

CLEVELAND ELECTRIC LABORATORIES

Fiber Optic Sensing Solutions



LCM-600 Fiber Optic Interlock Switches

FiberStrike fiber optic interlock switches, developed and patented by Cleveland Electric Laboratories, are a state of the art solution for monitoring the status of virtually any access portal.

Benefitting from the nearly limitless working distances allowed by fiber optics, these interlock switches can be networked over a wide area while taking advantage of existing standard communication fiber networks. Additional advantages include the passive nature of each sensor with no need for power at any sensor location, immunity to environmental problems that plague electrically-based sensors, and the ability to network virtually any number of sensors over nonconductive optical fiber into a single monitoring system that can be tens of kilometers removed from the sensing area.

While FiberStrike switches have been created for intrusion detection at access portals such as hatchways, manholes and hand-holes, these sensors also are ideal for high EMI/RFI industrial environments requiring many open-close measurement points, or any other locations where knowledge of many go/no-go contact states in a network is required. A multitude of different switch actuator heads (arms, rollers, feeler rods, etc.) is available to meet particular applications.



Switch Properties

IP Rating	IP66
Housing Materials	Zamak with thermoplastic head, polyamide strain relief
Mechanical Life	1,000,000 cycles
Switching Principal	FBG strain state change
Max. Frequency of Operation	2Hz
Mounting Type	Two 5mm holes on 41mm centers

Optical Properties

Sensitivity	1nm between open and close states
Accuracy	N/A
Temperature range	-40°C to +80°C
Connection type	Armored fiber pigtail
Reflectivity	>70%
Wavelength range	Standard: 1512 to 1588nm in 4nm intervals; extended range of 1460 to 1620nm is available

