

LMR-600

Flexible Communications Cable

Ideal for...

- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, LMR, Paging, PCS, Cellular) requiring an easily routed, low loss RF cable



• **Flexible:** With a 1-1/2 inch minimum bend radius, LMR-600 cable can be easily routed into and through tight spaces without kinking. The LMR bonded-tape outer conductor provides superior flexibility and ease of bending compared to superflexible corrugated copper or smooth wall copper hard-line cables.

• **Low Loss:** LMR-600 has the lowest loss of any 1/2" superflex type cable. This is achieved through the use of a high velocity gas-injected closed cell foam dielectric and bonded aluminum tape outer conductor. The bonded aluminum tape outer conductor provides loss comparable to low density foam and much lower loss than 1/2" superflex corrugated copper cable.

• **Weatherproof:** The UV protected black polyethylene jacket makes the cable rugged and resistant to the full range of outdoor environments. The DB version of the cable includes a water blocking material within the braid to protect the cable from moisture ingress and eliminate any potential for corrosion in harsh environments or should the jacket become damaged. Various jacket materials are available to address other indoor and outdoor requirements.

• **RF Shielding:** The bonded aluminum tape outer conductor is overlapped to provide 100% coverage, resulting in >90 dB RF shielding (>180 dB crosstalk) and excellent interference immunity (ingress and egress).

• **Phase Stability:** The intimately bonded structure and foam dielectric of LMR cables provide excellent phase stability over temperature and with bending. The high velocity dielectric results in superior phase stability as compared with solid and air-spaced dielectric cables.

• **Assemblies, Connectors, and Accessories:** Times Microwave provides *FlexTech™* jumper cable assemblies fabricated with LMR-600-DB watertight cable and a variety of connector interface combinations (ref: FlexTech pages). Custom assemblies with phase matching, insertion loss matching and other special electrical or marking requirements can also be provided. A full range of connectors, including 'EZ' install (non-

Part Description

Part Number	Designation	Jacket	Stock Code
LMR-600	Standard Outdoor Cable	Polyethylene	54003
LMR-600-DB	Watertight Cable	Polyethylene	54093
LMR-600-FR	FR-CMR/MPR (PCC-FT4)	Non-Halogen	54032
LMR-600-UltraFlex	UltraFlex Cable	TPE	54044
LMR-600-LLPL	FR-CMP/MPP (PCC-FT6)	Plenum	54061



TIMES MICROWAVE SYSTEMS

A Smiths Industries company

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solder) types, and installation hardware accessories is available for LMR-600 cable as shown on the next page.

• **LMR-LLPL LowLoss Plenum:** Refer to LMR In-Building Communications catalog for details.

Mechanical Specifications

Minimum Bend Radius	1.5	38.1
Bending Moment	2.75 ft-lbs	3.73 N-m
Weight	0.131 lbs/ft	0.20 kG/m
Tensile Strength	350 lbs	158.9 kG
Flat Plate Crush	60 lb/in	1.07 kG/mm

Construction Specifications

Part Designation	Material	Inches	mm
Inner Conductor	Solid BCCA1	0.176	4.47
Dielectric	Foam Polyethylene	0.455	11.56
Outer Conductor	Aluminum Tape	0.461	11.71
Overall Braid	Tinned Copper	0.490	12.45
Standard Jacket	Black Polyethylene	0.590	14.99

Environmental Specifications

	°F	°C
Installation Temperature Range	-40/+185	(-40/+85)
Storage Temperature Range	-94/+185	(-70/+85)
Operating Temperature Range	-40/+185	(-40/+85)

Electrical Specifications

CutCutoff Frequency	10.3 GHz	
Velocity of Propagation	87%	
Voltage Withstand	4000 VDC	
Peak Power	40 kW	
DC Resistance		
Inner Conductor, ohms	0.53/1000'	1.74/km
Outer Conductor, ohms	1.2/1000'	3.94/km
Jacket Spark	8000 VRMS	
Impedance	50 ohms	
Capacitance	23.4 pF/ft	76.8 pF/m
Inductance	0.058 uH/ft	0.19 uH/m
Shielding Effectiveness	>90 dB	
Phase Stability	< 10 ppm/C	

Frequency MHz	Attenuation dB/100 ft dB/100 m		Avg. Power kW
30 MHz	0.42	1.4	5.5
50 MHz	0.55	1.8	4.2
150 MHz	1.0	3.2	2.4
220 MHz	1.2	3.9	2.0
450 MHz	1.7	5.6	1.35
900 MHz	2.5	8.2	0.93
1500 MHz	3.3	10.9	0.70
1800 MHz	3.7	12.1	0.63
2000 MHz	3.9	12.8	0.59
2500 MHz	4.4	14.5	0.52

Add 15% to tabulated attenuation for LMR-UltraFlex
Calculate Attenuation = $(0.07555) \cdot \sqrt{FMHz} + (0.00026) \cdot FMHz$
(interactive calculator available at <http://www.timesmicrowave.com>)

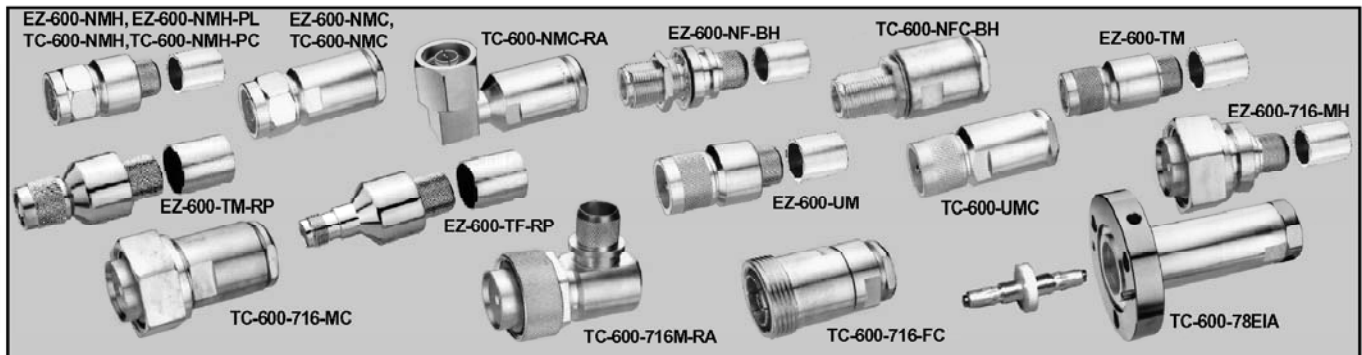
Attenuation: VSWR=1.0; Ambient = +25°C (77°F)
Power: VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F);
Sea Level; dry air; atmospheric pressure; no solar loading

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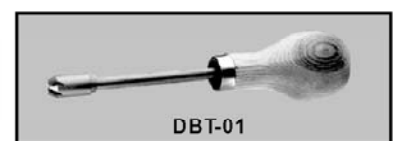
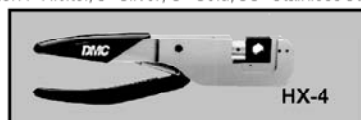
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Connectors

Interface	Description	Part Number	Stock Code	Coupling Nut	Inner Contact Attachment	Outer Contact Attachment	Finish* Body/Pin	Length in	mm	Width in	mm
N Male	Straight Plug	EZ-600-NMH	3190-271	Hex	Spring Finger	Crimp	S/G	2.1	53	0.92	23.4
	Straight Plug	EZ-600-NMH-PL	3190-603	Hex	Spring Finger	Crimp	S/G	2.1	53	0.92	23.4
	Straight Plug	TC-600-NMH	3190-208	Hex	Solder	Crimp	S/G	2.1	53	0.92	23.4
	Straight Plug	TC-600-NMH-PL	3190-760	Hex	Spring Finger	Crimp	S/G	2.1	53	0.92	23.4
	Straight Plug	EZ-600-NMC	3190-355	Hex	Spring Finger	Clamp	S/G	2.1	53	0.92	23.4
	Straight Plug	TC-600-NMC	3190-357	Hex	Solder	Clamp	S/G	2.1	53	0.92	23.4
	RightAngle	TC-600-NMC-RA	3190-233	Hex	Solder	Clamp	S/G	2.1	53	0.92	23.4
	RightAngle	EZ-600-NMH-RA	3190-762	Hex	Spring Finger	Crimp	S/G	2.1	53	0.92	23.4
N Female	RightAngle	TC-600-NMH-RA	3190-785	Hex	Solder	Crimp	S/G	2.1	53	0.92	23.4
	Bulkhead Jack	EZ-600-NF-BH	3190-616	NA	Spring Finger	Crimp	S/G	2.4	61	0.88	22.4
	Bulkhead Jack	TC-600-NF-BH	3190-589	NA	Solder	Crimp	S/G	2.4	61	0.88	22.4
TNC Male	Bulkhead Jack	TC-600-NFC-BH	3190-466	NA	Solder	Clamp	S/G	2.2	56	0.94	23.9
	Straight Plug	EZ-600-TM	3190-418	Knurl	Spring Finger	Crimp	S/G	1.7	43	0.59	15.0
TNC Female	Reverse Polarity	EZ-600-TM-RP	3190-796	Knurl	Spring Finger	Crimp	A/G	2.2	56	0.87	22.0
	Reverse Polarity	EZ-600-TF-RP	3190-797	NA	Spring Finger	Crimp	A/G	2.3	58	0.87	22.0
UHF Male	Straight Plug	EZ-600-UM	3190-615	Knurl	Spring Finger	Crimp	S/G	1.7	43	0.88	22.4
	Straight Plug	TC-600-UMC	3190-213	Knurl	Solder	Clamp	S/G	1.7	43	0.88	22.4
7-16 DIN Male	Straight Plug	EZ-600-716MH	3190-503	Hex	Spring Finger	Crimp	S/S	2.0	51	1.30	33.0
	Straight Plug	TC-600-716MC	3190-502	Hex	Solder	Clamp	S/S	2.0	51	1.30	33.0
	RightAngle	TC-600-716M-RA	3190-395	Hex	Solder	Crimp	S/S	1.4	36	1.40	35.6
7-16 DIN Female	Straight Jack	TC-600-716FC	3190-375	NA	Solder	Clamp	S/S	1.1	28	1.00	25.4
7/8 EIA	Flange	TC-600-78EIA	3190-321	NA	Solder	Clamp	S/S	2.3	58	2.60	66.0

* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alloy



Accessories

Tool Type	Part Number	Stock Code	Description
Crimp Tool	HX-4	3190-200	Standard .610" Hex
Crimp Rings	CR-600	3190-831	Crimp Rings for TC/EZ-600 connectors (pkg of 10)
Strip Tool	ST-600C	3190-230	For Clamp Style Connectors
Strip Tool	ST-600EZ	3190-310	For Crimp Style Connectors
Deburr Tool	DBT-01	3190-406	For 'EZ' Style Connectors
Ground Kit	GK-S600I	GK-S600I	Standard Grounding Kit (each)
Hoisting Grip	HG-600T	HG-600T	Split/Laced Type (each)
Cold Shrink	CS-A600T	CS-A600T	Cable to Antenna Junction (each)
Cold Shrink	CS-60120T	CS-60120T	LMR-600 to -1200 Junction (each)
Cold Shrink	CS-60170T	CS-60170T	LMR-600 to -1700 Junction (each)
Standard Entry Port Cushion	SC-600T	SC-600T	Three Cables (each)
Standard Entry Panels	Full Range of Port Styles/Combinations Available		
Rectangular Entry Port Cushion	RC-600T	RC-600T	Four Cables (each)
Rectangular Entry Panels	Full Range of Port Styles/Combinations Available		
Hanger Blocks	CB-600T	CB-600T	Dual Cable Support Block (kit of 10)
Hanger Block Hardware	Complete Range of Supporting Hardware & Adapters Available		
Snap-In Hangers	SH-U600T	SH-U600T	Snap-In Hangers (Kit of 10)