

Application Note for Unmanaged Industrial Ethernet Switch

Introduction

An Unmanaged Industrial Ethernet Switch is a rugged networking device designed for reliable Ethernet communication in harsh industrial environments. It operates without configuration and supports plug-and-play connectivity for industrial devices.

System Architecture Overview

Application Diagram:

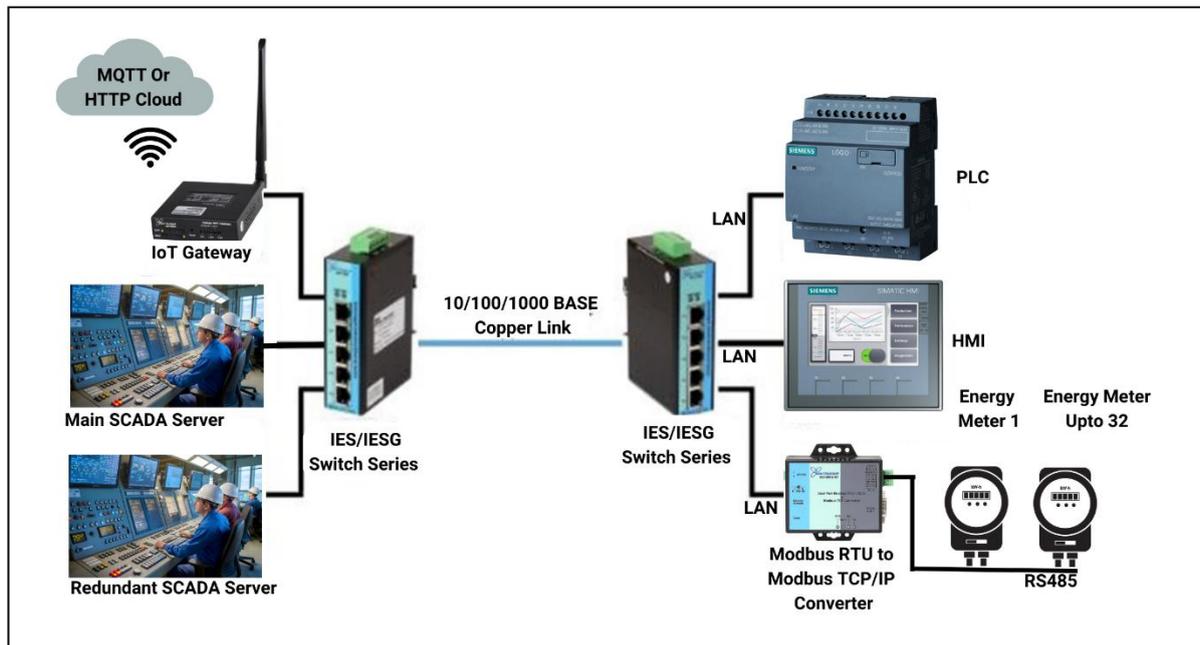


Diagram Explanation

The diagram shows an industrial Ethernet network where unmanaged industrial Ethernet switches connect PLCs, HMIs, and monitoring devices over a 10/100/1000 Mbps copper link. The switches provide plug-and-play, reliable communication for real-time data exchange. This setup is commonly used in factory automation, SCADA systems, machine control, and industrial monitoring applications.

Additional Devices That Can Be Connected

The same unmanaged industrial Ethernet switch setup can also support:

- Industrial PCs (IPC)
- SCADA Servers
- IP Cameras (for surveillance or process monitoring)
- Data Loggers
- Remote I/O Modules
- VFDs / Servo Drives
- Industrial Gateways (Modbus TCP, PROFINET, Ethernet/IP)
- Wireless Access Points
- Barcode / RFID Readers

Typical Applications

This network architecture is commonly used in:

- Factory automation systems
- Process control plants (water, power, oil & gas)
- Machine-to-machine (M2M) communication
- Production line monitoring
- Building management systems (BMS)
- Substation automation
- Warehouse and material handling systems

Summary

Unmanaged Industrial Ethernet Switches provide a simple, rugged, and reliable networking solution for industrial automation. They enable seamless communication between PLCs, HMIs, monitors, and other Ethernet-based devices without the need for configuration, making them ideal for harsh industrial environments.