

High-Precision Selection Guide for Railway Communication-Grade Fiber Optic Ethernet Switches



Article Overview

Select EN50155-compliant, industrial-grade fiber optic Ethernet switches with PoE support, ring redundancy, and wide operating temperature for reliable railway communication networks.

Key Selection Criteria

1. Compliance and Standards Choose switches that meet EN50155 for onboard railway applications, ensuring resistance to vibration, shock, and temperature extremes. Additional standards like EN50121 (electromagnetic compatibility) and IEC 61375 (Ethernet Train Backbone interoperability) are critical for train-wide network integration and wayside communication reliability . 2. Environmental Tolerance Railway switches must operate in harsh conditions. Look for wide operating temperature ranges (-40°C to 70°C), fanless designs for vibration resistance, and ruggedized enclosures to withstand onboard and trackside environments . 3. Fiber Optic Connectivity For long-distance, high-speed data transmission, select switches with Gigabit SFP or SFP+ ports. Fiber ports ensure sustainable connectivity between onboard devices, wayside networks, and control centers, supporting backbone networks and high-bandwidth applications like IP video streaming . 4. Power over Ethernet (PoE) PoE-enabled switches simplify cabling and power delivery to devices such as IP cameras, Wi-Fi access points, and passenger information systems. Consider switches with PoE/PoE+/PoE++ support and sufficient wattage per port (e....

Article Content

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Fiber Optic Network Switches | Ethernet to Fiber

Buy fiber network switches to extend ethernet network over fiber. Order Versitron high speed fiber optic

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Quickly identify the right Cisco switch for your needs, whether you're looking for a new switch or upgrading an old one for an

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Discover how to choose the right fiber optic cables for your network. Learn about fiber types, cable constructions,

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Overview of Fiber Optic Communications in Railway Transport:

An important characteristic of an optical communication line is the ability to transmit several wavelengths simultaneously along an

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Rail & Transit Connectivity Quick Reference Guide

This Quick Reference Guide lists EtherWAN's best-selling network connectivity products for railway applications. Through a few

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Industrial Ethernet Switches | Industrial Network Switch | Perle

Rugged Industrial Ethernet Switches with PoE, 5-10 ports, 10/100/1000Base-T and fiber support. Built to withstand -40°C to 75°C,

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SElEctinG an EthErnEt Switch for your nExt projEct

for your nExt projEct Use the selection tables on pages 2 and 3 to quickly narrow your search for an Ethernet Switch that best suits

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EN 50155 Certified Onboard Train Ethernet Switches | Westermo

In response to the growing demand for reliable onboard railway communications networks, Westermo offers an extensive range of

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High-Speed Railway Communication System Using Linear-Cell-Based

A linear-cell-based radio-over-fiber (LC-RoF) system is proposed and demonstrated for efficient mobile communication in high-speed

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Railway Ethernet Switch,6x10G,2xBypass,24x1G,2

Managed Railway Ethernet Switch with 6x10G, 2xBypass, 24x1G, and 26 PoE++ ports, compliant with EN 50155 and EN 45545-2.

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EN 50155 Switches

Moxa is an IRIS-certified company that offers a large portfolio of rugged Ethernet switches that comply with the mandatory sections

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DIN Rail Switch | Industrial Ethernet Switches | Perle

DIN mount switches designed for harsh environments of -40°C to 75°C (-40°F to 185°F), vibrations, and shocks. Up to 10 Ethernet,

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HUBER+SUHNER unveils Ethernet switch for rail systems

HUBER+SUHNER launches Railway Ethernet Switch to offer secure turn-key rail communication systems Railway operators and

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Deploying a Fiber Optic Physical Infrastructure within a Converged ...

This application guide helps designers and installers select and deploy fiber optic media in plant environments. It details fiber optic

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WS Railway-Components

Furthermore, they are utilized in load break switches, contactors and railway breakers. In the field of infrastructure, our components

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Advantech

Industrial Ethernet backbones offer high bandwidth to enable many IP-based applications. Advantech's industrial communication

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High-Speed Railway Communication System Using Linear

Abstract and Figures A linear-cell-based radio-over-fiber (LC-RoF) system is proposed and demonstrated for efficient

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Railway network switch, Railway ethernet switch

Find your railway network switch easily amongst the 125 products from the leading brands (Advantech,

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Ethernet Switches

Moxa provides a wide range of industrial Ethernet switches that feature industrial-grade reliability, network redundancy, strengthened

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EN50155 Railway Ethernet Switches & Solutions

Built for rolling stock environments with EN50155-ready design, rugged construction, and flexible railway power input options. From

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An Ultimate Guide for Selection of Fiber Optic Cables and Connectors

Since cables and connectors are essential elements of a fiber-optic network, it is important to select the right types of cables and

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Building Partnerships for Smart Rail Success | Moxa

Moxa provides a wide variety of 10GbE, Gigabit, Ethernet, PoE/PoE+, fiber optic, and twisted DSL solutions to facilitate high-speed

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Railway Data Communication | EN50155 / EN50121 Compliant

Meeting all the requirements of the Railway market, WoMaster provides cost-saving and efficient data communication solutions on

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Fiber Optic Cable Types Explained: Choosing the Right Fiber Cable

In high-speed network environments—such as data centers, enterprise LANs, and telecom backbones—fiber optic

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Fiber-Optic Solutions for Railway Infrastructure

Fiber-Optic Solutions for Railway Infrastructure R& M develops infrastructure solutions for the digitalization of rail traffic

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Industrial Ethernet Switches

Modernize your operations with Cisco Industrial Ethernet switches: Increase productivity, boost security, and empower industrial AI.

Dec 08, 2025

EN 50155 Certified Onboard Train Ethernet Switches

We provide reliable and secure switches for highly robust train networks and long-term field operation.

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Industrial Ethernet Switches | Phoenix Contact

Industrial Ethernet switches – Industrial-strength Unmanaged and Managed Switches
Our Industrial Ethernet Switch portfolio

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Switches | Selectron

Unmanaged consist switches - for plug-and-play communication This 8-port Fast Ethernet Unmanaged Consist Switch is a Fast

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Fiber Optic Cable Buying Guide

Fiber Optic Cable Buying Guide Understand how to choose fiber optic cable by comparing single-mode vs. multimode, network

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Switches | Selectron

Fully 50155-compliant, it is specifically designed for network applications in rolling-stock environments offering the highest reliability

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Gigabit SFP Network Switch Selection Guide for 2025

From a future-proofing perspective, gigabit SFP switches enable seamless upgrades to fiber optic networks as fiber

Jul 29, 2025

EN 50155 | Railway Industrial Ethernet Switches | Antaira

Antaira's EN 50155 certified industrial switches are designed to meet the rigorous demands of railway and onboard train applications.

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Managed Switches

Belden offers a broad portfolio of ruggedized managed Ethernet switches that are engineered for reliable performance in harsh

Contact Us

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