



Warehouse Automation

Application Unit	AS/RS Material Handling System
Location	China(from 2006 until now)
Application Product Model	Atop SW5001

Case Overview

As one of the top 3 panel manufacturers in the world, it ships tens of thousands of LCD panels per day. In order to provide on-time and efficient shipments, several computerized automatic warehouses were built to store the LCD panels. In regular warehouses, the existing way to load and unload goods is performed by forklift trucks. The operation of forklift trucks is usually constrained by the following conditions:

1. It needs wider-space aisles for trucks' passage.
2. The goods are fragile, goods handling by trucks must be very carefully done to avoid any damage of goods.
3. In case of high-volume shipment, the traffic management of trucks is very critical.

The new warehouses are equipped with AS/RS system (Automated Storage & Retrieval System). Retrieval of all goods from racks to a RGV (Rail-Guided Vehicle) is performed by Robots. After the goods have been loaded into the assigned RGV, the RGV will move along the annular rail to a shipping dock. From here, the goods will be carried by trucks to its global destinations. Because the operation of each RGV is mainly controlled by the attached PLC, a wireless serial server is needed to provide a wireless link between the PLC and the control center.

Application Requirements

1. A device allows each onboard PLC (serial device) to be connected to wireless network, with reliable communication.
2. The device must comply with certain industrial standards, such as prevention from dust, vibration and discontinue operation.
3. Ease-of-use is very important.
4. The device must be compact for easy installation.

System Topology

