-X</b>	3190-2795	NF
			N/A	<b>EZ-240-NF-BH-X</b>	3190-6316	NFB
			N/A	<b>TC-240-NF-BH-X</b>	3190-6545	NFB
			N/A	<b>TC-240-NF-PM-X</b>	3190-2889	NF
	Male	Straight Plug	Hex/Knurl	<b>EZ-240-NMH-X</b>	3190-6382	NM
Hex/Knurl			<b>TC-240-NMH-X</b>	3190-6381	NM	
Hex/Knurl			<b>EZ-240-NMH-RA-X</b>	3190-6143	NMR	
QMA	Male	Straight Plug	Knurl	<b>EZ-240-QM-X</b>	3190-6564	QM
			Knurl	<b>EZ-240-QM-RA-X</b>	3190-2895	QMR
		Straight Jack	N/A	<b>EZ-240-SF-X</b>	3190-8008	SF
SMA	Female	Straight Jack	N/A	<b>TC-240-SF-BH-SS-X</b>	3190-2896	SF
			Hex	<b>EZ-240-SM-X</b>	3190-6319	SM
	Male	Straight Plug	Hex	<b>TC-240-SM-SS-X</b>	3190-2898	SM
			Hex	<b>TC-240-SM-RP</b>	3190-326	SMRP
			Hex	<b>EZ-240-SM-RA-X</b>	3190-6551	SMR
TNC	Female	Straight Jack	N/A	<b>TC-240-SM-RA-SS-D</b>	3190-6546	SMR
			N/A	<b>EZ-240-TF-X</b>	3190-6204	TF
	Male	Straight Plug	Hex/Knurl	<b>EZ-240-TM-RP-X</b>	3190-2892	TMRP
			Hex/Knurl	<b>EZ-240-TM-X</b>	3190-6494	TM
		Right Angle Plug	Hex/Knurl	<b>TC-240-TM-X</b>	3190-6550	TM
UHF	Male	Straight Plug	Knurl	<b>EZ-240-TM-RA-X</b>	3190-2726	TMR
			Knurl	<b>TC-240-TM-RA-D</b>	3190-6547	TMR
UHF	Male	Right Angle Plug	Knurl	<b>EZ-240-UM-X</b>	3190-8010	UM
			Knurl	<b>EZ-240-UM-RA-X</b>	3190-8011	UMR

\*Connector part numbers in bold text are the default connectors for LMR-240 cable assemblies



## Specifications

Impedance 50 Ohms  
Op Temp -40 to +185°F  
-40 to +85°C

### Units

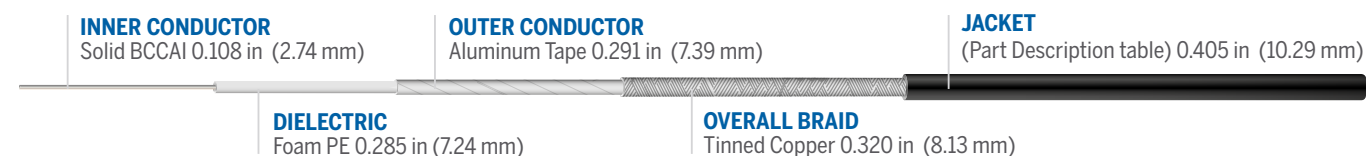
Diameter	in (mm)	0.405 (10.29)
Weight	lb/ft (kg/m)	0.068 (0.10)
Bend Radius: Installation	in (mm)	1.0 (25.4)
Bend Radius: Repeated	in (mm)	4.0 (101.6)
Bending Moment	ft-lb (N-m)	0.5 (0.68)
Tensile Strength	lb (kg)	160 (72.6)
Flat Plate Crush	lb/in. (kg/mm)	40 (0.71)
Maximum Frequency	GHz	8
Velocity of Propagation	%	84
Dielectric Constant	NA	1.38
Time Delay	nS/f (nS/m)	1.20 (3.92)
Capacitance	pF/ft (pF/m)	23.9 (78.4)
Inductance	uH/ft (uH/m)	0.060 (0.20)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	1.39 (4.6)
Outer Conductor	Ohms/1000ft (/km)	1.65 (5.4)
Voltage Withstand	Volts DC	2500
Jacket Spark	Volts RMS	8000
Peak Power	kW	16

## Calculation

$$IL = (K1 \times V(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)  
Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.1235129	0.405245825
K2	0.0002626	0.000861591



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-400	Outdoor	PE	Black	54001	LMR400
LMR-400-DB	Outdoor/Watertight	PE	Black	54091	LDB400
LMR-400-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54030	LFR400
LMR-400-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54073	LPF400
LMR-400-PVC	General Purpose	PVC	Black	54218	LPV400
LMR-400-RR-DB	RodentRepel/Watertight	PE	Black	54421	LRR400

## Assembly Ordering Guide



\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 13 to select your desired connector

Connectors	Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
4.3/10	Male	Straight plug	Hex	<b>EZ-400-4310M-X</b>	3190-8096	43M
				TC-400-4310M-X	3190-6272	43M
7/16 DIN	Male	Straight plug	Hex	<b>EZ-400-716M-X</b>	3190-2524	DM
				TC-400-716M-X	3190-2597	DM
BNC	Male	Right angle plug	Hex	<b>EZ-400-716M-RA-X</b>	3190-2545	DMR
				TC-400-716M-RA-D	3190-2598	DMR
BNC	Male	Straight plug	Knurl	<b>EZ-400-BM-X</b>	3190-2852	BM
				TC-400-BM-X	3190-6232	BM
HN	Male	Right angle plug	Hex/Knurl	<b>EZ-400-BM-RA-X</b>	3190-2847	BMR
				TC-400-BM-RA-D	3190-6430	BMR
Mini UHF	Male	Straight plug	Knurl	<b>TC-400-HNM-RA</b>	3190-2541	HNMR
				<b>TC-400-MUHF</b>	3190-520	MUM
N	Female	Straight jack	N/A	<b>EZ-400-NF-BH-X</b>	3190-6328	NFB
				<b>EZ-400-NF-X</b>	3190-2818	NF
				TC-400-NF-X	3190-2815	NMK
	Male	Straight plug	Hex/Knurl	<b>EZ-400-NMH-X</b>	3190-2590	NM
				TC-400-NMC-2-D	3190-2640	NMC
				<b>EZ-400-NMK-X</b>	3190-6071	NMK
				TC-400-NMH-X	3190-2626	NM
				TC-400-NMC-2	3190-6077	NMC
				TC-400-NM-RP	3190-960	NMRP
				TC-400-NM-RP	3190-960	NMRP
Right angle plug	Hex/Knurl	<b>EZ-400-NMH-RA-X</b>	3190-6342	NMR		
		TC-400-NMH-RA-D	3190-2293	NMR		
QN	Female	Straight jack	N/A	<b>EZ-400-QNF-X</b>	3190-2980	QNM
	Male	Straight plug	Knurl	TC-400-QNM-X	3190-6212	QNM
Right angle plug		Knurl	<b>EZ-400-QNM-RA-X</b>	3190-2981	QNMR	
SMA	Female	Straight jack	N/A	<b>EZ-400-SF-X</b>	3190-8023	SF
	Male	Straight plug	Hex	TC-400-SF-X	3190-6174	SF
SMA		Male	Straight plug	Hex	<b>EZ-400-SM-X</b>	3190-8021
	TC-400-SM-X				3190-3046	SM
TNC	Female	Straight jack	N/A	<b>EZ-400-TF-X</b>	3190-3049	TF
				<b>EZ-400-TF-RP</b>	3190-795	TFRP
				TC-400-TF-RP	3190-1063	TFRP
	Male	Straight plug	Knurl	<b>EZ-400-TM-X</b>	3190-2533	TM
				TC-400-TM-X	3190-2532	TM
				<b>EZ-400-TM-RP</b>	3190-794	TMRP
		Right angle plug	Hex/Knurl	TC-400-TM-RP	3190-1062	TMRP
				<b>EZ-400-TM-RA-X</b>	3190-2800	TMR
				TC-400-TM-RP-RA-D	3190-6147	TMRRP
				TC-400-TM-RA-D	3190-2671	TMR
UHF	Male	Straight plug	Knurl	<b>EZ-400-UM-X</b>	3190-8025	UM

\*Connector part numbers in bold text are the default connectors for LMR-400 cable assemblies



## Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.590 (14.99)
Weight	lb/ft (kg/m)	0.131 (0.20)
Bend Radius: Installation	in (mm)	1.50 (38.1)
Bend Radius: Repeated	in (mm)	6.0 (152.4)
Bending Moment	ft-lb (N-m)	2.75 (3.73)
Tensile Strength	lb (kg)	350 (158.9)
Flat Plate Crush	lb/in. (kg/mm)	60 (1.07)
Maximum Frequency	GHz	8
Velocity of Propagation	%	85
Dielectric Constant	NA	1.32
Time Delay	nS/f (nS/m)	1.17 (3.83)
Capacitance	pF/ft (pF/m)	23.4 (76.6)
Inductance	uH/ft (uH/m)	0.058 (0.19)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.53 (1.7)
Outer Conductor	Ohms/1000ft (/km)	1.2 (3.9)
Voltage Withstand	Volts DC	4000
Jacket Spark	Volts RMS	8000
Peak Power	kW	40

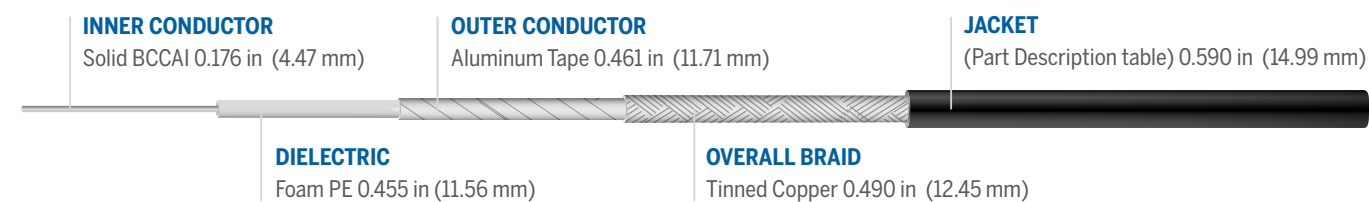
## Calculation

$$IL = (K1 \times V(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.0763055	0.250358346
K2	0.0002626	0.000861591



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-600	Outdoor	PE	Black	54003	LMR600
LMR-600-DB	Outdoor/Watertight	PE	Black	54093	LDB600
LMR-600-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54032	LFR600
LMR-600-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54074	LPF600
LMR-600-PVC	General Purpose	PVC	Black	54219	LPV600
LMR-600-RR-DB	RodentRepel/Watertight	PE	Black	54421	LRR600

## Assembly Ordering Guide

XXXXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 15 to select your desired connector

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
BNC	Male	Right Angle Plug	Knurl	TC-600-BM-RA-D	3190-2734	BMR
7/16 DIN	7-16 Female	Straight Jack	N/A	EZ-600-716F-X	3190-2447	DF
	7-16 Male	Straight Plug	Hex	EZ-600-716M-X	3190-2643	DM
		Right Angle Plug	Hex	TC-600-716M-X	3190-2642	DM
EIA FLANGE	7/8	Flange	N/A	EZ-600-716M-RA-X	3190-6471	DMR
HN	Male	Straight Plug	Knurl	EZ-600-78EIA	3190-1373	78EIA
LC	Male	Straight Plug	Hex	TC-600-HNMC	3190-1429	HNM
4.3/10	4.3/10 Male	Straight Plug	Hex	TC-600-LCM	3190-1406	LCM
		Right Angle Plug	Hex	EZ-600-4310M-X	3190-8100	43M
		Right Angle Plug	Hex	EZ-600-4310M-RA-X	3190-8101	43MR
N	Female	Straight Jack	N/A	EZ-600-NF-X	3190-2817	NF
				EZ-600-NF-BH-X	3190-8034	NFB
				TC-600-NF-X	3190-2816	NF
				TC-600-NF-BH	3190-589	NFB
	Male	Straight Plug	Hex/Knurl	EZ-600-NMK	3190-669	NM
				EZ-600-NMH-X	3190-2627	NM
				TC-600-NMC-2-D	3190-2641	NM
		Right Angle Plug	Hex/Knurl	TC-600-NMH-X	3190-6122	NM
				EZ-600-NMH-RA-X	3190-2628	NM
				TC-600-NMH-RA-D	3190-2628	NM
QN	Female	Straight Jack	N/A	EZ-600-QNF-X	3190-6387	NMR
	Male	Straight Plug	N/A	TC-600-QNM-X	3190-2427	NMR
		Right angle plug	N/A	EZ-600-QNM-RA-X	3190-8050	QNF
TNC	Female	Straight Jack	N/A	EZ-600-QNM-X	3190-8048	QNM
				TC-600-QNM-RA-X	3190-8049	QNM
				TC-600-QNM-RA-X	3190-8049	QNM
	Male	Straight Plug	Knurl	EZ-600-QNF-X	3190-1065	TFRP
				EZ-600-TF-X	3190-3050	TF
				EZ-600-TF-BH-X	3190-3050	TF
		Right Angle Plug	Hex/Knurl	EZ-600-TF-RP	3190-797	TFRP
				TC-600-TF-X	3190-3052	TF
				EZ-600-TM-RP-X	3190-8294	TMRP
				TC-600-TM-RP	3190-1064	TMRP
UHF	Male	Straight Plug	Knurl	EZ-600-TM-X	3190-2531	TM
				TC-600-TM-RA-D	3190-2707	TMR
UHF	Male	Straight Plug	Knurl	EZ-600-UM-X	3190-8036	UM

\*Connector part numbers in bold text are the default connectors for LMR-600 cable assemblies



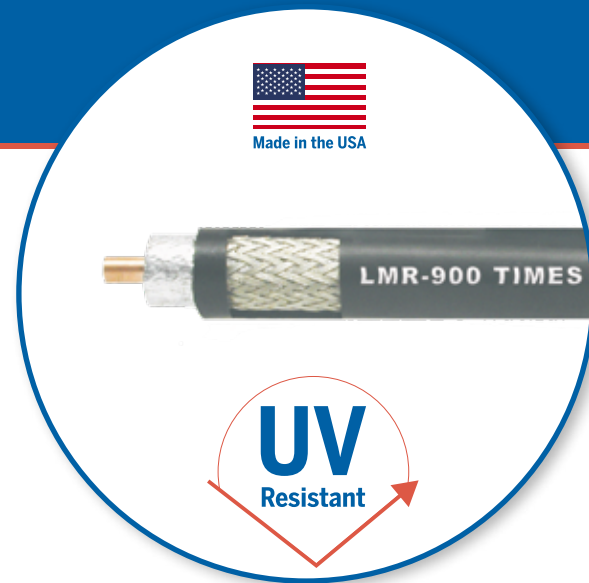
**Specifications**

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

**Units**

Diameter	in (mm)	0.870 (22.1)
Weight	lb/ft (kg/m)	0.266 (0.40)
Bend Radius: Installation	in (mm)	3.00 (76.2)
Bend Radius: Repeated	in (mm)	9.0 (228.6)
Bending Moment	ft-lb (N-m)	9.0 (12.20)
Tensile Strength	lb (kg)	750 (340.5)
Flat Plate Crush	lb/in. (kg/mm)	100 (1.79)
Maximum Frequency	GHz	6
Velocity of Propagation	%	87
Dielectric Constant	NA	1.32
Time Delay	nS/f (nS/m)	1.17 (3.83)
Capacitance	pF/ft (pF/m)	23.7 (77.8)
Inductance	uH/ft (uH/m)	0.058 (0.19)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.54 (1.77)
Outer Conductor	Ohms/1000ft (/km)	0.55 (1.8)
Voltage Withstand	Volts DC	5000
Jacket Spark	Volts RMS	8000
Peak Power	kW	62



**Calculation**

$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$

Cable Insertion Loss f = Frequency (MHz) Use K values with matching length unit

K values	dB/100ft	dB/100m
K1	0.05177	0.16985737
K2	0.00016	0.00059058

**Connectors**

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
DIN	7-16 Female	Straight Jack	N/A	EZ-900-716FC-2-SP	3190-6512 DF
EIA FLANGE	7/8	Straight	N/A	EZ-900-78EIA-2-SP	3190-6441 78EIA
N	Male	Straight Plug	Hex/Knurl	EZ-900-NMC-2-SP	3190-6443 NM

\* Connector part numbers in bold text are the default connectors for LMR-900 cable assemblies



**Part Description**

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-900-DB	Outdoor/Watertight	PE	Black	54094	LDB900
LMR-900-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54033	LF900
LMR-900-RR-DB	RodentRepel/Outdoor/Watertight	PE	Black	54422	LRR900

**Assembly Ordering Guide**



\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 17 to select your desired connector



## Specifications

Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	1.200 (30.48)
Weight	lb/ft (kg/m)	0.448 (0.67)
Bend Radius: Installation	in (mm)	6.50 (165.1)
Bend Radius: Repeated	in (mm)	12.0 (304.8)
Bending Moment	ft-lb (N-m)	15.0 (20.34)
Tensile Strength	lb (kg)	1300 (590.2)
Flat Plate Crush	lb/in. (kg/mm)	250 (4.47)
Maximum Frequency	GHz	5.2
Velocity of Propagation	%	88
Dielectric Constant	NA	1.29
Time Delay	nS/f (nS/m)	1.15 (3.79)
Capacitance	pF/ft (pF/m)	23.1 (75.8)
Inductance	uH/ft (uH/m)	0.058 (0.19)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.32 (1.0)
Outer Conductor	Ohms/1000ft (/km)	0.37 (1.2)
Voltage Withstand	Volts DC	6000
Jacket Spark	Volts RMS	8000
Peak Power	kW	90

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

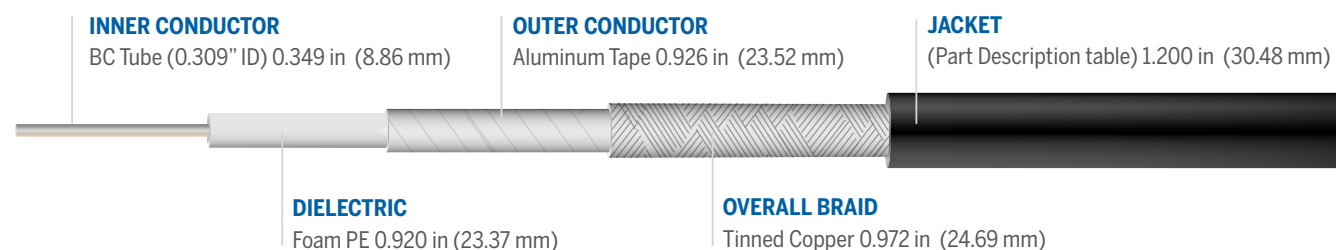
Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.03737	0.12261097
K2	0.00016	0.00052496

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
DIN	7-16 Female	Straight Jack	N/A	EZ-1200-716FC-2	3190-2784	DF
	7-16 Male	Straight Plug	Hex	EZ-1200-716MC-2	3190-2781	DM
EIA FLANGE	7/8	Straight	N/A	EZ-1200-78EIA-2	3190-2780	78EIA
N	Female	Straight Jack	N/A	EZ-1200-NFC-2	3190-2785	NF
	Male	Straight Plug	Hex/Knurl	EZ-1200-NMC-2	3190-2783	NM

\* Connector part numbers in bold text are the default connectors for LMR-1200 cable assemblies



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-1200-DB	Outdoor/Watertight	PE	Black	54095	LDB1200
LMR-1200-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54034	LF1200

## Assembly Ordering Guide

XXXXXXXX - XXX - XXX - XX.X X  
 Cable Code Connector A Connector B Length Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 19 to select your desired connector

## 195

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-195 and 200	CST-195/200	3192-102
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-195 crimp dies (0.213" hex) for use with the CT-U	Y197	3190-610
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Debur Tool	Center conductor debur tool	DBT-U	3192-001
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardcase Tool Kit	Connector Attachment Tools for LMR-195, 200 and 240	TK-195/200/240EZ-HC	660-1206
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-195/200	3109-445
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
Ground Kit	Standard ground kit for LMR-195	GK-S195TT	GK-S195TT
Crimp Ferrule	(Bags of 10) CR-195-X- Crimp Ferrule, Copper LMR-195 SERIES	CR-195-X	3190-6110

## 240

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-240	CST-240A	3192-152
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-240 crimp dies (0.255" hex) for use with the CT-U	Y375	3190-608
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Pin Crimp Tool	Pin Crimp Tool for N's, 4.3's and 7/16 DIN's	PCT-401	3192-216
Debur Tool	Center conductor debur tool	DBT-U	3192-001
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardcase Tool Kit	Connector Attachment Tools for LMR-195, 200 and 240	TK-195/200/240EZ-HC	660-1206
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-240	3109-400
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
Ground Kit	Standard ground kit for LMR-240	GK-S240TT	GK-S240TT
Crimp Ferrule	(Bags of 10) CR-240-X- Crimp Ferrule, Copper LMR-240 SERIES	CR-240-X	3190-6111

## 400

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-400	CST-400	3192-004
Crimp Tool	Crimp tool for LMR-400	CT-400/300	3190-666
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-400 crimp dies (0.429" hex) for use with the CT-U	Y1719	3190-202
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Mid-Span Strip Tool	Prep Tool for Ground Strap Attachment	GST-400A	3190-2174
Pin Crimp Tool	Pin Crimp Tool for N's, 4.3's and 7/16 DIN's	PCT-400	3192-217
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardcase Tool Kit	Connector Attachment Tools for LMR-400 and LMR-400-75	TK-400/400-75EZ-HC	660-1266
Soft Pouch Tool Kit	Connector Attachment Tools for LMR-400	TK-400EZ	3190-1601
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-400	3109-394
	Over connector weather protection for LMR-400 and N male	WPB-400-NM	3192-6122
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T
Ground Kit	Standard ground kit for LMR-400	GK-S400TT	GK-S400TT
Pull Hoist	pre-laced pull hoist for LMR-400	HG-400T	HG-400T
Hangers	Standard hanger for LMR-400 and LMR-600	BH-S38-NH	BH-S38-NH
Support Blocks	Mini coax support blocks for LMR-400	CB-400T	CB-400T
Crimp Ferrule	(Bags of 10) CR-400-X- Crimp Ferrule, Copper LMR-400 SERIES	CR-400-X	3190-6113

## 600

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-600	CST-600	3192-052
Crimp Tool	Crimp tool for LMR-600	CT-600	3192-170
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-600 crimp dies (0.610" hex) for use with the CT-U	Y1720	3190-203
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Mid-Span Strip Tool	Prep Tool for Ground Strap Attachment	GST-600A	3190-1051
Pin Crimp Tool	Pin Crimp Tool for N's, 4.3's and 7/16 DIN's	PCT-600	3192-266
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Soft Pouch Tool Kit	Connector Attachment Tools for LMR-600	TK-600EZ	3190-1602
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-600	3109-401
	Over connector weather protection for LMR-600 and N male	WPB-600-NM	3192-6163
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
Cold Shrink	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T
Ground Kit	Standard ground kit for LMR-600	GK-S600TT	GK-S600TT
Pull Hoist	Lace-up pull hoist for LMR-600	HG-600T	HG-600T
Hangers	Standard hanger for LMR-400 and LMR-600	BH-S38-NH	BH-S38-NH
Support Blocks	Mini coax support blocks for LMR-600	CB-600T	CB-600T
Crimp Ferrule	(Bags of 10) CR-600-X- Crimp Ferrule, Copper LMR-600 SERIES	CR-600-X	3190-6115

## 900

Installation Tools	Description	Part Number	Stock Code
Strip Tool	Prep Tool for LMR-900	ST-900C	3190-1310
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Wrench	1 1/4" open end wrench (2 required)	WR-900	3190-509
Mid-Span Strip Tool	Prep Tool for Ground Strap Attachment	GST-900A	3190-435
Replacement Blade Kit	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-600 to LMR-1200	CS-60120T	CS-60120T
Ground Kit	Standard ground kit for LMR-900	GK-S900TT	GK-S900TT
Pull Hoist	Lace-up pull hoist for LMR-900	HG-900T	HG-900T
Hangers	Butterfly hanger for LMR-900	BH-58-NH	BH-58-NH
Support Blocks	Mini coax support blocks for LMR-900	CB-900T	CB-900T

## 1200

Installation Tools	Description	Part Number	Stock Code
Strip Tool	Prep Tool for LMR-1200	ST-1200CH	3192-124
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Wrench	1 9/16" open end wrench (1 required)	WR-1200A	3190-512
	1 7/16" open end wrench (1 required)	WR-1200B	3190-511
Mid-Span Strip Tool	Prep Tool for Ground Strap Attachment	GST-1200A	3190-436
Replacement Blade Kit	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-600 to LMR-1200	CS-60120T	CS-60120T
Ground Kit	Standard ground kit for LMR-1200	GK-S1200TT	GK-S1200TT
Pull Hoist	Lace-up pull hoist for LMR-1200	HG-1200T	HG-1200T
Hangers	Butterfly hanger for LMR-1200	BH-78-NH	BH-78-NH
Support Blocks	Mini coax support blocks for LMR-1200	CB-1200T	CB-1200T

### TK-195/200/240EZ-HC Tool Kit

Identifying the proper tools for a job, making sure that you have all of the necessary tools and storing them in such a way that they are quickly accessible, has been a timeless challenge. Especially, when working at a remote job site. This new hard case tool kit with hard foam cut-outs for LMR-195, 200 and 240 goes a long way towards addressing the challenge. This is the first in a series of hardcase kits which will keep all of the tools required for a specific job all in one place. All it takes is a quick flip of the lid to make sure you have everything you need.

- TK-195/200/240EZ-HC
- For LMR-195, 200 and 240
- X series connectors

#### Tools include the following:

- **CT-240/200/100**  
Crimp tool for LMR-240, LMR-200 and LMR-100 connectors
- **CST-195/200**  
Prep tool for LMR-195 and LMR-200 connectors
- **CST-240A**  
Prep tool for LMR-240
- **CCT-03**  
Cable cutting tool for LMR-100 through LMR-600



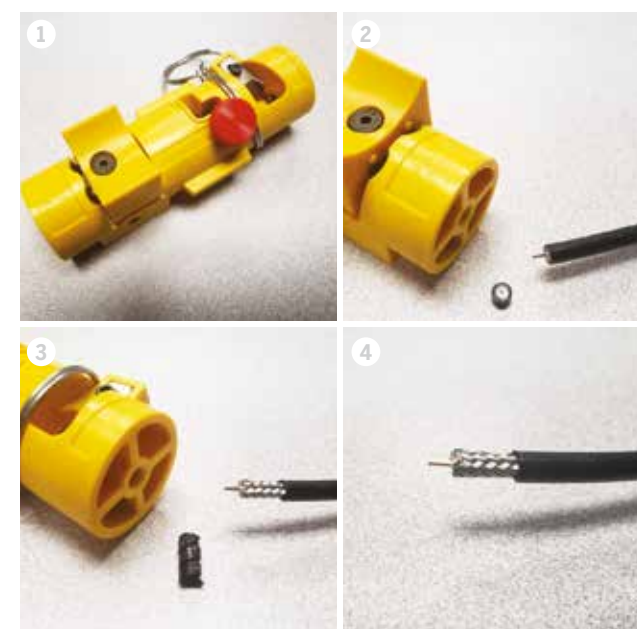
660-1206



### CST-195/200

**STOCK CODE 3192-102**

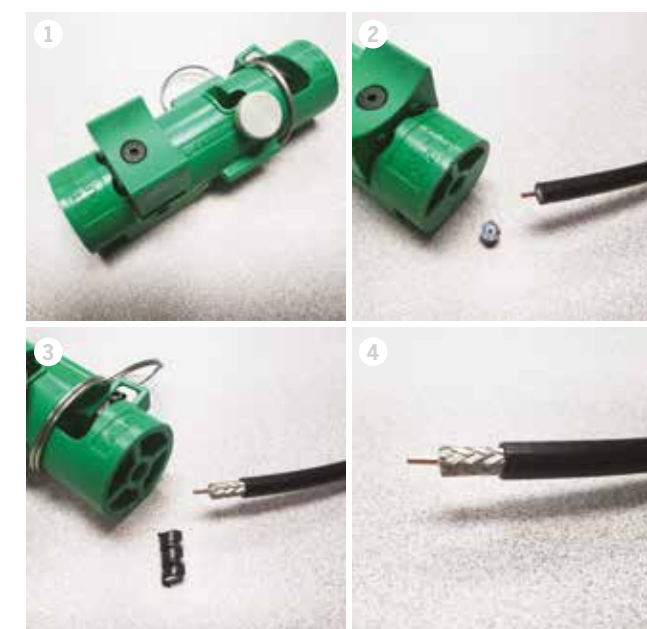
Prep tool for LMR-195 and LMR-200 connectors – tested to over 2000 preps. RB-CST replacement blade package available.



### CST-240A

**STOCK CODE 3192-152**

Prep tool for LMR-240 – tested to over 2000 preps. RB-CST replacement blade package available.



### CT-240/200/100

**STOCK CODE 3192-256**

Crimp tool for LMR-240, LMR-200 and LMR-100 connectors – tool has a cam adjustment that can be used to minimize the required crimp force.



#### Hex Dies include:

- 0.128" hex, 0.213" hex and 0.255" hex.

### CCT-03

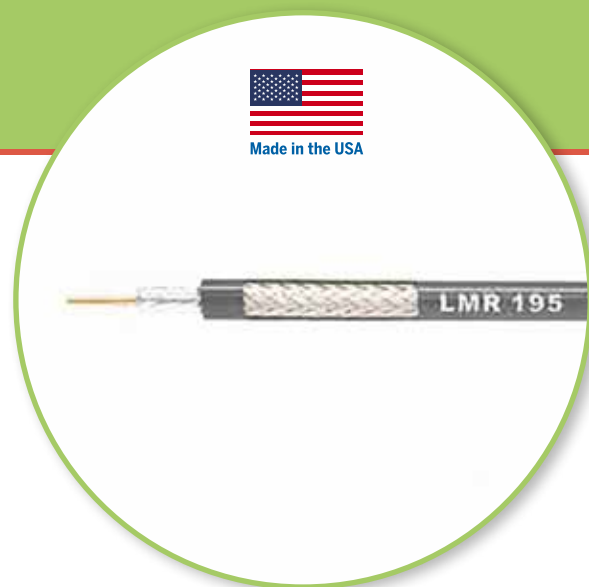
**STOCK CODE 3192-267**

Cable cutting tool for LMR-100 through LMR-600.



- Spin the CCT-03 around the cable letting the spring do the work until the cable snaps. This will provide a clean, square cut, leaving the cable completely round and the center conductor straight and burr free. This blade has been tested to over 2000 cuts.

**Kit :** • Part Number **TK-195/200/240EZ-HC** • Stock Code **660-1206**



## Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.195 (4.95)
Weight	lb/ft (kg/m)	0.021 (0.03)
Bend Radius: Installation	in (mm)	0.5 (12.7)
Bend Radius: Repeated	in (mm)	2.0 (50.8)
Bending Moment	ft-lb (N-m)	0.1 (0.14)
Tensile Strength	lb (kg)	40 (18.2)
Flat Plate Crush	lb/in. (kg/mm)	10 (0.18)
Maximum Frequency	GHz	6
Velocity of Propagation	%	74
Dielectric Constant	NA	1.56
Time Delay	nS/ft (nS/m)	1.27 (4.17)
Capacitance	pF/ft (pF/m)	25.4 (83.3)
Inductance	uH/ft (uH/m)	0.064 (0.21)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	9.5 (31.2)
Outer Conductor	Ohms/1000ft (/km)	4.8 (16.1)
Voltage Withstand	Volts DC	1000
Jacket Spark	Volts RMS	3000
Peak Power	kW	2.5

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.424232	1.391905192
K2	0.000563	0.001847203

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
FME	Straight Jack	Hex	TC-195-FMEF-X	3190-6249	FME
N	Straight Plug	Hex/Knurl	TC-195-NMH-X	3190-6543	NM
	Right Angle Plug	Hex/Knurl	TC-195-NMH-RA-D	3190-6542	NMR
SMA	Straight Plug	Hex	TC-195-SM-SS-X	3190-2878	SM
TNC	Straight Plug	Hex/Knurl	TC-195-TM-X	3190-6568	TM

\*Connector part numbers in bold text are the default connectors for LMR-195-UF cable assemblies

### INNER CONDUCTOR

Stranded BC 0.038 in (0.97 mm)

### OUTER CONDUCTOR

Aluminum Tape 0.116 in (2.95 mm)

### JACKET

(Part Description table) 0.195 in (4.95 mm)

### DIELECTRIC

Foam PE 0.110 in (2.79 mm)

### OVERALL BRAID

Tinned Copper 0.139 in (3.53 mm)

## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-195-UF	Indoor/Outdoor	TPE	Black	54212	LUF195
LMR-195-UF-FR	Indoor/Outdoor	FRPE	Black	54360	LFX195

## Assembly Ordering Guide

XXXXXX

Cable Code

-XXX

Connector A

XXX-

Connector B

XX.X

Length

X

Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 23 to select your desired connector



## Specifications

**Ω Impedance**  
50 Ohms

**Op Temp**  
-40 to +185°F  
-40 to +85°C

**Units**

Diameter	in (mm)	0.240 (6.10)
Weight	lb/ft (kg/m)	0.034 (0.05)
Bend Radius: Installation	in (mm)	0.75 (19.1)
Bend Radius: Repeated	in (mm)	2.5 (63.5)
Bending Moment	ft-lb (N-m)	0.125 (0.17)
Tensile Strength	lb (kg)	80 (36.3)
Flat Plate Crush	lb/in. (kg/mm)	13 (0.23)
Maximum Frequency	GHz	6
Velocity of Propagation	%	80
Dielectric Constant	NA	1.42
Time Delay	nS/ft (nS/m)	1.21 (3.97)
Capacitance	pF/ft (pF/m)	23.9 (78.4)
Inductance	uH/ft (uH/m)	0.060 (0.20)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	4.28 (14.1)
Outer Conductor	Ohms/1000ft (/km)	3.89 (12.8)
Voltage Withstand	Volts DC	1500
Jacket Spark	Volts RMS	5000
Peak Power	kW	5.6

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.290501	0.953133781
K2	0.000396	0.001299276

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
4.3/10	Male	Straight Plug	Hex	<b>TC-240-4310M-X</b>	3190-6385	43M
7/16 DIN	Male	Straight Plug	Hex	<b>TC-240-716M</b>	3190-2982	DM
		Right Angle	Hex	<b>TC-240-716M-RA-D</b>	3190-2983	DMR
BNC	Male	Straight Plug	Knurl	<b>TC-240-BM-X</b>	3190-6380	BM
		Right Angle Plug	Knurl	<b>TC-240-BM-RA-D</b>	3190-6552	BMR
F	Male	Straight Plug	N/A	<b>TC-240-FMEM-X</b>	3190-6251	FMEM
Mini UHF	Male	Straight Plug	Knurl	<b>TC-240-MUHF</b>	3190-445	MUF
N	Female	Straight Jack	N/A	<b>TC-240-NF-BH-X</b>	3190-6545	NFB
				<b>TC-240-NF-PM-X</b>	3190-2889	NF
	Male	Straight Plug	Hex/Knurl	<b>TC-240-NMH-X</b>	3190-6381	NM
		Right Angle Plug	Hex/Knurl	<b>TC-240-NMH-RA-D</b>	3190-6549	NMR
SMA	Female	Straight Jack	N/A	<b>TC-240-SF-BH-SS-X</b>	3190-2896	SF
	Male	Straight Plug	Hex	<b>TC-240-SM-SS-X</b>	3190-2898	SM
					<b>TC-240-SM-RA-SS-D</b>	3190-6546
				<b>TC-240-SM-RP</b>	3190-326	SMRP
TNC	Male	Straight Plug	Hex/Knurl	<b>TC-240-TM-X</b>	3190-6550	TM
		Right Angle Plug	Hex/Knurl	<b>TC-240-TM-RA-D</b>	3190-6547	TMR

\*Connector part numbers in bold text are the default connectors for LMR-240-UF cable assemblies

### INNER CONDUCTOR

Stranded BC 0.056 in (1.4 mm)

### OUTER CONDUCTOR

Aluminum Tape 0.155 in (3.94 mm)

### JACKET

(Part Description table) 0.240 in (6.10 mm)

### DIELECTRIC

Foam PE 0.150 in (3.81 mm)

### OVERALL BRAID

Tinned Copper 0.178 in (4.52 mm)

## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-240-UF	Indoor/ Outdoor	TPE	Black	54041	LUF240
LMR-240-UF-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54143	LFX240

## Assembly Ordering Guide

XXXXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 25 to select your desired connector



## Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.405 (10.29)
Weight	lb/ft (kg/m)	0.088 (0.131)
Bend Radius: Installation	in (mm)	1.00 (25.4)
Bend Radius: Repeated	in (mm)	4.0 (101.6)
Bending Moment	ft-lb (N-m)	0.375 (0.51)
Tensile Strength	lb (kg)	160 (72.6)
Flat Plate Crush	lb/in. (kg/mm)	20 (0.36)
Maximum Frequency	GHz	6
Velocity of Propagation	%	83
Dielectric Constant	NA	1.38
Time Delay	nS/ft (nS/m)	1.20 (3.92)
Capacitance	pF/ft (pF/m)	23.9 (78.4)
Inductance	uH/ft (uH/m)	0.060 (0.20)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	1.07 (3.51)
Outer Conductor	Ohms/1000ft (/km)	1.65 (5.4)
Voltage Withstand	Volts DC	2500
Jacket Spark	Volts RMS	8000
Peak Power	kW	16

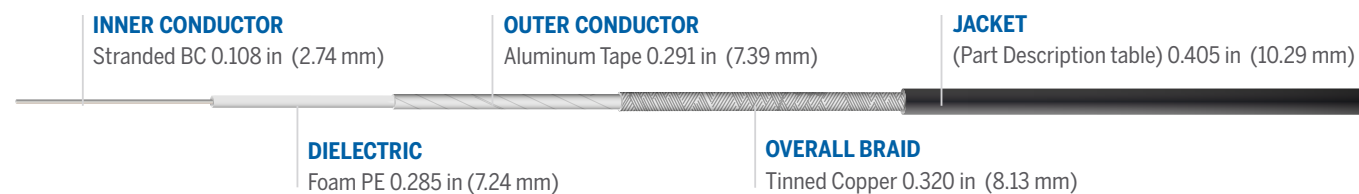
## Calculation

$$IL = (K1 \times \sqrt{f}) + K2 \times f \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.146748	0.481480188
K2	0.000312	0.001023672



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-400-UF	Indoor/Outdoor	TPE	Black	54040	LUF400
LMR-400-UF-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54071	LFX400

## Assembly Ordering Guide

XXXXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 27 to select your desired connector

Connectors	Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
4.3/10	Male	Straight Plug	Hex	<b>TC-400-4310M-X</b>	3190-6272	43M
	Female	Straight Jack	N/A	<b>TC-400-716FC</b>	3190-376	DF
7/16 DIN	Male	Straight plug	Hex	<b>TC-400-716M-X</b>	3190-2597	DM
		Right Angle Plug	Hex	<b>TC-400-716M-RA-D</b>	3190-2598	DMR
BNC	Male	Straight Plug	Knurl	<b>TC-400-BM-X</b>	3190-6232	BM
		Right Angle Plug	Knurl	<b>TC-400-BM-RA-D</b>	3190-6430	BMR
HN	Male	Right Angle Plug	Hex/Knurl	<b>TC-400-HNM-RA</b>	3190-2541	HNMR
Mini UHF		Straight Plug	Knurl	<b>TC-400-MUHF</b>	3190-520	MUF
N	Female	Straight Jack	N/A	<b>TC-400-NF-X</b>	3190-2815	NF
				<b>TC-400-NF-BH-X</b>	3190-8219	NFB
	Male	Straight Plug	Knurl	<b>TC-400-NM</b>	3190-1454	NM
				<b>TC-400-NM-RP</b>	3190-960	NMRP
		Right Angle Plug	Hex/Knurl	<b>TC-400-NMC-2</b>	3190-6077	NM
				<b>TC-400-NMH-X</b>	3190-2626	NM
QNC	Male	Straight Plug	Hex/Knurl	<b>TC-400-NMH-RA-D</b>	3190-2293	NMR
				<b>TC-400-NMH-RA-SS</b>	3190-1668	NMR
SMA	Female	Straight Jack	N/A	<b>TC-400-QNM-X</b>	3190-6212	QNM
TNC	Female	Straight Jack	N/A	<b>TC-400-SF-X</b>	3190-6174	SF
				<b>TC-400-SM-X</b>	3190-3046	SM
	Male	Straight Plug	Knurl	<b>TC-400-TF-RP</b>	3190-1063	TFRP
				<b>TC-400-TM-RP</b>	3190-1062	TMRP
		Right Angle Plug	Hex/Knurl	<b>TC-400-TM-X</b>	3190-2532	TM
				<b>TC-400-TM-RA-D</b>	3190-2671	TMR
<b>TC-400-TM-RP-RA-D</b>	3190-6147	TMRP				

\*Connector part numbers in bold text are the default connectors for LMR-400-UF cable assemblies



## Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.590 (14.99)
Weight	lb/ft (kg/m)	0.165 (0.25)
Bend Radius: Installation	in (mm)	1.50 (38.1)
Bend Radius: Repeated	in (mm)	6.0 (152.4)
Bending Moment	ft-lb (N-m)	1.75 (2.37)
Tensile Strength	lb (kg)	350 (158.9)
Flat Plate Crush	lb/in. (kg/mm)	40 (0.71)
Maximum Frequency	GHz	6
Velocity of Propagation	%	87
Dielectric Constant	NA	1.32
Time Delay	nS/ft (nS/m)	1.17 (3.83)
Capacitance	pF/ft (pF/m)	23.4 (76.6)
Inductance	uH/ft (uH/m)	0.058 (0.19)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.43 (1.42)
Outer Conductor	Ohms/1000ft (/km)	1.2 (3.9)
Voltage Withstand	Volts DC	4000
Jacket Spark	Volts RMS	8000
Peak Power	kW	40

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.0763055	0.250358346
K2	0.0002626	0.000861591



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-600-UF	Indoor/Outdoor	TPE	Black	54044	LUF600
LMR-600-UF-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54310	LFX600

## Assembly Ordering Guide

XXXXXX Cable Code    
 -XXX Connector A    
 XXX- Connector B    
 XX.X Length    
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 29 to select your desired connector

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
7/16 DIN	Male	Straight Plug	Hex	TC-600-716M-X	3190-2642	DM
BNC	Male	Right Angle Plug	Knurl	<b>TC-600-BM-RA-D</b>	3190-2734	BMR
HN	Male	Straight Plug	Knurl	<b>TC-600-HNMC</b>	3190-1429	HNM
N	Female	Straight Jack	N/A	<b>TC-600-NF-X</b>	3190-2816	NF
				TC-600-NF-BH	3190-589	NFB
	Male	Straight Plug	Hex/Knurl	<b>TC-600-NMC-2-D</b>	3190-6122	NM
				TC-600-NMH-X	3190-2628	NM
TNC	Female	Right Angle Plug	Hex	<b>TC-600-UM-X</b>	3190-8172	UM
			Hex/Knurl	TC-600-NMH-RA-D	3190-2427	NMR
	Male	Straight Jack	N/A	<b>TC-600-TF-X</b>	3190-3052	TF
TNC	Male	Straight Plug	Knurl	TC-600-TF-RP	3190-1065	TFRP
		Right Angle Plug	Hex/Knurl	<b>TC-600-TM-RA-D</b>	3190-1064	TMRP
UHF	Male	Straight Plug	Knurl	<b>TC-600-UMC</b>	3190-213	UMC

\*Connector part numbers in bold text are the default connectors for LMR-600-UF cable assemblies



## 195

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-195 and 200	CST-195/200	3192-102
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-195 crimp dies (0.213" hex) for use with the CT-U	Y197	3190-610
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584

Hardware	Description	Part Number	Stock Code
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T

## 240

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-240	CST-240A	3192-152
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-240 crimp dies (0.255" hex) for use with the CT-U	Y375	3190-608
Pin Crimp Tool	Pin Crimp Tool for N's, 4.3's and 7/16 DIN's	PCT-401	3192-216
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584

Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-240	3109-400
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T

## 400

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-400	CST-400	3192-004
Crimp Tool	Crimp tool for LMR-400	CT-400/300	3190-666
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-400 crimp dies (0.429" hex) for use with the CT-U	Y1719	3190-202
Pin Crimp Tool	Pin Crimp Tool for N's, 4.3's and 7/16 DIN's	PCT-400	3192-217
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584

Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Over connector weather protection for LMR-400 and N male	WPB-400-NM	3192-6122
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T

## 600

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-600	CST-600	3192-052
Crimp Tool	Crimp tool for LMR-600	CT-600	3192-170
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-600 crimp dies (0.610" hex) for use with the CT-U	Y1720	3190-203
Pin Crimp Tool	Pin Crimp Tool for N's, 4.3's and 7/16 DIN's	PCT-600	3192-266
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086

Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Over connector weather protection for LMR-600 and N male	WPB-600-NM	3192-6163
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T



Plenum listed  
**TYPE CMP**

**Specifications**

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +257°F  
-40 to +125°C

**Units**

Diameter	in (mm)	0.175 (4.45)
Weight	lb/ft (kg/m)	0.021 (0.03)
Bend Radius: Installation	in (mm)	0.5 (12.7)
Bend Radius: Repeated	in (mm)	2.0 (50.8)
Bending Moment	ft-lb (N-m)	0.1 (0.14)
Tensile Strength	lb (kg)	40 (18.2)
Flat Plate Crush	lb/in. (kg/mm)	10 (0.19)
Maximum Frequency	GHz	8
Velocity of Propagation	%	76
Dielectric Constant	NA	1.73
Time Delay	nS/ft (nS/m)	1.34 (4.40)
Capacitance	pF/ft (pF/m)	26.7 (87.6)
Inductance	uH/ft (uH/m)	0.067 (0.22)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	7.6 (24.9)
Outer Conductor	Ohms/1000ft (/km)	4.9 (16.1)
Voltage Withstand	Volts DC	1000
Jacket Spark	Volts RMS	3000
Peak Power	kW	2.5

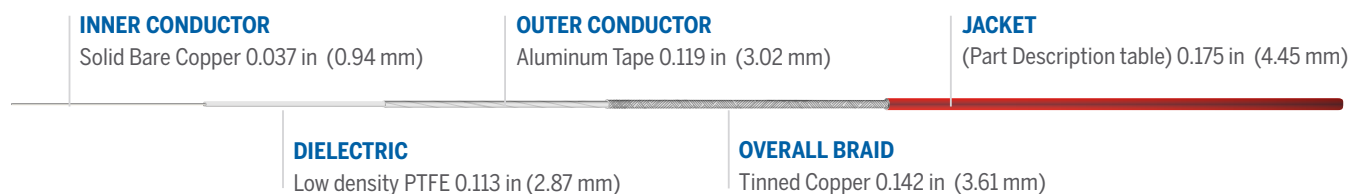
**Calculation**

$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.36042759	1.182562923
K2	0.0004747	0.001557491



**Part Description**

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-195-LLPX	Indoor/Outdoor Plenum CMP	PVDF Fluoropolymer	Red	54425	LPX195

**Assembly Ordering Guide**



\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 33 to select your desired connector

Connectors	Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
N	Male	Straight Plug	Hex/Knurl	<b>TC-195-NMH-X</b>	3190-6543	NM
		Right Angle Plug	Hex/Knurl	<b>TC-195-NMH-RA-D</b>	3190-6542	NMR
SMA	Male	Straight Plug	Hex	<b>TC-195-SM-SS-X</b>	3190-2878	SM
TNC	Male	Straight Plug	Hex/Knurl	<b>TC-195-TM-X</b>	3190-6568	TM

\*Connector part numbers in bold text are the default connectors for LMR-195-LLPX cable assemblies



**Specifications**

Ω Impedance 50 Ohms

Op Temp -40 to +257°F -40 to +125°C

Units

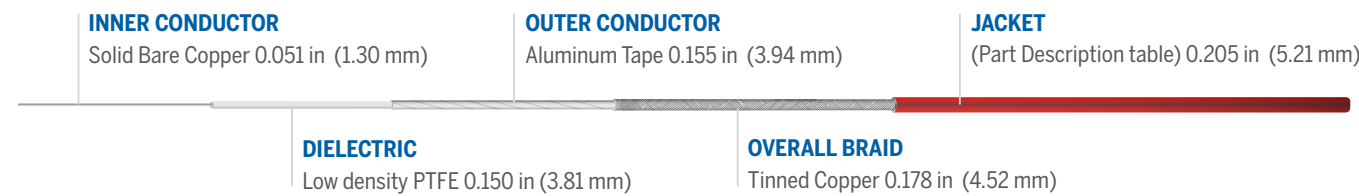
Diameter	in (mm)	0.205 (5.21)
Weight	lb/ft (kg/m)	0.040 (0.006)
Bend Radius: Installation	in (mm)	1.0 (25.4)
Bend Radius: Repeated	in (mm)	2.0 (50.8)
Bending Moment	ft-lb (N-m)	0.25 (0.34)
Tensile Strength	lb (kg)	60 (27.22)
Flat Plate Crush	lb/in. (kg/mm)	85 (1.52)
Maximum Frequency	GHz	8
Velocity of Propagation	%	76
Dielectric Constant	NA	1.73
Time Delay	nS/ft (nS/m)	1.34 (4.40)
Capacitance	pF/ft (pF/m)	26.7 (87.6)
Inductance	uH/ft (uH/m)	0.067 (0.22)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	4.0 (13.1)
Outer Conductor	Ohms/1000ft (/km)	3.9 (12.8)
Voltage Withstand	Volts DC	1500
Jacket Spark	Volts RMS	5000
Peak Power	kW	5.6

**Calculation**

$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$

Cable Insertion Loss f = Frequency (MHz) Use K values with matching length unit

K values	dB/100ft	dB/100m
K1	0.27337	0.89692697
K2	0.0002	0.0006562



**Part Description**

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-240-LLPX	Indoor/Outdoor Plenum CMP	PVDF Fluoropolymer	Red	54459	LPX240

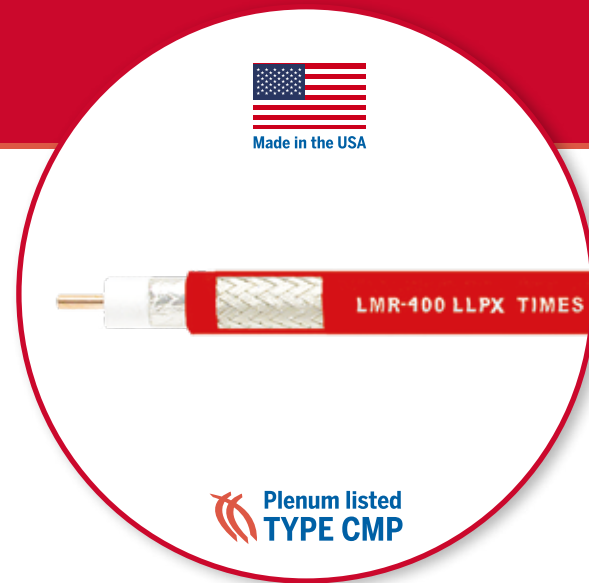
**Assembly Ordering Guide**



\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 35 to select your desired connector

Connectors	Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
4.3/10	Male	Straight Plug	Hex	TC-240-4310M-X	3190-6385	43M
7/16 DIN	Male	Straight Plug	Hex	TC-240-716M	3190-2982	DM
		Right Angle Plug	Hex	TC-240-716M-RA-D	3190-2983	DMR
BNC	Male	Straight Plug	Knurl	TC-240-BM-X	3190-6380	BM
		Right Angle Plug	Knurl	TC-240-BM-RA-D	3190-6552	BMR
FME	Male	Straight Plug	N/A	TC-240-FMEM-X	3190-6251	FMEM
Mini UHF	Male	Straight Plug	Knurl	TC-240-MUHF	3190-445	MUF
N	Female	Straight Jack	N/A	TC-240-NF-BH-X	3190-6545	NFB
	Male	Straight Plug	Hex/Knurl	TC-240-NMH-X	3190-6381	NM
SMA	Female	Straight Jack	N/A	TC-240-NF-PM-X	3190-2889	NF
				TC-240-SF-BH-SS-X	3190-2896	SF
	Male	Straight Plug	Hex	EZ-240-SM-PL-X	3190-3075	SM
				TC-240-SM-SS-X	3190-2898	SM
TNC	Female	Straight Jack	N/A	TC-240-SM-RA-SS-D	3190-6546	SMR
				TC-240-SM-RP	3190-326	SMRP
				EZ-240-TF-PL-X	3190-6372	TF
Male	Straight Plug	Hex/Knurl	EZ-240-TM-PL-X	3190-6373	TM	
			TC-240-TM-RP-PL-X	3190-6404	TMRP	
			TC-240-TM-X	3190-6550	TM	
		Right Angle Plug	Hex/Knurl	TC-240-TM-RA-D	3190-6547	TMR

\*Connector part numbers in bold text are the default connectors for LMR-240-LLPX cable assemblies



**Specifications**

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +257°F  
-40 to +125°C

Units

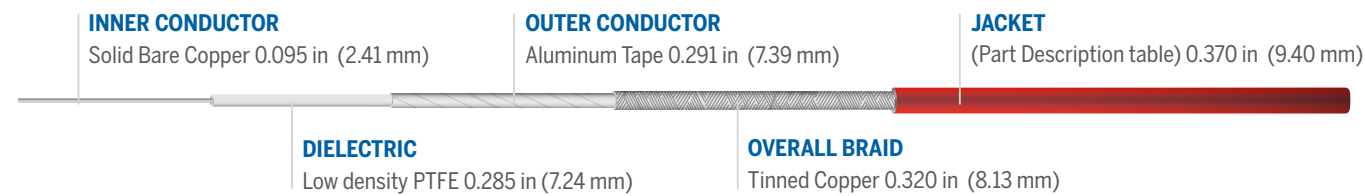
Diameter	in (mm)	0.37 (9.40)
Weight	lb/ft (kg/m)	0.104 (0.15)
Bend Radius: Installation	in (mm)	1.8 (44.5)
Bend Radius: Repeated	in (mm)	4.0 (101.6)
Bending Moment	ft-lb (N-m)	0.5 (0.68)
Tensile Strength	lb (kg)	120 (54.5)
Flat Plate Crush	lb/in. (kg/mm)	185 (3.31)
Maximum Frequency	GHz	6
Velocity of Propagation	%	76
Dielectric Constant	NA	1.73
Time Delay	nS/ft (nS/m)	1.34 (4.40)
Capacitance	pF/ft (pF/m)	26.7 (87.6)
Inductance	uH/ft (uH/m)	0.067 (0.22)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	1.8 (5.9)
Outer Conductor	Ohms/1000ft (/km)	1.65 (5.4)
Voltage Withstand	Volts DC	2500
Jacket Spark	Volts RMS	8000
Peak Power	kW	16

**Calculation**

$IL = (K1 \times \sqrt{f}) + K2 \times f \times \text{Cable Length}$

Cable Insertion Loss f = Frequency (MHz) Use K values with matching length unit

K values	dB/100ft	dB/100m
K1	0.12914	0.42370834
K2	0.00015	0.00049215



**Part Description**

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-400-LLPX	Indoor/Outdoor	PVDF Fluoropolymer	Red	54470	LPX400

**Assembly Ordering Guide**

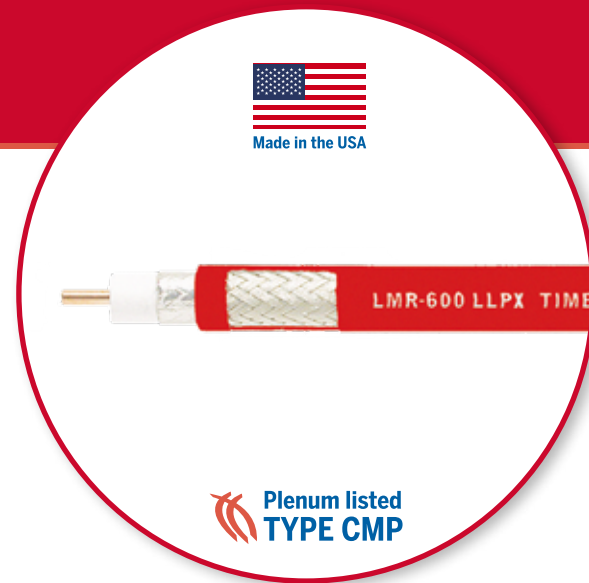


\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 37 to select your desired connector

**Connectors**

Connectors	Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
4.3/10	Male	Straight Plug	Hex	<b>TC-400-4310M-X</b>	3190-6272	43M
7/16 DIN	Male	Straight Plug	Hex	<b>TC-400-716M-X</b>	3190-2597	DM
		Right Angle Plug	Hex	TC-400-716M-RA-D	3190-2598	DMR
BNC	Male	Straight Plug	Knurl	<b>TC-400-BM-X</b>	3190-6232	BM
		Right Angle Plug	Knurl	TC-400-BM-RA-D	3190-6430	BMR
HN	Male	Right Angle Plug	Hex/Knurl	<b>TC-400-HNM-RA</b>	3190-2541	HNMR
Mini UHF		Straight Plug	Knurl	<b>TC-400-MUHF</b>	3190-520	MUF
N	Female	Straight Jack	N/A	<b>TC-400-NF-X</b>	3190-2815	NF
			Knurl	TC-400-NF-BH-X	3190-8219	NFB
	Male	Straight Plug	Knurl	<b>TC-400-NMC-2</b>	3190-6077	NM
			Hex/Knurl	TC-400-NM-RP	3190-960	NMRP
		Right Angle Plug	Hex	<b>EZ-400-NMH-PL-X</b>	3190-2961	NM
			Hex/Knurl	TC-400-NMH-PL-X	3190-2962	NM
QN	Female	Straight Jack	N/A	<b>TC-400-NMH-X</b>	3190-2626	NM
			Hex/Knurl	<b>TC-400-NMH-RA-SS</b>	3190-1668	NMR
	Male	Straight Plug	Hex/Knurl	<b>TC-400-NMH-RA-D</b>	3190-2293	NMR
			Knurl	<b>TC-400-QNM-X</b>	3190-6212	QNM
		Straight Jack	Solder	<b>TC-400-SM-X</b>	3190-3046	SM
			N/A	<b>TC-400-SF-X</b>	3190-6174	SF
TNC	Female	Straight Jack	N/A	<b>EZ-400-TF-PL-X</b>	3190-6377	TF
			Knurl	TC-400-TF-X	3190-3051	TF
			Hex/Knurl	TC-400-TF-RP	3190-1063	TFRP
	Male	Straight Plug	Knurl	<b>TC-400-TM-RP</b>	3190-1062	TMRP
			Hex/Knurl	<b>EZ-400-TM-PL-X</b>	3190-6378	TM
		Right Angle Plug	Hex/Knurl	TC-400-TM-X	3190-2532	TM
TMR	Male	Right Angle Plug	Hex/Knurl	<b>TC-400-TM-RA-D</b>	3190-2671	TMR
			Hex/Knurl	TC-400-TM-RP-RA-D	3190-6147	TMRP

\*Connector part numbers in bold text are the default connectors for LMR-400-LLPX cable assemblies



**Specifications**

Impedance 50 Ohms  
 Op Temp -40 to +257°F / -40 to +125°C

	Units	
Diameter	in (mm)	0.565 (14.38)
Weight	lb/ft (kg/m)	0.21 (0.31)
Bend Radius: Installation	in (mm)	2.8 (69.9)
Bend Radius: Repeated	in (mm)	6.0 (152.4)
Bending Moment	ft-lb (N-m)	2.75 (3.73)
Tensile Strength	lb (kg)	265 (120.3)
Flat Plate Crush	lb/in. (kg/mm)	210 (3.75)
Maximum Frequency	GHz	8
Velocity of Propagation	%	76
Dielectric Constant	NA	1.73
Time Delay	nS/ft (nS/m)	1.34 (4.40)
Capacitance	pF/ft (pF/m)	26.7 (87.6)
Inductance	uH/ft (uH/m)	0.067 (0.22)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.73 (2.4)
Outer Conductor	Ohms/1000ft (/km)	1.20 (3.90)
Voltage Withstand	Volts DC	4000
Jacket Spark	Volts RMS	8000
Peak Power	kW	40

**Calculation**

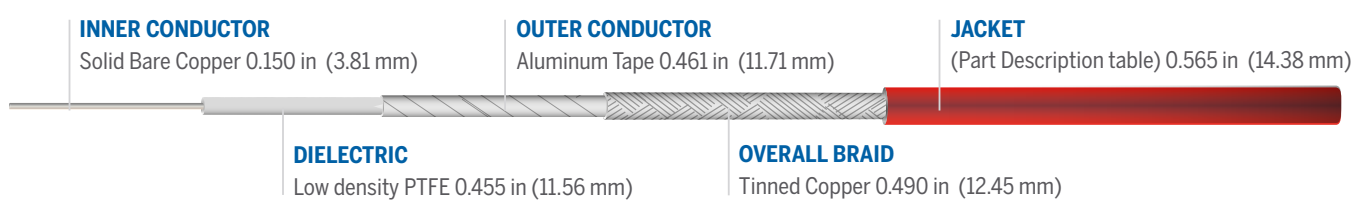
$IL = (K1 \times V(f) + K2 \times f) \times \text{Cable Length}$   
 Cable Insertion Loss f = Frequency (MHz) Use K values with matching length unit

K values	dB/100ft	dB/100m
K1	0.08139	0.26704059
K2	0.00015	0.00049215

**Connectors**

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
7/16 DIN	Male	Straight Plug	Hex	TC-600-716M-X	3190-2642 DM
BNC	Male	Right Angle Plug	Knurl	<b>TC-600-BM-RA-D</b>	3190-2734 BMR
HN	Male	Straight Plug	Knurl	TC-600-HNMC	3190-1429 HNM
LC	Male	Straight Plug	Hex	TC-600-LCM	3190-1406 LCM
			Hex/Knurl	<b>TC-600-LCM-PL</b>	3190-1221 LCM
N	Female	Stright Jack	N/A	TC-600-NF-X	3190-2816 NF
			N/A	TC-600-NF-BH	3190-589 NFB
			N/A	TC-600-NF-PL	3190-965 NF
	Male	Straight Plug	Hex/Knurl	<b>EZ-600-NMH-PL-X</b>	3190-2963 NM
			Hex/Knurl	TC-600-NMC-2-D	3190-6122 NM
			Hex/Knurl	TC-600-NMH-X	3190-2628 NM
TNC	Female	Straight Jack	N/A	TC-600-NMH-PL-X	3190-2964 NM
			Knurl	<b>TC-600-NMH-RA-D</b>	3190-2427 NMR
	Male	Straight Plug	Knurl	TC-600-TF-X	3190-3052 TF
			Knurl	TC-600-TF-RP	3190-1065 TFRP
Male	Right Angle Plug	Hex/Knurl	TC-600-TM-RP	3190-1064 TMRP	
		Hex/Knurl	<b>TC-600-TM-RA-D</b>	3190-2707 TMR	

\*Connector part numbers in bold text are the default connectors for LMR-600-LLPX cable assemblies



**Part Description**

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-600-LLPX	Indoor/Outdoor	PVDF Fluoropolymer	Red	54461	LPX600

**Assembly Ordering Guide**

**XXXXXX** Cable Code   
 -**XXX** Connector A   
 **XXX-** Connector B   
 **XX.X** Length   
 **X** Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 39 to select your desired connector



Plenum listed  
**TYPE CMP**

**Specifications**

Impedance 50 Ohms  
 Op Temp -40 to +257°F  
 -40 to +125°C

	Units	
Diameter	in (mm)	0.802 (20.37)
Weight	lb/ft (kg/m)	0.54 (0.81)
Bend Radius: Installation	in (mm)	3.00 (76.2)
Bend Radius: Repeated	in (mm)	76.2 (228.6)
Bending Moment	ft-lb (N-m)	9.0 (12.20)
Tensile Strength	lb (kg)	660 (299.6)
Flat Plate Crush	lb/in. (kg/mm)	300 (5.36)
Maximum Frequency	GHz	6
Velocity of Propagation	%	76
Dielectric Constant	NA	1.73
Time Delay	nS/ft (nS/m)	1.34 (4.38)
Capacitance	pF/ft (pF/m)	27.17 (89.1)
Inductance	uH/ft (uH/m)	0.067 (0.22)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.63 (2.07)
Outer Conductor	Ohms/1000ft (/km)	0.55 (1.8)
Voltage Withstand	Volts DC	5000
Jacket Spark	Volts RMS	8000
Peak Power	kW	62

**Calculation**

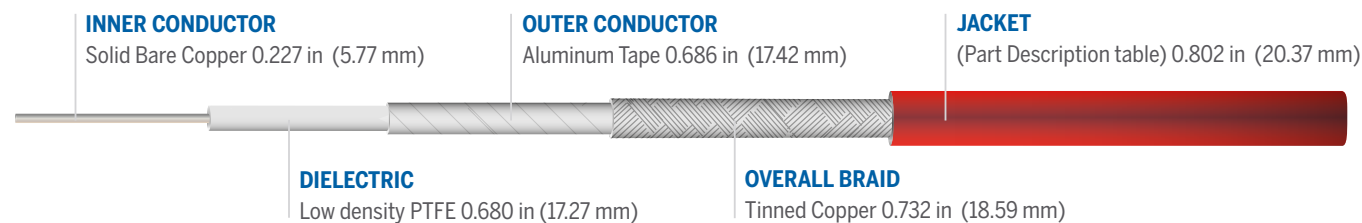
$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$   
 Cable Insertion Loss f = Frequency (MHz) Use K values with matching length unit  
 ↓  

K values	dB/100ft	dB/100m
K1	0.05722	0.18773882
K2	0.00018	0.00059058

**Connectors**

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
	Straight Flange	N/A	<b>EZ-900-78EIA-2-SP</b>	3190-6441	78EIA
Female	Straight Jack	N/A	<b>EZ-900-716FC-2-SP</b>	3190-6512	DF
Male	Right Angle Plug	Hex	<b>EZ-900-716MC-RA-2-SP</b>	3190-6423	DMR
Male	Straight Plug	Hex/Knurl	<b>EZ-900-NMC-2-SP</b>	3190-6443	NM

\*Connector part numbers in bold text are the default connectors for LMR-900-LLPX cable assemblies



**Part Description**

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-900-LLPX	Indoor/Outdoor	PVDF Fluoropolymer	Red	54462	LPX900

**Assembly Ordering Guide**

**XXXXXX** Cable Code   
 **-XXX** Connector A   
 **XXX-** Connector B   
 **XX.X** Length   
 **X** Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 41 to select your desired connector

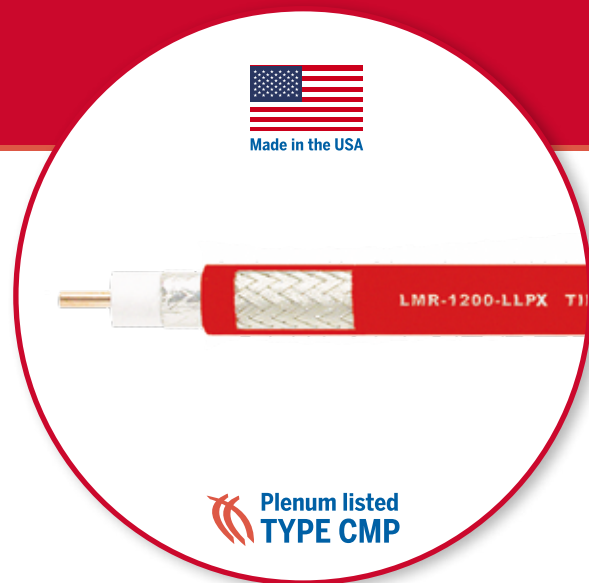
## Specifications

Impedance  
50 Ohms

Op Temp  
-40 to +257°F  
-40 to +125°C

### Units

Diameter	in (mm)	1.05 (26.7)
Weight	lb/ft (kg/m)	0.7 (1.04)
Bend Radius: Installation	in (mm)	6.0 (152.4)
Bend Radius: Repeated	in (mm)	12.0 (304.8)
Bending Moment	ft-lb (N-m)	15.0 (20.34)
Tensile Strength	lb (kg)	975 (442.7)
Flat Plate Crush	lb/in. (kg/mm)	375 (6.70)
Maximum Frequency	GHz	6
Velocity of Propagation	%	76
Dielectric Constant	NA	1.73
Time Delay	nS/ft (nS/m)	1.34 (4.40)
Capacitance	pF/ft (pF/m)	27.17 (89.12)
Inductance	uH/ft (uH/m)	0.067 (0.22)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	0.37 (1.21)
Outer Conductor	Ohms/1000ft (/km)	0.37 (1.21)
Voltage Withstand	Volts DC	6000
Jacket Spark	Volts RMS	8000
Peak Power	kW	90



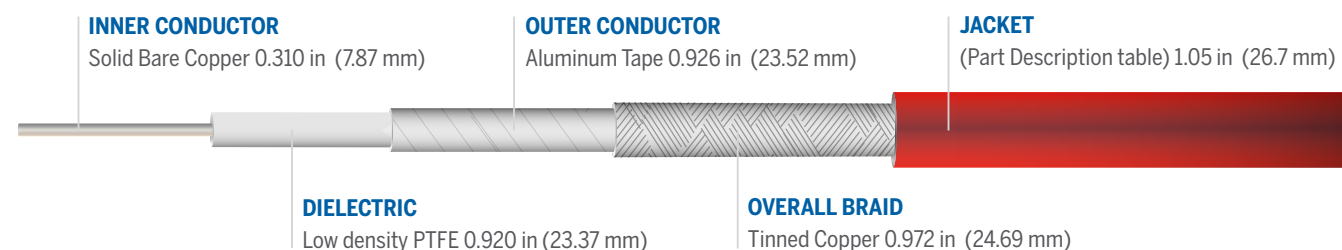
## Calculation

$$IL = (K1 \times V(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.04172	0.13688332
K2	0.00018	0.00059058



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-1200-LLPX	Indoor/Outdoor	PVDF Fluoropolymer	Red	54463	LPX1200

## Assembly Ordering Guide

XXXXXXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 43 to select your desired connector

## Connectors

	Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code
N	Female	Straight Jack	N/A	<b>EZ-1200-NFC-PL-2</b>	3190-6370	NF
	Male	Straight plug	Hex/Knurl	<b>EZ-1200-NMC-PL-2</b>	3190-6021	NM

\*Connector part numbers in bold text are the default connectors for LMR-1200-LLPX cable assemblies

## 195

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-195 and 200	CST-195/200	3192-102
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-195 crimp dies (0.213" hex) for use with the CT-U	Y197	3190-610
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Debur Tool	Center conductor debur tool	DBT-U	3192-001
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardcase Tool Kit	Connector Attachment Tools for LMR-195, 200 and 240	TK-195/200/240EZ-HC	660-1206
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-195/200	3109-445
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T

## 240

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-240-LLPX	CST-240-PX	3192-263
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-240 crimp dies (0.255" hex) for use with the CT-U	Y375	3190-608
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Debur Tool	Center conductor debur tool	DBT-U	3192-001
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-240	3109-400
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T

## 400

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-400-PX	CST-400-PX	3192-264
Crimp Tool	Crimp tool for LMR-400	CT-400/300	3190-666
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-400 crimp dies (0.429" hex) for use with the CT-U	Y1719	3190-202
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-400	3109-394
	Over connector weather protection for LMR-400 and N male	WPB-400-NM	3192-6122
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T

## 600

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-600-PX	CST-600-PX	3192-265
Crimp Tool	Crimp tool for LMR-600	CT-600	3192-170
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-600 crimp dies (0.610" hex) for use with the CT-U	Y1720	3190-203
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-600	3109-401
	Over connector weather protection for LMR-600 and N male	WPB-600-NM	3192-6163
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T

## 900

Installation Tools	Description	Part Number	Stock Code
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Wrench	1 1/4" open end wrench (2 required)	WR-900	3190-509
Replacement Blade Kit	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-600 to LMR-1200	CS-60120T	CS-60120T

## 1200

Installation Tools	Description	Part Number	Stock Code
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Wrench	1 9/16" open end wrench (1 required)	WR-1200A	3190-512
	1 7/16" open end wrench (1 required)	WR-1200B	3190-511
Replacement Blade Kit	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-600 to LMR-1200	CS-60120T	CS-60120T



## TK-CST-HC Cable Prep Tool Kit

The TK-CST-HC tool kit is a must have for end users such as Radio Frequency labs, RF engineering groups, radio shops, and wireless installers, who are using a variety of coaxial cable constructions. The tools included in this kit will prep dozens of different Times Microwave Systems cables. The TK-CST-HC kit includes prep tools that are compatible with a number of product lines including LMR®, TCOM®, FBT, and SFT™. These prep tools produce prep dimensions which are compatible with our LMR® X series connectors.



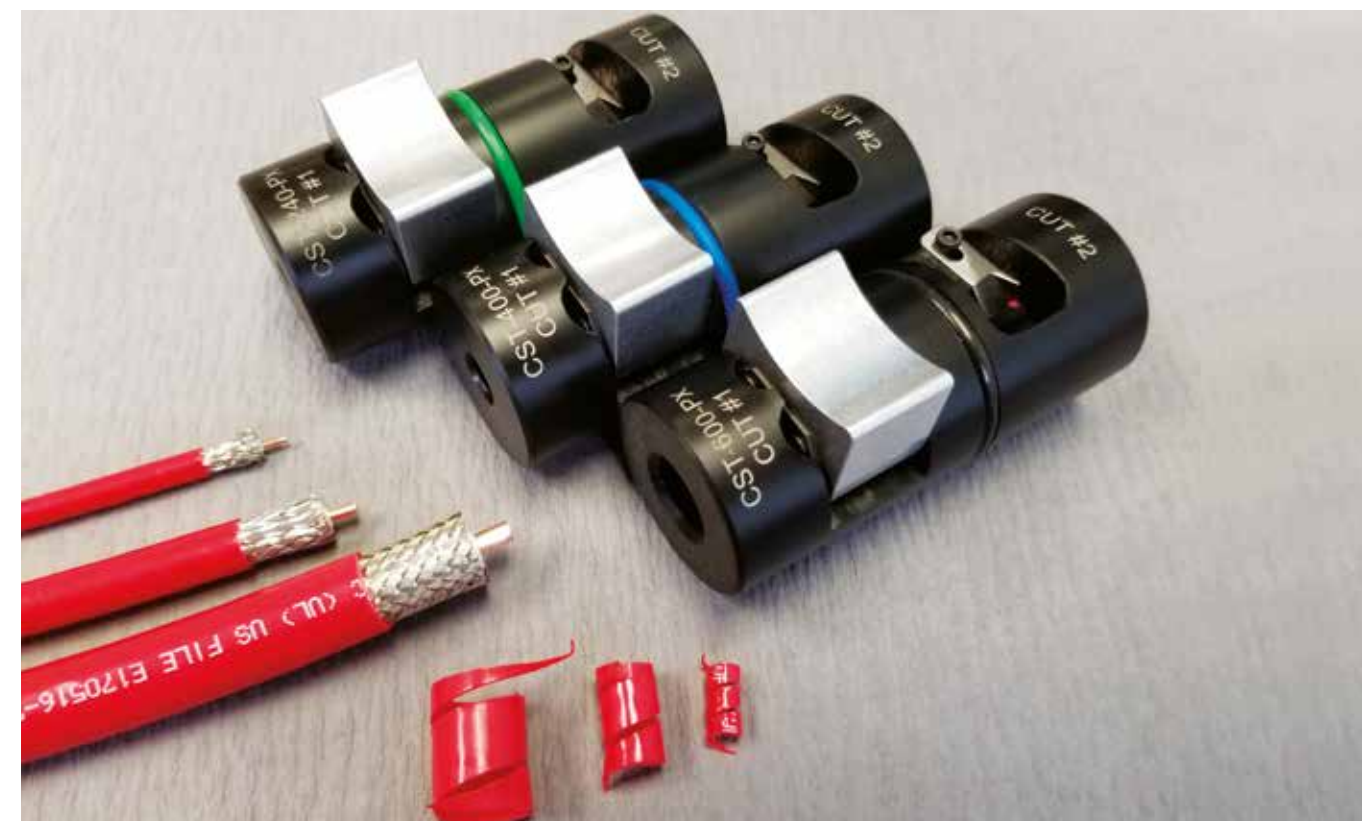
660-1268 

### Prep tools for:

- LMR
- LMR-DB
- LMR-FR
- LMR-UF
- LMR-LLPX
- TCOM
- TCOM-FR
- TCOM-PUR
- TCOM-FS
- FBT
- SFT

### Tools include the following:

- CST-195/200
- CST-240A
- CST-400
- CST-600
- CST-240-PX
- CST-400-PX
- CST-600-PX



**CST-195/200** • LMR® 195 (STD, DB of FR) • LMR® 195-LLPX® • TCOM® 195 (STD, FR, PUR) • FBT-195

**CST-240A** • LMR 240 (STD, DB of FR) • TCOM 240 (STD, FR, PUR and FS)

**CST-240-PX** • LMR 240-LLPX • FBT-240 • SFT-205

**CST-400** • LMR 400 (STD, DB or FR) • TCOM 400 (STD, FR, PUR and FS)

**CST-400-PX** • LMR 400-LLPX • FBT-400 • SFT-393

**CST-600** • LMR 600 (STD, DB or FR) • TCOM 600 (STD, FR, PUR and FS)

**CST-600-PX** • LMR 600-LLPX • FBT-600 • SFT-600

**Kit:** • Part Number **TK-CST-HC** • Stock Code **660-1268**



### Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

#### Units

Diameter	in (mm)	0.240 (6.10)
Weight	lb/ft (kg/m)	0.034 (0.05)
Bend Radius: Installation	in (mm)	0.75 (19.1)
Bend Radius: Repeated	in (mm)	2.5 (63.5)
Bending Moment	ft-lb (N-m)	0.25 (0.34)
Tensile Strength	lb (kg)	80 (38.3)
Flat Plate Crush	lb/in. (kg/mm)	20 (0.36)
Maximum Frequency	GHz	6
Velocity of Propagation	%	84
Dielectric Constant	NA	1.42
Time Delay	nS/ft (nS/m)	1.21 (3.97)
Capacitance	pF/ft (pF/m)	16.1 (52.9)
Inductance	uH/ft (uH/m)	0.091 (0.30)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	10.1 (33.1)
Outer Conductor	Ohms/1000ft (/km)	3.89 (12.8)
Voltage Withstand	Volts DC	1500
Jacket Spark	Volts RMS	5000
Peak Power	kW	5.6

### Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.269	0.882589
K2	0.000305	0.001000705

### Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
BNC	Male	Straight Plug	Knurl	<b>EZ-240-BM-75-X</b>	3190-6261	BM
				TC-240-BM-75-X	3190-2939	BM
F	Male	Straight Plug	Hex	<b>EZ-240-FMH-75</b>	3190-6411	FM
				TC-240-FMH-75	3190-1483	FM
N	Male	Straight Plug	Hex/Knurl	<b>EZ-240-NMH-75-X</b>	3190-6284	QF

\*Connector part numbers in bold text are the default connectors for LMR-240 75 ohm cable assemblies

#### INNER CONDUCTOR

Solid Bare Copper 0.032 in (0.82 mm)

#### OUTER CONDUCTOR

Aluminum Tape 0.155 in (3.94 mm)

#### JACKET

(Part Description table) 0.240 in (6.10 mm)

#### DIELECTRIC

Foam PE 0.150 in (3.81 mm)

#### OVERALL BRAID

Tinned Copper 0.178 in (4.52 mm)

### Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-240-75	Indoor/Outdoor	PE	Black	54150	L750
LMR-240-75-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54259	L75F
LMR-240-75-DB	Outdoor	PE	Black	54226	L75D

### Assembly Ordering Guide

XXXX

Cable Code

-XXX

Connector A

XXX-

Connector B

XX.X

Length

X

Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 47 to select your desired connector



## Specifications

$\Omega$  Impedance 50 Ohms

Op Temp -40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.405 (10.29)
Weight	lb/ft (kg/m)	0.068 (0.10)
Bend Radius: Installation	in (mm)	1.00 (25.4)
Bend Radius: Repeated	in (mm)	4.0 (101.6)
Bending Moment	ft-lb (N-m)	0.5 (0.68)
Tensile Strength	lb (kg)	160 (72.6)
Flat Plate Crush	lb/in. (kg/mm)	40 (0.71)
Maximum Frequency	GHz	6
Velocity of Propagation	%	85
Dielectric Constant	NA	1.38
Time Delay	nS/ft (nS/m)	1.20 (3.92)
Capacitance	pF/ft (pF/m)	15.9 (52.3)
Inductance	uH/ft (uH/m)	0.090 (0.29)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	2.5 (8.20)
Outer Conductor	Ohms/1000ft (/km)	1.65 (5.4)
Voltage Withstand	Volts DC	2000
Jacket Spark	Volts RMS	5000
Peak Power	kW	10

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

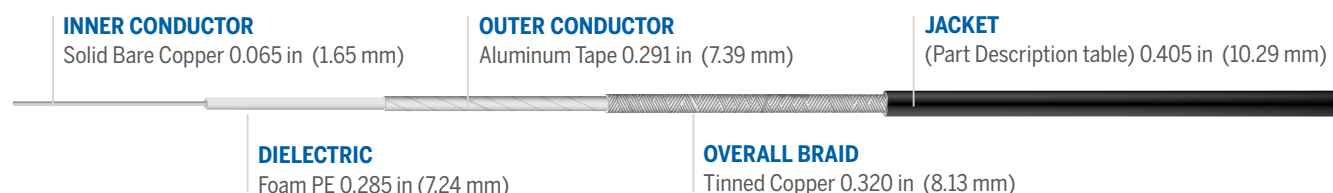
Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.11557	0.37918517
K2	0.00026	0.00085306

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
BNC	Male	Straight Plug	Knurl	TC-400-BM-75-X	3190-2960	BM
F	Male	Straight Plug	Hex	EZ-400-FM-75-X	3190-6482	FM
N	Male	Straight Plug	Hex/Knurl	EZ-400-NMH-75-X	3190-6408	NM
			Knurl	<b>TC-400-NM-75</b>	3190-389	NM
				<b>TC-400-NM-75-50</b>	3190-1704	NM

\*Connector part numbers in bold text are the default connectors for LMR-400 75 ohm cable assemblies



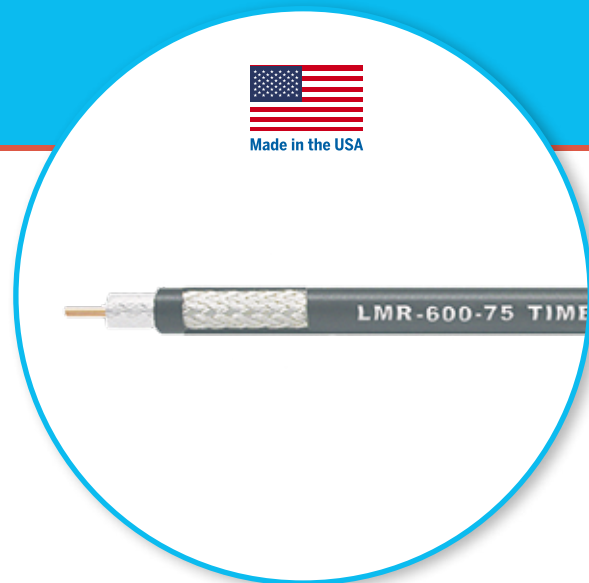
## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-400-75	Indoor/Outdoor	PE	Black	54147	L750
LMR-400-75-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54256	L75F
LMR-400-75-DB	Indoor/Outdoor	PE	Black	54228	L75D

## Assembly Ordering Guide

XXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 49 to select your desired connector



## Specifications

$\Omega$  Impedance  
50 Ohms

Op Temp  
-40 to +185°F  
-40 to +85°C

### Units

Diameter	in (mm)	0.590 (15.0)
Weight	lb/ft (kg/m)	0.131 (0.20)
Bend Radius: Installation	in (mm)	1.5 (38.1)
Bend Radius: Repeated	in (mm)	6.0 (152.4)
Bending Moment	ft-lb (N-m)	2.75 (3.73)
Tensile Strength	lb (kg)	350 (158.9)
Flat Plate Crush	lb/in. (kg/mm)	60 (1.07)
Maximum Frequency	GHz	6
Velocity of Propagation	%	87
Dielectric Constant	NA	1.32
Time Delay	nS/ft (nS/m)	1.17 (3.83)
Capacitance	pF/ft (pF/m)	15.6 (51.1)
Inductance	uH/ft (uH/m)	0.088 (0.29)
Shielding Effectiveness	dB	>90
Inner Conductor	Ohms/1000ft (/km)	1.39 (4.56)
Outer Conductor	Ohms/1000ft (/km)	1.2 (3.9)
Voltage Withstand	Volts DC	4000
Jacket Spark	Volts RMS	8000
Peak Power	kW	40

## Calculation

$$IL = (K1 \times V(f) + K2 \times f) \times \text{Cable Length}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/100ft	dB/100m
K1	0.07059	0.23160579
K2	0.00026	0.00085306

## Connectors

Gender	Description	Coupling Nut	Part Number	Stock Code	Connector Code	
F	Male	Straight Plug	Hex	<b>EZ-600-FM-75-X</b>	3190-6410	FM
N	Male	Straight Plug	Hex	<b>TC-600-NMH-75-50</b>	3190-1610	NM

\*Connector part numbers in bold text are the default connectors for LMR-600 75 ohm cable assemblies



## Part Description

Part-Number	Application	Jacket	Color	Stock Code	Cable Code
LMR-600-75	Indoor/Outdoor	PE	Black	54148	L750
LMR-600-75-DB	Outdoor/Watertight	PE	Black	54220	L75D
LMR-600-75-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54258	L75F

## Assembly Ordering Guide

XXXX Cable Code   
 -XXX Connector A   
 XXX- Connector B   
 XX.X Length   
 X Units of measure: I = Inches, F = Feet, M = Meters

\*Refer to the Part Description table to select your desired Cable Code \*\*Refer to the Connector table on page 51 to select your desired connector

## 240

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-240	CST-240A	3192-152
Crimp Tool	Crimp tool for LMR-195,200 and 240	CT-240/200/195/100	3192-256
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-240 crimp dies (0.255" hex) for use with the CT-U	Y375	3190-608
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Debur Tool	Center conductor debur tool	DBT-U	3192-001
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardcase Tool Kit	Connector Attachment Tools for LMR-195, 200 and 240	TK-195/200/240EZ-HC	660-1206
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-240	3109-400
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
Ground Kit	Standard ground kit for LMR-240	GK-S240TT	GK-S240TT

## 400

Installation Tools	Description	Part Number	Stock Code
Combination Strip Tool	Prep Tool for LMR-400-75	CST-400-75	3192-089
Crimp Tool	Crimp tool for LMR-400	CT-400/300	3190-666
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-400 crimp dies (0.429" hex) for use with the CT-U	Y1719	3190-202
Cutting Tool	Spring loaded LMR cutting tool	CCT-03	3192-267
Mid-Span Strip Tool	Prep Tool for Ground Strap Attachment	GST-400A	3190-2174
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-03 cutting tool	RB-03	3192-337
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardcase Tool Kit	Connector Attachment Tools for LMR-400 and LMR-400-75	TK-400/400-75EZ-HC	660-1266
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-400	3109-394
	Over connector weather protection for LMR-400 and N male	WPB-400-NM	3192-6122
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T
Ground Kit	Standard ground kit for LMR-400	GK-S400TT	GK-S400TT
Pull Hoist	pre-laced pull hoist for LMR-400	HG-400T	HG-400T
Hangers	Standard hanger for LMR-400 and LMR-600	BH-S38-NH	BH-S38-NH
Support Blocks	Mini coax support blocks for LMR-400	CB-400T	CB-400T

## 600

Installation Tools	Description	Part Number	Stock Code
Strip Tool	Prep Tool for LMR-600-75	ST-600-75	3192-090
Crimp Tool	Crimp tool for LMR-600	CT-600	3192-170
Universal Crimp Tool	Universal, heavy-duty crimp handle	CT-U	3192-181
Crimp Dies	LMR-600 crimp dies (0.610" hex) for use with the CT-U	Y1720	3190-203
Cutting Tool	LMR cutting tool	CCT-02	3192-165
Mid-Span Strip Tool	Prep Tool for Ground Strap Attachment	GST-600A	3190-1051
Replacement Blade Kit	Replacement blade for all CST prepping tools	RB-CST	3192-086
	Replacement blade for the CCT-02 cutting tool	RB-02	3192-166
Tool Pouch	Embroided tool pouch with zipper	FKP-01	3190-584
Hardware	Description	Part Number	Stock Code
Weather Seal Boot	Weather Seal strain relief boot (10 pack)	WSB-600	3109-401
	Over connector weather protection for LMR-600 and N male	WPB-600-NM	3192-6163
Silicone Tape	Self-bonding silicone tape (for six connections)	WK-S-1	WK-S-1
Weather Seal Kit	Universal weather proofing kit (for six connections)	WK-U	WK-U
Cold Shrink	Cold Shrink for LMR-200 to LMR-600	CS-2060T	CS-2060T
	Cold Shrink for LMR-400 to LMR-600	CS-4060T	CS-4060T
Ground Kit	Standard ground kit for LMR-600	GK-S600TT	GK-S600TT
Pull Hoist	Lace-up pull hoist for LMR-600	HG-600T	HG-600T
Hangers	Standard hanger for LMR-400 and LMR-600	BH-S38-NH	BH-S38-NH
Support Blocks	Mini coax support blocks for LMR-600	CB-600T	CB-600T

### TK-400/400-75EZ-HC Tool Kit

Identifying the proper tools for a job, making sure that you have all of the necessary tools and storing them in a way that quickly accessible when working remote on a job site has been a timeless struggle. This hard case tool kit with hard foam cut-outs for LMR 400 and LMR 400-75. Is the second in a series of hardcase kits which will keep all of the tools required for a specific job all in one place. All it takes is a quick flip of the lid to make sure you have everything you need.



660-1266



- TK-400/400-75EZ-HC
- For LMR-400 and LMR-400-75
- X series connectors

#### Tools include the following:

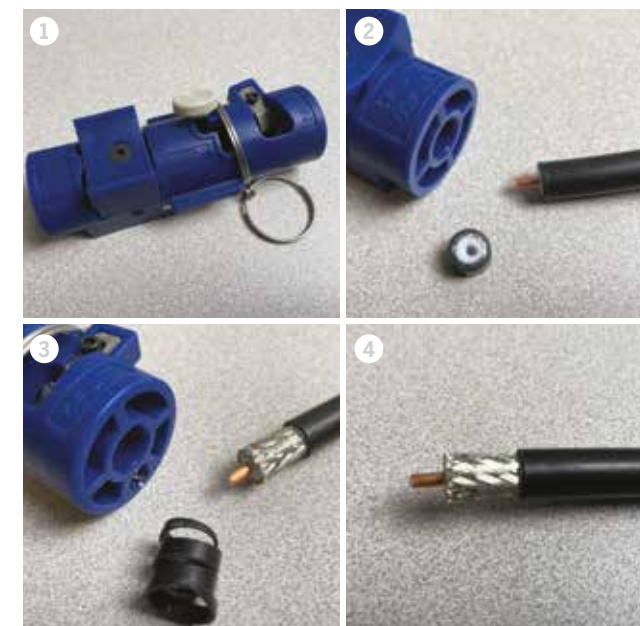
- CT-400/300  
Crimp Tool for LMR 400 and LMR 300
- CST-400  
Prep tool for LMR 400
- CST-400-75  
Prep tool for LMR 400-75
- CCT-03  
Cutting tool for LMR 400 and LMR 400-75



#### CST-400

STOCK CODE 3192-004

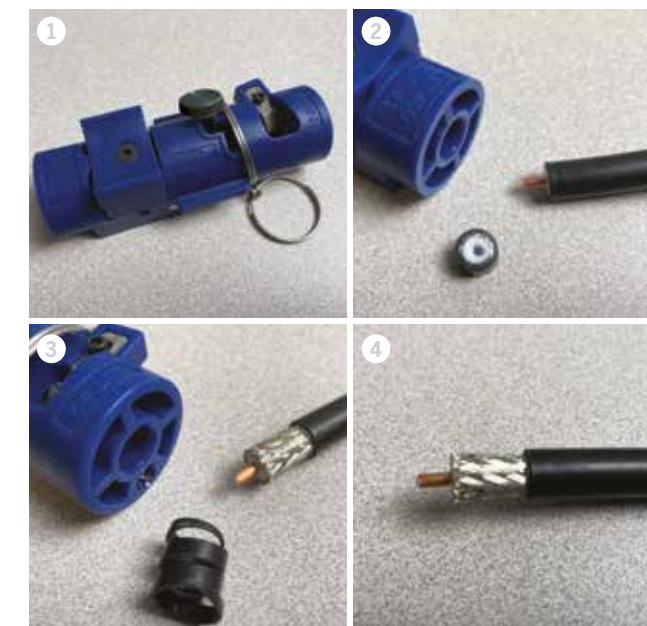
Prep tool for LMR-400 – tested to over 2000 preps. RB-CST replacement blade package available.



#### CST-400-75

STOCK CODE 3192-089

Prep tool for LMR-400-75 connectors, tested over 2,000 preps. RB-CST replacement blade package available.



#### CT-400/300

STOCK CODE 3190-666

Crimp tool for LMR-400, LMR-400-75, and LMR 300 connectors. Tool has a cam adjustment that can be used to minimize the required crimp force.



#### Hex Dies include:

- 0.429" hex and 0.324" hex.

#### CCT-03

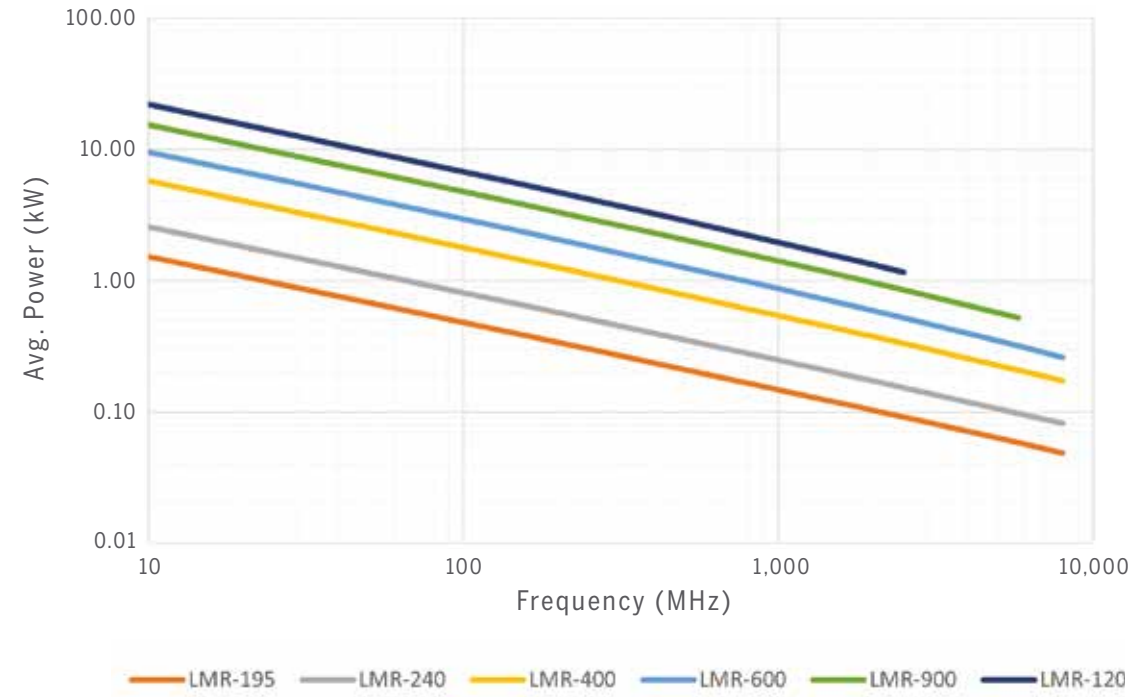
STOCK CODE 3192-267

Cable cutting tool for LMR-100 through LMR-600. Spin the CCT-03 around the cable letting the spring do the work until the cable snaps. This will provide a clean, square cut, leaving the cable completely round and the center conductor straight and burr free. This blade has been tested to over 2000 cuts.

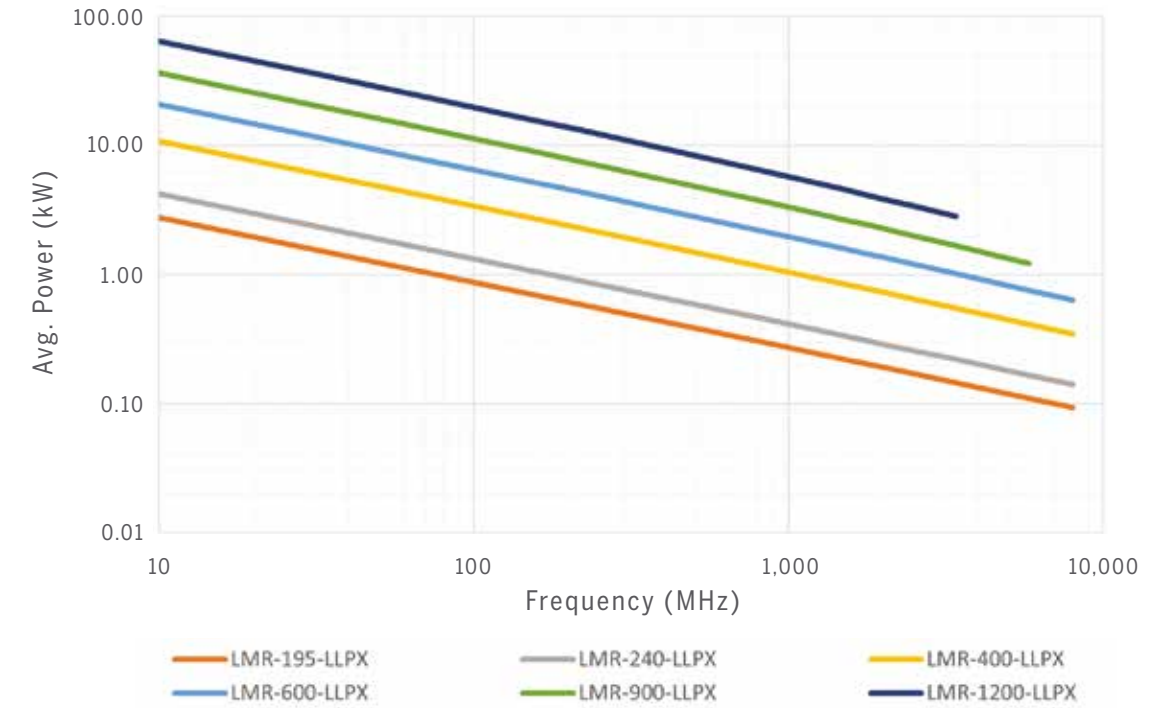


**Kit :** • Part Number **TK-400/400-75EZ-HC** • Stock Code **660-1266**

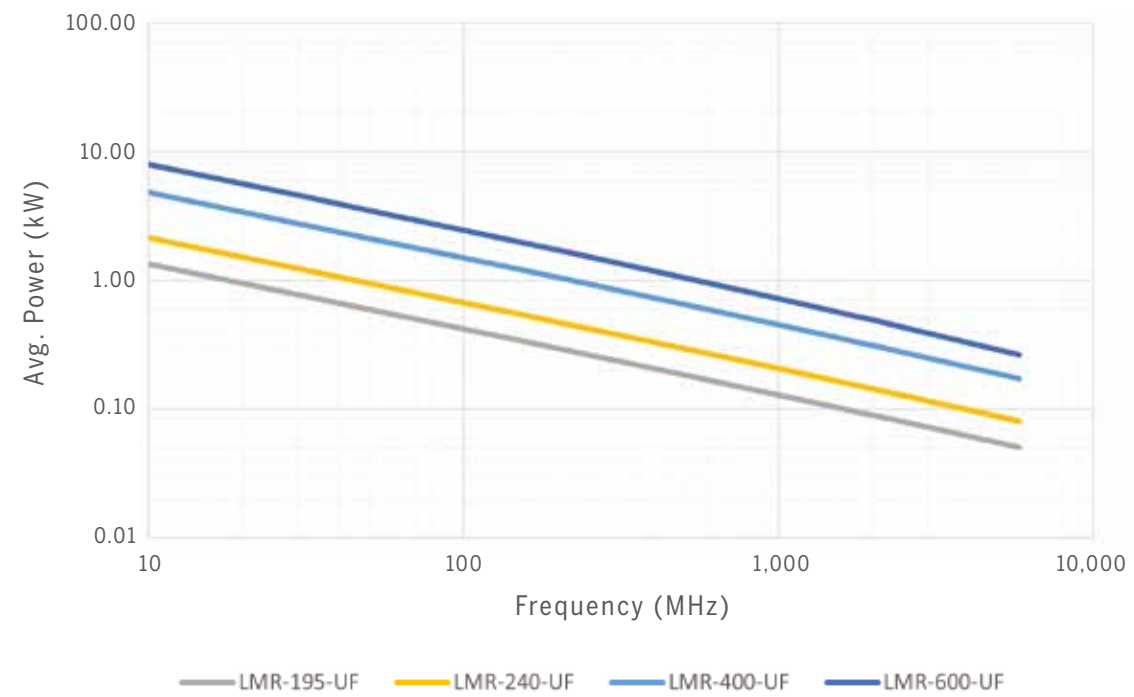
**LMR Standard**



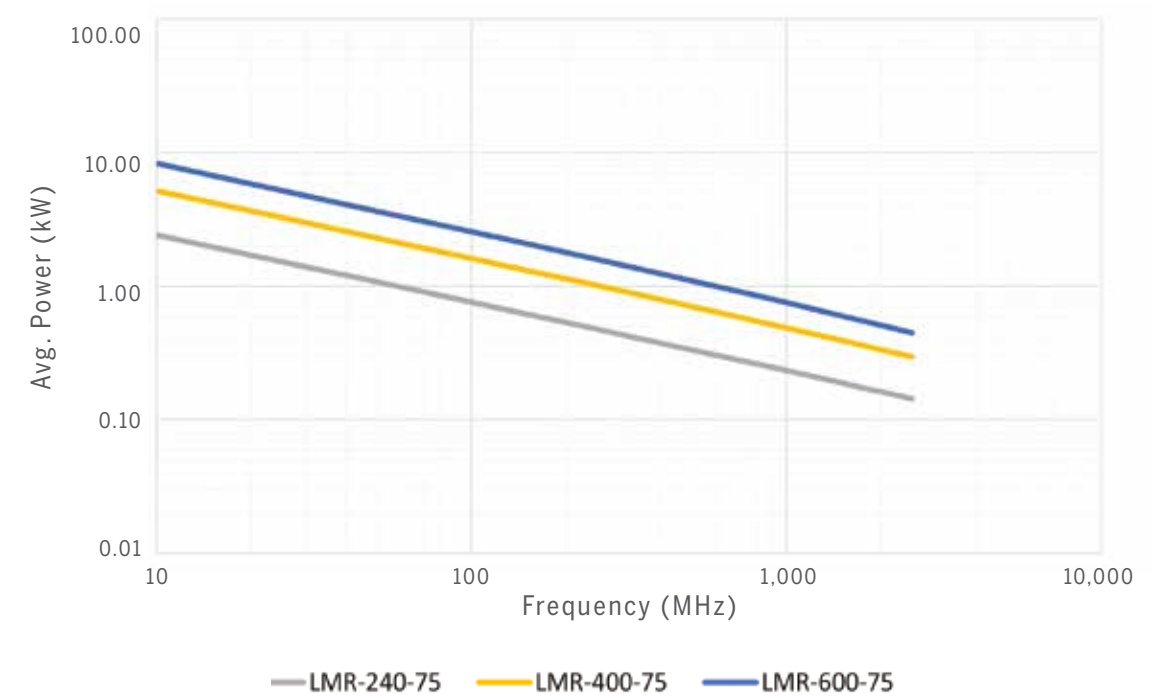
**LMR LLPX**



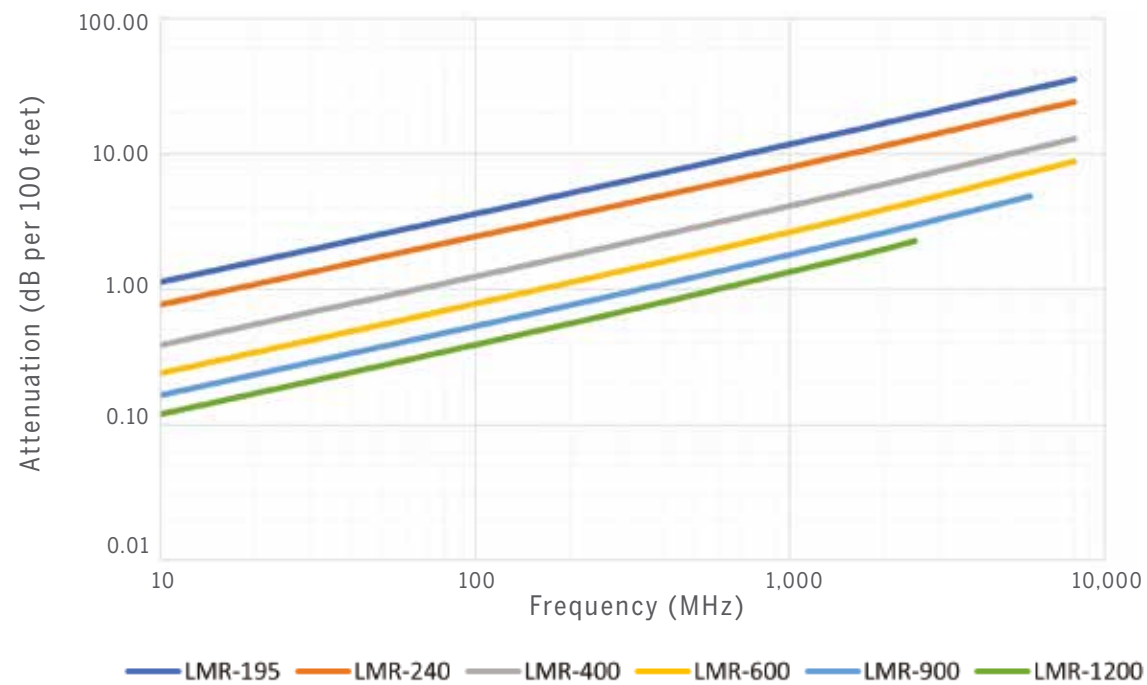
**LMR UltraFlex**



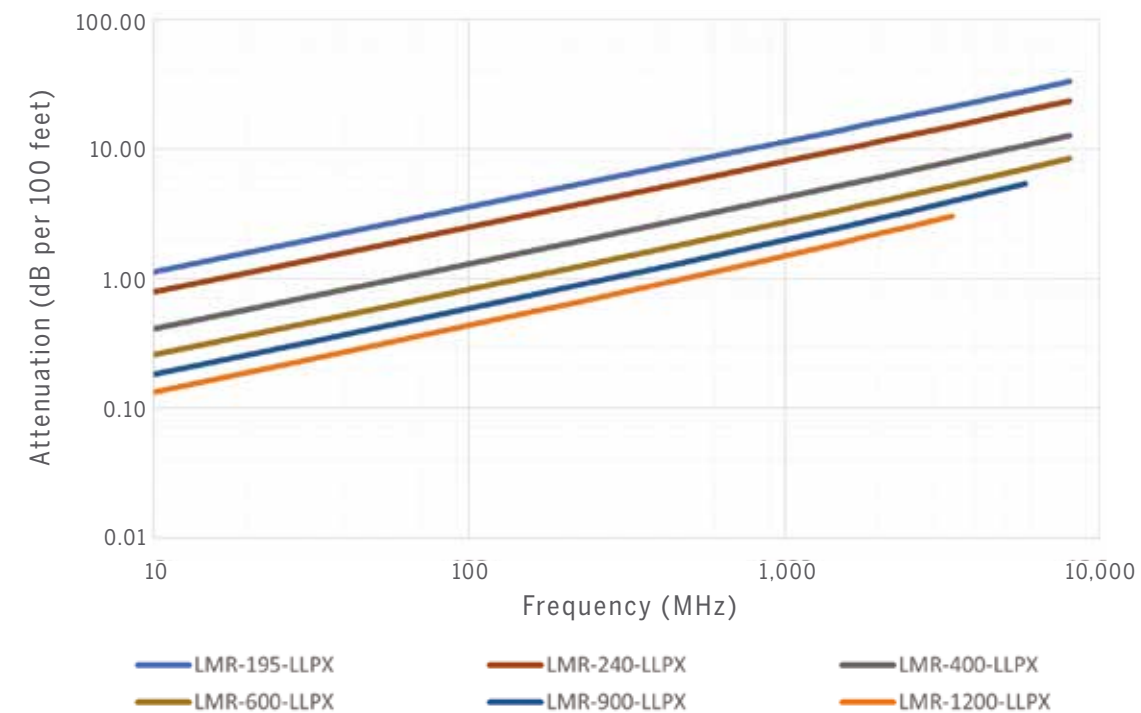
**LMR 75 Ohm**



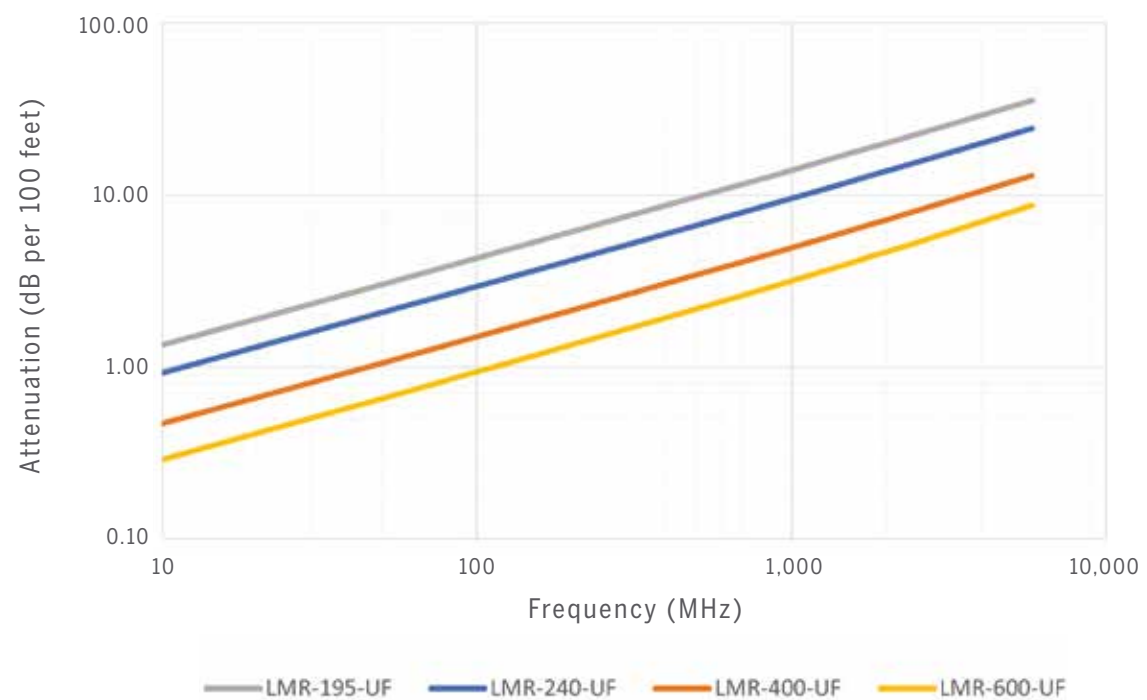
## LMR Standard



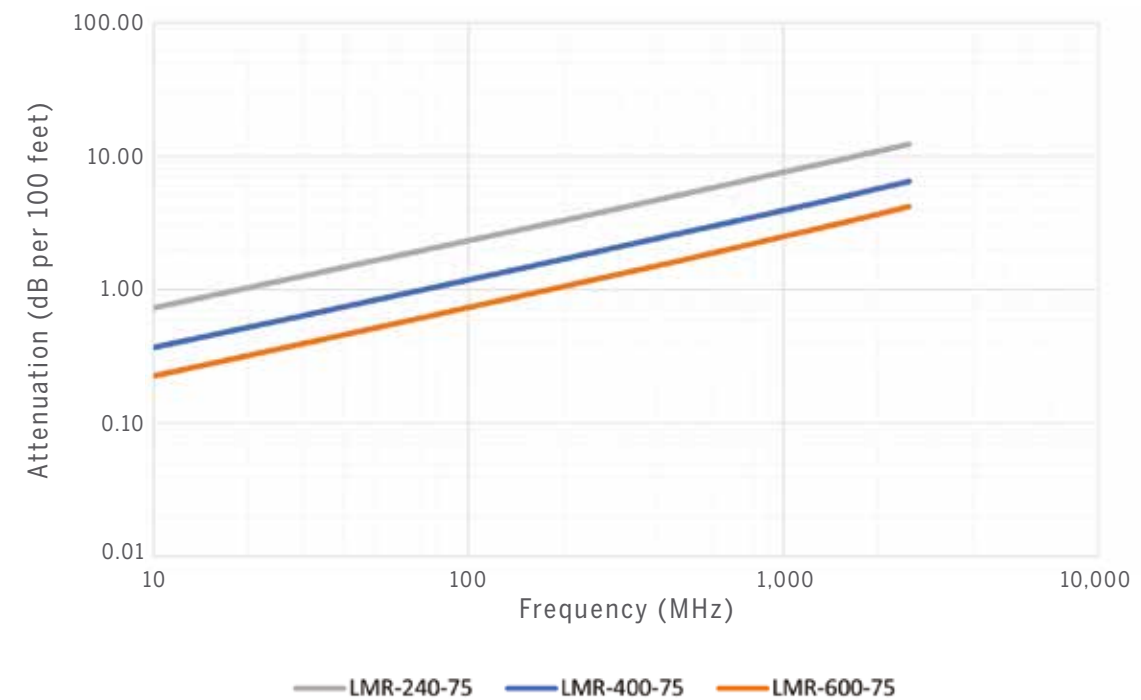
## LMR LLPX



## LMR UltraFlex



## LMR 75 Ohm





## References

### LMR-FR (Low-Smoke, Zero Halogen):

UL/CSA listed, Type CMR (Riser Rated)  
under UL File #E-170516.

### CPR-Construction Product Regulation:

- LMR-195FR/240FR
  - Rated Cca, s2, d0, a1
  - DoP certificate #1005 is available on [www.timesmicrowave.com](http://www.timesmicrowave.com)  
(Reference Times DoP #1005)
- LMR-400FR/600FR/LMR-900FR/LMR-1200FR
  - Rated B2ca, s1a, d0, a1
  - DoP #1006 certificate available on [www.timesmicrowave.com](http://www.timesmicrowave.com)

### Rail Industry Certification:

Compliant to EN-45545 (R15/R16), NFPA-130  
and BS-6853 Rail Standards

### Flame Performance:

Meets UL-1666, UL-1581, UL-VW1, IEC332-1-2, IEC332-3, IEEE-383 and BS-4066 Flame Standards

### Smoke Generation:

Meets IEC-61034-2 and NES-711 smoke  
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### Halogen Content:

Zero-Halogen meeting IEC-754-1 and -2, BS6425-1  
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**Times Microwave Systems**

358 Hall Avenue

Wallingford, CT 06492, USA

T 800. 867.2629



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