



MLX COAXIAL CABLE

NEW: Flexible, low-loss coaxial cable that features a dual-shielded design and foam dielectric to increase velocity of propagation and withstand electromagnetic interference (EMI), providing better signal reliability.

NPI ENHANCEMENT

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MLX Coaxial Cable

Featuring an innovative design that improves flexibility and reduces signal loss over long distances, MLX Coaxial Cable uses foam dielectric to increase velocity of propagation and incorporates superior shielding to better withstand electromagnetic interference (EMI), providing enhanced signal reliability and clarity.

Key Product Information

Category: Coaxial cable

Frequency: Rated through 8 GHz

Impedance: 50 Ohms

Shielding Effectiveness: >90 dB

Cable Options: MLX 100, MLX 195, MLX 200, MLX 240,
MLX 400, MLX 500, MLX 600

Available Configurations: Bulk cable or terminated
cable assemblies



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Series
100063 MLX Coaxial Cable

Vital Product Information

MLX Coaxial Cable

What makes this product different from the competition?

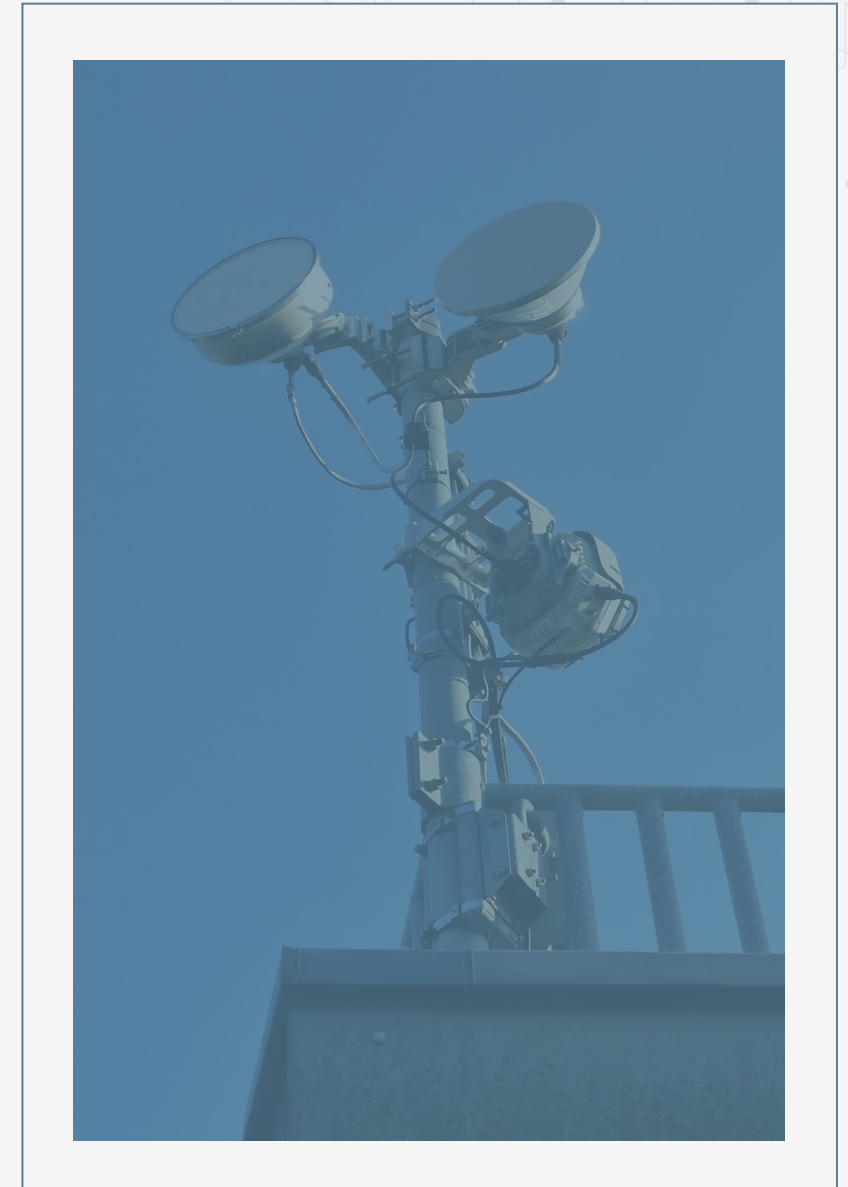
Compared with traditional RG coaxial cable, MLX Coaxial Cable delivers lower signal loss, greater flexibility and better EMI shielding. It is also more flexible than corrugated cable while offering similar performance characteristics. This makes it a cost-effective and high-performance solution, particularly in high-bandwidth applications subject to EMI effects or space-constrained installations.

How does this product create value for our customers?

Improved resistance to EMI and radio-frequency interference (RFI) enhances signal quality and reliability in signal-dense environments, leading to better system performance. Its better loss performance over long distances and rugged construction for outdoor use increase the product lifespan and lower replacement costs. The cables are also flexible enough to more easily route through tight or complex spaces, accelerating installation and reducing downtime and labor costs.

What is the Molex advantage?

Global manufacturing capability, robust engineering support and a broad portfolio of high-performance RF connectivity products make Molex a unique resource in finding solutions for a wide range of challenges.



Product Overview

MLX Coaxial Cable

Lower Signal Loss Over Longer Distances

With a cable construction engineered to optimize signal integrity and a foam dielectric to improve velocity of propagation, MLX Coaxial Cable is ideal for applications requiring long-distance, high-performance connectivity.

Improved Shielding for Enhanced EMI Resistance

The superior shielding of MLX Coaxial Cable helps withstand EMI effects and prevents RF leakage, enabling reliable operation in high-bandwidth applications and in devices and systems subject to signal interference.

Increased Flexibility for Faster Indoor or Outdoor Installation

MLX Coaxial Cable has a small bending radius compared with corrugated coaxial cables, making it easier to route and install in space-constrained environments.



Markets and Applications

MLX Coaxial Cable



Cellular Network Base Stations



Radio Transmitters, Receivers and Antennas



Imaging System Sensors and Control Units

WIRELESS INFRASTRUCTURE

- Cellular network base stations
- Cellular antennas and repeaters
- Emergency service communication systems
- RFID reader-to-antenna connections
- Two-way radio systems
- Wi-Fi system access points

TELECOMMUNICATIONS

- Distributed antenna systems
- Public safety networks in buildings and tunnels
- Radio transmitters, receivers and antennas
- Satellite dish connections

MILITARY/AEROSPACE

- Avionics
- Camera systems
- Ground-to-air communication systems
- Imaging system sensors and control units
- Navigation systems
- Shipboard systems
- Tactical radio communication systems

Frequently Asked Questions

MLX Coaxial Cable

What are the benefits of using MLX Coaxial Cable in high-frequency applications?

MLX Coaxial Cable delivers exceptional performance with low signal loss and superior shielding, making it ideal for high-frequency applications. Its foam dielectric enhances velocity of propagation, ensuring efficient and reliable data transmission, which is essential for cutting-edge technologies like 5G and Internet of Things devices.

How does MLX Coaxial Cable address signal degradation in long-distance applications such as cellular networks and satellite communication?

MLX Coaxial Cable boasts low-loss characteristics that significantly minimize signal attenuation over long distances. This ensures high-quality data transmission, which is crucial for sustaining optimal performance in demanding applications such as cellular networks and satellite communications.

Frequently Asked Questions (cont'd)

MLX Coaxial Cable

Are these cables compatible with existing infrastructures and connectors?

MLX Coaxial Cables are designed to integrate seamlessly with a wide array of existing connectors and systems, simplifying upgrades and installations. This compatibility reduces the need for extra components or extensive reconfiguration, streamlining transitions and enhancing operational efficiency.

How does MLX Coaxial Cable mitigate electromagnetic and radio frequency interference in high-density electronic environments?

Utilizing a tinned copper braid with 90% coverage in combination with a second shield layer of aluminum foil, MLX Coaxial Cable offers exceptional protection against EMI and RFI, ensuring consistent signal quality and reliable performance even in high-interference environments such as public safety networks and two-way radio systems.

Solving Industry Challenges

MLX Coaxial Cable



Industry Need	Industry Challenge	Industry Solution	Anticipated Results
High-bandwidth, low-latency cables	Traditional coaxial cables can exhibit higher signal loss, which negatively affects data transmission quality, especially over long distances and in 5G or high-bandwidth applications.	MLX Coaxial Cable is optimized for high-bandwidth signal strength, ensuring superior signal integrity and reducing latency in order to support high-performance connectivity.	Better signal quality improves overall system performance and reliability in high-bandwidth applications, enhancing business results.
Flexible and durable connectivity solutions	Coaxial cables must withstand harsh conditions in a variety of environments, from outdoor installations subject to water and ultraviolet exposure to space-constrained applications that require tight bends and extreme flexibility.	Designed for reliability in either indoor or outdoor use, MLX Coaxial Cable is flexible enough to ease installation in tight spaces, while its rugged construction helps ensure reliable long-term performance.	Flexible cables help ease design constraints, speed installation and shorten system downtime, while robust and reliable cables reduce costs by extending the component's lifespan.
Effective EMI resistance	High levels of EMI and RFI in environments such as public safety networks can degrade system performance by adversely impacting signal integrity.	Increased shielding to protect against EMI/RFI effects helps MLX Coaxial Cable withstand interference from radio traffic and nearby devices, enhancing signal integrity.	Strong EMI/RFI resistance helps ensure proper operation in applications subject to interference, expanding the available applications and improving system performance.

Product Advantages and Features

MLX Coaxial Cable

Improves system performance over long distances

Precision engineering enhances reliability and signal integrity for high-performance applications.

Enables flexible routing in space-constrained installations

A single-time bend radius of 2.5 times the cable diameter enables use in tight spaces and makes installation work easier.

Resists EMI and RF leakage

Enhanced shielding helps withstand high levels of EMI and RFI in high-density systems and environments subject to high radio traffic.

Delivers long-term reliability for outdoor applications

The rugged design is resistant to ultraviolet light, moisture and temperature extremes, making it ideal for either indoor or outdoor use in harsh environmental conditions.

Provides cost-effective connectivity for high-performance systems

The design provides a balanced solution that offers the flexibility and affordability of traditional coaxial cable but with the high performance of corrugated cable.



Key Specifications	
Frequency	Rated up to 8 GHz
Impedance	50 Ohms
Shielding Effectiveness	>90 dB
Cable Options	MLX 100, MLX 195, MLX 200, MLX 240, MLX 400, MLX 500, MLX 600
Weight	0.013 to 0.203 kg/m (0.009 to 0.137 lbs/foot)
Operating Temperatures	-40 to +85°C

Product Specifications

MLX Coaxial Cable

Reference Information

Compatible With: DIN 7/16, 4.3-10, Type N, 2.2-5, TNC, BNC, Type F, FAKRA, BMA, SMB, SMA

Designed In: Inches

Packaging: Spool

Spool Size and Weight:

MLX 100—12 by 8 by 4" (30.5 by 20.3 by 10.2cm), 30 lbs (13.6kg)

MLX 195, MLX 200, MLX 240—16 by 8 by 4" (40.6 by 20.3 by 10.2cm), 42 to 51 lbs (19.0 to 23.1kg)

MLX 400, MLX 500—20 by 16 by 8" (50.8 by 40.6 by 20.3cm), 82 to 83 lbs (37.2 to 37.6kg)

MLX 600—24 by 17 by 12" (61.0 by 43.2 by 30.5cm), 84 lbs (38.1kg)

RoHS: Yes

Electrical

Frequency: Up to 8 GHz

Impedance: 50 Ohms

Shielding Effectiveness: >90 dB

Cutoff Frequency: 10.3 to 90 GHz

Dielectric Constant: 1.32 to 2.3

Velocity of Propagation: 66 to 85%

Nominal Capacitance: 23.4 to 30.8pF/ft

Nominal Inductance: 0.058 to 0.077μH/ft

Mechanical

Outside Diameter: 0.110" (2.80mm), 0.195" (4.95mm), 0.200" (5.08mm), 0.240" (6.10mm), 0.405" (10.29mm), 0.500" (12.70mm), 0.590" (15.00mm)

Bend Radius (min. installed): 2.5 times diameter

Bend Radius (min. repeated): 10 times diameter

Weight: 0.009 to 0.137 lbs/ft (0.013 to 0.203 kg/m)

Tensile Strength: 15 to 350 lbs (6.8 to 158.8kg)

Flat Plate Crush: 10 to 60 lbs/in (1.75 to 10.5 N/mm)

Additional Resources

Web Overview Page	https://www.molex.com/en-us/products/wire-and-cable/specialty-wire-and-cable/
Datasheet	987652-8181.pdf (molex.com)
Global Product Manager	Matt Sims, RFBU, DSS

Physical

Cable Type: Double-shield coaxial

Signal Conductor: Copper, copper-clad steel or copper-clad aluminum

Dielectric: MLX 100—solid polyethylene
All other sizes—foam polyethylene

First Shield: Aluminum/polyester tape

Second Shield: Tinned copper braid

Jacket: Polyvinyl chloride (PVC) or polyethylene

Operating Temperatures: -40 to +85°C

Storage Temperatures: -70 to +85°C



THANK YOU

creating connections for life

molex