

MANAGED POE+ SWITCH FOR SMART LOGISTICS WAREHOUSE

HIGHLIGHTS

- ✔ Logistics warehouses are inevitably getting smarter, as technology integration provides them with greater truck tracking efficiency and management capabilities. However, it's imperative to maintain robust control over these new systems, beginning with consistent connectivity.
- ✔ To the rescue comes the Teltonika Networks TSW202 – a managed PoE+ switch serving 8 Gigabit Ethernet ports with 30 W of power each, providing robust network connectivity and more granular management capabilities.
- ✔ Enriched with QoS and port management as well as support for multiple protocols, like Profinet, the TSW202 allows you to control and apply configurations to each port individually, according to your needs and preferences.

THE CHALLENGE – UNDER CONSTANT OPERATIONAL PRESSURE

In logistics warehouses, there's a high emphasis on precision and efficiency. With high volumes of trucks coming and leaving the facilities at different times, the accuracy of regulatory data and documentation revolving around truck management is non-negotiable.

However, due to traffic, truck breakdowns, personnel issues, and other unexpected challenges, achieving this is difficult. So, what can be done if precision is essential, yet real-life challenges persist?

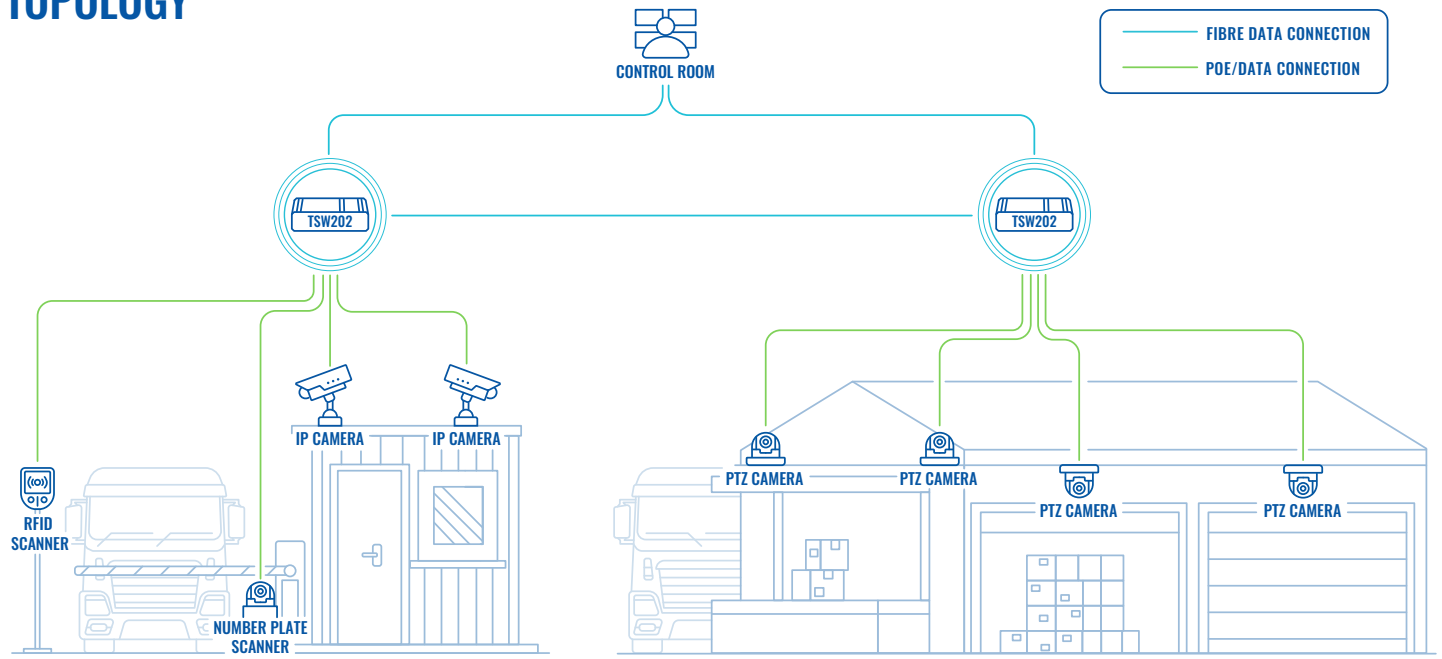
The answer lies within IoT technology integration, as it can help save time and facility resources. But the seamless operation of smart warehouses highly depends on the setup complexity of their systems.

Technology integration in warehouses includes a system to recognise each truck based on its number plate and then assign it to particular garage doors. This calls for an automatic number plate scanning at the entrance barrier. On top of that, smart warehouses include RFID scanners to provide greater monitoring capabilities over where and how trucks are loaded or offloaded, consequently enhancing overall inventory control.

To ensure safety within the facilities, smart warehouses must have multiple IP and PTZ cameras that continuously monitor truck movements around the facilities, staff activities, and access points, preventing any risks of unauthorised access.

Nonetheless, the keystone that seamlessly integrates all these elements into one cohesive system is a networking device, ensuring robust M2M communication support for each part. Given the complexity of smart warehouses mean a simple unmanaged switch won't do the trick. This is because if any end device connected to it fails, the entire network infrastructure becomes prone to crashing down.

TOPOLOGY



THE SOLUTION – MORE THAN MEETS THE EYE

The solution calls for the TSW202 managed switch – the ideal choice for a network infrastructure consisting of numerous end devices, all demanding uninterrupted control.

The control room of the smart warehouse provides network connectivity to the two strategically placed TSW202 8 port PoE+ switches via SFP ports. The switches are located in the logistics centre, specifically at the gates and loading docks, where they can easily grant network management and extend connectivity distribution while equipping end devices with 30 W of power per Gigabit Ethernet port.

With ensured connectivity support, all these devices can relay data back to the control room and uphold real-time M2M communication within this network ecosystem. But there’s more to come with port management and QoS. If it’s the case that data from the number plate and RFID scanners are of utmost importance, you can employ QoS port priority functionality. This ensures that their data is given precedence over less critical traffic on the network in case of network congestion or heavy traffic.

To safeguard against data loss, you can use port management to activate port mirroring, which enables replicating the data travelling from one port to another. Port management also proves invaluable when you need to logically separate the network traffic, further avoiding any potential network crowding.

Additionally, Teltonika Networks’ 8-port PoE+ switch supports a wide array of industrial protocols, including Profinet for automated data processing and MRP, or MRP systems, for ring topologies, ensuring network redundancy. MRP systems allow the TSW202 PoE+ switches to switch from a primary path for data traffic to a backup one that becomes active when the primary one fails or gets interrupted.

With integrated protocols like Profinet and MRP, QoS, and port management, The TSW202 8 port PoE+ switch offers precise control over each port, allowing for detailed monitoring and control over end device performance and even reboots. This not only enables seamless M2M communication and data transfers, but essentially enhances warehouse efficiency.

Oh, and did we mention? The TSW202 PoE+ switch comes with a nifty DIN rail mount for that ‘snap-in-place’ moment. Now that’s convenient!

