TIMES MICROWAVE SYSTEMS

LMR®-240
Flexible Low Loss Communications Coax

Ideal for...

- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs (e.g. WLL, GPS, LMR, Mobile Antennas)
- Any application (e.g. WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable



Part Description				Stock
Part Number	Application	Jacket	Color	Code
LMR-240	Outdoor	PE	Black	54021
LMR-240-DB	Outdoor/Watertight	PE	Black	54090
LMR-240-FR	Indoor/Outdoor Riser CMR	FRPE	Black	54029
LMR-240-FR-PVC	Indoor/Outdoor Riser CMR	FRPVC	Black	54214
LMR-240-PVC	General Purpose	PVC	Black	54140
LMR-240-PVC-W	General Purpose	PVC	White	54202
LMR-240-MA	Indoor & Mobile Antenna	PVC	Black	54046

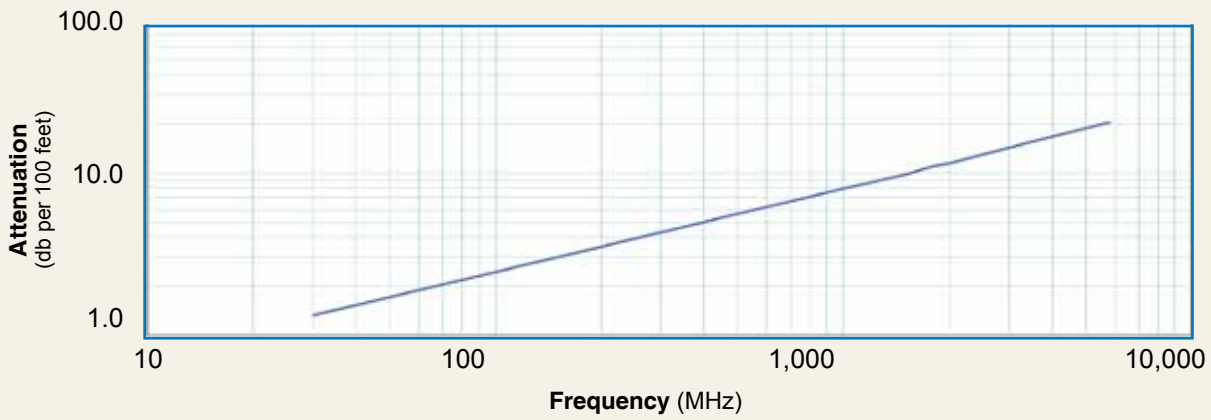
Environmental Specifications		
Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+185	-70/+85
Operating Temperature Range	-40/+185	-40/+85

Mechanical Specifications			
Performance Property	Units	US	(metric)
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)
Weight	lb/ft (kg/m)	0.034	(0.05)
Tensile Strength	lb (kg)	80	(36.3)
Flat Plate Crush	lb/in. (kg/mm)	20	(0.36)

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BC	0.056	(1.42)
Dielectric	Foam PE	0.150	(3.81)
Outer Conductor	Aluminum Tape	0.155	(3.94)
Overall Braid	Tinned Copper	0.178	(4.52)
Jacket	(see table)	0.240	(6.10)

Electrical Specifications			
Performance Property	Units	US	(metric)
Velocity of Propagation	%	83	
Dielectric Constant	NA	1.42	
Time Delay	nS/ft (nS/m)	1.21	(3.97)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	24.2	(79.4)
Inductance	uH/ft (uH/m)	0.060	(0.20)
Shielding Effectiveness	dB	>90	
DC Resistance			
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	

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	8000
Attenuation dB/100 ft	1.3	1.7	3.0	3.7	5.3	7.6	9.9	10.9	11.5	12.9	20.4	24.3
Attenuation dB/100 m	4.4	5.7	9.9	12.0	17.3	24.8	32.4	35.6	37.7	42.4	66.8	79.7
Avg. Power kW	1.49	1.15	0.66	0.54	0.38	0.26	0.20	0.18	0.17	0.15	0.10	0.08

Calculate Attenuation =
(0.242080) • $\sqrt{FMHz}$ + (0.000330) • FMHz (interactive calculator available at http://www.timesmicrowave.com/cable_calculators)
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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Connectors

Interface	Description	Part Number	Stock Code	VSWR** Freq. (GHz)	Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in	Length (mm)	Width in	Width (mm)	Weight lb	Weight (g)
1. F Male	Straight Plug	TC-240-FM-X	3190-2891	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.1	(28)	0.45	(11.4)	0.014	(6.4)
2. N Male	Straight Plug	EZ-240-NMH-X	3190-2893	<1.25:1 (2.5)	Hex/Knurl	Spring Finger	Crimp	A/G	1.5	(38.1)	0.78	(19.8)	0.086	(39.0)
3. N Male	Right Angle	EZ-240-NMH-RA-X	3190-6143	<1.35:1 (6)	Hex	Spring Finger	Crimp	A/G	1	(25.1)	1.04	(26.4)	0.115	(52.0)

Connectors

Interface	Description	Part Number	Stock Code	VSWR** Freq. (GHz)		Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in	Length (mm)	Width in	Width (mm)	Weight lb	Weight (g)
4. N Male	Right Angle	TC-240-NMH-RA-D	3190-2426	<1.35:1	(6)	Hex/Knurl	Solder	Crimp	A/G	1.2	(32.4)	1.22	(31.0)	0.091	(41.7)
5. N Male	Straight Plug	TC-240-NMH-X	3190-2887#	<1.25:1	(2.5)	Hex/Knurl	Solder	Crimp	N/S	1.5	(38)	0.75	(19.1)	0.086	(39.0)
6. N Male	Straight Plug	TC-240-NMC	3190-244	<1.25:1	(2.5)	Knurl	Solder	Clamp	S/G	1.5	(38)	0.75	(19.1)	0.082	(37.2)
7. 1.0/2.3 DIN	Straight Plug	EZ-240-1023M	3190-6283	<1.35:1	(2.5)	knurl	Spring Finger	Crimp	N/G	1.1	(228.5)	0.33	(8.5)	0.014	(6.63)
8. N Female	Bulkhead Jack	TC-240-NF-BH-X	3190-2888	<1.25:1	(2.5)	NA	Solder	Crimp	A/G	1.7	(44)	0.88	(22.2)	0.115	(52.2)
9. N Female	Panel Mount	TC-240-NF-PM-X	3190-2889#	<1.25:1	(6)	NA	Solder	Crimp	A/G	1.7	(44)	0.88	(22.2)	0.115	(52.2)
10. N Female	Straight Jack	EZ-240-NF-X	3190-2795	<1.25:1	(6)	NA	Spring Finger	Crimp	A/G	1.4	(35.4)	0.62	(15.8)	0.040	(18.0)
11. BNC Male	Straight Plug	TC-240-BMC	3190-242	<1.25:1	(2.5)	Knurl	Solder	Clamp	S/G	1.7	(43)	0.56	(14.2)	0.040	(18.1)
12. BNC Male	Straight Plug	EZ-240-BM-X	3190-6120	<1.25:1	2.5	Knurl	Spring Finger	Crimp	A/G	1.3	(34)	0.58	(14.7)	0.043	(19.5)
13. BNC Male	Straight Plug	TC-240-BM-X	3190-2890	<1.25:1	(2.5)	Knurl	Solder	Crimp	A/G	1.3	(34)	0.58	(14.7)	0.043	(19.5)
14. BNC Male	Right Angle	TC-240-BM-RA-D	3190-2869	<1.25:1	(2)	Knurl	Solder	Crimp	A/G	1.0	(25.1)	0.57	(14.5)	0.115	(52.0)
15. BNC Male	Right Angle	EZ-240-BM-RA-X	3190-2868	<1.30:1	(4)	KNURL	Spring Finger	Crimp	A/G	1.3	(33.6)	1.19	(30.1)	0.091	(41.7)
16. TNC Male	Straight Plug	EZ-240-TM-X	3190-2725	<1.25:1	(2.5)	Knurl	Spring Finger	Crimp	N/G	1.4	(34.3)	0.59	(15.0)	0.043	(19.5)
17. TNC Male	Straight Plug	TC-240-TM-X	3190-2797	<1.25:1	(2.5)	Knurl	Solder	Crimp	N/G	1.7	(43)	0.59	(15.0)	0.043	(19.5)
18. TNC Male	Reverse Polarity	EZ-240-TM-RP-X	3190-2892	<1.25:1	(6)	Knurl	Spring Finger	Crimp	A/G	1.4	(36)	0.59	(15.0)	0.043	(19.5)
19. TNC Male	Right Angle	TC-240-TM-RA-D	3190-2798	<1.25:1	(6)	Hex	Solder	Crimp	A/G	1.0	(25.1)	0.62	(15.7)	0.115	(52.0)
20. TNC Female	Straight Jack	EZ-240-TF-X	3190-6204	<1.25:1	(6)	NA	Spring Finger	Crimp	A/G	1.1	(27.2)	0.87	(22.0)	0.033	(15.0)
21. TNC Female	Reverse Polarity	EZ-240-TF-RP-X	3190-6167	<1.35:1	(6)	NA	Spring Finger	Crimp	A/G	1.1	(27.2)	0.87	(22.0)	0.033	(15.0)
22. QMA Male	Straight Plug	EZ-240-QM-X	3190-2894	<1.25:	(6)	Knurl	Spring Finger	Crimp	N/G	1.2	(30.0)	0.41	(10.5)	0.014	(6.35)
23. QMA Male	Right Angle	EZ-240-QM-RA-X	3190-2895	<1.25:	(<6)	Knurl	Spring Finger	Crimp	N/G	0.8	(20.3)	0.65	(16.5)	0.019	(8.62)
24. SMA Male	Straight Plug	EZ-240-SM-X	3190-2897	<1:25:	(6)	Hex	Spring Finger	Crimp	N/G	1.0	(25.4)	0.32	(8.1)	0.016	(7.26)
25. SMA Male	Straight Plug	TC-240-SM-SS-X	3190-2898#	<1.25:1	(10)	Hex	Solder	Crimp	SS/G	1.0	(25)	0.32	(8.1)	0.016	(7.3)
26. SMA Male	Right Angle	TC-240-SM-RA-SS-X	3190-2900#	<1.35:1	(6)	Hex	Solder	Crimp	SS/G	0.8	(20)	0.65	(16.5)	0.019	(8.6)
27. SMA Male	Right Angle	EZ-240-SM-RA-X	3190-2899	<1.25:1	(6)	Hex	Spring Finger	Crimp	A/G	0.9	(22.8)	0.31	(7.9)	0.019	(8.6)
28. SMA Male	Reverse Polarity	TC-240-SM-RP	3190-326	<1.25:1	(2.5)	Hex	Solder	Crimp	SS/G	1.0	(25)	0.32	(8.1)	0.016	(7.3)
29. SMA Female	Bulkhead Jack	TC-240-SF-SS-BH-X	3190-2896#	<1.25:1	(2.5)	NA	Solder	Crimp	SS/G	1.1	(29)	0.31	(7.9)	0.019	(8.6)
30. Mini-UHF	Straight Plug	TC-240-MUHF	3190-445	<1.25:1	(2.5)	Knurl	Solder	Crimp	N/G	1.1	(28)	0.45	(11.4)	0.014	(6.4)
31. 7/16 Din Male	Straight Plug	TC-240-716M	3190-2982	<1.35:1	(3)	Hex	Spring Finger	Crimp	A/S	2.0	(50.5)	1.26	(32.0)	0.186	(84.4)
32. 7/16 Din Male	Right Angle	TC-240-716M-RA-D	3190-2983	<1.35:1	(3)	Hex	Solder	Crimp	A/S	1.4	(34.3)	1.60	(40.6)	0.239	(108.5)

*Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy **VSWR spec based on 3 foot cable with a connector pair #Available in bulk pack

Hardware Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S240TT	GK-S240TT	Standard Ground Kit (each)
Weatherproof Kit	WSB-240	3109-400	Weatherproof/Strain relief kit for LMR-240


GK-S240TT

WSB-240
3109-400




CT-240/200/195/100
3190-667


CCT-02
3192-165


CST-240A
3192-152


DBT-U
3192-001


RB-CST
3192-086

Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	CT-240/200/195/100	3190-667	Crimp tool for LMR-100, 195, 200 and 240 connectors
Strip Tool	CST-240A	3192-152	Prep tool for LMR-240 connectors
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Cutting Tool	CCT-02	3192-165	Cable end flush cut tool
Replacement Blade	RB-02	3192-166	Replacement blade for cutting tool
Replacement Blade Kit	RB-CST	3192-086	Replacement blade kit for all CST strip tools