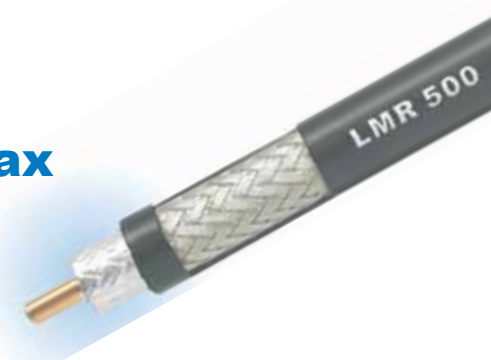




# LMR®-500 Flexible Low Loss Communications Coax

## Ideal for...

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



| Part Description |                      |              |       | Stock |
|------------------|----------------------|--------------|-------|-------|
| Part Number      | Application          | Jacket Color |       | Code  |
| LMR-500          | Outdoor              | PE           | Black | 54002 |
| LMR-500-DB       | Outdoor/Watertight   | PE           | Black | 54092 |
| LMR-500-FR       | Indoor/Outdoor Riser | CMR FRPE     | Black | 54031 |

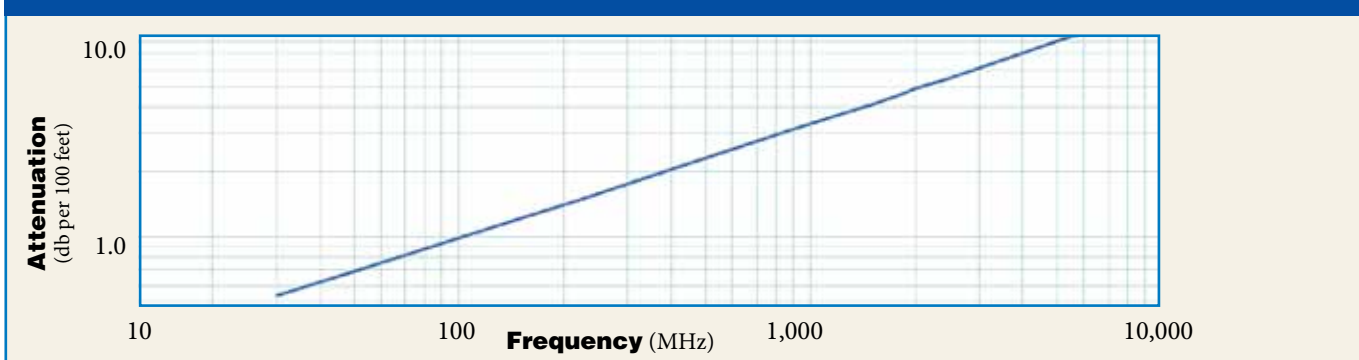
| Construction Specifications |               |       |         |
|-----------------------------|---------------|-------|---------|
| Description                 | Material      | In.   | (mm)    |
| Inner Conductor             | Solid BCCA1   | 0.142 | (3.61)  |
| Dielectric                  | Foam PE       | 0.370 | (9.40)  |
| Outer Conductor             | Aluminum Tape | 0.376 | (9.55)  |
| Overall Braid               | Tinned Copper | 0.405 | (10.29) |
| Jacket                      | (see table)   | 0.500 | (12.70) |

| Mechanical Specifications |                |       |          |
|---------------------------|----------------|-------|----------|
| Performance Property      | Units          | US    | (metric) |
| Bend Radius: installation | in. (mm)       | 1.25  | (31.8)   |
| Bend Radius: repeated     | in. (mm)       | 5.0   | (127.0)  |
| Bending Moment            | ft-lb (N-m)    | 1.75  | (2.37)   |
| Weight                    | lb/ft (kg/m)   | 0.097 | (0.14)   |
| Tensile Strength          | lb (kg)        | 260   | (118.0)  |
| Flat Plate Crush          | lb/in. (kg/mm) | 50    | (0.89)   |

| Electrical Specifications |                   |       |          |
|---------------------------|-------------------|-------|----------|
| Performance Property      | Units             | US    | (metric) |
| Velocity of Propagation   | %                 | 82    |          |
| Dielectric Constant       | NA                | 1.35  |          |
| Time Delay                | nS/ft (nS/m)      | 1.18  | (3.88)   |
| Impedance                 | ohms              | 50    |          |
| Capacitance               | pF/ft (pF/m)      | 23.6  | (77.5)   |
| Inductance                | uH/ft (uH/m)      | 0.059 | (0.19)   |
| Shielding Effectiveness   | dB                | >90   |          |
| DC Resistance             |                   |       |          |
| Inner Conductor           | ohms/1000ft (/km) | 0.82  | (2.7)    |
| Outer Conductor           | ohms/1000ft (/km) | 1.27  | (4.2)    |
| Voltage Withstand         | Volts DC          | 3000  |          |
| Jacket Spark              | Volts RMS         | 8000  |          |
| Peak Power                | kW                | 22    |          |

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

### Attenuation vs. Frequency (typical)



| Frequency (MHz)              | 30    | 50    | 150   | 220   | 450   | 900   | 1500  | 1800  | 2000  | 2500  | 5800  | 8000 |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| <b>Attenuation dB/100 ft</b> | 0.5   | 0.7   | 1.2   | 1.5   | 2.2   | 3.1   | 4.1   | 4.6   | 4.8   | 5.5   | 8.9   | 10.7 |
| <b>Attenuation dB/100 m</b>  | 1.8   | 2.3   | 4.0   | 4.9   | 7.1   | 10.3  | 13.6  | 15.0  | 15.9  | 18.0  | 29.1  | 35.2 |
| <b>Avg. Power kW</b>         | 4.400 | 3.393 | 1.931 | 1.583 | 1.088 | 0.752 | 0.569 | 0.515 | 0.485 | 0.428 | 0.264 | 0.22 |

**Calculate Attenuation** = (0.096590) √FMHz + (0.000260) • FMHz (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](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



**Connectors**

| Interface          | Description   | Part Number      | Stock Code | VSWR Freq. (GHz) | Coupling Nut | Inner Contact Attach | Outer Contact Attach | Finish* Body /Pin | Length in (mm) | Width in (mm) | Weight lb     | Weight (g)  |
|--------------------|---------------|------------------|------------|------------------|--------------|----------------------|----------------------|-------------------|----------------|---------------|---------------|-------------|
| 1. 7-16 DIN Female | Straight Plug | TC-500-716F-X    | 3190-2906  | <1.30:1 (6)      | N/A          | Solder               | Crimp                | A/S               | 1.8 (45.9)     | 1.14 (29.0)   | 0.298 (135.0) |             |
| 2. 7-16 DIN Male   | Right Angle   | TC-500-716M-RA-D | 3190-6079  | <1.30:1 (6)      | Hex          | Solder               | Crimp                | A/S               | 1.8 (44.9)     | 1.60(41.6)    | 0.370 (168.0) |             |
| 3. N Male          | Straight Plug | TC-500-NMH-X     | 3190-2514  | <1.35:5 (6)      | Hex/Knurl    | Solder               | Crimp                | A/G               | 1.8 (45)       | 0.87 (22.0)   | 0.099 (45.0)  |             |
| 4. N Male          | Straight Plug | EZ-500-NMH-X     | 3190-2596  | <.35:1 (6)       | Hex/Knurl    | Spring Finger        | Crimp                | A/G               | 1.7 (44)       | 0.83 (21.0)   | 0.111 (50.5)  |             |
| 5. N Male          | Right Angle   | TC-500-NMH-RA-D  | 3190-2970  | <1.25:1 (6)      | Hex/Knurl    | Solder               | Crimp                | A/G               | 1.5 (39)       | 1.6 (42.0)    | 0.279 (127.0) |             |
| 6. N Female        | Straight Jack | TC-500-NFC       | 3190-215   | <1.25:1 (2.5)    | N/A          | Solder               | Clamp                | S/G               | 2.2 (56)       | 0.94 (23.9)   | 0.215 (97.5)  |             |
| 7. N Female        | Bulkhead Kit  | BHA-KIT          | 3190-223   | <1.25:1 (2.5)    | N/A          | N/A                  | N/A                  | N/A               | N/A            | N/A           | N/A           | 0.014 (6.4) |
| 8. N Male          | Right Angle   | TC-500-NMC-RA    | 3190-227   | <1.25:1 (2.5)    | Hex          | Solder               | Clamp                | S/G               | 2.4 (61)       | 1.5 (38.1)    | 0.275 (124.7) |             |
| 9. TNC Male        | Straight Plug | TC-500-TM-X      | 3190-6009  | <1.25:1 (2.5)    | Hex          | Solder               | Crimp                | N/G               | 1.5 (38)       | 1.62 (15.7)   | 0.082 (28.1)  |             |
| 10. TNC Female     | Straight Jack | TC-500-TF-X      | 3190-6010  | <1.30:1 (6)      | N/A          | Solder               | Crimp                | A/G               | 1.8 (44.5)     | 0.87 (22.0)   | 0.077 (35.0)  |             |
| 11. UHF Male       | Straight Plug | TC-500-UMC       | 3190-354   | <1.25:1 (2.5)    | Knurl        | Solder               | Clamp                | S/G               | 2.1 (53)       | 0.88 (22.4)   | 0.215 (97.5)  |             |

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy \*Available in bulk pack

**Install Tools**



| Type                  | Part Number | Stock Code | Description                           |
|-----------------------|-------------|------------|---------------------------------------|
| Crimp Tool            | CT-U        | 3192-181   | Crimp Handle                          |
| Crimp Dies            | Y151        | 3190-465   | .532" Hex Dies                        |
| Strip Tool            | CST-500     | 3192-075   | For Crimp & Clamp Style Connectors    |
| Crimp Tool            | CT-500      | 3192-169   | Crimp tool for LMR 500 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 Kit | RB-CST      | 3192-086   | Replacement blade kit for strip tools |
| Replacement Blade     | RB-02       | 3192-166   | Replacement Blade for Cutting Tool    |