

Case Study

Enterprise LAN Solution

Optimized Connectivity for Smart Terminals with FS Industrial Solution

FS partnered with a leading transportation company to achieve 25% lower installation costs and increased uptime with the FS Industrial Media Converter, which offers 190W PoE++ and reliable performance in harsh environments.



Optimized Connectivity for Smart Terminals with FS Industrial Solution

Country

 United States

Industry

 Transportation

Network Type

 Large and Midsize Campus Network

Solutions

 Enterprise LAN

Highlights

- Simplified network deployment with daisy chain connectivity, reducing equipment and labor costs.
- Delivered a 90W PoE++ power budget, providing reliable power to cameras and access points.
- Ensure on-schedule delivery and seamless project operation with FS global warehouse.

Key Stats

- Reduced overall network installation costs by 25% by removing the need for additional switches and power equipment.
- Delivered 190W of PoE++ power across two Ethernet ports, with each port supplying up to 90W to connected devices.
- Withstood temperatures from -40°C to $+75^{\circ}\text{C}$, ensuring stable outdoor operations and reducing maintenance expenses.



Overview

Our client, a leading transportation company, is building a new terminal in South Carolina to enhance their operations and support the growing volume of shipments. As part of their expansion, they required a robust, scalable, and cost-effective network infrastructure to connect multiple surveillance cameras and access points spread across various locations. Given the harsh outdoor environment and the need for uninterrupted communication, the solution had to provide high-speed data transmission, reliable power delivery, and long-term durability while minimizing the complexity and cost of installation.

Challenges

Our client faced several interrelated challenges as they built a new terminal. First, our client needed to install remote cameras and access points on light poles, facing the risk of dropped signals due to the long fiber runs—three from the shop building and one from the admin building. Second, each light pole required Power over Ethernet (PoE) to power the cameras and access points, eliminating the need for additional power supplies. Third, the equipment had to withstand harsh outdoor conditions, which could affect its reliability. Fourth, all components had to be compatible with existing systems from Extreme Networks or Fortinet FortiSwitch. Finally, every component had to arrive on time to keep the terminal project on schedule.

Solutions

To address the client's challenges, FS designed a daisy-chain network using industrial media converter PIMC-2F2T and optical modules SFP1G-LX-31-I to solve the client's connectivity challenges. By passing fiber "in" to "out" through each converter, the daisy-chain topology removes the need for extra switches,

simplifies wiring, and reduces equipment costs. The converter's Auto-Negotiation of Half-Duplex / Full-Duplex transfer mode ensures automatic adjustment for optimal data transmission, making the network more efficient without manual configuration.

Each PIMC-2F2T converter also injects up to 190 W of PoE++ across two Ethernet ports, powering 16 cameras and 3 APs without separate power supplies and minimizing cabling complexity. Housed in an IP30-rated metal enclosure and rated for -40°C to +75°C, these industrial media converters withstand harsh outdoor conditions and mount easily on DIN rails or walls to fit any installation constraint.

Full compatibility with Extreme Networks and Fortinet FortiSwitch, combined with front-panel LEDs for Ethernet and fiber link status, enables seamless integration and rapid troubleshooting. Through FS global warehousing network, the equipment was delivered on time, meeting the client's deadline, ensuring that the terminal's network infrastructure was fully functional and operational as scheduled.

Results

By utilizing the FS industrial media converter, the client achieved a 25% reduction in installation costs by eliminating the need for additional switches and power supplies. FS solution seamlessly integrated with the client's existing network infrastructure, minimizing configuration efforts and ensuring stable communication across devices. FS global warehousing support delivering on time, meeting the tight deadline and ensuring the terminal's network was fully operational as scheduled.

Case Study

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