ZTP Thermal & Power

Tunnel Disaster Prevention Main Optical Switch

Overview

Current optical switching systems primarily rely on Micro-Electro-Mechanical Systems (MEMS) technology, wavelength-selective switches (WSS), and liquid crystal on silicon (LCoS) devices to provide rapid network reconfiguration capabilities during disaster scenarios. Since the beginning of the 20th century, the United States, the United Kingdom, France, Germany, Japan and other developed countries have successively carried out research on the development and application of geological and geotechnical engineering safety monitoring technology. Today, modern monitoring systems allow reliable condition monitoring of tunnels using optical sensor technology, based on fiber Bragg technology. PROBLEM TO BE SOLVED: To provide a tunnel disaster prevention system which enables a fire detector to normally perform fire monitoring by suppressing influence on the whole system even when disconnection and/or short circuit occur between the fire detector and a repeater. Optical switching technology leverages the inherent advantages of photonic signal processing to create more resilient disaster recovery architectures. The Tunnel Control System operating in the Tunnel Control Center (TCC) is the core ele-ment that has overall control of the tunnel's electromechanical equipment and oversees the management and execution of ty of the overall system is required.

Tunnel Disaster Prevention Main Optical Switch

siemens LP60 Tunnel Control System

the tunnel is continuously monitored. All malfunctions are immediately reported on the user i terface of the Tunnel Control System. The universal message navigation system directs the operator

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Tunnel Monitoring with Fiber Bragg Sensors

Today, modern monitoring systems allow reliable condition monitoring of tunnels using fiber Bragg technology. Mechanical deformations in a tunnel can present a significant safety hazard, particularly

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Monitoring System Based on Optical Fiber Sensing Technology for

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Disaster-Resilient Optical Network Survivability: A

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Tunnel Security Remote Monitoring Solution , Industrial

When transmitting data back to the remote-control center, IGS-804SM Ethernet switch is responsible for long distance transmission via fiber optic cables. For

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JP2015088880A

The present invention has a disaster prevention receiving board, a plurality of repeaters connected to the disaster prevention receiving board via transmission lines, and a plurality of

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Core Functions of Optical Switches in Fiber Optic Sensing Systems

Mechanical optical switches provide an isolation mechanism composed of a polarizer, rotator, and analyzer, which can generate more than 35 dB of loss against reflected light and

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Disaster-Resilient Optical Network Survivability: A

Therefore, fault tolerant and disaster-resilient optical networks have grasped the attention of the research community and have been a critical concern

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Section snippets Monitoring principle of the system The proposed fiber-optic MS monitoring system comprises four main components: fiber-optic laser, signal acquisition and

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Emergency response , Road Tunnels Manual

Emergency responseEmergency response measures are a group of measures covering

the reaction of the tunnel operator, the emergency services and other

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Safety measures , Road Tunnels Manual

Safety measuresFollowing the integrated approach for the planning of a (sufficiently) safe tunnel system design and operation of a tunnel has to comply with minimum safety requirements. Further,

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Coal mine composite disaster distributed optical fiber dynamic

Abstract The invention discloses a coal mine composite disaster distributed optical fiber dynamic monitoring system and a use method. The system is composed of a local network server, a computer

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