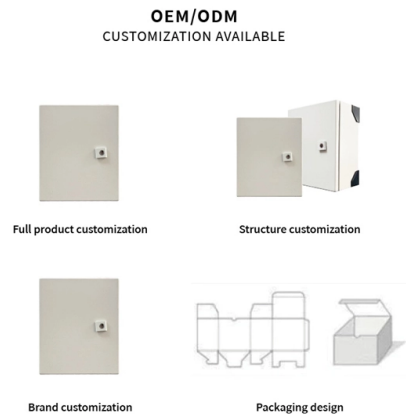


Fiber optic communication interrupted at the substation



Overview

The most common reason for interrupted fiber optic service is fiber optic cable cuts. A TO experienced an unplanned interruption on its “Path A” (fiber optic) that impacted several communication circuits due to previously rerouted circuits during an ongoing planned outage on “Path B” (microwave). As a result, select relay communications were affected in addition to the monitoring. Fiber optic troubleshooting is an essential skill for network administrators, technicians, and engineers responsible for maintaining and repairing fiber optic systems. Fiber offers several advantages: • Higher bandwidth that supports higher data rates over longer distances: A typical bandwidth-distance product for multimode fiber is 500 MHz/km, so a 500-meter cable can transmit 1 GHz, while. Electrical substations, provide an efficient means to deliver power to end users. Reliable communication is key to providing the most efficient means possible.



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Figure 2 shows a detail from a larger, more complex conceptual block diagram for a complete substation automation system without the IRIG-B ...

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Tapping fiber optic communication technology is incredibly difficult, and because attempts to tap fiber cables will likely result in breaking the glass fibers, potential hacks can be quickly and easily discovered.

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Lesson Learned

As an immediate correction to the Path A interruption, a spare fiber optics cable was temporarily utilized to bypass the break and restore failed data communications.

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For more information, pricing, or custom solutions, please contact us:

Website: <https://ntmmgroup.co.za>

Email: sales@ntmmgroup.co.za

Phone: +27 82 471 2596

Address: Unit 7, Optic Park, 24 High-Tech Lane, Century City, Cape Town,
7441, South Africa

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