



LIGHTLOC® SMARTGRATE

DELAY AND DETECT INTRUSION

Protect underground pathways

Collins Aerospace SmartGRATE, a product in the LightLOC® family, was designed as a physical barrier to prevent and/or delay and detect penetration through underground pathways. Its cost effective design consists of a lattice of intersecting steel tubing laced with optical nerve fiber. Tubes are welded together at the junctions of each vertical and horizontal tube, and fiber is present in all components of the grate to provide complete detection coverage in the event of an attempted breach. SmartGRATE can be monitored from up to 25 km away by any LightLOC Monitoring System.

As with all of the LightLOC products, SmartGRATE is designed to be a near zero false alarm solution. The design

of the grate and monitoring systems ensure no alarms result from water flow, vibration, debris, wildlife or other environmental factors. Since the fibers are housed inside the robust metal tubing, and sensing is achieved by attenuation and not vibration, alarms only occur if the grate is severely damaged or cut.

SmartGRATE is designed for installation on headwalls or mounting directly to concrete, metal or plastic pipe when there is no headwall. Aside from standard configurations, SmartGRATE can be customized according to site requirements. SmartGrates can be removed, making maintenance and cleaning of the secured pipe simple. There is also no electrical power required at the grate location, as monitoring is fiber based.

KEY FEATURES AND BENEFITS

- Continuous protection of underground pathways and other access points
- Near zero false alarm rates
- Tamper resistant mounting hardware
- Insensitive to water flow or vibration
- No local power required
- Available in stainless steel or mild steel, galvanized or powder coated (corrosion resistant polymer coatings available for salt water applications)
- Custom designed and manufactured according to site requirements in a variety of shapes and sizes
- Available in various grid spacing options
- All configurations trigger an alarm before 96 square inch opening can be generated
- Long range monitoring to 25+ km standard
- Optimized for use with LightLOC monitoring systems
- Optional removable design for cleanup procedures



SPECIFICATIONS

| | |
|--|--|
| Monitoring systems | LightLOC Express 2 processor, Multi-port Express processor |
| Power requirements | None in field, monitoring system powered as specified |
| Grate material available | Mild steel or stainless steel |
| Steel grate finish | Galvanized, powder coated, or polymer coating |
| Standard grate tubing | Various (3/8" up to 1-1/2" Schedule 40) |
| Fiber type | Single-mode |
| Monitored wavelength | 1310 nm or 1550 nm |
| Operating temperature | -40° C to 70° C |
| Standard square grate sizes | 12", 18", 24", 30", 36", 48" |
| Standard round grate diameters | 12", 18", 24", 30", 36", 48" |
| Standard round grate depths (Protects exposed pipe) | 4', 8', 10' |
| Standard grate grid spacing/opening size | 3/8" and 1" Schedule 40 tubing, 6" and 6.5" on center, 27.6 in ² opening typical 3/8" and 1" Schedule 40 tubing, 8" and 8.5" on center, 54.5 in ² opening ¾" and 1-1/2" Schedule 40 tubing, 9" on center, 56.5 in ² opening typical |
| Tube junctions | Leak tight welds surrounding intersecting fiber |



LIGHTLOC OVERVIEW

Collins LightLOC is a patented, fiber-optic based security system for optimum perimeter and access security. The system provides monitoring of remote access points and perimeters using a family of sensors and cables. Monitored items can include manholes, gates, doors, underground pathways, perimeter vehicle detection and vehicle denial cable systems, and custom applications. Monitoring is possible at distances of up to 30+ km 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. Our systems are inherently tamper resistant since altering or destroying optical components triggers alarms automatically.

Specifications subject to change without notice.



Collins Aerospace

LightLOCinfo@collins.com
collinsaerospace.com/lightloc
LightLOC.com