

The Leader in Underground Pathway Protection

SmartComm Cable Overview

SmartComm is a product in the LightLOC family designed to provide secure communications, especially in remote or non-surveyed areas. It is a fiber-optic cable with the look, feel, and performance of standard stranded loose tube cable but is unique in that intrusion detection sensing is incorporated into the package. Guard fibers comprise an outer layer of the multi-layer cable and surround inner communication fibers to provide detection capability. The cable design ensures the communication fibers cannot be accessed without first disturbing the outer guard fibers and triggering an alarm.

As with all of the LightLOC products, SmartComm is designed for a zero false alarm rate. Guard fibers are rugged enough to not cause an alarm from simple handling or vibration of the cable. Only severe damage or cutting of these fibers results in an alarm. Additionally, the cable is constructed with no metallic components and a thick, opaque outer jacket. It neither emits nor carries electromagnetic fields or allows leakage of carried light making it TEMPEST compliant for installation in and around secure environments.

SmartComm guard fibers are continually monitored from up to 25km away with either a LightLOC Network or Express Monitoring System affording protection to the inner fibers. Accessing the communication fibers requires the guard fibers be compromised resulting in an alarm. When monitored by the Network System, the alarm location may be pinpointed, typically within 5 meters.

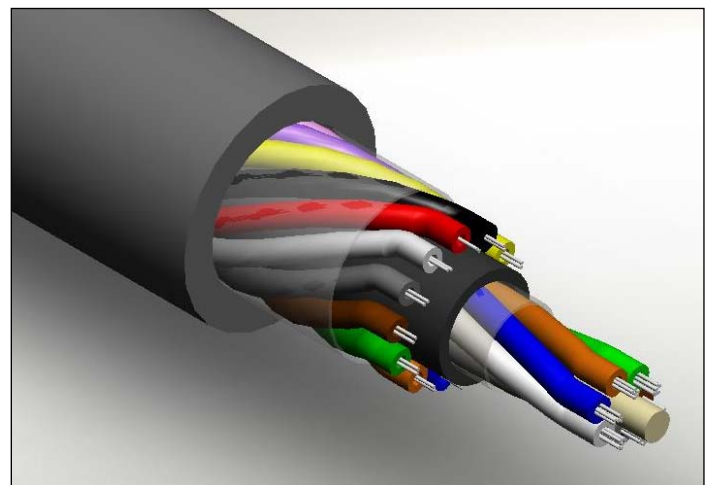
Further information on SmartComm's installation is provided on the next page. In addition to the standard dielectric cable discussed in this document, custom versions are available including a metallic cable.

Standard Features

- Non-Metallic Fiber-Optic Secure Communications Cable
- Low False Alarm Rates
- Long-Range Monitoring to 25km Standard
- Power Not Required on Perimeter
- Twelve Tubes of Monitored Guard Fibers Surround and Protect Communication Fibers
- Thirty-Six Communications Fibers Available in Six Color-Coded Buffer Tubes in Cable Center
- Communications Fibers may be Single-mode, Multi-mode, and/or Special Types as Required
- TEMPEST Compliant
- Aerial, Duct, or Direct Burial Installation
- Up to 40 Year Life
- -40C to 70C Operating Temperature Range
- Optimized for Use With LightLOC Network and Express Monitoring Systems
- Optional Steel Wire Outer Layer for Added Physical Protection
- Available in Alternate Designs, Including a Metallic Cable and Small Diameter Cable

SmartComm:

Your Secure Communications Cable Solution



For additional information on the LightLOC® system, please contact Doug Piper at 864.963-5131 or dpiper@lightloc.com

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Cable Installation

SmartComm can be deployed using a host of methods ranging from traditional aerial, duct, and direct burial to attaching to existing fencing and buildings. It may also be manufactured with the addition of a helically-applied layer of aluminum-clad steel wires and an outer protective polyethylene jacket. These layers provide superior mechanical protection in cases where ballistics or crush forces are of concern, including exposed aerial, direct bury, underwater, sub sea, and tactical installations. In this configuration, it may be used as a cost-effective and time-saving alternative to building a concrete duct bank deep in the ground as is traditionally done for high security applications. A system may contain both the armored and non-armored versions of the SmartComm cable.

Splicing and terminating SmartComm can be performed using standard fiber optic hardware. Ripcords are provided to remove the outer and inner jackets to access the guard fibers and security fibers from the ends of the cable. Cable breaks are repaired using the same methods as standard fiber optic cable. Monitoring of required splice boxes is available with the system.

Technical Details

Monitoring Systems	LightLOC Network System LightLOC Express Processor LightLOC Multi-Port Express
Power Requirements	None in Field Monitoring System Powered As Specified
Cable Jacket Type	Medium Density Polyethylene (MDPE)
Cable Life	40 Years
Fiber Type	Single-mode Monitored Fibers Communication Fibers as Required
Communication Fiber Count	36
Monitored Wavelength	1550nm
Operating Temperature	-40C to 70C
Cable Diameter	14.4mm, 0.567in
Approximate Cable Weight	143kg/km, 96lbs/1000ft
Maximum Perimeter Length	25km, 82,000ft
Maximum Continuous Cable Length	7km, 22,900ft.
Minimum Cable Bend Radius	Static: 15cm, 6in Dynamic: 29cm, 12in
Maximum Tensile Load	Short Term: 270kg, 600lbs Long Term: 90kg, 200lbs

Ordering Information

SmartComm systems are custom designed for customer applications. Please contact us for a quote.

LightLOC Overview

LightLOC is a patented, fiber-optic based security system providing the optimum in perimeter and access security. The system provides monitoring of remote access points and perimeters using a family of sensors and cables developed and made by LightLOC. Monitored items can include manholes, gates, doors, culverts, perimeter vehicle detection and vehicle denial cable systems, and custom applications. Monitoring is possible at distances of up to 25km without the need for electrical power at the monitored locations. The robustness of the system eliminates false alarms commonly seen with other fiber-based security systems, and LightLOC systems are inherently tamper resistant since altering or destroying optical components triggers alarms automatically.

For additional information on the LightLOC® system, please contact Doug Piper at 864.963-5131 or dpiper@lightloc.com

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