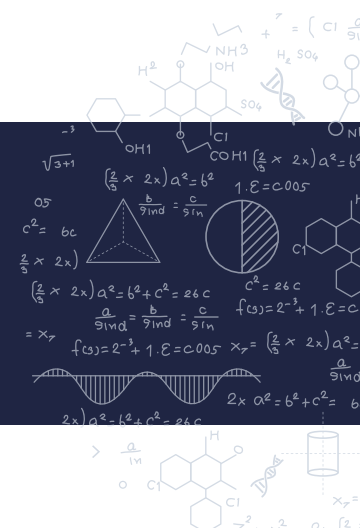


LICENSING OPPORTUNITY: NIST FIBER OPTIC SAFETY LOCK



DESCRIPTION

Problem

Fiber optic devices often use FC-style connectors, which are reliable and easy to use. However, hazardous laser emissions can occur if the connector is uncoupled while the laser is still active. Because the FC-style connector is attached by hand via a threaded collar, there is a risk of disconnection before verifying that the laser is de-energized. Even where laser emissions are not a hazard, inadvertent or negligent disconnection of an FC-style connector can cause the failure of critical systems that require fiber optic cables to remain continuously connected.

Invention

The patent-pending NIST Fiber Optic Safety Lock ("Safety Lock") ensures continuous connection of fiber optic cables, thereby preventing laser hazards and critical system failures. The device features a specially designed fiber connector lock that requires a tool to access the connector. The Safety Lock is simple, elegant, and affordable and can be easily applied to any FC-style connector without any retrofitting. The Safety Lock is also adaptable for use with many other connector types, including ST-type optical and BNC-style electrical connectors, ensuring the same safety and continuity of operation in systems using those connectors.

BENEFITS

Commercial Application

The NIST Fiber Optic Safety Lock adds an engineering control to FC-style fiber optic connections, preventing inadvertent or negligent disconnection. This extra control is essential where the fiber optic carries hazardous laser power or if maintaining a continuous fiber optic connection is critical to the operation of the system(s) involved. As a result, the Safety Lock greatly improves the safety and reliability of systems employing FC-style connectors, a worldwide industry standard for fiber optics.

Competitive Advantage

The only known alternative safety technology to the Safety Lock invention is a machined bulkhead with a locking mechanism. This system is costly and requires disruptive retrofitting of existing equipment. The NIST Fiber Optic Safety Lock outperforms the alternative technology because it is installed *in situ* without retrofitting or replacement of hardware, providing a critical engineering safety control simply, elegantly, and at a fraction of the cost of the existing alternative technology.



Commercial Fiber Optic FC-Style Connector (does not depict the invention).

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